C. P. U. No. 266

COMMITTEE ON PUBLIC UNDERTAKINGS (1973-74)

(FIFTH LOK SABHA)

FIFTY-SIXTH REPORT

INDIAN DRUGS AND PHARMACEUTICALS LIMITED

(MINISTRY OF PETROLEUM AND CHEMICALS)

LOK SABHA SECRETARIAT
NEW DELHI

April, 1974/Vaisakha, 1896 (Saka)
Price : Rs. 10.40

LIST OF AUTHORISED AGENTS FOR THE SALE OF LOK SABHA SECRETARIAT PUBLICATIONS

Sl. No.	Name of Agent

ANDHRA PRADESH

1. Andhra University General Cooperative Stores Ltd., Waltair (Visakhapatnam).
2. G. R. Lakshmipaty Chetty and Sons, General Merchants and News Agents, Newpet, Chandragiri, Chittoor District.

ASSAM

3. Western Book Depot, Pan Bazar, Gauhati.

BIHAR

4. Amar Kitab Ghar, Post Box 78, Diagonal Road, Jamshedpur
5. M/s. Crown Book Dep[illegible] Upper Bazar, Ranchi.

GUJARAT

6. Vijay Stores, Station Road, Anand.
7. The New Order Book Company, Ellis Bridge, Ahmedabad-6.

HARYANA

8. M/s. Prabhu Book Service, Nai Subzi Mandi, Gurgaon.

MADHYA PRADESH

9. Modern Book House, Shiv Vilas Palace, Indore City.

MAHARASHTRA

10. M/s. Sunderdas Gianchand, 601, Girgaum Road, New Princess Street, Bombay-2.
11. The International Book House, (Private) Limited, 6, Ash Lane, Mahatma Gandhi Road, Bombay-1.
12. The International Book Service, Deccan Gymkhana, Poona-4.
13. Charles Lambert & Company, 10, Mahatma Gandhi Road, Opposite Clock Tower, Bombay.
14. The Current Book House, Maruti Lane, Raghunath Dadaji Street, Bombay-1.
15. Deccan Book Stall, Fergusson College Road, Poona-4.
16. M & J. Services, Publishers Representatives, Accounts & Law Book Sellers, Bahri Road, Bombay-15.

MYSORE

17. People Book House, Opp. Jaganmohan Palace, Mysore.

RAJASTHAN

18. Information Centre, Government of Rajasthan, Tripolia, Jaipur City.
19. M/s. Usha Book Depot, 585/A Chitra Bazar, Tripolia, Jaipur.

UTTAR PRADESH

20. Law Book Company, Sardar Patel Marg, Allahabad-1.

CONTENTS

COMMITTEE ON PUBLIC UNDERTAKINGS
(1973-74)

CHAIRMAN

Shrimati Subhadra Joshi

MEMBERS

2. Shri Dinen Bhattacharya
3. Shri T. H. Gavit
4. Shri K. Gopal
5. Shri J. Matha Gowder
6. Dr. Mahipatray Mehta
7. Dr. Sankta Prasad
*8. Shri Nawal Kishore Sharma
9. Shri Ramavtar Shastri
10. Shri R. P. Yadav
11. Shri M. S. Abdul Khader
12. Shri Lal K. Advani
@13. Shri U. N. Mahida
14. Shrimati Purabi Mukhopadhyay
@15. Shri Suraj Prasad

SECRETARIAT

1. Shri Avtar Singh Rikhy—*Joint Secretary.*
2. Shri M. A. Soundararajan—*Deputy Secretary.*
3. Shri M. N. Kaul—*Under Secretary.*

---

*Appointed to act as Chairman from 16-5-1973 to 11-7-1973 during the absence abroad of Shrimati Subhadra Joshi.

@Ceased to be a Member of the Committee consequent on his retirement from Rajya Sabha on 3-4-1974.

COMPOSITION OF STUDY GROUP ON OIL, DRUGS AND PHARMACEUTICALS

1. Dr. Mahipatray Mehta—*Convener*
2. Shri Ramavtar Shastri—*Alternate Convener*
3. Dr. Sankta Prasad
4. Shri R. P. Yadav
5. Shri T. H. Gavit
6. Shri Nawal Kishore Sharma
7. Shri Dinen Bhattacharya.

INTRODUCTION

I, the Chairman, Committee on Public Undertakings having been authorised by the Committee to present the Report, on their behalf, present this Forty-ninth Report on Indian Drugs and Pharmaceuticals Limited.

2. This Report of the Committee is based on the comprehensive appraisal of the working of the Indian Drugs and Pharmaceuticals Limited as contained in the Report of the Comptroller & Auditor General of India for the year 1970-71—Union Government (Commercial), Part X and also of an examination in depth of the working of Indian Drugs and Pharmaceuticals Limited upto the year ending 31st March, 1973. The Committee on Public Undertakings took evidence of the representatives of the Indian Drugs and Pharmaceuticals Limited on the 24th and 25th January, 1974 and of the Ministry of Petroleum and Chemicals on the 11th and 12th February, 1974.

3. The Committee on Public Undertakings considered the Report at their sitting held on 27th April, 1974. The Committee considered the comments of Indian Drugs and Pharmaceuticals Limited and the Ministry of Petroleum and Chemicals arising out of factual verification of the Report at the same sitting held on the 27th April, 1974 and adopted the Report.

4. The Committee wish to express their thanks to the Ministry of Petroleum and Chemicals, the Indian Drugs and Pharmaceuticals Limited, for placing before them the material and information they wanted in connection with the examination of Indian Drugs and Pharmaceuticals Limited. They wish to thank in particular the representatives of the Ministry and the Undertaking who gave evidence and placed their considered views before the Committee.

5. The Committee also place on record their appreciation of the assistance rendered to them by Comptroller and Auditor General of India in the examination of Indian Drugs and Pharmaceuticals Limited.

NEW DELHI;
April 29, 1974.

SUBHADRA JOSHI,
Chairman,
Committee on public undertakings.

INTRODUCTORY

A. Historical Background

On the 29th May, 1959, the Government of India entered into an agreement with the Government of USSR, with a view to establish in the public sector, plants for the manufacture of antibiotics, synthetic drugs, surgical instruments, phyto-chemicals and glandular products with the Soviet collaboration. The Government of the U.S.S.R. undertook to provide a loan of Rs. 9.52 crores to cover technical services including the training of Indian technicians at the Soviet plants and the cost of machinery and equipment to be imported for these plants.

1.2. On the 10th June, 1960, four contracts were signed with M|s. Technoexport, Moscow, for the preparation of Detailed Project Reports in respect of these projects. In the beginning, the projects were executed by the National Industrial Development Corporation.

1.3. On the 5th April, 1961, the Indian Drugs and Pharmaceuticals Ltd., (IDPL) was set up as a Government company and in November, 1961 Government of India assigned to the company all the rights and obligations under the Agreement with the Soviet Union dated the 29th May, 1959 relating to the loan of Rs. 9.52 crores and the four contracts with M|s. Technoexport, Moscow mentioned above.

1.4. The project for the production of glandular products was postponed for want of facilities of a modern slaughter house in the country and the phyto-chemical project which was to be established at Neriamangalm (Kerala) was abandoned later on as an unworkable proposition.

1.5. At present the IDPL is concerned with the following three plants:—

(i) Antibiotics Plant at Rishikesh for the production of antibiotics with an annual capacity of 200 tonnes of antibiotics;

(ii) Synthetic Drugs Plant at Hyderabad for the production of synthetic, chemical and pharmaceutical medicines with an annual capacity of 851 tonnes of main drugs and 4932.8 tonnes of intermediate; and

(iii) Surgical Instruments Plant at Madras for the manufacture of principal surgical instruments with an annual capacity of 2.5 million pieces of 166 types of instruments.

1.6. With effect from 8th May, 1972, the Company is also working as an authorised controller of M|s. Smith Stanistreet, Calcutta under Section 18A of the Industries (Development and Regulation) Act, 1951 for period of two years in pursuance of Ministry of Industrial Development notification No. 333(E)|18A|IDRA|72 dated 4th May, 1972.

1.7. The deficiencies/shortcomings relating to the various units of the Company were dealt with in the following Reports of the Committee on Public Undertakings:—

(a) 22nd Report (3rd Lok Sabha, March, 1966)

(b) 46th Report (4th Lok Sabha, April, 1969)

1.8. Action taken by Government on the recommendations made in the above Reports is contained in the 30th Report (Fourth Lok Sabha—February, 1969) and 4th Report (5th Lok Sabha—September, 1971) of the Committee on Public Undertakings.

B. OBJECTIVES

1.9. At the time of the incorporation of the Indian Drugs and Pharmaceuticals Ltd. in April, 1961 there was one Public Sector Company namely Hindustan Antibiotics Limited, Pimpri in the field of drugs and pharmaceuticals. In the context of the State taking over increasing responsibility in regard to the provision of medical relief in the country and the elimination of outgo of foreign exchange and the necessity for bringing down the prices of essential medicines by larger production, need was felt for the establishment of further production of drugs and pharmaceuticals in the country.

1.10. According to the Memorandum of Association the objects of the Company are to carry on in India and elsewhere, the business

of manufacturing, exporting, transporting, selling, distributing and dealing in and disposing of all kinds of medicines, antibiotics, organic and inorganic acides, etc.

1.11. During the evidence of the Ministry the Committee were informed that prior to the establishment of IDPL, the country was heavily dependent upon foreign sector of the drug industry for meeting the overall requirements of drugs in the country and the base for production of bulk drugs was almost non-existent. IDPL was established with the object of establishing such a base and it is presently responsible for an overall production of about 13 crores worth of bulk drugs out of about 35 crores worth of bulk drugs produced in the country. The gap between Rs. 13 and Rs. 35 crores has also been filled up broadly on account of the fact that a company for the production of bulk drugs in the country has been established.

1.12. It was stated the establishment of three units of IDPL was completed by 1967-68 and given another two years for normal gestation period, the role of production really strated only by 1970—72. The representative of the Ministry felt that in production of the type of IDPL where production was weighted more in favour of bulk production, it would not be possible for the public sector to bring down the prices of formulation within a short span of time. It was, however, expected that during the Fifth Plan period, the undertaking would play a more vital role in bringing down the prices and making the drugs available for the millions.

1.13. As far back as 1963 the Estimates Committee had, in their 32nd Report on the National Coal Development Corporation recommended that broad principles regarding financial and economic obligations of public sector enterprises should be laid down by Government. The recommendation was reiterated by the Committee on Public Undertakings in their 7th Report (3rd Lok Sabha) in 1965.

1.14. The Administrative Reforms Commission suggested in its report (October, 1967) that Government should make a comprehensive and clear statement on the objectives and obligations of Public Undertakings. This recommendation was accepted by Government, and the Bureau of Public Enterprises, Government of Lndia *vide* their letter No. 9(156)|70-BP(9GMI) dated 3rd November, 1970, asked all Government Companies to formulate a statement of their objectives| obligations clearly, if not already done, and communicate the same to Government.

1.15. In para 1.44 of their 40th Report (5th Lok Sabha) on Role and Achievements of Public Undertakings (1973-74) the Committee

on Public Undertakings had regretted that "even though a period of 10 years has elapsed since the Estimates Committee made their recommendation Govt. have not laid the financial, economic and social objectives of public sector enterprises so far". The Committee had recommended that Govt. should present to Parliament a White Paper setting out *inter-alia* (i) a frame work of principles of Govt's general economic, financial and social strategy for public sector undertakings; (ii) micro objectives, both financial and economic, of each public undertaking and providing for review from time to time, and (iii) quantification of social objectives and obligations.

1.16. In October, 1973, the Ministry of Petroleum and Chemicals stated that the Indian Drugs & Pharmaceuticals Ltd. was being asked to formulate a statement of their objectives|obligations without delay.

1.17. During evidence, the representatives of the Ministry of Petroleum and Chemicals stated that:—

> "These plants were plagued by a number of technological and other problems like strikes, shortage of water supply, electricity supply etc., so they devoted more attention to these problems of day to day running of the plants as efficiently as they would. They should have done it and it is an ommission on their part."

> "The Company has not yet finalised the statement of its objectives and obligations. They have however just now drawn up a statement which has to be considered by the Board of Directors; then it will be submitted to Government.

> The Ministry should have pursued it with the IDPL because the Ministry is represented on the Board of IDPL and the representative should have reminded if the undertaking had not done it."

1.18. The Comittee regret to find that even though the Bureau of Public Enterprises had asked, as far back as in November, 1970, all the Government companies to formulate a statement of their objectives/obligations clearly and communicate the same to Government, the Indian Drugs and Pharmaceuticals Ltd. has not done so till now. The Committee were informed that it is only recently that the statement of objectives/obligations has been prepared and is still awaiting consideration of the Board of Directors. There has thus been a delay of more than three years even in formulating

their objectives. The Committee are unhappy that even the Ministry's representative on the Board of Directors failed to impress on the company the need to formulate its objectives early. The Committee trust that IDPL would finalise the statement of objectives without any further delay in the absence of which critical evaluation of the performance of a Government Company becomes difficult.

1.19. The Committee are not sure as to how many more such undertakings are yet to finalise their statements of Objectives/ Obligations as required by the Bureau of Public Enterprises in their circular of 1970. The Committee recommend that the Bureau of Public Enterprises should immediately take stock of the position and finalise the matter without further delay.

1.20. The Committee also reiterate their recommendation in paragraph 1.44 of their 40th Report (1973-74) on Role and Achievements of Public Undertakings and trust that Government before long would bring a comprehensive White Paper setting out, inter alia, the financial, economic and social objectives of each of the Public Undertakings.

II

ANTIBIOTICS PLANT, RISHIKESH

A. Project Estimates

2.1. As mentioned in para 5.3 of the 46th Report of the Committee on Public Undertakings (1968-69), the project estimates of the Plan were revised upward on a number of occassions. The table at Appendix I indicates the project estimates as approved by the Government in October, 1966, estimates as submitted to the Government in August, 1968 and December, 1970 and approved by the Government in August, 1971 and the actual expenditure upto 30th November, 1973.

2.2. It is anticipated by the Management/Ministry that all the works would be completed by the end of 31st March, 1974 but some residual liabilities may remain to be discharged in respect of pending bills (Rs. 4.50 lakhs) which may be paid in 1974-75.

2.3. In connection with the Project Estimates, the following features deserve mention:—

(a) The increase in the revised estimates of August, 1968 over the approved estimates of October, 1966 was due to the following factors:—

(i) Non-provision of expenditure on new work; commissioning expenses and interest on Government loans.

(ii) Additional provision required under 'Administration and General expenses' and 'Other items' mainly resulting from delay in the completion of the Project. Owing to delay in the completion of the project, the stay of Soviet Experts had also to be prolonged. It was, however, noticed that increase in the number of Soviet Experts and their period of stay was also partly due to the limitations existing in the Plan, equipment and facilities. As against the provision of Rs. 14.08 lakhs made in the Project Estimates of 1962 and Rs. 30.20 lakhs in the estimates of August, 1968 towards cost of Soviet Experts, the actual expenditure upto 31st March, 1972

amounted to Rs. 62.66 lakhs. The contract did not envisage sharing of expenditure by the Collaborators in cases where extension was owing to limitation in the plant and equipment.

(b) The increase in the estimates revised in December, 1970 and approved by Government in August, 1971 over the estimates of August, 1968 was mainly on account of the following factors:—

(i) The increase (Rs. 18.14 lakhs) in the estimated outlay on 'New Works'.

(ii) The provision for outlay on protocol works (Rs. 50.99) which were jointly agreed upon between the Russians and the Indian Technological Team in 1969 as necessary to set right certain imbalances and deficiencies in the plant and equipment standing in the way of attainment of rated capacities and quality standards. It may be mentioned in this connection that the contract with the Collaborators limited their liability to the replacement or repair of the defective equipment and did not provide any arrangement to meet the loss of production due to malfunctioning of the plant and equipment.

(iii) The provision for estimated cost (Rs. 42,00 lakhs) of 360 residential quarters agreed upon mutually between the Government of U.P. and the Plant Authorities for the purpose of subsidy by the U.P. Government.

2.4. During 1972-73 and 1973-74 (November, '73) a sum of Rs. 30.07 lakhs and Rs. 13.99 lakhs respectively have been spent on essential facilities:

(a) The actual expenditure upto 31st March, 1972 had exceeded the approved estimate of August, 1971 by more than 20 per cent in the case of commissioning expenses and, therefore, required the approval of the Government.

(b) The approved estimates of August, 1971 do not include an amount of Rs. 108.77 lakhs representing the capital outlay on a number of works which were considered essential by the Company for import substitution, fulfilling certain statutory obligations, safety devices, improved operations and procurement of more durable, efficient or trouble free equipment.

A separate Project Estimate for Rs. 108.77 lakhs (including a foreign exchange component of Rs. 32 lakhs approx), under the head 'Essential facilities' was, therefore, prepared by the Company and sanctioned by Government in December, 1971. The actual expenditure incurred against this estimate upto 31st March, 1972 amounted to Rs. 36.70 lakhs.

2.5. It has been estimated by the Company that the additional investment would yield an additional revenue of Rs. 40.20 lakhs per annum including foreign exchange saving of Rs. 28 lakhs.

2.6. On being asked as to why the commissioning expenses and interest on Government loans were not taken into account in the approved estimates of October, 1966, the managing Director, IDPL during evidence stated:

> "This was lapse. This was an omission on our part which was corrected subsequently when our Revised Project Estimates were submitted to Government."

2.7. In this connection the Ministry explained that the interest on loan capital during construction was not provided for in the estimates approved in 1966 on the assumption that when it will become due for payment, the projects will have commenced production and the liability could be discharged by IDPL out of its own resources. However, the assumption did not materialise due to delay in commencement of production and consequently IDPL proposed capitalisation of the interest payments on loan. In view of the state of financial difficulties of the projects of the company, there was no alternative but to agree to that proposal and consequently this item was included in the revised project estimates.

2.8. Non-inclusion in the project estimates approved in 1966 of the expenditure on commissioning of the plants was admittedly an ommission. This item had not been included by the Company in the project cost estimates submitted at that time.

2.9. During evidence, of the Undertaking the Committee asked why as to the approval of Government was not obtained for exceeding the expenditure by more than 10 per cent over approved estimates of August, 1971 in respect of commissioning expenses. The Managing Director, IDPL stated that they had not exceeded the project estimates till then. They had not spent the full amount which had been provided in the project estimates. In certain items, they had exceeded and it was thought that once the project estimates

were finalised, they would approach the Government for certain sub-heads, where they had exceeded 10 per cent. About the position with regard to the excess expenditure on a particular head *vis-a-vis* the expenditure of 10 per cent, as against the total expenditure involved in the project, the Committee were informed during the evidence of the representatives of IDPL that about Rs. 7 lakhs were left in one project, which the Company was going to utilise in 1974-75. Then, the project estimate would be closed.

2.10. As regards the sub-heads under which there were excess over 10 per cent, the Ministry stated in a written note that at the time of approval of revised estimates in August, 1971, these were considered only under the sub-heads; (i) Factory, (ii) Township and; (iii) Interest. The position regarding interest on loan capital has already been indicated above. As regards the "township", there was no increase, the provision approved in 1966 being Rs. 274.51 lakhs. Excluding this amount from the Government sanction of Rs. 2404.18 lakhs of October, 1966, the provision therein towards "Factory" was Rs. 2129.67 lakhs. As against this, the provision in the sanction of August, 1971 was Rs. 2376.78 lakhs, *i.e.* an increase of Rs. 247.11 lakhs which indicates an excess of about 11 per cent.

2.11. The reasons for the above increase were gone into in as much as it was noted that the commissioning expenses had not been included in the estimates earlier sanctioned and that certain "new works" to the extent of Rs. 69.37 lakhs and "priority works" to the extent of Rs. 50.99 lakhs had been found necessary.

2.12. About any further rise in the estimates the Ministry stated that the estimated expenditure for 1973-74 is Rs. 16.11 lakhs comprising Rs. 2.40 lakhs on residual works Rs. 6.55 lakhs on "new works" and Rs. 7.16 lakhs on "priority works". The estimated expenditure in 1974-75 will be Rs. 4.50 lakhs comprising Rs. 3.00 lakhs on "residual works" and Rs. 1.50 lakhs on "Priority works". Government, therefore, do not expect any further rise in the estimates beyond that sanctioned in August, 1971.

2.13. As regards the amount of subsidy from the U.P. Government against the provision of Rs. 42 lakhs made in the approval estimates of August, 1973 for 360 residential quarters. The Committee were informed by the Management in a written note as follows:—

> "We have not received any subsidy from U.P. Government for the construction of 360 residential quarters against the estimated outlay thereon of Rs. 42 lakhs. The main hitch in sanction of the loan (Rs. 11.07 lakhs) and subsidy

(Rs. 5.53 lakhs) to the extent of Rs. 16.60 lakhs by the U.P. Government. Industrial Housing Scheme for the construction of 360 quarters, was due to the absence of denotification of the land by Forest Department in favour of IDPL. The matter has been pursued at all levels and even at the level of Adviser to U.P. Governor. The matter is still being pursued and the latest meeting had been held on 24th October, 1973 between Plant officials and the Secretary Forest Department has been asked by the Department of U.P. Government and in pursuance thereof the Secretary, Forest Department has been asked by the adviser of U.P. Govt. to prepare a detailed lease deed with specific provision to allow the plant to mortgage any part of the land for availing loan/subsidy for construction of low income Industrial house under the subsidised Industrial Housing Scheme. The quarters have been almost completed."

2.14. In connection with the over stay of Soviet Experts to remove the limitations existing in the plant and lack of provision in the contract for sharing of expenditure on the experts by Collaborators in such circumstances, the Management stated in a written note that in the absence of any provision in the contract for sharing of expenditure on the extend stay of Soviet experts to remove the limitation existing in the plant and equipments and facilities the question of taking up this issue with the collaborators did not arise. Similarly, there was no provision in the contract for loss of production due to malfunctioning of plant and equipment. These requirements have, however been noted for future.

2.15. In this connection the Ministry stated in a written note that there is no provision not only in respect of the contracts relating to IDPL regarding compensation for loss of production, but suh provisions are rarely, if ever accepted by collaborators in any contracts. There was, however, provision for the Soviet organisations to undertake at their cost to rectify the defects or to replace such plant or machinery as may be found unsatisfactory or in the alternative to reimburse the cost of such rectification or replacement. Government however, agree that contracts with collaborators should make clear provisions for sharing of expenditure on experts in such circumstances. This has been noted by the Ministry for future guidance. IDPL have also noted it accordingly.

2.16. While the question of the liability of the collaborators was taken up with the collaborators and in 1967 they agreed to

supply free of charge some equipment, the question of sharing the expenditure on the extended stay of the experts was, however, not taken up with the collaborators in the absence of any clear provision in the original agreement in this regard.

2.17. About the execution of the works under the head "Essential Facilities" for which a separate project estimate of Rs. 108.77 lakhs was approved by the Government in December, 1971, the Committee was informed by the Management in a written note that against Rs. 108.77 lakhs approved by the Government for execution of the works under the head "Essential Facilities" in December, 1971 the actual expenditure upto 31st March, 1973 amounted to Rs. 66.77 lakhs. The expenditure to the extent of Rs. 34.69 lakhs will be made for the execution of these schemes in 1973-74. All the works under "Essential Facilities" are expected to the completed by the end of March, 1974 as per attached statement. The residual liability of Rs. 7.00 lakhs has been provided for 1974-75.

2.18. There were some replacement and operational works (Rs. 56.14 lakhs) considered essential by the Indian party for fulfilling statutory obligations safety and improved operations, replacement by more durable, efficient or trouble free equipment etc. Some of these works were not included in the protocol as they were not expected as essential for attainment of efficiency and capacity by high powered Soviet Delegation came from Russia. (Those which were expected by the Soviet Team were included in priority works for Rs. 50.99 lakhs. As such the question of passing the liability to the collaborators did not arise).

2.19. The works under essential facilities will be completed by the end of 1973-74. As such, the results obtained as a result of implementation of these schemes will be evaluated now.

2.20. A separate project estimate for Rs. 108.77 lakhs including a foreign exchange component of about Rs. 32 lakhs was sanctioned under the head "Essential Facilities" in December, 1971. The expenditure upto 31.3.72 was Rs. 36.70 lakhs and in 1972-73 Rs. 30.07 lakhs and 1973-74 Rs. 13.99 lakhs upto 30.11.73. The total provision for the year 1973-74 is Rs. 34.69 lakhs and in 1974-75 Rs. 7.00 lakhs. This will complete the scheme. The scheme consist of 149 items of which about 42 have completed and others are in progress.

2.21. No evaluation has so far been done of this scheme. The necessary evaluation will be done when the scheme is completed.

2.22. During the several protocol discussions in 1969 with the high-powered Soviet team, both at the Plant level and Head Office.

several deficiencies, which were responsible for not achieving the capacitis and efficiencies were pointed out to the Russians. The works and facilities which were accepted by both the teams were included in Protocol of October, 1969. However, there were a number of works which were considered essential by the Indian party for import substitution, for fulfilling statutory obligations, safty, improved operations, replacement by more durable, efficient or trouble free equipment etc. some of which were agreed to by the local Soviet specialists but which were not included in the Protocol. These works amounting to Rs. 108.77 lakhs have been included under "Essential Facilities". These are expected to improve the yields and capacity and also include meters for checking and recording consumption of electrical energy, freeze drier for research and development of technological process of Streptomycin, rotary washing machine for production of Nystatin, aluminium partitions and enclosures around inoculator in Formentation Block to obtain semi-sterile conditions, weigh bridge and weighing scales, filter cloth washing and drying machines, motors, transformers, and few others. In regard to "works for improving yields and capacity", certain items of equipment such as rotary vacuum drier for drying of Potassium paste, heat exchangers, individual air filters for fermenters, gas sterilisation, rubber lined tank, centrifugal pump and other pumps, strips packing machine, etc. have been provided. This investment was expected to lead to a saving in foreign exchange to the extent of Rs. 28 lakhs per annum and to result in additional revenues to IDPL to the extent of about Rs. 40 lakhs per annum.

2.23. While actual evaluation over a sufficiently long period with suitable conditions would indicate how far the anticipations would be fulfilled and in this connection the chronic problems of steady power to A.B.P. Rishikesh, must be emphasised. It is hoped that this investment will yield the advantages expected. The Luvesta extractor already installed is expected to give a much higher extraction efficiency than the earlier Russia extractor. The micro-niser installed in the procaine Penicillin section is stated to have already improved the quality of the finished drug. After introduction of gas sterilisation, the Plant is stated to have succeeded in improving greatly the salvage of contaminated materials. Druck filters in streptomycin section are stated to have improved the capacity of the carbon treatment section prior to Streptomycin drying section.

2.24. In para 5.3 of their 46th Report (1968-69) the Committee had pointed out that the project estimates of the Antibiotics Plant, Rishikesh were revised five times during the period 1961—68. As against the original estimate of Rs. 15.75 crores the estimate prepared in 1968 was for Rs. 26.32 crores. Thereafter revised estimates were

prepared in December, 1970 and approved by Government in August, 1971. As against the revised estimates of Rs. 27.43 crores approved by Government in August, 1971, the actual expenditure upto 30th November, 1973 was stated to be Rs. 26.77 crores. The Committee find that though the average actual expenditure has not exceeded the estimate of Rs. 27.43 crores approved by Government, there has been an excess of more than 20 per cent in the case of Commissioning Expenses. The increase in the estimates revised in December, 1970 and approved by Government in August, 1971 over the estimates of August, 1968 was stated to be mainly because of increase (Rs. 18.14 lakhs) in estimated outlay on new works, and provision made for outlay on protocol works (Rs. 50.99 lakhs) which was jointly agreed upon between the Russians and the Indian Technological Team in 1969 to set right certain imbalances and deficiencies in the plant, provision for 360 residential quarters (Rs. 42 lakhs). The Committee find that while October, 1966 estimates did not take into account the commissioning expenses and interest on Government loans, the estimates of August, 1971 did not include an amount of Rs. 108.77 lakhs representing the capital outlay on a number of works. It was admitted by the Undertaking as well as by Government that non-inclusion in the project estimates approved in 1968 of the expenditure on commissioning and interest on Government loan was an ommission. The Committee were assured that Government do not expect any further rise in the estimates beyond what was sanctioned in August, 1971. The Committee are concerned to note that the project estimates in the case of Antibiotics Plant, Rishikesh had to be revised a number of times and each time one or the other provision was found to be lacking. The Cammittee recommend that project estimates should be drawn up realistically and provision made for all essential items so that these estimates have not to be revised so frequently. The Committee also recommend that Government should view with concern any cases wherever the actual expenditure on sub-heads of estimates exceeds the approved estimates by more than 10 per cent so that remedial and other action could be taken in time.

2.25. The Committee also find that owing to delay in the completion of the Project the stay of Soviet Experts had to be prolonged. As against the provision of Rs. 30.20 lakhs in August, 1968 towards the cost of Soviet Experts, the actual expenditure upto 31st March, 1972 had been Rs. 62.66 lakhs. The Committee find that the contract did not envisage sharing of the expenditure by the collaborators in cases where the extension was owing to limitations in the plant and equipment. The contract was also silent as to the Collaborators resposibility for loss of production due to malfunctioning of plant and equipment. Government have agreed that "contracts with

collaborators should make clear provisions for sharing an expenditure on experts in such circumstances." The Committee recommend that suitable guidelines may be issued in the matter so that such lapses do not occur in any of the public undertakings. The Committee need hardly stress that agreements with collaborators should be drawn up most carefully so as to safeguard public interest.

(B) Delay in Completion/Commissioning

2.26. In paras 4.02 and 4.03 of the 46th Report of the Committee on public Undertakings (1968-69) a mention was made of the absence of any time schedule for the completion of construction of the various units in the Detailed Project Report. The delays in construction with reference to the schedules drawn up by the Company were discussed in that Report in case of some of the sections which had been commissioned by May, 1968.

2.27. The table below indicates the original and revised scheduled dates together with the actual dates of the commissioning (in the Recovery and Purification Block) of the remaining sections:—

	Products	Scheduled dates of commissioning as fixed in		Actual dates of commission in
		September 1966	April 1967	
	1	2	3	4
1	Tetracycline	December,1967	March, 1968	January, 1969
2	Oxytetracycline	February 1968	September,1968	December, 1969
3	Nystatin	May, 1968	July, 1968	January, 1971
4	Di-hydro-Step tomycin Sulphate Oct. 1967	October, 1967	Tobe taken up later depending upon the demand	The Board on 28-6-68 decided to discontinue its production due to total lack of demand
5	Clorotetryacycline	April 1968	December, 1968	The Board on 26-8-1971 approved the deletion of chloro-tetracyclin from the productmix of the plant and the diversion of the equipment (26.5 tonnes capacity) to other antibiotics

2.28. The main reasons for the delay in the completion/commissioning of the various sections have been attributed by the Management to:—

(i) Delay in the receipt of drawings and equipment;

(ii) Changes in the layout introduced after the arrival of the Soviet Experts;

(iii) Changes in technology;

(iv) Difficulties regarding sterility conditions;

(v) Difficulties in the air-conditioning system.

2.29. The following remedial measures have been taken by the Management are being taken by the Management also stated in the Management that:—

(a) the commissioning of all the products was affected due to late receipt of drawings;

(b) Necessary experiments are being conducted to collect design data for modifying the system to suit the technological requirements. The sterile areas are also being reduced so as to maintain better sterility parameters.

(c) However, the technology was changed during construction period only in respect of Nystatin, Oxytetracycline and Chlorototracycline.

(d) In Recovery and Purification Block, air conditioning system has been modified to improve the sterility conditions. Even with these modifications, the air conditioning system in R&P block which serves sterils areas of sodium and procaine sections had been found deficient in maintaining proper parameters especially in respect of relative humidity.

(e) the plant has modified the air supply system to ensure quality of air required by the technology. In case of streptomycin inoculators which are most susceptible to contamination, additional secondary air filters have been provided.

2.30. In paras 4.02 and 4.03 of their 46th Report (1968-69) the Committee had pointed out that the Detailed Project Reports did not contain any time schedules for completion of the plants. The

Committee find that according to the schedule time for commissioning fixed in September, 1966, Tetracycline, Oxytetracycline and Nystatin Sections were scheduled to be commissioned in December, 1967, February, 1968 and May, 1968 respectively. In April, 1967 the scheduled dates of commissioning were revised to March 1968, September, 1968 and July, 1968 respectively. Tetracycline Section could be commissioned only in January, 1969 resulting in a delay of 12 months with reference to the 1966 schedule and 9 monthe with reference to the revised schedule of 1967. Oxytetracycline Section was actually commissioned on December, 1969, the delay being 22 months with reference to the original dates and 15 months with reference to the revised schedule. In the case of Nystatin Section which was commissioned in January, 1971 the delay has been the maximum, that is, 32 months with reference to the original schedule and 30 months with reference to the revised schedule of April, 1967. The Management had attributed these delays to the late receipt of drawings and change in the layout introduced after the arrival of the Soviet Experts; changes in technology; difficulties regarding sterility conditions; and difficulties in the air-conditioning system. The Committee were informed that the management were taking remedial measures for modification in the air supply system, reduction in the sterility areas, change in technology etc. The Committee are distressed to find the long delays in the actual commissioning of important product sections like Tetracycline, Oxytetracycline and Nystatin Sections. The Committee recommend that every effort should be made to minimise such delays so as to avoid any loss in production.

C. Performance Appraisal

Product-mix

2.31. The Antibiotics Plant was designed to produce 8 main antibiotics weighing 290 tonnes or 3.70,250 mlrds. per annum. As the product-mix and the production capacities for the various antibiotics were not determined after taking into account the actual requirments of the country this aspect was adversely commented upon by the Committee on Public Undertakings in paras 6.19 to 6.21 of is 46th Report (4th Lok Sabha-April, 1969).

2.32. The Committee again reiterated in its Action Taken Report (*i.e.* Fouth Report—Fifth Lok Sabha) that it was not satisfied with the way the Plant capacity had been provided for, without a systematic study of the requirements of products in the country. The Committee had desired that urgent steps should be taken to utilise the surplus capacity.

2.33. The operational experience gained during the production from May, 1968 onwards indicated a number of deficiencies in the equipment and systems which were subsequently studied by Soviet Experts (who visited the Plant from 2nd September, 1969 to 5th October, 1969) with the help of Indian Technologists. As a result of this study and discussions, the maximum attainable capacities were put at 3,15,800 mlrds. by the Soviet side and 2,55,000 by the Indian side.

2.34. It will be seen that the capacity as assessed by Indian Technologists was 19 per cent less than the capacity assessment made by the Soviet Team. The variations were due to the different parameters adopted by the Soviet and Indian Teams for calculating the capacity. The Russian assessment was based on the efficiency and time cycles which had already been acheived in similar plants in the Soviet Union and which were also capable of achievement in India once the technology was matered. According to the Management, the Plant would attain the capacities assessed by the Soviet team after certain essential facilities are provided. Outlay for such facilities has been estimated at Rs. 108.77 lakhs as stated earlier.

2.35. In connection with capacities as revised, following features deserve mention:—

(a) The efforts of the Company to persuade the medical profession for use of Chlorotetracycline Hydro-Chloride for human treatment (as recommended by the Committee on Public Undertakings in para 6.21 of their 46th Report—4th Lok Sabha) had not been successful and its use as animal feed supplement was also not found feasible in view of the adverse opinion expressed by the SWAN Committee in November, 1969. The Company, therefore, decided (August, 1971) to delete Chlorotetracycline from the product-mix and to utilise the facilities created for the manufacture of this product for the production of other antibiotics.

Out of the total investment of Rs. 65.55 lakhs in this section upto September, 1971, equipment valuing Rs. 36.72 lakhs have already been diverted up to September, 1972 for meeting the deficiencies in other sections and equipment valuing Rs. 9.11 lakhs is likely to be used for the production of Griseofulvin. The Management have stated (September, 1973) that the balance equipment valuing Rs. 19.72 lakhs cannot be used by any further diversion till the details of expansion programme have been worked out. It is also

stated that Chlorototracycline equipments valuing Rs. 11.19 lakhs were further divereted upto the end of September, 1973. The demand for Nystatin during 1975-76 is estimated to be about 2 tonnes only. In view of the limited demand the capacity of Nystatin Section (10 tonnes) is proposed to be utilised for concurrent production of Griseofulvin (estimated production 5 tonnes per annum).

2.36. In this connection the Ministry stated in a written note as follows:—

> "It is understood that the Soviet side considered that 26500 metres of Chlortetracycline could be produced with the equipment valued at Rs. 54.28 lakhs already available with the plant alongwith certain additional balancing equipment. Since the product-mix has been altered, deleting the production of Chlortetracycline, it is being examined by the plant as to whether these equipments could be fruitfully utilised in the production range. In the production of antibiotics, the basic requirements of plant and equipment are in the fermentation filtration, extraction recovery and purfieaction and, as such, all these equipments could be utilised for the manufacture of other antibiotics. IDEL has also submitted proposals for expansion of Streptomycin, adopting improved strain, better technology ets. to be obtained from Soviet side or elsewhere, and also for substantial expansion of Tetracycilin. As already mentioned, these equiment which are required for any fermentation and recovery operations, could be utilised for the expansion purposes of other antibiotics. The extent utilisation would, however, depend upon the technology which would ultimately be adopted.

2.37. Expansion is contemplated in respect of Streptomycin from 85 tonnes to 120 tonnes, and Tetracycline from 25 tonnes to 95 tonnes, involving an additional capital cost of Rs. 685 lakhs The overall profitability has been assumed at 10.54 per cent after expansion. The proposal for expansion is under consideration of the Government. It would, therefore, bereasonable to assume that the major portion of the equipment will be absorbed in the expansion programme and until a final decision is taken on the expansion proposal, these equipments need not be disturbed."

2.38. Borker Committee favoured a "moving boundry" approach

towards production capacity of the Antibiotics Plant, Rishikesh. The Committee *inter alia* observed that

> "To help develop a pervasive attitude of healthier appreciation of the real economic needs of the organisation among plant personnel it is imperative that the organisation drops the standard of protocol levels in all its discussions and book-keeping and replaces, in its place, standards of economic performance expected of the plant and its constituent units every year which are arrived at with the involvement of theconcerned units. Capacity considerations should be reserved by the top management as a convenient reference point for purposes of review and not to imply that as the units approached the predetermined capacities their performance would be considered adequate. Only a 'moving boundary' approach of this kind will keep the constituent units tensed and motivated to higher levels of achievement where self-urge of the right kind is missing for whatever reasons."

2.39. The Committee note that the operational experience of Antibiotics Plant, Rishikesh gained during production from May, 1968 onwards had revealed a number of deficiencies in the equipment and systems which were subsequently studied by the Soviet Expert who visited the plant from 2nd September, 1969 to 5th October, 1969 with the help of Indian Technologists. As against the original design capacity of the Plant of 290 tonnes or 3,70,250 mlrds per annum, the maximum attainable capacity was put by the Soviet side at 3,15,800 mlrds and by the Indian side at 2,55,000 mlrds which is 19 per cent less than the capacity assessed by the Soviet Team.

2.40. The Committee were informed that the Russian assessment was based on the efficiency and time cycles which had already been achieved in similar plants in the Soviet Union and which were also capable of achievement in India once the technology was mastered. According to the plant however, the capacity as assessed by the Soviet Team could not be attained unless certain essential facilities were provided. The outlay for such facilities was estimated at Rs. 108.77 lakhs. The Committee are unhappy at the derating of the plants capacity. The Committee hope that with the additional facilities proposed to be provided it would be possible for the plant to achieve the capacity as assessed by the Russian Team. The Committee recomend that a close watch may be kept by Government to see that expenditure on such additional facilities does result in higher utilisation of capacity and stabilisation of production.

2.41. The Committee note that it has not been possible for the company to persuade the medical profession to use Chlorotetracycline Hydro-Chloride for human treatment nor it has been possible to use it as animal feed supplement. Subsequently, the Company has deleted Chlorotetracycline from the plant's product-mix and have diverted equipment of the value of Rs. 36.72 lakhs (out of Rs. 65.55 lakhs) meeting the deficiencies in other Sections and equipment valuing Rs. 9.11 lakhs is likely to be used for the production of Griseofulvin. The Committee find that even after such decision, plant and equipment of the value of Rs. 19.17 lakhs will still be lying unutilised. The Management claim that the major portion of the equipment will be utilised in the Expansion programe to be finalised. The Committee are sorry to observe that determination of product-mix without adequate demand survey had resulted in equipment value about Rs. 19 lakhs remaining idle. The Committee expected that the expansion programme would be finalised after a detailed market survey of the products and the surplus plant and machinery would be put to best use.

Puroduction Performance

2.42. The table below indicates the actual production of the various antibiotics during the last 5 years ended November, 1973 compared to the Protocol capacities and the targets of production laid down by the Company for these years as per the original and revised budgets:—

Sl. No.	Product	Year	Protocol capacity as assessed in 1969 (Mlrds.	Planned production as per Original Budget Mlrds.	Revised Budget Mlrds.	Actual Production Mlrds	Percentage of actual production to budgeted production (Revised)	Remarks
1	2	3	4	5	6	7	8	9
1	*Sodium Penicillin*	1968-69	53,000	26,613	7,500	2,200	29·33	Commenced production in May, 1968
		1969-70		20,000	17,312	8,068	46·60	
		1970-71		43,500	20,250	19,418	95·89	
		1971-72		46,000	34,400	35,277	102·55	
		1972-73		42,000	26,120	22,017		
		1973-74 (upto Nov. 73)		42,300	19,201	912 (9827)		
2	*Procaine Pencillin*	1968-69	52,000	21,692	4,500	1,097	24·38	Do.
		1969-70		20,000	10,678	9,994	93·50	
		1970-71		41,000	25,113	18,088	72·03	
		1971-72		48,000	31,700	19,751	62·31	
		1972-73		42,000	20,168	10,359		
		1973-74 (upto Nov. 73)		29,200	11,444	3,630 (5869)		
3	(a) *Streptomycin Sulphate (Sterile)*	1968-69	57,500	31,818	7,000	1,666	23·80	Commenced production in Octobr, 1967 (Fer.) Dec. 1967 (R&P)and March, 1968 (Dryers)
		1969-70		15,000	18,014	10,655	59·15	
		1970-71		42,860	19,896	13,820	69·76	
		1971-72		39,000	19,800	21,705	109·62	
		1972-73		40,000	33,000	15.907		
		1972-74 (Upto Nov. 73)		57,500	28,662	7597 (15,632)		

1	2	3	4	5	6	7	8
(*b*) Non-Sterile	1971-72	..	..	8,300	5,049	60·83	
	1972-73	..	8,000	2,009	10,432		
	1973-74 (upto Nov. 73)		2,300	10,000	13,049 (8193)		
4 (a) *Tetracycline BCI*	1968-69	12,500	3,977	750	928	123·73	Commenced production in May, 1968 (Fer.) and Jan. 1969(R&P)
	1969-70		9,000	6,421	4,790	74·60	
	1970-71		15,000	8,719	8,714	99·94	
	1971-72		12,480	9.745	11,043	113·32	
	1972-73	22,800	20,000	19,000	10,139		
	1973-74 (up to Nov. 73		24,000	14,695	6,724 (8948)		
(b) *Tetracycline Base*	1971-72	10,300	5,240	..	2,667		
	1972-73		..	..	2142		
	1973-74 (upto Nov. 73)		..	1,203	1556 (1095)		
5 (a) *Oxytetracycline Hcl.*	1968-69	25,000	3,741	..	..	..	Commenced production in August, 1969(Fer.) and Dec. 1969 (R&P)
	1969-70		3,000	5,210	812	15·59	
	1970-71		20,600	9,974	7,297	73·16	
	1971-72		18,060	8,435	7,169	84·99	
	1972-73		16,000	4,364	4,025		
	1973-74		8,610	13,283	5,875 (7,820)		
(b) *Oxtetracycline Base*	1971-72	..	..	13			
	1972-73	..	..	436			
	1973-74	..	..	(584*) (—)			
6 *Nystatin*	1971-72	46,800	1,600	1,350	1,874	138·81	Commenced production in September,
	1972-73						
	1973-74						
7. *Griseofulvin*	1971-72	46,800	350 Ks.			..	1970 (Fer) and in Jan. 1971 (R&P)
	1972-73						
	1973-74						

NOTE 1. The Plant utilised 7,610·60 mlrds. of imported potassium Penicillin during 1971-72 for the production of Sodium and Procaine Penicillin.

2. The Oxyetracycline Section was used from the middle of December, 1971 for the production of Tetracycline due to build up of large stocks.

3 The production of Nystatin was stopped from the middle of November, 1971 due to build up of large stocks. However, the production of Griseofulvin was not taken up durig 1971-72 due to non-stabilisation of the production of Nystatin.

4 Revised budgets for 1968-69, 1969-70, 1970-71 and 1971-72 were submitted to Government in March, 1969, November, 1969, November, 1970 and December, 1971 respectively.

2.43. It will be seen from above that except for Streptomycin Sulphate and Oxytetracycline during 1969-70 (where the original targets were revised upward by 20.1 per cent and 73.7 per cent respectively) the production targets of rest of the antibiotics during all the years were curtailed drastically in the revised estimates. Even these revised targets could not be achieved in all the cases (except for Sodium Penicillin, Streptomycin Sulphate and Nystatin in 1971-72 and Tetracycline Hcl. in 1968-69 and 1971-72).

2.44. The following factors were stated to be mainly responsible for the non-attainment of the planned production:—

(i) Non-attainment of efficiencies as compared to reglement norms (vide para 6.4.1).

(ii) Technological problems e.g. lack of sterility, clarity and colour.

(iii) Lower potency of Streptomycin resulting in heavy rejections.

(iv) Strike by the workers on 28th May, 1969 which resulted in an estimated loss of production of Rs. 20.06 lakhs.

(v) Failure of the water supply system in 1970-71 on account of Alaknanda floods resulting in loss of production of Rs. 55 lakhs (approx).

(vi) Non-availability of materials of requisite specification in desired quantities.

(vii) Frequent fluctuations of voltage and interruptions in power supplied by the Uttar Pradesh Electricity Board resulting in loss of production of Rs. 87.35 lakhs during 1968-69 to 1971-72 and Rs. 43.62 lakhs during 1972-73 and 1973-74 (Sept. 1973).

(viii) Sodium & Procaine Sections had been under shut down upto August, 1973.

(ix) Illegal strike and the lock-out during the month of May/June, 72 and the strike of the U.P., State Electricity Board Power Engineers in January, 73 resulted in an estimated loss of production amounting to Rs. 205.55 lakhs.

(x) The tool-down strike followed by lock-out in April/May, 1973 and (26-4-73 to 11.5.73) resulted in an estimated loss of production amounting to Rs. 94.45 lakhs.

2.45. The Antibiotics Plant Rishikesh, commenced production of Potassium Penicillin, an intermediate in June, 1967 and progressively various pharmacopoeial grade products were commissioned from May, 1968 to January, 1970. As per collaborators, it was expected to reach the rated capacity within two to three years of commissioning. However, as the production continued to be far below the installed capacity. Thereby affecting not only the economics of the plant but also reducing the indigenous availability of the essential antibiotics and thus necessitating import to meet the demand, the Govt. appointed in June, 1973 a Technical Committee with Shri S. K. Borkar, Adviser (Tech) IDPL as Chairman.

2.46. Govt. have accepted all the recommendation of Borker Committee except recommendations at Sl. No. 9,12 and 17 which have been modified.

2.47. It will be seen that revised budgets were submitted to Government in November, 1969 for 1969-70, in November, 1970 for 1970-71 and in December, 1971 for 1971-72. It is further noticed from the data relating to actual production for these years given in the Report that, by and large, even targets as per revised budgets could not be achieved. Asked whether the various factors responsible for shortfall in production were not taken into account while finalising the revised budgets and if so, why the actual production was significantly lower than the projections made in the revised budgets. The Management stated in a written note as follows:—

"It is true that the revised targets for the years 1969-70, 1970-71 and 1971-72 and 1972-73 were realised only to the extent of 70.15 per cent, 87.19 per cent and 104.98 per cent and 82.04 per cent respectively. The gap between the revised plan and the actual achievements was basically for two reasons:—

(i) The revised target was kept at a slightly higher level than the realistic expectations, to provide challenging targets to the operating personnel, and;

(ii) Some of the constraints which were responsible for low production during the remaining part of the year were not fully visualised at the time of the drawing of

the revised plans. These constraints include frequent power failures, non-availability of needed raw materials in terms of both quality quantity."

2.48. Askel when do the Management expect that would be possible for the plant to attain rated capacity of the various products as well as reglement norms for yields etc. as the period of commissioning, mastering the technology and attainment of rated capacities for the various antibiotics produced undert he same roof was to be about 2 1|2 to 3 years for each product from the date of commissioning and the period of 3 years is already over, the production performance is still far below the rated capacity level. The Management further stated in the written note that; the period of 2 1|2 to 3 years which had been indicated by the collaborators for masting the technology assumed continuous operations of plant without any interruptions. As the continuity of the operation could not be ensured due to various factors like disruption of water and power supply, marketing constraints and various technological problems, which necessiated the closure of the plant, this period naturally got extended. The plant has however, resolved a major part of these problems by now and it is expected that by the end of 1974-75 it would be possible to achieve rated capacities for various antibiotics.

2.49. In this connection the Ministry have stated in a written reply as follows:—

"Achievement of production as per the rated capacities could be expected only when the basic assumptions like uninterrupted supply of raw materials, power and other services are assured. Stabilisation|mastering of technology is also another factor. Problem of un-interrupted power supply is still continuing. Although in certain batches the plant has been able to obtain good results, as compared to the reglement norms, it has not been possible to sustain such results on a continuing basis. Based on their experience, the unit has affected certain changes in their air-filteration system in 1970, for the dehumidation of air supply to the fermentation block. The sterile area for Sodium and Procaine Penicillines has been made more compact in 1973. At that extraction and filtration stages also, certain modifications in the Plant have been brought about in the later half of 1973.

The Technical Committee under the Chairmanship of Shri S. K. Borker also pointed out the major problems and also recommended certain measures to be adopted by the company towards attainment of rated capacities. Once corrective action is taken by the plant, in the hight of these recommendations it is expected to improve its performance and also attain the capacities as envisaged."

2.50. Analysis of production performance of Antibiotics Plant, Rishikesh indicates that except for Streptomycin Sulphate and Oxytetracycline in 1969-70 (where the original targets were revised upwards by 20.1 per cent and 73 per cent respectively), the production targets of rest of the antibiotics during all the years were curtailed drastically in the revised estimates. The Committee find that even these revised targets could not be achieved in all the cases except for Sodium Pencillin, Streptomycine Sulphate and Nystatin in 1971-72 and Tetracycline Hcl. in 1968-69 and 1971-72.

251. The main factors responsible for non-attainment of the planned production were stated to be non attainment of efficiencies compared to reglement norms, technological problems, lack of sterility, clarity and colour; lower potency of streptomycin resulting in heavy rejections; failure of the water supply system in 1970-71 on account of Alaknanda floods and power fluctuations and non-availability of materials of requisite specifications in desired quantities.

2.52. The Borker Committee constituted by Government to study the working of the Antibiotics Plant, Rishikesh has concluded that the major problems of the plant are twofold viz. serious shortfalls in all the products and uncommon degree of process and product failure in all stages of production. That Committee also pointed out that the main causes which have operated to the deteriment of the plant in varying degrees have been inadequacy of the equipment or plant design process, assimilation of process technology, lack of proper rapport between management and the workers. Gov. ernment have assured that once corrective action is taken by the Plant in the light of the recommendations made by the Borker Committee it would be possible to attain the envisaged capacities. The Committee also recommended that as the production in the plant has continued to be far below the installed capacity, thereby affecting not only the economics of the plant but also reducing the indigenous availability of essential antibiotics, Government/Manage-

ment should bend all their energies and see that the plant reaches the installed capacity soon and all impediments in the way of productton are removed.

The Committee were informed that the Ministry had accepted all the recommendations made by the Borker Committee except recommendations at Sl. No. 9, 12 and 17, which have been modified. The Committee urge that the recommendations made by the Borker Committee may be implemented and corrective action taken without any further delay in the light of those recommendations.

2.53. As mentioned elsewhere in the Report the market demand for tetracycline base had been estimated by the Management at 4 tonnes per annum and that the Soviet Delegation had suggested the conversion of the balance base into Tetracycline Hcl, and the additional equipment recommended by the Soviet Delegation for conversion of base into Tetracycline Hcl has not been installed and commissioned so far.

2.54. In this connection the Management stated in a written note as under:—

> "The plant has not yet been able to realise the full capacity of Tetracycline base. The actual production of base has been just sufficient to cater to the requirement of the existing capacity (15 tonnes after modification) of tetracycline HCI and the Tetracycline base required by the market. It has therefore, not been felt necessary to increase the capacity of Tetracycline Hcl at this stage by providing additional equipment."

2.55. As regards the present position regarding change over from two stage fermentation process for Tetracycline specified in the DPR to three stage fermentation process recommended by Soviet Delegation in 1969, the Management also stated in a written note that the experiments conducted at the plant in Tetracycline fermentation with two stage and three stage processing show that there is no differnce in results with the strain being utilised at present. Recently a new high yielding strain has been obtained from Soviet Union and as per recommended technology, this strain requires three stage fermentation. The modifications to change over from two stage to three stage precess have been recently taken in hand and these are expected to be completed by March/April, 1974.

2.56. Total demand for Tetracycline HCL and Tetracycline base for 1973-74 and 1974-75 is as under:—

	1973-74	1974-75
Tetracycline Hcl.	90.T	115 T
Tetracycline Base	5 T	6 T.

Imports of Tetracycline base till 1972-73 was as follows:—

1970-71	1 T.
1971-72	1 T.
1972-73	Nil.

NOTE: Canalisation imports started from 1970-71 when IDPL came in the picture. Figures for 1969-70 are not available with IDPL.

Share of Antibiotics Plant in the country's overall production of antibiotics

2.57. The following table indicates the licensed capacity and actual production of Penicillin, Streptomycin and Tetracycline of the country as a whole, the share of public sector therein and that of the Antibiotics Plant during 1970 to 1972 :—

Name of the product		Licensed capacity in the country				Production			
		Country	Private Sector	Public Sector	IDPL	Country	Private Sector	Public Sector	IDPL
1 Penicillin (MMU)	(1970)	264	40 (15·1%)	224 (84·8%)	140 (53%)	181·70	90·80 (50%)	90·90 (50%)	29·94 (16·4%)
	(1971)	314	90 (28·6%)	224 (71%)	140 (44.5%)	198·80	101·69 (51·1%)	97·11 (49·9%)	41·67 (20·8%)
	(1972)	314	90 ((28·6%)	224 (71·5%)	140 (44·5%)	223·12	94·62 (48·4%)	128·50 (57·5%)	44·22 (19·8%)
2. Streptomycin (tonnes)	(1970)	205	40 (19·5%)	165 (80·5%)	85 (41·5%)	157 09	76·45 (48·6%)	80 64 (51·3 %)	15 07 (9·5%)
	(1971)	225	60 (26·6%)	165 (73·3%)	85 (37·7%)	173·85	93·65 (53·8%)	80·20 (46·1%)	17·10 (9·8%)
	(1972)	247	82 (33·2%)	165 (66·8%)	85 (34·4%)	190·71	96·14 (50·4%)	94·57 (49·5%)	23·58 (12·8%)
3. Tetracycline and its derivatives (tonnes)	(1970)	148·5	27·00 (18·1%)	121·5 (81·8%)	120·00 (80·8%)	52·49	38·38 (73·1%)	14·11 (26·8%)	14·11 (26·8%)
	(1971)	148·5	27·00 (18·1%)	121·5 (81·8%)	120·00 (80·8%)	68·69	44·81 (65·2%)	23·88 (34·7%)	23·88 (34·7%)
	(1972)	148·5	27·00 (18·1%)	121·5 (81·8%)	120·00 (80·8%)	74·89	54·59 (72·8%)	20·30 (27·1%)	20·30 (27·1%)

NOTE:—Figures in brackets represents percentage to total capacity and total production.

2.58. It will be seen that in 1972 Antibiotics Plant accounted for 44.5 per cent, 34.4 per cent and 88.8 per cent of the country's licensed capacity for Penicillin, Streptomycin, and Tetracycline and its derivatives respectively. The actual production of these drugs in the Antibiotics Plant in 1972, however, represented 19.8 per cent 12.8 per cent 27.1 per cent respectively of the total production in the country for 1972. Thus, the share of the Antibiotics Plant in the overall production of these drugs in the country was not commensurate with its share in the overall production capacity. On the other hand, the production of producers in the private sector was generally more than their lincesed capacities.

2.59. The Management explained that performance of private and public sector was not comparable. It was stated that:—

"The manufacture of antibiotics is very tricky and peculiar in nature in the sense that the ultimate result is dependent upon the potency of the strain employed and also the enviornment in which it is placed to yield the desired antibiotics. The technology developments in the field have been stupendous in the developed countries which has been possible through continuous R & D efforts involving substantial expenditure. The other firm like Synbiotics and HAL (both for tetracycline group of drugs) have been producing these antibiotics based on the strain and technology imported from their respective collaborators. These units have been able to show better results only because of the improved strain and associated technology imported. Alembic Chemicals had to seek foreign technological assistance, to improve their efficiency in respect of Penicillin. As for Streptomycin, Alembic Chemicals are operating much below their capacity with the technology developed by themselves. IDPL are also endeavouring to improve their performance based on imported better strains, and they are now working in that direction. Government is also trying to assist them in securing still better strain and the associated technology for the existing products and also for new items."

2.60. The statistics of imports (made available by the office of the Drugs Controller) that the country had to imoprt the following quantities of the drugs during 1969-70 to 1972-73.

(Value in lakh of Rs.)

Item	1969-70		1970-71		1971-72		1972-73	
	Qty.	Value	Qty.	Value	Qty.	Value	Qty.	Value
1	2	3	4	5	6	7	8	9
1. Penicillin (G) Sodium and Potassium (in MMU) .	0·63	1·43	Nil	Nil	40	59·17	9·99	11·72
2. Streptomycin (in kgs.) .	35,697	65·47	12,531	22·45	83,603	170·10	99,200	137·00
3. Tetracycline base and Hcl. (in kg.) .	61,362	127·22	62,898	159·33	44,365	116·41	20,100	36·15
4. Oxytetracycline .	4,549	10,60	12,862	31·79	54·190	107·5	1,500	2·8
5. Chlor Tetracycline (in Kgs.)	..					..		..
6. Nystatin (in lakh mill)	7·2	3·60	6·2	2·72	2·00	0·89		

2.61. With referrence to the capacity, the actual production fell short by the following quantities, as per details given under production performance:—

	Shortfall (in MMU)				Remarks
	1969-70	1970-71	1971-72	1972-73	
1. Pencillin	86·9	67·5	50	58	In the case of these 3 antibiotics 1 MMU 1 tonne
2. Streptomycin	46·8	43·7	37·7	31·2	
3. Tetracycline (Base and Hcl)	7·7	3·8	9·1	10·5	
4. Oxytetracycline (base and Hcl)	24·2	17·7	17·8	20·5	

2.62. From the details of overall imports and shortfall in production in the Antibiotics Plant, it is evident that had the Plant

achieved the production according to the capacity, it would have avoid the imports to the following extent:—

(a) Import of Penicillin would not have been necessary in 1969-70 and 1971-72.

(b) In respect of Streptomycin, imports for 1969-70, 1970-71 would have been completely eliminated and those for 1971-72 would have been avoided to the extent of one third (approximately) of the total imports.

(c) Import of tetracycline would have been curtailed to the extent of shortfall in production at the Plant in each of the 3 years.

(d) In respect of oxytetracycline, imports, for 1969-70 and 1970-71 would have been rendered unnecessary that for 1971-72 could have been reduced by one third approximately.

2.63. In regard to the imports of antibiotics during 1972-73, and to the extent to which these have been caused by shortfalls in the production of the Rishikesh Plant, and the total value of imports made since commissioning of the Rishikesh Plant to date on account of failure to achieve the rated/budgetted production, the Ministry stated as under:—

"According to DGHS statistics, the imports during 1972-73 of the antibiotics which are in the production range of IDPL, have been as under:—

Penicillin G Potassium	9·99 MMU	Rs. 11·72 lakhs
Streptomycin Sulphate	99·2 tonnes	Rs. 1·37 crores
Tetracycline	20·1 tonnes	Rs. 37·15 lakhs.
Oxytetracyeline	1·5 tonnes	Rs. 2·8 lakhs.
Chloro-tetracycline	0·44 tonnes	Rs. 1·23

Import of Nystatin is now banned as a result of IDPL's production. Nystatin was being imported during the past few years as under:—

	Quantity	Value
1969-70	7·2 lakh mu	Rs. 3·65 lakhs
1970-71	6·2 lakh mu	Rs. 2·72 lakhs
1971-72	2·0 lakh mu	Rs. 0·89 lakhs
1972-73	Nil	

2.64. The import of Pencillin during 1971-72 and 1972-73 was effected to meet the eventualities like influx of refugees from Bangladesh and Indo-Pakistan conflict. There was no import in 1970-71, nor any imports have been arranged for 1973-74. The imports of antibiotics like streptomycin and Tetracycline could have been reduced to the extent of their installed capacities, but that would have been possible only if IDPL were able to stabilise their production to that extent. Obviously,difficulies came in the way which prevented them from attaining the production upto their installed capacities. Since stablisation of antibiotics production is very intricate as has been noticed in the case of Streptomycin for alembics, and also that it takes time to attain such projected capacities, it is not possible to indicate the extent of imports that could have been avoided since commissioning of the Rishikesh Plant."

2.65. The Committee note that in 1972 Antibiotics Plant accounted for 44.5 per cent, 34.4 per cent and 80.8 per cent of the countrysh licenced capacity for Penicillin, Streptomycin and Tetracycline and its derivatives respectively. The actual production of these drugs in the Antibiotics Plant, however, represented 19.8 per cent 12.8 per cent and 27.1 per cent respectively of the total production in the country during 1972. The comparative study of the performance of public and private sector for production of these drugs indicates that the share of the Antibiotics Plant in the overall production of these drugs in the country was not commensurate with its share in the overall production capacity. On the other hand the production of producers in the private sector was generally more than their licenced capacity. In this connection the Committee understand that action to be taken on firms for exceeding the permissible capacity was under consideration keeping in view the country's demand for these drugs. The Committee find that had Antibiotics Plant achieved the production according to its capacity, in respect of Oxytetracycline, imports in 1969-70 and 1970-71 would not have been necessary and even in 1971-72 the import of this drug could have been reduced by one third. The Committee find that during 1972-73 import of products in the production range of IDPL amounted to Rs. 54 lakhs. The Committee recommend that Antibiotics plant should take concerted measures to achieve installed capacities of its various products in order to avoid dependence on imports to that extent.

2.66. As regards the total requirements of the antibiotics in the country envisaged during the 5th Five Year Plan, how these are proposed to be met and the share of Public Sector and Private Sector in this sphere, the Ministry stated that the requirement of

the counry in the field of antibiotics during the period of the Fifth Five Year Plan is as follows:—

S. No.	Name of Drug	Unit	Target for 1978-79 V Plan	Public Sector 1978-79	Private Sector as on 1-2-74	IDPL present capacity in MMU	IDPL capacity by 1978-79
1	2	3	4	5	6	7	8
1	Pencillin . . .	MMU	780	340	175	105 32·2 for Pot. Peni. Salable.	137·2 ..
2	Streptomycin Sulphate .	Tonne	825	290	82	85	120
3	Tetracycline . .	Tonne	200	95	13	22·8	95
4	Oxyte racycline	Tonne	80	25	9	25	25 MMU
5	Dimethyl Chlorotetracycline	Tonne	23	..	5	..	..
6	Chloromphenicol & its esters	Tonne	390	..	158·8	..	..
7	Amphotericin . . .	Kgs.	3000		1000	..	..
8	Ampicillin and others Synthetic Penicillin .	Tonne	35	25	13·75	..	10
9	Bacitracin .	MMU	23				
10	Cyclosirine .	Tonne	8	..	..		..
11	Erythsomycin . .	Tonne	30	19	16		5
12	Griseofulvin . .	Tonne	20	6		..	..
13	Hamycin . .	Kgs.	150	250	..	..	..
14	Kanamycin .	Tonne	0·8	10	1·0		..
15	Neomycin .	Kgs.	10000	3	0·3	..	(Ton)5
16	Nystatin .	Kgs.	3000	1000		46·8	46·8 MMU
17	Oloesmlomycin	Kgs.	1500	..	..	..	
18	Polymixin .	BU	130	5			

2.67. The proposals of IDPL and HAL included in their Fifth Plan proposals are under consideration of Government. A plan outlay of Rs. 40 crores and Rs. 30 crores respectively has been proposed for these undertakings.

The proposals from the Private Sector will be, it has been stated, considered on their merits.

2.68. The Committee were informed that the guidelines for Industries were proposed to be used by the Ministry of Industrial Development annually indicating the lines as to how the industry should go about achieving the production requirements. The gap still available against the various categories of drugs would also be indicated there. Ministry of P & C were holding discussions with the various drugs manufacturers' associations to examine the possibilities as well as the means as to how the projected requirement could be achieved by the industry.

2.69. In regard to the view of IDPL that "Many of the problems faced by ABP are unique arising out of its location and the performance of equipments and systems and other factors having bearing on technology given in the DRP" the Ministry stated in a written note as follows:—

"Achievement of projected production according to DPR would be based on certain basic assumptions. Any interruption in the availability of the inputs would naturally affect the production. As for example, supply of raw materials, supply of power, services etc. has a great bearing on the production performance apart from the technology envisaged. Rishikesh being a place far away from the sources of raw materials which are used in the production of antibiotcs has to depend for its supply of such inputs from distant places like Bombay, Calcutta, Baroda, etc., and any dislocation in the supply of any of the raw materials would consequently affect the production. Similarly, supply of power, which is highly essential for maintaining the regular production, has not been obtained from the State Government on an uninterrupted basis. In the early stages of production the Plant suffered the natural calamity of Alaknanda disaster, which resulted in the stoppage of plant for about two months and the water system had to be modified to ensure proper supply of water. Two presedimentation tanks had to be incorporated in the system for providing uninterrupted water supply.

Apart from the above, the Technical Committee under the Chairmanship of Shri S. K. Borkar has also pointed out the short-comings in the plant design particularly in respect of the following aspects:

(i) The method of inoculation.

(ii) Design of the air filteration system;

(iii) Design of the fermentors;

(iv) Available controls, particularly for regulating foaming, agitation and the temperature of ingoing air and;

(v) The availability of adequate chilling facilities at the terminal stages of inoculation seed vessels and fermentors.

2.70. As regards the inoculation system, the open method of inoculation is provided which increases the possibility of contamination. For de-humidification of air which is essential in view of the peculiar weather conditions prevailing in this country was later on indentified and rectified to a certain extent by the Soviets.

2.71. Contrary to the general experience in this field where the activities in production fermentors are normally higher than their activities in the shake flask, in case of production fermentors at Rishikesh, the activities in the production fermentors are less than the shake flask. This is due to the fact that adequate system has not been provided for optimization of air which is necessary for aspiration/respriration of the micro-organisms. Adequate chilling facilities (at 5°C for water line) which are necessary at the post fermentation stage were not provided initially. Action is now being taken to rectify these shortcomings. Apart from these technological inherent in the system, frequent power failures have also led to the fall of positive pressure of air in the fermentors thereby increasing the chances of contamination and consequently lowering the levels of production.

2.72. The Committee find that according to Fifth Plan proposals the capacity of the Plant is proposed to be increased by the end of 1978-79, in the case of Penicillin from 105 MMU to 137.2 MMU, in the case of Streptomycin from 85 tonnes to 120 tonnes, and in the case of Tetracycline from 22.8 to 95 tonnes. An outlay of Rs. 40 crores has been proposed for inclusion in the 5th Plan. The Committee also find that Government are actually having discussions with the drug manufacturers to examine the possibilities as well as the means as to how the projected requirements of the

various antibiotics for the Fifth Plan period could be achieved by the industry. The Committee desire that early decision should be taken by Government in this regard and the target to be achieved by IDPL and other Units in the public sector clearly laid down so that concerted measures could be taken to achieve it. The Committee need hardly stress that the progress achieved should be closely monitored to resolve in time difficulties which may be experienced in achieving the targets and to take other timely remedial measures.

The Committee recommend that the target fixed for the 5th Plan for raising the availability of Antibiotics in the country during the plan period should be achieved in full and no efforts should be spared in that direction.

OPERATIONAL EFFICIENCY

Non-attainment of reglement norms for yield etc.

2.73. The Plant consists of four main production blocks *viz*:—

(1) Raw material and Culture Media preparation Block.

(2) Fermentation Block

(3) Recovery and Purification Block and

(4) Sterile and Finishing Block together with appurtenant works.

The production of the bulk antibiotics (*viz.* Penicillin, Streptomycin, Nystatin, Tetracycline and Oxytetracycline) from the basic stages is carried out in the first three blocks.

A. *Penicillin*

(i) Fermentation—(a) The production of Pencillin in the Plant is a three stages fermentation process. The fermentation is carried out in inoculators, seed vessels and fermentors. The culture medium for seed vessels and fermentors is prepared in the Media Preparation Block. The culture medium for inoculators is prepared in the inoculator itself and after its sterilisation is charged with inoculum (seed strain). Samples from the inoculators are taken at regular intervals for testing the batch for air-borne containants, mould strain development and the PH etc.

2.74. The mycelium grown up in the inoculators is used for inoculation in the seed vessels. The inoculum in the seed vessels is ready

for charging into fermentors when the mycelium development reaches the 3rd or the 4th stage of development and no air-borne contaminats are found. The collaborators had provided nine inoculators (each having a capacity of 10 M^3) for this purpose.

2.75. The inoculators/seed vessels which get contaminated or develop other biomass become unfit for use in the next stage of fermentation and are, therefore, detained. The table below indicates the inoculators|seed vessels|fermentors charged|dteained and the ratio of fermentors harvested to inoculators|seed vessels charged for the last 4 years ended September, 1973:—

(in batches)

Year	Inoculators		Seed vessels		Fermentors			Ratio of batches harvested to	
	charged	drained	charged	drained	charged	drained	harvested	inoculators charged.	Seed vessels charged.
1969-70 .	729	310	419	64	325	14	311	0·43	0·74
1970-71	1045	375	670	88	578	49	529	0·51	0·79
1971-72	1167	376	791	86	705	17	688	0·59	0·87
1972-73	1048	302	746	82	664·5	22·5	642	0·61	0·86
1973-74 (April-Sept' 73) . . .	435	131	304	44	260	9	251	0·58	0·82

(1) Fermentors drained during 72-73 includes one batch drained in June, 1972 due to strike /Lock-out in the Plant and 14 batches drained in January, 73 due to U.P. Power Engineers' strike.

2.76. In the absence of any norms laid down by the Management with regard to the number of batches harvested to the inoculators/ seed vessels charged, the efficiency of the harvesting operations was not susceptible of evaluation. The loss on account of the draining of inoculators|seed vessels also does not appear to have been assessed by the Management. The Ministry have stated (October, 1973) that norms in respect of various antibiotics could not be laid down so far on account of non-stabilisation of the technological regime and power fed to the Plant.

2.77. The inoculum from the seed vessels is charged into fermentors (each having a capacity of 50M^3 and co-efficient of filling of 76 per cent) by blowing over the broth from the seed vessels by sterile compressed air pressure. The control over fermentation is exercised by examining the samples for sterility, mycelium development, bio-chemical changes, potency and PH at regular intervals. The Collaborators had provided 13 fermentors for fermentation.

2.78. The fermentor is harvested when mycelium development quantity of residual sugar, potency and PH of culture fluid meets the prescribed requirements, standard curves (based on the results of sample batches) showing the rate of growth of activity have not been prepared by the Company so far (March, 1972). The decision to continue fermentation of broth or its harvesting is taken on the basis of the test results of the process control laboratory in the Fermentation Block. As regards the preparation of standard curves for the various antibiotics the Ministry have stated (October, 1973) as follows:—

> "The use of the standard curves for controlling the biosynthetic activity in fermentation is one of the usual techniques employed in the fermentation industry. However, the same results can also be achieved by a suitably designed sampling plan for process control. The plant is following the latter practice and the decision to harvest the batch is taken on the basis of the analysis of test samples. SQC team from the Indian Statistical Institute has carried out some studies in this respect and has suggested some rules for harvesting the batch on the basis of activity at definite intervals. These recommendations are under study by the Company and the decision on the same will be taken after their usefulness is established."

2.79. After the completion of fermentation, the culture fluid is pumped to Filtration Section where mycelium and native solution are separated from the fermented broth. The broth which is considered totally unfit for harvesting either due to contamination/low activity/bad mycelium or for any other reasons is pasteurized and drained. The other contaminated batches not falling within this category are, however, harvested. The harvesting of the contaminated batches affects the recovery efficiency of Potassium Penicillin from the native solution. The table below indicates the contaminated batches harvested during the last few years ending September, 1973.

Year	No. of batches harvested	No. of contaminated batches.	%of batches cotemina-ted to batches harvestcd.
1969-70	311	60	19·29
1970-71 . .	529	92	17·39
1971-72	688	151	21·95
1972-73 .	642	97	15·11
1973-74 (April-September' 73) .	251	35	13·94

(b) *Average Activity and Borth*—The project report for the Penicillin Section indicated the process efficiencies at different stages of production. These were, however, refixed on the basis of the protocol of discussion in October, 1969.

2.80. The table below indicates the various parameters indicated by the Soviet side in the protocol together with the actuals thereagainst in each of the last few years ending Setpember, 1973.

Description	As per protocol	1969-70		1970-71	
		Planned	Actual	Planned	Actual
1	2	3	4	5	6
1. No. of batches harvested	830	333	311	723	529
2. No. of batches drained			14*		49†
3. Fermented broth (Mlrds.)	..		73,405 70	..	1,35,248·80
4. Filtered broth (Mlrds)	2,14,000	84,950	65,795·20	1,70,660	1,05,472·43
5. Filetration efficiency (%)	85	83·8	74·76	82·3	77·99
6. Filtered broth per batch (Mlrds.)	258·4	N.A.	176·19	N.A.	199·40
7. Average activity (u/ml)	8,000	7,325	6,321	7,500	6,830
8. Highest activity (u/ml)	..	..	10,230	..	101
9. Fermentation cycle (Hrs.)	118	N.A.	134	N.A.	130
10. Total time cycle (Hrs.)	133	N.A.	192	154½	178

*Includes abnormal batches drained.

†Includes 13 abnormal batches drained in July, 1970 and 5 abnomal batches drained in August, 1970 due to shut down of the plant on account of Alaknanda disaster.

Average filtered broth per batch in 1972-73 was 217·3 mlrds. and in 1973-74 (April-Sept' 73) was 199·59 mlrds.

The total time cycle (in terms of hours) during 1972-73, was 1,09,223 and during 73-74 (April-Sept '73) was 43604.

Description	1971-72		1972-73		1973-74 (Apr-Sept'73)	
	Planned	Actual	Planned	Actual	Planned	Actual
1	7	8	9	10	11	12
1. No. of batches harvested .	N.A.	688	816	642	232	251
2. No. if batches drained .		17	..	22·5	..	6
3. Fermented broth (Mlrds.) .	..	1,77,542	2,40,064	1,73,904	70,528	64,452·90
4. Filtered broth (Mlrds) .	1,99,170	1,42.861	1,78,872	1,36,515	55,680	50,096·71
5. Filteration efficiency (%) .	N.A.	80·47	85	78 5	80	78·95
6. Filtered broth per batch (Mlrds.) .	N.A.	207·65	253·4	217·3	240	199·59
7. Average activity (u/ml) .	N.A.	7,292	8,000	7,687	8,000	6,910
8. Highest activity (u/ml) . .	..	11,880	..	11,600	..	11,0000
9. Fermentation cycle (Hrs.) .	N.A.	126	118·00	130·04	125	124·10
10. Total time cycle (Hrs.)	N.A.	178½	133·00	170·13	155	169·36

2.81. It was noticed that the average activity and the yeild of filtered broth (in mlrds) per batch has varied widely from month to month and year to year. Although the activity per u|ml was much higher than the protocol norm on a number of occasions (highest activity achieved in February, 1972 was 11,800 u|ml) in each of the last 3 years ending 31st March, 1972 yet the average activity was only 6321 u|ml, 6830, u|ml, and 7292 u|ml respectively. Similarly, as against the protocol norm of 258.4 mlrds. of filtered broth per batch, the highest achieved was 245.23 mlrds. in February, 1972. The average yeild of filtered broth per batch was, however, only 176.19 mlrds. in 1969-70, 199.40 mlrds. in 1970-71 and 207.65 mlrds. in 1971-72.

2.82. The fermentation cycle (except in August, 1969) and the total time cycle were also much above the protocol norms. Based on a normal cycle of 133 hours (inclusive of 15 hours down time) for fermentation, 830 batches are expected to be harvested in a year. The number of hours for which the fermentors were run/utilised (excluding the batches drained) in each of the last 3 years were, however, only 41829 hours, 68902 and 86734 hours respectively as against the protocol norm of 97940 hours.

2.83. The total time cycle (in terms of hours) during 1969-70, 1970-71 and 1971-72 was 59712, 94162 and 122636 hours against the protocol norm of 109200 hours, which indicates that the fermentors were not utilised to the full extent in 1969-70 and 1970-71. In 1971-72, the plant pressed into service three additional fermentors involving a total utilisation of 17,142 hours. The Plant did not achieve the protocol level of harvesting 830 batches per annum in any of the years, notwithstanding the fact that three additional fermentors had been utilised in 1971-72.

2.84. The reasons for the non-attainment of protocol efficiencies|requirement norms in the Fermentation Section for the various products as indicated by the Management in September, 1971 were as follows:—

(a) Contamination problem due to frequent power failures and higher moisture content in the air during monsoon season.

(b) Poor quality of raw materials used due to shortage of time for biological testing.

(c) Higher time cycles due to frequent leakages and more maintenance time due to non-availability of good quality valves and fittings.

(d) Low filtration efficiency as contaminated batches take longer time and give less yeild.

(e) Poor performance of the filter press.

(f) Lower volume of media charged in the fermentors due to foaming and aeration problem and to control the contamination.

(g) Higher temperature of chilled water in the fermentors.

2.85. The Management have further stated (September, 1972) that "the nature and the complexity of problems responsible for lower yeilds has been changing from time to time. Steps that the Plant have taken to resolve these problems are both general and specific for individual products. Details of some of the steps taken in this direction are given below:—

(a) Installation of de-humidifier to minimise the moisture content of the compressed air supply.

(b) Sectionalising 6.6 kv system to improve the effectiveness of maintenance thereby improving the reliability of power supply which is an essential condition for maintaining services to the fermentation block.

(c) Implementation of other measures like replacement insulators, installation of under-frequency relays and lightening arrestors to improve the reliability of power supply.

(d) Isolation of air supply system to individual fermentors so as to avoid spread of contamination from one fermentor to another."

2.86. The Committee note that as far as Penicillin is concerned, the ratio of batches harvested to inoculators charged has gone up from 0.43 in 1969-70 to 0.61 in 1972-73 and to seed vessels charged from 0.74 to 0.86. In this connection the Committee have, however, found that the Management have not laid down any norms with regard to the number of batches harvested to the inoculators/seed vessels charged. The Management also do not appear to have assessed the loss on account of the drained inoculators/seed vessels. It has been stated that the norms could not be laid down "on account of non-stabilisation of the technological regime and power feed to the plant." The Committee note that the percentage of batches contaminated to batches harvested has come down from 19.29 in 1969-70 to 15.11 in 1972-73. The Committee recommend that a careful watch should be kept to see that batches which become unfit for harvesting due to contamination are not processed, as harvesting of such contaminated batches affects the recovery efficiency. The Committee were

info med that Indian Statistical Institute has carried out some studies for controlling the bio-chemical fermentors and has suggested some rules for harvesting the batches on the basis of activity at definite intervals. The Committee recommend that the rules suggested by the Indian Statistical Institute should be considered after carefully weighing the advantages of the adoption of these rules vis-a-vis **use of standard curves for conducting the bio-synthetic activity in fermentation. The Committee further find that average activity and the yield of filtered broth per batch has varied widely from month to month and year to year. Although the activity per u/ml was much higher than Protocol norms on a number of occasions (highest activity achieved in February, 1972 being 11,800 u/ml) the Committee find that the average activity was only 6,321 u/ml in 1969-70, 6,830 u/ml in 1970-71, 7,292 u/ml in 1971-72 and 7,687 u/ml in 1972-73 respectively which was less than the protocol norm of 8,000. Similarly, as against the protocol norm of 258.4 mlrds of filtered broth per batch, the highest achieved was 245.23 mlrds. in February, 1972. The Committee fail to understand as to why the higher rate of activity attained in February, 1972 could not be sustained continuously. The Committee recommend that a careful analysis of the constraints in this regard should be made with a view to taking suitable measures. The Committee also find that the fermentation cycle (except in August, 1969) and the total time cycle were also much above the protocol norm. The Plant did not achieve the protocol level of harvesting 830 batches per annum in any of the years, notwithstanding, the fact that three additional fermentors had been utilised in 1971-72.**

2.87. The Committee also find that the total time cycle during 1969-70, 1970-71 and 1971-72 was 59,712 hours, 94,162 hours, 1,22,636 hours respectively as against the product norm of 109,200 hours thus indicating that the fermentators were not utilised to the full extent in 1969-70 and 1970-71. The Committee note that in 1971-72, the plant pressed into service these additional fermentors involving a total utilisation of 17,742 hours.

The Committee would like that the Management should go into the causes of non-attainment of protocol norms and take suitable measures to remove the constraints.

2.88. *Potassium Penicillin* (a) The next stage of processing is the extraction of the penicillin from the native solution. The recovery efficiency from native solution of Potassium Penicillin as indicated in the protocol is 72.4 per cent (native solution to Potassium Penicillin paste 73.5 per cent and efficiency of drying of paste to powder 98.5 per cent.) The various stages in the production of Potassium Penicillin are (a) extraction, (b) dehydration and filteration and (c) precipitation and drying.

2.89. The table below indicates the input of native solution and output of Potassium Penicillin in each of the last few years ending September, 1973:—

Particulars (Input)	1969-70 (mlrds .of filtrate) Native solution	1970-71 (Mlrds. of filtrate Native solution	1971-72 (Mlrds. of filtrate) Native solution	Mlrds of filtrate Native Solution	
				1972-73	1973-74 (April-Sept.' 73
Opening work-in-progress as on IstApril . .	..	317·00	1,954·02	2,257·36	2,592·14
Add: Receipts of native solution produced during the year .	54,796·20	1,05,482·43	1,42,861·00	1,36,515·11	50,096·63
TOTAL	54,796·20	1,05,799·43	1,44,815·02	1,38,772·47	52,868·77
Less: Closing work-in-progress as on 31st March . .	(—)317·00	(—)1,954·02	(—)2,257·36	2,592·14	2,171·43 (on 30-9-73)
Filtrate input for batches completely processed .	54,479·20	1,63,845·41	1,42,557·77	1,36,180·33	50,517·34
Actual production (in mlrds.)	33,183·70	63,823·40	89,487·00	79,447·60	28,701·49
Recovery efficiency	60·91	61·46	62·77	58·30	56·82
Production with reference to the efficiencies indicated in the protocol (i.e.72·4 %) (in mlrds.)	39,442·80	75,184·08	1,03,211·75	98,594·56	36,574·55
Shortfall in production with reference to protocol (in mlrds) .	6,259·10	11,360·68	13,724·75	19,146·96	7,873·06
Selling price (per mlrd) (in Rs.)	525·00	400·00	400·00	400·00	400·00
Value of shortfall with reference to selling price (in Rs.) .	32,86,027·50	45,44,272·00	54,89,900·00	76,58,784	31,49,226
TOTAL .	Rs. 1,33,20,199·50				

2.90. The main reasons for the non-attainment of Protocol efficiencies/reglement norms and consequent shortfall in production as intimated by the Management in September, 1971 were:—

(a) Poor quality of native solution received from the Fermentation Block.

(b) Low efficiency of Rossia Extractor.

(c) Non-availability of services at required temperature and pressure.

2.91. The steps taken by the Management to improve the efficiencies *inter alia* include:

(i) Rectification of design defects in dissolution and precipitation systems and implementation of other technological changes in the R & P block.

(ii) Two more centrifuges and one vacuum shelf dryer have been added to increase the capacity in Potassium Penicillin Section.

(iii) A stainless steel column for the distillation of spent butanol has also been installed.

(iv) The Rossia Extractor is being replaced by Luvesta which is likely to improve the efficiency of extraction by about 10 per cent. The Luvesta Extractors have already been received and are under installation.

2.92. As regards (iv) above the Management stated in a written note (January, 1974) as follows:—

"Out of two Luvesta Extractors procured, one has already been installed and the other is under installation. The performance of these extractors will be evaluated when both of them are commissioned and are used for the extraction of the entire batch. The return on the investment of Rs. 19.55 lakhs on these two extractors was expected to be based on 10 per cent improvement in the extraction efficiency over Rossia Extractor. The actual benefit derived can be evaluated only after it is stabilised. Possibility of using 'Rossia Extractors' for the manufacture of other products is being studied."

2.93. The Committee find that the recovery efficiency from native solution to potassium penicillin as indicated in the protocol is 72.4 per cent. But during 1969-70 to 1973-74 (September, 1973) the recovery efficiency achieved by the plant has ranged between 56.82 per cent to 62.77 per cent. The result of this low yield has been that shortfall in production in terms of value with reference to selling price was Rs. 32.86 lakhs in 1969-70, Rs. 45.44 lakhs in 1970-71, Rs. 54.90 lakhs in 1971-72, Rs. 76.59 lakhs in 1972-73 and Rs. 31.49 lakhs in 1973-74 (upto September, 1973). The Committee have been informed that in order to rectify this situation, the Management have taken certain steps which include rectification of the design defects, installation of two more centrifuges and one vacuum shelf dryer, installation of stainless steel column for the distillation of spent butanol, replacement of Rossia Extractors by Luvesta Extractors. The installation of Luvesta Extractor is likely to improve the efficiency by about 10 per cent. The Committee recommend that efficiency of these measures may be kept under constant review so that the requisite protocol efficiency can be achieved. The Committee would also like to be informed about the utilisation of Rossia Extractors.

(b) *Reprocessing of Potassium Penicillin*

2.94. The production of Pottassium Penicillin was taken up at the plant in June, 1967. Between November, 1967 and March, 1968 a quantity of 6019.90 mlrds, of non sterile Potassium Penicillin was produced at a cost of Rs. 91.31 lakhs.

Out of this, Pottassium Pencillin valued at Rs. 6.48 lakhs (quantity not known) was stated to have been damaged due to prolonged storage as the production of Sod. and Procaine Penicillin was taken up only in May, 1968.

2.95. The damaged Potassium Penicillin alongwith some of the rejected Potassium Penicillin produced in 1968-69 was re-processed in 1969-70. Out of 7029.60 Potassium Pencillin costing Rs. 3826 lakhs only 4707.99 mlrds. of approved Potassium Penicillin could be obtained. The expenses on re-processing amounted to Rs. 1.23 lakhs.

2.96. The loss of 2,521.61 mlrds. of Potassium Penicillin (valued at Rs. 13.72 lakhs plus reprocessing charges Rs. 1.23 lakhs) during re-processing resulted in increase in the cost of Potassium Penicillin by Rs. 331.63 (Rs. 875.89—Rs. 544.26 per mlrd.)

2.97. The Management have stated (September, 1972 that ".... such trial losses are inevitable and not unheard of in process industry like this. Number of troubles have to be overcome before the start of production and its stabilisation."

(iii) *Final Product-Sodium|Procaine Penicillin*

2.98. Potassium Penicillin is converted into Sodium and Procaine Penicillin which are sterile products.

The conversion efficiency from Potassium Penicillin to Sodium Penicillin powder and Procaine Penicillin, as indicated in the protocol, was 83 per cent and 86.5 per cent respectively. The table below indicates the details of the conversion efficiency of Potassium Penicillin and other intermediates to Sodium and Procaine Penicillin during the last 4-5 years ending September, 1973:—

Sodium Penicillin

	1969-70	1970-71 (mlrds.)	1971-72 (mlrds.)	1972-73 (Mldrs)	1973-74 upto Sept. 73 (mlrds)
1	2	3	4	5	6
Input					
1. Potassium Penicillin (Imported)			5,585·80	5882	..
2. Potassium Penicillin (Indigenous)	19,375·57	34,831·13	42,420·49	19820	1160
3. Procaine aquous from S&F		..	25.30	131	
4. Re-processed Pot. Penicillion	3,342·58		1,592·70		..
5. Strepto Penicillin 1/2 gm.		..	1,952·70		
6. Rejected Sod. Penicillin	1,523·82	2,367·74	4,240·96	2893	..
7. Strepto Penicillin 1 gm.	..		213·70		..
8. Rejected Sod. Penicillin	206·14	1,445·35	358·27	2817	..
9. Sodium Penicillin salvage	1,111·82	1,615·10	3,656·96	2424	
10. Fortified Procaine Penicillin	678·05	668·98	2,266.74	1512	..
TOTAL	26,237·98	40,928·30	60,350.92	35479	1160

1	2	3	4	5	6
Output					
Gross production of Sodium Penicillin	15,998·344	24,840·85	39,563·16	23552	619
(a) Approved I.P.	8,067·744	19,418·43	35,276·55	18315	Not
(b) Rejects	7,930·600	5,422·42	5,422·61	5237	approved
Conversion efficiency (Gross production—input) %	60·97	60 69	65·54	66·38	53·36
Production with reference to the efficiencies indicated in the protocol (83)% (mlrds)	21,777.52	33,973.49	50,099.56	29448	963
Shortfall in production with reference to protocol (mlrds)	5,779·19	9,129·74	10,536·40	5806	344
Selling price (per mlrd.) (in Rs.)	600·00	500·00	500·00	500	500
Value of shortfall with reference to selling price (in Rs.)	34,67,508	45,64,820	52,68,200	29,48,000	72,000
Procaine Penicillin					
Input					
1.Potassium Penicillin (Indigenous)	13,642·60	29,010·49	32,913·60	10614	
2. Potassium Penicillin (Imported)	..	..	2,024,80	2455	..
3. Rejected Sodium	6,328·65	4,680·66			1463
4. Re-processed pot. penicillin	1,165·41	..	..		
5. Sodium salvage from S&F	..	..	63·81	992	..
TOTAL	21,136·66	33,691·15	35,002·21	14061	1463
Output					
Gross production of Procaine Penicillin	14,892·778	24,670·59	28,123·70	9475	1185
(a) Approved I.P.	9,994·074	18,087·58	19,751·45	7817	448
(b) Rejects	4,898·704	6,583·01	8,672·25	2658	737
Conversion efficiency (gross production—input)%	70·46	73·23	81·21	67·38	81
Production with reference to protocol (86·5%)	18,283·21	29,142·84	30,276·91	12163	1265
Shortfall in production with reference to protocol (86.5%)	3,390·43	4,472·25	1,853·21	2688	80

1	2	3	4	5	6
Selling price (per mlrd.) (in Rs.) . . .	650·00	500·00	500·00	500	500
Value of shortfall with reference to the selling price (in Rs.)	22,03,779.50	22,36,125·00	9,26,605·00	13,44,000	40,1000

N.B. The Indian side during the course of discussion in October, 1969 had pointed out that certain allowance should be made for rejections, which are inevitable on the manufacture of sterile antibiotics. The Soviet Delegation, however, stated that according to their practice, no allowance is to be made for rejections.

2.99. It will be seen from the table that in 1969-70 the Plant had used re-processed Pot. Penicillin and in 1971-72 imported Potassium Penicillin for the production of Sodium and procaine. Although the actual efficiency achieved in both these cases showed an improvement, it was still below the protocol norms. The lower conversion efficiency was more pronounced in the case of Sodium Penicillin.

2.100. The main reasons for non-attainment of the conversion efficiency in both these cases as intimated by the Management in September, 1971 were as follows:—

(a) Higher losses during precipitation and centrifugation.

(b) Non-availability of services at required temperature and pressure.

(c) Poor quality of procaine hydrochloride.

(d) Poor design of equipment and accessories like agitators.

2.101. The steps taken by the Management in this connection inter alia include:

(a) A scheme has been worked out for azeotropic distillation instead of the present method of precipitation which will improve efficiency as well as the quality and stability of the product (sodium).

The scheme is under implementation from December, 1972.

(b) To improve upon the quality of Procaine Penicillin (as well as sodium, when required) a gas sterilization unit

has been installed. The section has however been shut down from December, 1972 onwards for modifications and to make it more compact.

(c) Grinding and polishing of all the reaction vessels and change of some of the mild steel lines to stainless steel lines.

(d) Installation of line filters in the process lines.

(e) The partition walls of sterile area to non-sterile area have been strengthened and the false ceiling of the sterile areas have also been rectified to make them leak proof to avoid the entry of insects and ants etc. in sterile area.

2.102. In this connection, the Ministry have stated (October, 1973) as follows:—

(a) After modifications, the Sod. Penicillin Section has been re-commissioned in September, 1973 and trial batches are being taken. The results will be known in the next few weeks. The Procaine Penicillin Section has also been re-commissioned in August, 1973 after modifications and the first few batches have given encouraging results.

(b) The scheme for Azero Tropic distillation of Sod. Penicillin has already been implemented. Regular sterile batches have been taken since 7th September, 1973. (As a result of installations of Azero Tropic distillation system, results known so far are encouraging.)

2.103. The Ministry further stated in this regard in a written note (January, 1974) as follows:—

"The technology of he modified scheme of procaine penicillin is the same as given in the original scheme. The modifications, in effect, were aimed at maximising the usage or process equipment and decreasing the communication pipelines so as to reduce the sterile area required for processing of this product. All glass pipe lines have also been changed to stainless steel with sanitary fittings. The actual expenditure incurred so far comes to Rs. 67,000|-

The performance of this section after modifiation had shown encouraging results. Although the conversion efficiency of 86.5 per cent as per reglament norms is yet to be achieved, there has been signficant improvement over the pre-

vious years. The final product obtained is found to be superior in quality. The progressive improvement in the conversion, efficiency and pass percentage of the final product at the quality control indicates a reasonable possibility of achievement of reglament norms. After the Commissioning of aseotraphic distillation processes of sodium penicillin in September, 1973 there has been a progressive improvement in the quality of final product. Still under stabilisation."

2.104. As regards very high percentage of rejections in the case of finished output of procaine Penicillin and Sodium Penicillin especially when according to Soviet Delegation there should be no rejection, the Management stated in a written note that the quality of the final product is dependent on the efficiency of process equipment to maintain proper technological parameters, the skill of operating staff in adjusting and controlling the process and the quality of raw and other materials used in the process of all products. As these factors can not be fully duplicated in our environment, some rejection at the final stage can not be avoided.

2.105. To a question whether Government have gone into the reasons for the very high percentage of rejections in the case of finished output of procaine penicillin and Sodium penicillin specially when according to the Soviet delegation there should be no rejection, the Govt. stated in a written note that Govt. as such did not go into detailed causes of rejection etc. but since Govt. were not satisfied with the performance of the plant, they appointed a Borkar Committee to go into the problems of the plant. This Technical Committee had also dealt with this question and had observed that the problems were more acute in the case of paranteral products where sterility failures take a major share of all rejections. It has also been noted by them that the sterile areas where both Sodium Penicillin G and Procaine Penicillin G were made earlier were too vast and equipment used was rather cumbersome for sterile operations. The new areas and the new processes were commissioned in August-September, 1973 and visually the changes seem to be good improvements but any decision on the effect of the change will have to await the result of several months of sustained operations and quality control checks.

2.106. About the poor design of equipments accessories like agitators which was one of the reasons for non-attainment of conversion efficiency in both cases of penicillin, the Management stated in a written note that the reglament norms of conversion efficiency have been fixed corresponding to the design of equipment given in the

DPR. The deficiency noticed in the proformance of equipment under actual operating conditions, leading to lower conversion efficiency have been carried out to improve the situation.

2.107. The quality of the final products has shown progressive improvement after carrying out modifications.

2.108. In this regard the Ministry in a written note have stated as follows:—

"The shortcomings in the plant design have also been brought out by the Technical Committee.

In the case of Potassium Penicillin, the limiting factor for achieving the reglament norms of conversion efficiency, was at the extraction stages where according to the original Soviet design, Rossia Extractors were provided which gave low extraction efficiency. The plant has since replaced these Rossia extractors by the superior Luvesta extractors in September-October, 73.

In the case of Sodium Penicillin, the technology provided by the Soviets gave a product with poor shelf-life and the reglament norms of conversion efficiency could also not be attained. The plant has since then made basic changes in the technology for the production of Sodium Penicillin based on their own experience, and the earlier precipitation method has been changed to azeotopic distillation.

With these changes, better results are expected, but this will have to await results for a period of several months of sustained operations. In the case of Procaine Penicillin also certain modifications have been carried out in the reaction system. Detailed examination based on the recommendations made by the Technical Committee being undertaken by the Management. Since the design of the equipment and other accessories like agitators etc. were supplied by the Soviet side, they were also associated in overcoming such shortcomings and the plant is at present working on the basis or their suggestions."

2.109. About the improvement after modifications, it was stated by the Ministry that:—

'The modifications as suggested by the Soviets side were implemented by end of 1971, those suggested by the Technical Committee as yet to be implemented fully and also the

stabilisation would take some time particularly as the plant has been plagued by other problems such as that of regular and steady power supply. It is, therefore, rather premature to express any opinion on this aspect. Some modifications have been carried out in the Sodium and Procaine Penicillin thereby the quality has improved leading to increased shelf life of these products."

2.110. The Committee find that the conversion efficiency from potassium penicillin to sodium and porcaine penicillin as indicated in the protocol was 83 per cent and 86.5 per cent respectively. But during the year 1969-70 to 1973-74 (upto September, 1973) it was possible for the plant to achieve conversion efficiency between 53.36 per cent to 66.38 per cent only. For production of procaine penicillin, efficiency ranged between 67.38 per cent to 81.21 per cent. The value of shortfall with reference to selling price in the case of sodium penicillin has been estimated at Rs. 34.67 lakhs in 1969-70, Rs. 45.64 lakhs in 1970-71 Rs. 52.68 lakhs in 1971-72, Rs. 29.48 lakhs in 1972-73 and Rs. 1.72 lakhs in 1973-74 (upto September, 1973). In the case of Procaine Penicillin lower conversion efficiency as compared with protocol norm has resulted in shortfall in production to the extent of Rs. 22.03 lakhs in 1969-70, Rs. 22.36 lakhs in 1970-71, Rs. 9.26 lakhs in 1971-72, Rs. 13.44 lakhs in 1972-73 and Rs. 0.40 lakhs in 1973-74 (upto September, 1973). The Committee find that shortfall was more pronounced in the case of Sodium Penicillin. In this connection, the Borker Committee observed that "sterility areas where both Sodium Penicillin and Potassium Penicillin were made earlier were too vast and equipment used was rather cumbersome for sterile operations. The new areas and the new processes were commissioned in August-September, 1973.

2.111. The Committee note that althuogh substantial loss of production was taking place right from the beginning on account of low conversion efficiency, the Management did not take prompt action to locate the reasons and remedy them. The Committee recommend that Government should find out the reasons for not taking prompt action. The Committee would like to be informed about the effect of new areas and new processes on the recovery efficiency of Potasium, Sodium and porcaine Penicillin.

Streptomycin sulphate

2.112. Streptomycin Sulphate is a white or almost white hygroscopic powder readily soluble in water but sparingly soluble in alcohol. The products is sterile.

2.113. The Detailed Project Report for the Streptomycin Section envisaged an out put of 70 tonnes of streptomycin Sulphate and 15

tonnes of Di-hydro-streptomycin Sulphate per annum. As already mentioned in this Report the facilities for the production of Streptomycin Sulphate nad Di-hydro-Streptomycin Sulphate were common upto the stage of streptomycin Sulphate concentrate. Di-hydro Streptomycin Sulphate is produced by an additional reaction, *i.e.*, hydrogenation of Streptomycin Sulphate concentrate with Sodium boron hydride. However, owing to the total lack of demand for Di-hydro-Streptomycin Sulphate (due to undesireable and irreversible side effects particularly on the auditory nerves) the product was deleted from the product-mix of the plant in June, 1968. The capacities created for the production of this antibiotics are now available for the production of Streptomycin Sulphate. The revised capacity of Streptomycin Sulphate Section is now 85,000 mlrds. per annum.

2.114. Fermentation—(a) The production of Streptomycin Sulphate, as in the case of Penicillin, is a three stage fermentation process. The Collaborators had provided nine inoculators (each having a capacity of $2M^3$), six seed vessels (each having a capacity of $10M^3$) and 13 fermentors (each having a capacity of $50M^3$) for the production of Streptomycin—as well as Di-hydro-Streptomycin Sulphate, The filling co-efficients of each of these vessels are 60 per cent 70 per cent and 72 per cent respectively.

2.115. The table below indicates the inoculators|seed vessels|fermentors charged|drained and the ratio of fermentors harvested to inoculators/seed vessels charged for the last few years ended 30th September, 1973:—

(in batches)

Year	Inoculators		Seed vessels		Fermentors			Ratio of batches harvested to	
	Charged	drained	charged	drained	charged	drained	harvested	inoculators charged	seed vessels charged
1969-70	808	446	362	65	284	10	274	0·34	0·75
1970-71	906	495	411	69	338	14 1/2	*323 1/2	0·36	0·78
1971-72 . . .	1022	483	539	111	428	22	406	0·40	0·75
1972-73 . . .	912	417	495	97	399	23	376	0·41	0·76
1973-74 (April-Sept) .	474	226	248	58	190	5	185	0·39	0·75

*These include 3 abnormal batches drained in July, 1970 and 3 abnormal batche drained in August, 1970.

Note: (a) Fermentors drained during 72-73 includes 2 batches drained in June '72 due to Strike/lock-out and 13 batches drained in Jan'73 due to UP Power Engineers strike.

(b) The Fermentors drained during 73-74 includes one batch drained during April-May'73 due to strike/lock out in the Plant...

2.116. In the absence of any norm laid down by the Management with regard to the number of batches harvested to the inoculators| seed vessels charged, the efficiency of the harvesting operations was not susceptible of evaluation. The loss on account of the draining of inoculators|seed vessels does not appear to have been assessed by the Management.

2.117. The control over fermentation, as in the case of penicillin, is exercised by examining the samples for air-borne contaminants, mycelium development bio-chemical changes, potency and the P.H. etc. The batch is harvested when mycelium Development, quantity of residual sugar, potency and pH of the clutre fluid meets the prescribed requirements. Standard curves (based on the result of sample batches and the potentiallity of the strain) showing bio-synthetic activity have not been prepared by the Company so far (March, 1972) The decision either to continue fermentation operation or harvesting is taken on the basis of the results of the process control laboratory in the Fermentation Block. After the completion of fermentation, the fermented broth is treated with oxalic acid and sodium oxalate in coagulation tanks and them filtered through plate-frame filter presses to separate mycelium. The clear filtered broth (native solution) is pumped to Recovery and purification Section.

2.118. The fermented broth which is considered totally unfit for harvesting either due to contamination|low activity|bad mycelium or for any other reason is drained. The other contaminated batches not falling in this category are, however, harvested. The harvesting of contaminated batches, affects the recovery efficiency of strepto-mycin from the native solution. The table below indicates the con-

taminated batches harvested during 1969-70 to 1973-74 (Sept. 1973):—

Year	No. of batches harvested	No. of contaminated batches	Percentage of contaminated batches to batches harvested
1969-70	274	121	44·16
1970-71	323 1/2	127	39·26
1971-72	406	211	51·97
1972-73	376	182	48·40
1973-74 (Apl-Sept)	185	66	35·67

2.119. It will be seen from above that a large number of contaiminated batches are being harvested. The investigations made by the Plant revealed that there had been as much as 54.3 per cent contamination of batches in Fermentation Block in February, 1971. A period-wise analysis of the 80 batches contaminated between January and May, indicated the following results:—

	No. of batches contaminated	Percentage to total batches
From pre seeding	18	22·50
Within 24 hours after seeding	43	53·75
Between 25—48 hours	12	15·00
Between 48—72 hours	4	5·00
Above 72 hours	3	3.75
TOTAL	80	

2.120. The probable reasons for contamination as noticed by the plant were:—

Before seeding	Drawbacks during charging inclusive of not holding of valves and leakage in the system.
(a) Contamination between 0 hours—24 hours	Due to air, defective charging or undetectable contamination a passed from seed vessels.
(b) 24 hours onwards	Contamination was negligible and was due to defective oil system or not holding of values in the running cycle.

2.121. To avoid the contamination, the Plant had started incubating the flasks at 37° Cover the Rotary Shakers.

2.122. From the particulars furnished above it is noticed that the contamination of batches was due to operational factors and thus controlable. In view of this, it is not clear why steps could not be taken at the earliest to set right the deficiencies which continued year after year.

2.123. In this connection, the Management stated in a written note as follows:—

> "The Management has analysed operational factors leading to contamination of batches in the fermentation process, several steps have already been taken to improve upon the quality of air and leakages of valves which a view to minimise the possibility of chance contamination. The modifications like cooling of air after compression, provision of heating jacket on the air-header, modification of air filters, provision of ball valves on some of the crucial points etc. have already been implemented. However measures like import of diaphragm valves, provision of stand by generator etc. are under consideration. It is expected that this problem will be successfully resolved during the current calander year."

Average activity and broth obtained

2.124. The Project Report for the Streptomycin Sulphate indicated process efficiencies|yields at different stages of production. These were refixed on the basis of the Protocol of discussions.

The table below indicates the various parameters indicated by the Soviet side in the Protocol together with the actuals there against in each of the last 3 years ending September, 1973 :—

Description	As per protocol	1969-70		1970-71		1971-72		1972-73		1973-74	
		Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
1. No. of batches harvested .	720	383	274	432	323·5	N.A.	406	720	376	235	185
2. No. of batches drained .			10		14·5	..	22		23		5
3. Fermented broth (Mlrds.) . .			40,35907		56,028·79		62,101	137376	56588	37729	26098·62
4. Filtered broth (Mlrds) . .	1,16,300	43,168	31,555·98	64,62	45,333·85	N.A.	48,125	75721	43205·7	30034	19932·90
5. Filtration efficency (%) . .	85	81·6	78·19	94·2	80·91	N.A.	77·49	85	77	80	76·38
6. Filtered broth per batch (Mlrds).	162	..	115·17	N.A.	140·13	N.A.	118·53	162	116	127	107·74
7. Average activity (u/ml) . .	5,300	3,871	4,170	4,768	4,650	N.A.	4,438	5300	4438	4574	4002
8. Highest activity (u/ml) . . .			7,500	..	7,680		7,900	..	7500	..	6560
9. Fermentation Cycle (Hrs) .	N.A.	N.A.	..	N.A.		N.A.			169·27	147·30	155·18
10. Total time cycle (Hrs) .	152	168½	224	167	210	N.A.	219	..	214·59	172·30	201·9

2.125. It was noticed that the average activity and yield of filtered broth (in mlrds) per batch varied widely from month to month and year to year. Although the activity per millilitre of broth was much higher than the Protocol norm (5300 u|m) on a number of occasions (nighest activity achieved in February, 1972 was 7900 u|m) yet the average activity was only 4170 u|ml. 4650 u|ml. and 4438 u|ml. in 1969-70, 1970-71 and 1971-72 respectively. Similarly, as against the protocol norm of 162 mlrds. of filterate per batch, the highest achieved was 191.42 mlrds. in June, 1970. The average yield of filtered broth per batch was however, only 115.17 mlrds. In 1969-70, 140.13 mlrds. in 1970-71, 118.53 mlrds in 1971-72 and 114.91 mlrds in 1972-73. During 1973-74 (upto Sept., 1973) it was 107.75 mlrds. It will also be seen from the table that both the activity as well as yield of native solution per batch declined in 1971-72 as compared with the date for 1970-71. The Ministry have stated (October, 1973) that "the low yield is mainly due to unstable power feed to the plant and wide variations in the quality of raw materials." The Ministry stated that filtered broth per batch in 1972-73 was 114.91 mlrds. and in 73-74 (April-September 73) was 107.75 mlrds. Utilisation of formentors on the basis of total time cycle in 72-73 was 80840 hrs. and in 73-74 (April-Sept. '73) Filteration effciency in 1972-73 was 77 per cent and in 1973-74 (April-Sept. '73) was 76.38 per cent.

2.126. The total time cycle was much higher than the Protocol norm. On the basis of the total time cycle the utilisation of fermentors worked out to 61,376 hrs. 67,935 hrs. and 88,982 hrs. during 1969-70 to 1971-72 as against the Protocol norm of 1,09,200 hours per annum. Utilisation of fermentors on the basis of total time cycle in 1972-73 was 80833.3|4 hrs. in 1973-74 (April-Sept. '73). Filtration efficiency in 1972-73 was 76.30 per cent and 76.37 per cent in 1973-74 (April-Sept. 73) presumed to have run for the full time, the data indicates that the fermentors were not utilised to the full extent in any of the three years. The Ministry have explained (October, 1973) that "the under-utilisation of production fermentors has been due to charging of less number of batches to avoid the problems of bunching which causes congestion in filtration."

2.127. On being asked whether the number of inoculators, seed vessels and the fermentors are provided according to the sequential requirements, if so, how and why did the problem of bunching arise, the Management stated in a written note as under:—

> "The number of inoculators, seed vessels and fermentors is provided according to the sequential requirements for 3 stage fermentation process. The problem of bunching and consequent congestion at the filteration stage is due

to inherent variation in the fermentation process and also limitation is filtration capacity. Which is likely to improve when the operation of preceat filter is stabilised."

2.128. As against the Protocol norm of 85 per cent the filtration efficiency was 78.19 per cent in 1969-70, 80.91 per cent in 1970-71 and 77.49 per cent in 1971-72. 76.30 per cent in 1972-73 and 76.37 per cent in 1973-74 (upto 9/73).

2.129. With a view to improving the yield, the Plant had introduced during the period from February, 1970 to June, 1970 a new strain No. 773 instead of 32—13 in fermentation. The strain was supplied by the Collaborators through the Soviet delegation in October, 1969. Although the above strain raised the level of activity quite considerably (7200—7680, u|ml.), its use had to be discontinued in September, 1970 due to the lower biological potency of the finished product. The investigations by the Committee of Scientists into the causes of the drop in potency spectrum could not, however, establish any clear cut correlation between the final product and the type of strain in fermentation.

2.130. After discussion with the Soviet delegation the Company again decided in January|February, 1972 to use strain No. 773 for the production of Streptomycin. A Committee of Technologists and Scientists was also deputed during 1971-72 to the Hindustan Antibiotics Ltd., Pimpri to find out the operating practices prevailing there to improve the technological regime wherever possible.

2.131. The Management stated in a written note that "New strain No. 773 was introduced in February, 1970 in the main Plant only after taking fermentation trials in the Pilot Plant, which had shown considerable improvement in the yield. The use of this strain was, however, discontinued from August|September, 1970, as it was suspected to be leading to low potency of the final product. It was reintroduced in January|February, 1972, as no co-relation could be established between the fall of potency and the use of this strain.

2.132. The Committee of technologists and scientists constituted to go into the factors leading to low potency could not locate the exact cause. The investigations carried out at the plant itself revealed that the problem was due to use of excess formalin in the processing of this product. By cutting down the excessive use of formalin in the process, the potency of the final product has come to normal level irrespective of the strain employed in the production. The low potency was, therefore, not due to use of strain No. 773."

Recovery and purification

2.133. The next stage of processing is the extraction of the streptomycin from the native solution. The recovery efficiency from native solution to streptomycin as indicated in the Protocol is 64.5 per cent (native solution to Streptomycin 75 per cent efficiency of drying 86 per cent). The main stages in the production of Streptomycin Sulphate from the native solution are (a) precipitation and purification of Streptomycin with ion-exchange resins, (b) doncentrate clarification with activated charcoal and (c) driving of Streptomycin concentrate.

2.134. The table below indicates the input of native solution and output of Streptomycin Sulphate in each of the last few years ending September, 1973:—

	Culture filtrate input for Streptomycin production				
	1969-70 (mlrds)	1970-71 (mlrds)	1971-72 (mlrds)	1972-73 (mlrds)	1973-74 (Apl—Sept.73) (mlrds)
1	2	3	4	5	6
Input					
Opening work-in-process as on 1st April	2,476·87	5,292·34	1,798·43	616·92	2485·61
Add: Receipt of native solution during the year	31,555·98	45,333·85	48,125·00	43205·71	19,942·81
TOTAL	34,032·85	50,626·19	49,923·43	43,822·63	22,428·42
Less: Closing work-in process as on 31st March	5,292·34	1,798·43	616·92	2485·61	11,90·36
Total filtrate input for production	28,740·51	48,827·76	49,306·51	41337·02	21238·06
Output					
Production (Gross)	12,378·95	23,814·65	33,869·47		
(a) Approved	10,655·09	13,819·66	21,704·92	6497388	14459
(b) Rejects	1,723·86	9,994·99	12,164·55		
Recovery/conversion efficiency (% age) of filtrate	43·07	48·77	68·69	64·10	68·08
Production with reference to the efficiencies indicated in the Protocol (in mlrds)	18,537·63	31,493·91	31,802·70	26662·378	13698·549
Short-fall in production with reference to Protocol (in mlrds)	6.158·68	7,679·26		164·990	
Selling price per mlrds (in (Rs.)	405·00	295·00		295	
Value of short-fall with reference to selling price (in Rs.)	24,94,265·40	22,65,381·70	..	48672	

2.135. It will be seen from above that the recovery efficiency was lower than the Protocol norm in 1969-70 and 1970-71. The lower recovery efficiency as compared with the Protocol norms resulted in the shortfall in production aggregating 13,837,49 mlrds. valued at ciencies *inter alia* include:—

2.136. The steps taken by the Management to improve the efficiencies *inter alia* include:—

(a) Installation of primary air filters, changes in the design of hot air secondary air filter, steam filter and air-line connections and re-location of bag filter cabinets outside the building.

(b) Installation of two stage dryer to improve the drying efficiencies.

2.137. The Committe find that in the case of streptomycin sulphate the ratio of batches baryested to the inoculators charged ranged between 0.34 to 0.41 during the period 1969-70 to 1973-74 (upto September, 1973) and to seed vessels charged 0.75 to 0.78. The management have not laid down any norm as to the number of batches harvested to the inoculators/seed vessels charged nor have they assessed the losses on account of the draining of inoculators/seed vessels. The Committee also find that the percentage of contaminated batches to batches harvested ranged between 35.67 to 51.97 during 1969-70 to 1973-74 (upto September, 1973). According to the Management the probable reasons for contamination of batches were, drawbacks during charging defective charging or undetected contamination passed from seed vessels, defective oil system, not holding of valves in the running cycle. It would thus appear that the contamination of batches was due to operational factors and was thus largely controllable. In view of this it is not clear to the Committee as to why concerted and determined measures could not be taken by the Plant management earlier to set right the deficiencies which continued to affect adversely the operations year after year. The Committee recommend that necessary corrective measures should be taken without further delay so as to minimise, if not eliminate, the percentage of contaminated batches.

2.138. The overall yield of filtration per batch was, 115,70 mlrds in 1969-70, 140.13 mlrds in 1970-71 and 118.53 mlrds in 1971-72 and 116 mlrds in 1972-73. The Committee also find that as against the protocol norms of 162 mlrds of filtered broth per batch, the highest achieved was 191.42 mlrds in June, 1970. The Committee have been

informed that "low yield is mainly due to unstable power feed to the plant and wide variation in the quality of raw material.

2.139. The Committee also note that the total time cycle was much higher than the protocol norm. In this connection, the Committee were informed by the Government that "low utilisation of production fermentator has been due to charging of less number of batches to avoid the problems of bunching which cause conjunction in filtration. Judged from the available data the Committee find that as against the protocol norm of 8.5 per cent, the filtration efficiency achieved was only 78.19 per cent in 1969-70, 80.91 per cent in 1970-71 and 77.49 per cent in 1971-72.

2.140. The Committee note that a new strain No. 773 introduced in February, 1970 to improve the yield in fermentation was discontinued from August/September, 1970 as it was suspected to be leading to low potency. It was again introduced in January-February, 1972 as no correlation could be established between the fall of potency and use of the strain. The Committee are not sure whether the huge rejections were not as a result of the use of the new strain. The Committee would like Government/IDPL to go into this aspect in consultation with HAL, Pimpri, so as to take suitable measures to ensure that the biological potency of the finished products is maintained and the rejections are reduced to the minimum.

C. *Tetracycline/oxytetracycline*

2.141. Tetracycline and Oxytetracycline are broad spectrum antibiotics applied with success in the treatment of rickettisal infections and certain type of virus pneumonia.

The Detailed Project Reports envisaged an output of 25 tonnes of Tetracycline (pure base) and 25 tonnes of Oxytetracycline (pure base) per annum. The capacity of Tetracycline Section was refixed at 25,800 mlrds. (pure base) on the basis of the protocol of discussions in October, 1969. Out of this only 15,500 mlrds. of pure base was to be converted into 12,500 mlrds. of Tetracycline Hydrochloride and the balance was to be sold as pure base. As there was no substantial demand for Tetracycline base in India, the Soviet delegation, at the instance of the Company, suggested certain additional equipment for converting the balance base into Tetracycline Hydrochloride. The additional equipment recommended by the Soviet delegation does not appear to have been installed and commissioned so far. The Management intimated (September, 1973) that the Plant produced 1.778 tonnes of Tetracycline base in 1971-72 and 2.496 tonnes in 1972-73 and the market demand for Tetracycline base had been estimated at 4 tonnes per annum.

2.142. The Project Report for the Tetracycline provided for a two-stage fermentation process which was decided to be changed to a three stage fermentation process on the basis of the discussions with the Soviet delegation. The additional equipment required for the purpose was to be either diverted from Chlorotetracycline Section or imported from the USSR.

Fermentation:—

2.143. The production of both these antibiotics, as in the case of penicillin is a three-stage fermentation process. For this purpose, the Collaborators had provided for the following items of equipment:

Equipment	Number provided for	
	Tetracycline	Oxytetacycline
1. Inoculators of 0·5 M^3 capacity each .	4	3
2. Seed Vessels of 5 M^3 capacity each .	8	3
3. Fermentors of 50 M^3 capacity each . . .	4	6

2.144. The co-efficient of the filling of fermentors of Tetracycline and Oxytetracycline is 77 per cent respectively.

2.145. The table below indicates the inoculators|seedvessels|fermentors charged|drained and the ratio of batches harvested to inoculators|seed vessels charged (in respect of Tetracycline and Oxytetracycline) for the last 3 years ending 31st March, 1972:—

(In batches)

Year	Inoculators		Seed Vessels		Farmentors			Ratio of batches harvested to	
	Charged	drained	Charged	drained	Charged	drained	harvested	inoculated	seeds vessels charged
				TETRACYCLINE					
1969-70	No inoculator stage		186	41	143	8	135	..	0·72
1970-71	..		436	204	231	17*	214	..	0·49
1971-72	..	..	1,120	358	381	10	371	..	0·33
1972-73	..		963	289	359	6	353	..	0·37
1973-74 (Apl-Sept)	..	..	293	142	151	4	145		0·49
				OXTERACYCLINE					
1969-70	65	16	49	6	33	..	33	0·50	0·67
1970-71	167	43	124	16	108	4@	104	0·62	0·84
1971-72	236	49	187	77	110	..	110	0·47	0·59
1972-73	182	27	158	68	90·5	5·5	85	0·47	0·54
1973-74 (Apr-Sept)	151	14	137	68	69	1	68	0·45	0·50

Note: *This includes 4 batches drained on account of Alaknanda disaster in July, 1970 and 4 batches drained in August, 1970 due to accumulation of silt in the Water in-take and Water Purification Plant.
@ Includes 3 abnormal batches drained in July and August, 1970.

The batches drained during 1972-73 includes 5 batches drained due to UP Power Engineers stike in January, 1973.

The no. of batches drained in 1972-73 includes 4 batches drained in January, 73 due to UP Power Engineer srike.

2.146. In the absence of any norm laid down by the Management with regard to the number of batches harvested to the inoculators/seed vessels charged, the efficiency of the harvesting operations was not susceptible of evaluation. The loss on account of the draining of inoculators/seed vessels does not appear to have been assessed by the Management.

2.147. The control over fermentation, as in the case of other antibiotics, is exercised by examining the samples for air borne contaminants pH, etc. Standard curves (based on the result of sample batches and the potentiality of strain) showing bio-synthetic activity have not been prepared so far (March, 1972). The decision either to continue fermentation operation or harvesting is taken on the basis of the results of Process Control Laboratory.

2.148. After the completion of fermentation, the fermented broth is supplied to the Filtration Section where it is treated with Oxalic acid and other chemicals and then filtered through plate-frame filter presses to separate nycelium. The native solution is thereafter pumped to Recovery and Purification Section.

2.149. The broth which is considered totally unfit for harvesting is drained. The other batches not falling in this category are, however harvested. The table below indicates the contaminated batches harvested (in case of Tetracycline and Oxytetracycline) during the last 3 years ended 31st March, 1972:—

Year	Total batches harvested		No. of contaminated batches harvested		% age of batches contaminated to batches harvested	
	Tetra	Oxytet.	Tetra.	Oxytet.	Tetra.	Oxytet.
1969-70	135	33	15	5	11·11	15·15
1970-71	214	104	30	45	14·02	43·27
1971-72	371	110	86	31	23·18	28·18
1972-73	353	85	42	27	11·90	81·76
1973-74 (Apr-Sep'.)	145	68	10	12	6·90	17·65

2.150. It will be seen from above that a large number of contaminated batches are being harvested both in the case of Tetracycline and Oxytetracycline.

Average activity and broth obtained

2.151. The Project Report for both these antibiotics indicated the process efficiencies|yields at different stages of production. These were however, refixed on the basis of the Protocol of discussions.

The table below indicates the various parameters indicated by the Soviet side in the Protocol together with the actuals there against in case of Tetracycline and Oxytetracycline during the last 5 years ending September, 1973:—

Description	As per Protocol	1969-70 Planned	1969-70 Actual	1970-71 Planned	1970-71 Actual	1971-72 Planned	1971-72 Actual	1972-73 Planned	1972-73 Actual	1973-74 Planned	1973-74 Actual
1. No. of batches harvested	334	176	135	300	214	360	371	394	353	162	143
2 No. of batches drained		..	8		17		10				4
3. Fermented broth (mlrds)		N.A.	13,012·50		26,367·90	N.A.	43,415	575·68	42,713	21,350	16,771·58
4. Filtered broth (mlrds)	43,00	18,002	10,951·39	36,012	22,574·31	51,495	37,719	50,660	37,387	19,080	13,837·07
5. Filteration efficiency (percentage)	95·00	86	83·16	83·2	85·71	N.A.	85·83	83	84·5	89	82·50
6. Filtered broth per batch (mlrds)	128·50	N.A.	81·12	N.A.	105·49	N.A.	101·67	128·5	102·3	117·50	96·76
7. Average activity (u/ml)	3,500	3,455	2,605	3,540	3,363	N.A.	3,308	3,500	3,400	3,650	3,147
8. Highest activity (u/ml)	..	N.A.	4,100		5,100		4,770	..	5,280		4,820
9. Fermentation cycle (hrs)	..	N.A.		N.A.		93	95		94·22	90	87·03
10. Total time cylce (Hrs)	100	123	155	122	150	120	139½	100	140·26	115	127·31

Description	As per protocol	1969-70		1970-71		1971-72		1972-73		1973-74	
		Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
1. No of batches harvested	225	N.A.	33	N.A.	104	N.A.	110	228	85	74	68
2. No. of batches drained					4				5·5		1
3. Fermented broth (mlrds).		N.A.	8,230·34		28,911·59	N.A.	27,711	62,244	20,842	18,167	15,065·56
4. Filtered broth (mlrds)	53,800	N.A.	6,185·95	N.A.	23,891·54	33,347	23,622	21,247	17,077·2	15,170	12,988·59
5. Filtration efficiency (Percentage).	88	N.A.	74·95	N.A.	82·65	N.A.	85·24	85	83·4	83·5	86·21
6. Filtered broth per batch (mrlds)	240	N.A.	187·45	N.A.	299·76	N.A.	214·75	210	204·5	205	191·01
7. Average activity (u/ml)	7,800	N.A.	7,034	N.A.	7,873	N.A.	7,436	8,000	7,071	7,500	6453
8. Highest activity (u/ml)			9,000		9,500		10.225		8,300		76 00
9. Fermentation cycle (Hrs)		N.A.		N.A.		N.A.	179		178	170	182·45
10. Total time cycle (Hrs)	225	N.A.	288 @	N.A.	293	N.A.	204½	..	213·3	200	229·17

@ Only for one month.

Tetracycline

2.152. It was noticed that the average activity and yield of filtered broth (in Mlrds) per batch varied from month to month Although the average activity of broth was much higher than the protocol norm (3500 u/ml) in individual batches in each month during 1970-71 and 1971-72 (highest activity in November 1970 was 5100 u/ml.) yet the average activity in each of the last three years ending 31st March, 1972 was only 2,605 u/ml. 3,362 u/ml. and 3,308 u|ml. respectively.

2.153. The Ministry stated in a written note that "average activity in 1972-73 was 3400 u|ml. and in 1973-74 (April-September, 1973 was 3147 u/ml. Utilisation of fermentors on the basis of total time cycle in 1972-73 was 49573 hours and in 1973-74 (April—September 1973) was 18446 hours). Filtration efficiency in 1972-73 was 84.19 per cent in 1973-74 (April—September, 1973) was 82.49 per cent.

2.154. Similarly, as against the Protocol norm of 128.5 mlrds. of native solution per batch, the highest achieved in November, 1970 was 135.44 mlrds. The average yield of native solution per batch was, however, only 81.12 mlrds. in 1969-70 105.49 mlrds. in 1970-71 and 101,67 mlrds, in 1971-72. The average activity as well as the yields of native solution decline in 1971-72 when compared with the yields for 1970-71.

2.155. In this connection, it may be stated that the culture and the age of the seed are of paramount importance in Tetracycline fermentation. The Plant was, however, using over-aged seed material for fermentation till the middle of 1970-71. The lower activity and lower yield of native solution per batch were stated by the Management to be mainly due to the quality of seed material supplied by the collaborators. Besides this, the conditions in the Fermentation Block were also far from ideal.

2.156. The Management stated in a written note as follows—

> "In Tetracycline fermentation only two overaged seed material batches were used after testing in the laboratory and the main plant for their suitability in regard to activity level. As per the norms laid down by the collaborators, each bottle is available for a period of one year from the date of its preparation and those norms are being followed. The aeration air cooling in the existing design of fermentors is not as per the conventional norms. The conditions are also disturbed because

of frequent power failure and break downs of the old design of gear boxes."

2.157. In May-June, 1970, the strain and media development section of the Central Research Laboratory of the Plant reported an enhancement of 60-70 per cent Tetracycline activity in shake flask fermentation on medium containing 6.5 per cent maize starch plus 1 per cent imported Soyabean and trace elements such as manganese and zinc in place of maize flour. The shake flask activity was reported to have reached upto 8000 u|ml. Three experimental runs were, therefore, taken in the main plant in seed vessels on this basis. Out of the three runs, two yielded 5000-6000 u|ml. as the highest activity as against 3000-4000 u|ml. normally obtained in Tetracycline fermentation. It was, however, observed that the maximum activities were attained with long fermentation cycle of 130—140 hours.

2.158. The pilot Plant trials carried out from the end of August, 1970 to October, 1970 to ascertain (i) performance of the improved medium in fermentation (ii) the quality of finished product obtained from the modified process and (iii) the economics of the process, led to the conclusion that the modified conditions are expected to yield, on an average, 4,450 u|ml. of Tetracycline as against 3,800 u|ml. in reglament batches. It was also noticed that there was time loss of 18.5 hours due to prolonged time cycle. After additional development work, an improved fermentation medium for a higher level of production was worked out in 1970-71 and implemented in 1971-72. The average yields from this media during 1971-72 were, however, dismal. One of the reasons for not getting the expected yields, as stated by the Management ,was the non-availability of the Soyabean flour of required mesh size for lack of the technology of roasting and grindling of Soyabean seeds.

2.159. In a written note the Management further stated that "there was no change in the ingredients of the new medium excepting the introduction of Soyabean flour and replacement of maize flour to maize starch. The trial runs in pilot as well as in main plant were taken with the indigenous Soyabean flour, but the yields were not encouraging. It is the technological requirement that Soyabean should be given proper heat treatment to de-activate some of the inhibitive substances present therein. The yield of tetracycline could not be obtained at the expected level, with the indigenously prepared Soyabean flour as the existing facilities did not provide for giving the prescribed treatment. The Food Corporation of India has set up a Soyabean Process Plant at Faridabad where Soyabean will be prepared after proper heat treatment, as per our-

requirements. In addition to this, the Company is making efforts to develop some other parties also in the country.

At present, the plant is using only imported Soyabean for tetracycline. As M/s. Hindustan Antibiotics Ltd., Pimpri do not manufacture tetracycline, the question of similar problem being encountered by M/s. HAL or our contacting them does not arise."

2.160. On the basis of the total time cycle, the utilisation of fermentors worked out to 20,925 hours, 32,100 hours and 51,754½ hours during 1969-70 to 1971-72 as against the Protocol norm of 33,600 hours per annum. Even if the batches drained are also presumed to have run for the full time, the data indicates that the fermentors were not utilised to the full extent in 1969-70 and 1970-71. The actual utilisation during 1971-72 was more than the Protocol norm due to the utilisation of fermentors of the Oxytetracycline Section from the middle of December 1971 for 16,709 hours.

2.161. As against the Protocol norm of 95 per cent the filtration efficiency was only 84.16 per cent in 1969-70, 85.61 in 1970-71 and 86.88 per cent in 1971-72.

Oxytetracycline:

2.162. The average activity and the yield of native solution (in mlrds.) per batch varied from month to month and year to year. The average activity was slightly higher (7,873 u|ml.) than the Protocol norm (7,800 u|ml.) in 1970-71. Although the activity was much higher on a number of occasions in 1971-72 (highest activity achieved in May, 1971 was 10,225 u|ml.) yet the average activity was only 7,436 u|ml. in 1971-72.

2.163. The Ministry stated (January, 1974) in a written note that "average activity in 1972-73 was 7071 u/ml. and in 1973-74 (April—September, 1973) was 6453 u/ml.

Native solution per batch in 1972-73 was 20092 mlrds and in 1973-74 (April—September, 1973) was 191.01 mirds.

Utilisation of Fermentors on the basis of total time cycle in 1972-73 was 18,148 hours and in 1973-74 (April-September 73) was 15,591 hours."

2.164. As against the Protocol norm of 240 ml. of native solution per batch, the highest achieved in January, 1971 was 275.63 mlrds. The average yield of native solution per batch was however only

187.45 mlrds in 1969-70, 229.76 mlrds in 1970-71 and 214.75 mlrds in 1971-72. The average activity as well as the yield of native solution per batch declined in 1971-72 as compared to the yields of 1970-71.

2.165. The total time cycle was much higher than the Protocol. On the basis of total time cycle, the utilisation of fermentors worked out of 9,504 hours, 30,472 hours and 26,453 $\frac{1}{6}$ hours during 1969-70 to 1971-72 as against the Protocol norms of 50,400 hours per annum. Even if the batches drained are also presumed to have run for the full time, the date indicates that the fermentors were not utilised to the full extent in any of the three years. The Fermentation section of the oxytetracycline section was, however, utilised for 16,709 hours for the production of Tetracycline from the middle of December, 1971 due to build up of large stocks of Oxytetracycline Hydrochloride.

2.166. As against the Protocol norm of 88 per cent the average filtration efficiency was 74.95 per cent in 1969-70, 82.65 per cent in 1970-71 and 85.24 per cent in 1971-72.

Recovery and purification

2.167. The next stage in processing is the production of base from the native solution and its conversion into Hydrochloride.

(a) Tetracycline base—The recovery efficiency from the native solution to base as indicated in the Protocol was 60%. The table below indicates the input of native solution and output of Tetracycline base in each of the last 3 years ending 31st August, 1972:—

(in mlrds)

	1969-70	1970-71	1971-72	1972-73	1972-74 upto Sept., 73.
(P·62 of AR. up-date)					
Input					
Opening work-in-process as on 1st April	304·48	421·71	442·29	1,121·34	689·34
Add: Receipt of native solution during the year	10,951·39	22,574·31	37,719·00	37,387·52	13,842·06
TOTAL	11,255·87	22,996·02	38,161·29	38,508·86	14,531·40
Less: Closing work-in-process as on 31st March	421·71	442·29	1,121·34	689·34	
Total filtrate input for production	10,834·16	22,553·73	37,039·95	37,819·52	14,531·40
Output					
Native solution to base (Kgs)	6,697	12,839·1	18,183·71	20,834·91	8,351·50
(Mlrds)	5,723	11,574·27	16,695	18,438·89	7,394·78
Recovery efficiency (filtrate to base)	52·83%	51·32%	45·07%	48·75%	50·89%
Production as per Protacol (Recovery efficiency 60%) mlrds	6,500·50	13,532·24	22,223·97	22,691·71	8,718·84
Shortfall with reference to the efficiency indicated in Protocol mlrds	776·70	1,957·97	5,528·97	4,252·82	1,324·06
Selling price per mlrds (in Rs.)	571·00	850·00	850·00	850·00	850·00
Value of shortfall in production with reference to selling price (in Rs.)	4,43,496·00	16,64,275	46,99,625	36,14,89·00	11,25,451·00

2.168. It will be seen from the above that the recovery efficiency was lower than protocol norm in all the years and is declining year after year. In fact, there was a steep fall in the recovery efficiency in 1971-72. The lower recovery efficiency as compard to the Protocol norm resulted in the shortfall in production aggregating 8263.64 mlrds valued at Rs. 68.07 lakhs during 1969-70 to 1971-72.

2.169. Oxytetracycline base—The recovery efficiency from the native solution to base, as indicated in the Protocol is 56 per cent. The table below indicates the input of native solution and output of Oxytetracycline base in each of the last few years ending September, 1973:—

		1969-70 (mlrds.)	1970-71 (mlrds.)	1971-72 (mlrds.)	1972-73 (mlrds.)	1973-74 (Upto Spt. '73) (mlrds.)
1		2	3	4	5	6
	Input					
(Pp 63-64 of A.R. up-	Opening work-in-process as on 1st April.	—	1,485·53	716·31	—	801·36
	Add: Receipt of native solution during the year	6,185·95	23,894·54	23,622·00	17,078·52	12,388 64
	Total:	6,185·95	25,380·07	24,338·31	17,078·52	13,190·00
	Less : Closing work-in-process as on 31st March	1,485·53	716·31	—	811·36	322·80
		4,700·42	24,663·76	24,338·31	16,277·16	12,867·20
	Output	—	—	—	—	—
	Native solution to base (Kgs.)	3,149·55	11,396·30	11,374	11,719·15	9,592·00
	(in mlrds.)	*2,755·86	9,981·00	*9,952·91	10,195·66	8,132·27

NOTE :—*In the absence of the details of actual production of base in terms of mlrds., the potency assumed is 875 u/mg.

1		2	3	4	5	6
	Recovery efficiency (filterate to base actual)	58·63%	40·47%	40·89%	62·64%	63·20%
(P. 64, of A.R. and updated	Recovery efficiency (filterate to base-protocol).	56%	56%	56%	—	—
	Production with reference to the efficiency indicated in Protocol (mlrds.)	2,632·24	13,811·71	13,629·45	9,115·21	7,205·63
	Shortfall in production with reference to Protocol (mlrds.)	—	3,830·71	3,676·54	—	—
	Selling price (per mlrds.) (in Rs.)	—	850	850	—	—
	Value of the shortfall with reference to the selling price (in Rs.)	—	32,56·104	31,25·059	—	—
			Rs. 63,81·163			

Note: Due to increased efficiency during 1972-73 and 1973-74 (Sept. '73) there has been no shortfall.

It will be seen from the above details that the recovery efficiency was much lower than the Protocol norm in 1970-71 and 1971-72. The lower efficiency as compared to the Protocol norm resulted in shortfall in production aggregating 7507.25 mlrds. valued at Rs. 63.81 lakhs during 1970-71 and 1971-72.

(c) Tetracyline Hcl.—The conversion efficiency from base to Hydrochloride as indicated in the Protocol was 80.% The table below indicates the details of the actual conversion efficiency of base and salvage to Tetracycline Hydrochloride attained during the last few years ending September, 1973 :—

	1969-70 (Kgs.)	1970-71 (Kgs.)	1971-72 (Kgs.)	1972-73 (Kgs.)	1973-74 (till Sept. ,73) (Kgs.)
Input					
Tetracycline Base	7,141·40	12,733·20	15,169·76	11,115·31	8,617·15
,, Salvage	45·60	..	..	102·00	..
,, Hcl. Salvage	..	69·28	69·28	5,501·36	..
	7,187·00	12,957·05	15,239·04	16,718·67	8,617·15
Output					
Actual production	5,198·55	9,420·91	11,938·74	11,925·54	6,084·90
Conversion efficiency	72·33%	72·71%	78·34%	71·62	79 4%
Conversion efficiency from base to Hcl. (as per Protocol)	80%	80%	80%	80%	80%
Production with reference to the efficiency indicated in the Protocol	5,749·60	10,365·64	12,191·23	12,316·448	6,432·76
Shortfall with reference to the efficiency indicated in the Protocol	551·05	944·73	252·49	1,290·908	47·86
Selling price (per Kg.) (in Rs.)	1,000·00	850·00	850·00	850·00	850·00
Value of shortfall in production with reference to selling price (in Rs.)	5,51,050·00	8,03,020·50	2,14,616·50	10,97,272·00	40,681·000

2.170. It will be seen from the table that the conversion efficiency was less than the Protocol norm in all the years. The lower conversion efficiency resulted in shortfall in production aggregating 1748.27 mlrds. valued at Rs. 15.69 lakhs during 1969-70 to 1971-72.

2.171. Oxytetracycline Hcl. due to limitations of technology, the Oxyteyracycline produced at the Plant in the initial stages conformed to USSR Pharmacopoeia and not to I.P. specifications. Efforts were, therefore, made to upgrade the product to conform to I.P. specifications. As a result of intensive experimentation in the process control laboratory of R&P Block, the Plant was able to make a break-through and obtain pharmacopoeial grade from June, 1970 onwards.

2.172. The conversion efficiency from base to Oxytetracycline Hydrochloride as indicated in the Protocol is 83 per cent. The table below indicates of the conversion efficiency of Oxytetracycline base and other intermediates to Oxytetracycline Hcl. attained during the last 3 years ending 31st March, 1972:—

		1969-70	1970-71	1971-72	1972-73	1973-74
		(Kgs.)	(Kgs.)	(Kgs.)	(Kgs.)	(upto Sept'73 (Kgs.)
	Input					
P. 66 of A.R. Updated	Oxytetracycline base	3,003·95	11,108·10	11,360·40	7,956·40	9,129·10
	,, Hcl. salvage	..	109·95	..	53·40	15·50
						9,144·60
	Less : Credit for rejects	1,167·55	..	..	1,029·80	2,048·20
	Net input	1,836·40	11,218·05	11,360·40	6,980·00	7,096·40
	Output					
	Production	933·70	8,383·31	8,239·75	4,645·70	6,432·10
	Conversion efficiency	50·84%	74·77%	72·53%	72·65%	90·63%
	Efficiency from base to Hcl. as per Protocol	83%	83%	83%	83%	83%
	Production with reference to the efficiency indicated in the Protocol	1,524·28	9,310·98	9,429·13	7,993 40	
	Shortfall in production with reference to Protocol norm	590·51	923·67	1,189·38	1,147.70	..
	Selling price (per Kg.) (in Kg.) (in Rs)	1,000·00	850·00	850·00	850·00	850·00
	Value of shortfall with reference to selling price (in Rs.)	5,90,510·00	7,85,119·00	10,10,973·00	9,75,545·00	..

Due to marked improvement in the conversion efficiency during 1973-74 (September, 1973) there has been no shortfall.

2.173. It will be seen from the above that the conversion efficiency was lower than the Protocol norm in all the years. The lower conversion efficiency resulted in shortfall in production aggregating to 2703.56 mlrds. valued at Rs. 23.87 lakhs during 1969-70 to 1971-72.

2.174. The main reasons for the non-attainment of reglement norms/Protocol efficiencies in the case of Tetracycline and Oxytetracycline, as intimated by the Management in September, 1971 were:

(a) Under-capacity of section.

(b) Poor quality of hydrochloric acid (pure).

(c) Other losses during elution, precipitation and centrifugation.

2.175. The steps taken by the Management to improve the efficiencies in Tetracycline Section *inter-alia* indicate:—

(a) Replacement of the existing strains with high yielding strains.

(b) Substitution of existing resins with better quality in ion exchange columns to improve the recovery efficiencies.

(c) To earmark the best biologically treated material for fermentation.

(d) Augmentation of filtration capacity.

(e) Modification of the system to get better conversion efficiency and provision of additional tanks (for holding native solution) as well as additional glass lined vessels.

2.176. The Management stated in a written note as follows in respect of the under-capacity of the section:

"The capacities available for tetracycline and oxytetracycline at various stages of production correspond to the norms given in DPR provided the reglement norms of process efficiencies are achieved. The major limitation at present is the availability of imported SBS-3 resins—efforts are being made to eliminate the use of resin."

2.177. In this regard, the Ministry stated in a written note as under:—

"The Technical Committee under the Chairmanship of Shri S. K. Borkar observed that these have been matters of controversy right from the stage of commissioning of the Plant. On the basis of working results obtained through actual operations of the plant during the first 18 months, the plant technologists felt that it would not be possible to achieve the rated capacities because of some inherent defects in the equipment and systems. These defects were stated to be leading to the lower efficiencies, higher time cycles and high rejection rate on account of quality. As the performance of the Plant could not improve even after carrying out number of modifications, the Company invited a team of Soviet experts to study the problems and to determine the achievable production capacities. The team visited the plant during August-October, 1969. Based on their study the following adjustments in capacity have been accepted. There was, however, a difference of opinion between the Soviet team and the Indian technologists in respect of capacities against certain individual items. The comparative product-wise estimates are indicated below:

Product	Capacity as per DPR	(in MMU) Protocol capacity	
		Russian side	Indian side
Tetracycline Hcl	15	12·5	12·5
Tetracycline base	10·0	15·3	6·1
Oxytetracycline HCI	25	25	22·6

The Indian technologists however, felt that the norms of operation which form the basis of protocol capacity can be achieved only after providing some essential facilities at a cost of Rs. 108 lakhs in addition to the balancing equipment indicated in the Protocol itself.

The Russian side has subsequently provided some equipment free of charge to overcome the shortcomings. The balancing equipment as well as some of the essential

facilities were progressively provided in the Plant. The results so far have, however, not been commensurate with the expectation though the plant showed improvements over the past few years. Further work is still being caried out at the plant to improve the efficiencies and yields etc.

Since the Government were not satisfied with the periormance of the Antibiotics Plant, a Technical Committee was constituted under the Chairmanship of Shri S. K. Borkar June, 1973 with the following terms of reference:—

1. To determine the installed capacities for various antibiotics at IDPL's Antibiotics Plant, Rishikesh and the extent of utilisation of the installed capacities.

2. To determine the factors responsible for inadequate production and the effectiveness of measures taken so far to augment the production of various antibiotics.

3. To suggest measures to be adopted for maximising the production and for improving the overall economics of of the Plant.

Government hopes that with the implementation of the measures already under implementation and the additional measures in the light of the recommendations of the Borkar Committee, the AB Plant would be able to improve the efficiency of their operations."

2.178. It is noticed that in the case of Penicillin, Streptomycin Sulphate and Tetracycline/Oxytetracycline no norms were laid down by the Management with regard to the number of batches harvested to the inoculators/seed vessels charged and as such the efficiency of the harvesting operators could not be evaluated. Also the loss on account of the draining of inoculators/seed vessels does not appear to have been assessed by the Management. In this connection the Management stated in a written note as follows:—

"The number of batches harvested to the inoculators/seed vessels charged depends upon the degree of stabilisation of technology. As the conditions governing this ratio were not fully stabilised during the period under review, the exact norms could not be fixed. However, with the gradual stabilisation of the process, efforts are being made to standardise the number of inoculators/seed vessels to be charged per fermentor batch.

No norms have been fixed in respect of the number of inoculator and seed vessels to be charged for each fermentor and as such the loss on account of draining of inoculators and seed vessels is not required to be worked out separately. Raw Material consumed in inoculators and seed vessels are booked to the fermentors charged. Besides this, the amount of raw materials required per inoculators/seed vessels is not significant and utilization of services which is also not significant as shown below is not recorded separately. The average productwise raw material input cost per inoculator and seed vessels are given below:—

Products	Inoculators (Rs.)	Seed Vessels Rs.
1. Penicillin	158	777
2. Streptomycin	176	537
3. Tetracycline	—	401
4. Oxytetracycline	36	287

2.179. The Ministry stated as follows in this regard:—

"Standardization of the number of inoculators/seed vessels to be charged per fermentor batch would be dependent on the standardization of the inoculator itself, which in turn is dependent on the regular and sustained supply of sterile air into the inoculators which again in turn is based on uninterrupted supply of power. Standardization is also greatly dependent upon the degree of stabilization of the technology coupled with proper functioning of the instrumentations. As these factors are yet to be fully stabilized, it is rather difficult to estimate the period by which the Company would be able to stablise/standardize the charging of the inoculators/seed vessels per fermentor batch.

It is understood that the amount of raw materials required per inoculator/seed vessels is not significant and services cost is also not significant. The average product-wise

raw materials input cost per inoculator and seed vessels are stated to be as under:—

Item	Inoculators	(Figures in Rs.) Seed Vessels
1. Penicillin	180	777
2. Steptomycin	176	537
3. Tetracycline	..	401
4. Oxytetracycline	36	287

Normally, the ratio between the inoculators, seed vessels and the production fermentors is 1 : 1 : 1. This would, however, greatly depend upon the availability of biomass per inoculator or seed vessels at the time of their transfers. The data in respect of number of inoculators/seed vessels and fermentors charged and drained for the year 1972-73 is given below:—

Year	Inoculators		Seed vessels		Fermentors		Ratio of batches harvested to	
	Charged	Drained	Charged	Drained	Charged	Drained	Harvested	Inoc. charged	S.V. charged
1972-73	912	417	495	97	399	23	376	0·41	0·76

The above data would show that there has been a slight improvement in the ratio of batches harvested to inoculators charged, and seed vessels charged during the year 1972-73 as compared to the figures relating to 1971-72.

In the periodical review undertaken in the Ministry of P & C, the overall performance, production of the various drugs, profitability etc. are looked into. Because of the continued sickness of the ABP, Government set up a Technical Committee to go into the various aspects affilicting this plant. After the recommendations made by this Technical Committee it should surely be able to improve its performance. The Technical Committee has also recommended that the formulations capacity of the

plant, both for vitals and capsules, should be further increased and the product mix should be modified to include newer formulations with the better profitability. The plant has in the meanwhile, taken up formulations based on Chloramphenicol procured from elsewhere."

2.180. During evidence the Committee pointed out that "Chlorotetracycline is still being used in rural areas. No major disadvantage of chlorotetracycline as compared to other tetracycline has been proved except for the fact that it is bound to plasma protein in a somewhat higher proportion. The topical application of chlorotetracycline is considered particularly useful compared to other tetracyclines and is still widely used especially for streptococcal and strephylococcal skin infections. As alternative might be to convert chlorotetracycline to demethyl tetracycline which is still extensively used. Tetracycline including chlorotetracycline are used in many countries for (i) spraying rice crops affected by the yellow dwraf virus; (ii) controlling sugarcane root disease; (iii) leaf-room control; (iv) reducing the incidence of fruit-greening of sweet oranges; and (v) preservation for raw fish.

2.181. The representative of the Company informed the Committee as follows:—

"All over the world chlorotetracycline has new been given up for human use as well as for animal feeds. The reason is that in the pharmaceutical industry the obsolescene of drugs is very rapid. Fasions in prescribing also change. The basic reason why chlorotetracycline has been given up in favour of tetracycline is that toxic reactions are more with chlorotetracycline and its bio-availability is less as compared with other tetracyclines like tetracyline oxytetracycline because its serum binding is 47 per cent as compared to 20 to 30 per cent of the other two. Therefore, it was considered by the Management not go in for production of Chlorotetracycline. If some decision on national level is taken, I think, certain capacity could be profitably organised and utilised. When some collaborator comes to give something we agree and when the thing comes into existence we do not agree with that. That is the fate of IDPL."

2.182. In this connection the Management also stated as under in a written note:—

"It is true that the chlorotetracycline is still being used in

certain countries in small quantity. It is, however, not a drug of choice because of its character of 47 per cent binding on plasma protein. Use of chlorctetracycline as a veterinary antibiotics, for preservation of food materials like fish and control of plant infections like sugarcan root disease are also full of complications because of the development of antibiotic resistant microbes, which have been studied and highlighted in USA and UK.

As regards conversion of chlorotetracycline into demethyl tetracycline, we are not aware of any process for such conversion. However, it can be directly produced from the raw materials rather than having the necessary micro-organism to produce this antibiotic."

2.183. The Ministry also stated in a written reply as follows:—

"It is understood that although Chlorotetracycline is being used in other countries for plant protection and other non-therapeutic purposes, in India this antibiotic has not yet been tried under field conditions.

It is understood that Indian Council of Agriculture Research including certain agricultural universities like Mysore and Haryana, have been trying the feasibility of the use of Chlorotetracycline in laboratory for such purposes. Chlorotetracycline was initially developed by American Cyanamid and patented in USA in the year 1949. Cyanamid in India have gradually switched over to Demethyl Chlorotetracycline and consequently the use of chlorotetracycline in India has come down subsequently. This may be presumably due to the reason that the manufacturer wants to introduce their subsequently developed product, namely Demethyl chlorotetracycline in larger proportions because of the smaller therepeutic dosage required to maintain the blood level. Incidently, it may also be mentioned here that Pfizers Ltd. in India have been pushing their product Terramycin (Oxytetracycline) in preferrence over Tetracycline. Subsequently, another improved product over Oxytetracycline, namely, Dexycline has recently been introduced. IDPL are also considering to take up the manufacture of Dexycycline based on their own Oxytetracycline. SWANN Committee of UK recommended in 1969, a ban on the use of antibiotics including Chlorotetracycline for animal feed supplement. IDPL who were considering to introduce

this drug as animal feed supplement and also carried out a survey which resulted in the possible off-take of this antibiotic upto about 40 tonnes/annum, had to subsequently drop their proposal in view of the Recommendation of the SWANN Committee.

Information was sought from the Plant Protection Directorate of the Ministry of Agriculture and they have stated as follows in regard to the use of chlortetracycline as pesticides:—

"Chlortetracycline (Tetracycline) are the antibiotics which have been tried for controlling diseases like yellow dwarf in rice, sugarcane root disease, fruit greening in sweet oranges in other countries. In our country, recently, the above mentioned dieseases alongwith other mentioned diseases alongwith mycroplasmal diseases (*i.e.* spike disease of sandalwood, little leaf of brinjal, sesamum phyllody, and citu es greeing) are appearing in field but so far in our country only very small quantity has been used against mycroplasmal diseases and that too used in the research laboratories. In some Agricultural Universities and in Indian Agricultural Research Institute, the efficiency of these chemicals have proved to be promising. Their wide scale use can only be recommended after finding their efficiency in field under Indian conditions."

2.184. In the case of Tetracycline, the ratio of batches harvested to seed vessels charged has ranged between 0.33 to 0.72 during 1969-70 and 1973-74 (upto September, 1973). In the case of Oxytetracycline, the ratio of batches harvested to seed vessels charged ranged from 0.50 to 0.84 during the same period. The Management have neither fixed any norms nor assessed the loss on account of the harvesting of inoculator seeds vessels percentage of batches contaminated to batches harvested in the case of Tetracyline ranged between 6.90 per cent in 1973-74 (upto September, 1973) to 23.18 in 1971-72. The percentage of batches contaminated to batches harvested in respect of Oxytetracycline ranged between 17.65 in 1973-74 to 43.27 in 1971-72. The Committee also find that as against protocol norm of 128.5 mlrd of native solution per batch, the higher achieved in November, 1970 in case of Tetracycline was 135.44 mlrds. The average yield of native solution per batch was however only 81.72 mlrds in 1969-70, 105.49 mlrds in 1970-71, 101.67 mlrds in 1971-72 and 102.3 mlrds in 1792-73. As against the protocol norm of 95 per cent filteration efficiency for Tetracycline was 84.60 in 1969-70, 85.61 in 1970-71 and 86.88 per cent in 1971-72 and 84.5 in 1972-73. In the case of Oxytetracycline the conversion efficiency

from base Hydrochloride as indicated in the protocol is 83 per cent. But the conversion efficiency actually achieved ranged between 50.84 per cent to 90.63 per cent in 1969-70 to 1973-74 (September, 1973). The plant has been able to achieve conversion efficiency of 93 per cent. The Committee were informed that the Russians had provided some balancing and additional equipment free of charge to overcome the shortcomings. The Committee would like to know the results achieved after installation of this balancing equipment.

D. NYSTATIN

2.185. Nystatin is an antifungal antibiotic produced by Actinomyces nourise. The Nystain is used for treatment of fungal infection of Castro-intestinal tract, skin and mucous membrane. It can be administered both orally and externally. The shelf life of this antibiotics is limited because of its thermo-labile nature.

2.186. The Project Report for the Nystatin Section provided for an output of 10 tonnes (*i.e.* 40,000 mlrds.) per annum. This capacity was re-assessed by the Soviet side at 46,800 mlrds on the basis of protocal of discussions in October, 1969. In view of limited demand for Nystatin in the country and to ensure full utilisation of the capacity already created, the Company decided to produce Griseofulvin in this section. The production of Griseofulvin has not, however, been taken up so far (October, 1973) owing to highly uneconomic nature of technology available to the Company.

2.187. After the completion of trial runs, the commercial production of Nystatin commenced from April, 1971 onwards.

2.188. *Fermentation*: The production of Nystatin is a two stage fermentation process. The Collaborators had provided 4 inoculutors (each having a capacity of IM *i.e.*, 1000 litres) and 4 production fermentors (each having a capacity of IOM *i.e.*, 10000 litres) for the production of Nystatin.

The filling co-efficient of these vessels is 70 per cent.

2.189. The table below indicates the inoculators/fermentors charged in 1971-72:—

Year	Inoculators charged	Drained	Fermentors charged (in batches)	Drained	Harvested	Ratio of batches harvested to inoculators charged
1971-72	190	119	71	15	56	0·29

The percentage of inoculators and fermentors drained to the inoculators and fermentors charged worked out to 62.6 per cent and 21.1 per cent respectively. Neither any norms have been laid down for evaluating the efficiency of harvesting operations nor has the loss on account of drainage of inoculators been assessed by the Management.

2.190. As in the case of Penicillin, each batch is harvested when the mycelium development, potency and pH of the culture fluid meets the prescribed requirements on the basis of the tests carried out by process control laboratory. No standard curves (based on the result of sample batches and the potentiallity of the strain) showing biosynthetic activity have been prepared by the Company so far (March, 1972).

2.191. The broth which is considered totally unfit for harvesting either due to contamination or low activity or for any other reason is drained. The other contaminated batches not failing in this category are, however, harvested. The table below indicates the contaminated batches harvested during 1971-72.

Year	No. of batches harvested	No. of contaminated batches	Percentage of batches contaminated to the batches harvested
1971-72	56	13	23·2

2.192. *Average activity and broth obtained*:—The Project Report for the Nystatin Section also indicated process efficiencies/yields at different stages of production. These were, however, refixed on the

basis of protocol of discussion in October, 1969. The table below indicates the various parameters indicated by the Soviet side in the Protocol together with the actuals there against during 1971-72:—

Description	As per Protocol	Planned	Actual
1. No. of batches harvested .	372	N.A.	56
2. No. of batches drained . .	..	N.A.	15
3. Fermented Broth (mlrds.) . . .	104160	23000	15292·6
4. Average fermented broth per batch (mlrds.)	280	240	273·08
5. Average activity (u./ml.) .	40000	34300	42670
6. Highest activity (u./ml.) . .	..	..	57000
7. Average running time (hrs.)	N.A.	75	80·31
8. Total time cycle (hrs.) . .	90	100	164 (approx.)

2.193. The harvesting of batches was suspended during the period from 17th April, 1971 to 14th May, 1971, 22nd September, 1971 to 30th September, 1971 and from 12th October, 1971 to 22nd October, 1971 on account of hold-up in the Recovery and Purification Block. The section was closed with effect from 16th November, 1971 on acocunt of build-up of stocks.

2.194. It will be seen from the table that the average activity was better than the protocol norm. However, the total time cycle was much more than the protocol norm or that planned by the Management.

2.195. The Ministry have stated (October, 1973) in this connection as follows:—

> "The total time cycle continues to be higher than the Protocol norms largely due to longer time taken in the maintenance and preparation of the vessels before charging. The Company, however, is fully seized of the problem and constant efforts are being made to reduce time cycles to the reglement norms."

2.196. *Recovery and purification*: After the receipt of the fermented broth in the recovery and Purification Section for filteration, the same is passed through filter presses to separate mycelium

and native solution. The main stages in the production from the mycelium are (a) vacuum evaporation of the extract and (b) crystalization and drying of the Nystatin. The recovery of finished product from the fermented broth, as indicated in the Protocol, was 45 per cent.

2.197. The table below indicates the input of the fermented broth and output of Nystatin during 1971-72:—

Input of fermented broth	15,292·6	mlrds.
Production (Gross)	3,571·63	,,
(a) Approved	1,873·70	,,
(b) Rejects	1,697·93	,,
Recovery efficiency (actual) percentage	23·36	,,
Production with reference to the efficiency indicated in the Protocol (i.e. 45%)	6,861·67	,,
Shortfall in production with reference to protocol (in mlrds)	3,310·04	,,
Selling price	Rs. 550 per mlrd.	
Value of the shortfall with reference to the selling price	18,20,522	

2.198. It will be seen from above that recovery efficiency of the Recovery and Purification Block was about 50 per cent of the Protocol reglement and resulted in the shortfall in production of 3310.04 mlrds. valued at Rs. 18.21 lakhs.

2.199. In this connection, the Ministry have stated (October, 73) as follows:—

> "Since Nystatin does not find adequate market in the Country, its production has not been maintained on continuous basis. As a result, the technology of manufacture has not yet been stabilised, resulting in poor efficiencies at various stages of production."

REJECTIONS:

2.200. The rejections, during the process, arise at the following two stages:—

(i) At the fermentation stage—if the broth gets contamimated the whole batch has to be drained.

(ii) At the recovery and purification stage—the bulk products after their recovery and purification are subject to quality control and might be rejected for colour, potency, solubility and sterility etc.

2.201. The Committee find that in the case of Nystatin, antifungal antibiotic, produced by Antibiotics Plant, the ratio of batches harvested to inoculators charged was 0.29 in 1971-72. The percentage of batches contaminated to the batches harvested was 23.2 in 1971-72. The Management have neither laid down any norms nor have assessed the loss on account of drainage of inoculators. The Committee note that in the case of Nystatic, the average activity was better than even the protocol norm in 1971-72, though the total time cycle was much more than the protocol norm or that planned by the Management.

The recovery efficiency, however, was only 23.36 per cent as against efficiency of 45 per cent indicated in the protocol resulting in shortfall in production to the extent of 3310 mlrds. valued at Rs. 18.2 lakhs. The Committee note that production of Nystatin has not been maintained on a continuous basis on account of lack of adequate market. As a result the technology of manufacture has not yet stablished, resulting in poor efficiencies. The Committee would like to be informed about the sales prospects of Nystatin.

Rejections

2.202. The rejections, during the process, arise at the following two stages:—

(i) At the fermentation stage-if the broth gets contaminated, the whole batch has to be drained.

(ii) At the recovery and purification stage—the bulk products after their recovery and purification are subject to quality control and might be rejected for colour, potency, solubility and sterility, etc.

A FERMENTATION STAGE

2.203. The Table below indicate the laws due to draining of batches during the last five years ending 31st March, 1973:—

Sl. No.	Name of product	1968-69			1969-70			1970-71			1971-72		
		No. of batches seeded	No. of batches drained	Value (Rs. in lakhs)	No. of batches seeded	No. of batches drained	Value (Rs. in lakhs)	No. of batches seeded	No. of batches drained	Value (Rs. in lakhs)	No. of batches seeded	No. of batches drained	Value (Rs. in lakhs)
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Penicillin	135	4	2·02	325	14	Break-up not	578	31	7·14	705	17	4·99
2.	Streptomycin	153	9	3·79	284	10	avail-able	338	8½	2·18	428	22	5·92
3.	Tetracycline	42	1	0·20	143	8		231	9	1·48	381	10	2·25
4.	Oxytetracycline				33	..	..	108	1	0·20	110	..	..
5.	Nystain	..	..	..	..	..	..	36	1	0.09	71	15	2·11
		330	14	6·01	785	32	7·92	1,291	50½	11·09	1695	64	15·27
	Percentage of batches drained to batches seeded		4·24			4·08			3·91			3·78	

NOTE : The figures for 1970-71 are exclusive of the 22 batches drained on account of Alaknanda disaster and 13 batches drained on 8th August, 1970 due to accumulation of silt in the Water-in-take and Water Purification Plant.

2.204. The main reasons for the draining of the batches during each of the last 4 years were as follows:—

(a) Power Failure

(b) Air starvation/compressor failure.

(c) Contamination of air header.

(d) Contamination before/after seeding samples/due to other reasons.

(e) Defective cooling coils

(f) Poor/low activity and badly affected mycelium.

B. Recovery and Purification Stage

2.205. Rejections due to non-sterility, inadequate clarity, lower potency etc. arise during recovery and purificationstage. While Detailed Project Report drawn up by the Collaborators or the protocol of discussions (October,1969)did not indicate any norms of rejections, the Plant had been assuming the following norms of rejections for drawing up their plans:—

Sodium Penicillin	5 per cent.
Procaine Penicillin	5 per cent.
Streptomycin	2 per cent.

Actual rejections were, however, much higher and ranged between 10 per cent and 57 per cent of the total production. Year-wise details of production (approved|rejects). The reasons for rejections and the increase in cost due to rejects during the last 5 years ending 31st March, 1973 are incorporated in Appendix II. It will be noticed from the details given in the Appendix that the rejections were quite high as compared with the above referred norms and the total increase in cost due to rejections pertaining to the above three bulk drugs amounted to Rs. 5.18 crores during 1968-69 to 1971-72.

2.206. The main causes for rejections as intimated by the Management (September, 1972) were as follows:—

(a) Sodium Penicillin and Procaine Pencillin

(a) Clarity

(i) Presence of fibres obtained during sieving through cloth sieves.

(ii) Presence of aluminium practicles due to use of inferior anodised canisters.

(b) Non-Sterility

(i) High bacterial count in sterile areas.

(ii) Use of leaking sietz. filters

(c) Low Potency and other tests
Improper control at various stages of production

(d) Colour (Procaine Pencillin only)

Poor quality of raw materials like Procaine Hcl. of indigenous variety and Potassium Penicillin use.

(b) Streptomycin Sulphate

(a) Clarity

Presence of foreign particles which might come from the air filters or the pipelines.

(b) Non-Sterility

(i) High bacterial count in the sterile areas.

(ii) Improper functioning of the sietz. filters and high bacterial load in the Streptomycin concentrate before passing through seitz filters.

2.207. Apart from the rejections in the course of Production detected by the Quality Control, it was noticed that during the last three years ending 31st March, 1972, bulk antibiotics and formulations worth Rs. 8.82 lakhs and Rs. 1.06 lakhs respectively passed by the Quality Control were returned by the customers. The main reasons for the return of goods by the customers were as follows:—

(i) Non-sterility and lumping.

(ii) Non-conforming to Indian Pharmacopoeia

(iii) Fall in potency and PH.

(iv) Change in colour, lump formation, brittleness|cracking, etc. (capsules).

(v) Peeling off of the labels, poor syringeability, longer solution time, pain, swelling and reactions (vials).

2.208. The reprocessing of the above sales returns yielded saleable producted valued at Rs. 5.35 lakhs; resultant loss being Rs. 4.53 lakhs vide details given in Appendix III.

2.209. The Management have stated (September, 1972) that the following steps have been taken to avoid minimise the rejections:—

(a) General

"These problems were identified as arising out of deficincies in the equipments and system. The problems were studied by a High Power Soviet Delegation during September|October, 1969 which recommended a number of measures to overcome these deficiencies. These measures have been progressively implemented."

(b) Penicillin

To improve the sterility of the marginally contaminated batches certained equipments have been installed and/or replaced. Standard of maintenance of equipments has been improved and control over the operational regim has been tightened.

(c) Streptomycin Supphate

The problem of low potency was studied by a team of scientists. There has been significant improvement, but the average potency level still continues to be very near to the minimum allowed by the pharmacopoeia. Investigations are still continued.

2.210. In this connection, the Ministry have stated (October, 1973) as follows:—

"The Company has traced the main reasons responsible for the deterioration of the quality of products released for sale, to the inadequacy of the systems such as, deficinecy in equipment layout and services like maintenance of sterility, air conditioning, etc.

Suitable modofications in the procaine and sodium penicillin sections have already been carried out to overcome these deficiencies. In case of streptomycin sulphate, the sources of non-sterility have been traced and after implementation of the measures, the quality of the products has shown remarkable improvement during August, 1973. Improvement in quality of sodium and procaine salts is yet

to be evaluated as these products have been only recently commissioned after modification."

2.211. About the basis for fixing norms of rejection, the Management stated in a written note that the norms of rejection of sterile products at 5 per cent for Sodium and procaine penicillin and 2 per cent for streptomycin sulphate were proposed by the Plant on the basis of their experience regarding the efficacy of systems and equipment in maintaining proper marameters. However, this was not accepted by the collaborators in their protocol of discussion signed in 1969. It is, therefore, not possible to compare the actual rejections with any recognised norms.

2.212. In regard to (i) the delay to overcome the deficiencies; no decline in the rejections in the case of Procaine Pencillin and Streptomycin Sulphate inspite of the measures progressively implemented; and the evaluation of the quality of sodium and procaine penicillin, the Management stated as follows in a written note:

"The rectification of deficiencies identified in October, 1969 involved providing balancing equipment which was partly to be supplied by the collaborators (supply completed by 1973) and partly to be procured from indigenous sources by developing services in some cases. The procurement and installation of this equipment coupled with the stabilising period after modifications accounted for four years period in implementing these measures.

In the case of Sodium and Procaine Penicillin, the initial difficulties with regard to quality were mainly due to clarity and sterility. With the implementation of various measures, outlined in the protocol of discussions, the rejection in the clarity showed a progressive decline. However, the sterility problem continued or got aggravated due to ineffectiveness of U.V. lamps, deterioration in the performance of seitz filters and inadequancy of air-conditioning systems. In case of streptomycin Sulphate, the rejection continued because of low potency of final product which could be resolved only towards the middle of 1972. The problem of sterility, however, still continues.

The quality of these products has shown progressive improvement after recommissioning of these sections in August/September, 1973 respectively.

2.213. About the use of inferior anodised canisters, leaking sietz filters poor quality of raw materials and improper control at various stages of production which caused rejection, the Management stated in the written note that "these factors are not completely within the control of the Management. Inspite of the sincere effort of the management to ensure the quality of incoming materials, it is sometime necessary to accept inferior quality under scarcity of supplies. The procurement of imported items like seitz filter, involved procurement delays in obtaining import licence etc. and the plan had, therefore, to operate with the filter, which ahead already outlived their effectiveness.

2.214. During evidence the Committee pointed out that apart from the rejections in the course of production bulk antibiotics and formulations worth Rs. 6.82 lakhs and Rs. 1·06 lakhs respectively passed by the Quality Control were returned by the customers, the representative of I.D.P.L. explained as follows:—

> "There is potency in these drugs, but storage also plays a very important, whether it be storage at the plant site, or storage at the consumers' end or storage at the place where they are manufactured or at the places of those people who have purchased from us. Considering the figures from the industries side, the percentage of rejection has been only 0.7 per cent. of the total sales, and it would come to a few crores. I personally feel that there is no single firm which has no rejection. Even in the case of Vitamin C there are rejections; in regard to Vitamin A so many cases are there, where the item has been returned to glaxos and Roches. The rejections may be due to various reasons. There may be even manufacturing defect. But partly, it can also be due to storage. Seeing the percentage namely 0.7 per cent. returned from the market, I feel that it is not a very high figure."

2.215. The Management also stated in a written note as follows:

> "The Quality Control Department is equiped to carry out all tests on the finished products prescribed by Indian Pharmacopoeia. The finished product is released for sale only after satisfying that it meets IP standards. However, some deterioration in the quality of the product takes place in the transit or under improper storage conditions which is normal for pharmaceutical concern. (Sales returns in 1969-70 to 1971-72 amount to 0.7 per cent. However, shelf

life in respect of Sodium Pencillin was a problem for which modification have been carried out. Trend is encouraging.)"

2.216. During the evidence the representatives of the Ministry apprised the Committee as follows in this regard:

"The bulk antibiotics and formulations with worth Rs. 8.82 lakhs and Rs. 1.06 lakhs respectively passed by the Qualife in respect of Sodium Pencillin was a problem for reasons for the return of goods by the customers were as follows:

(i) Non-sterility and lumping;

(ii) Non-conforming to Indian Pharmacopoeia;

(iii) Fall in potency and PH;

(iv) Change in colour, lump formation, brittleness/cracking etc. (capsule);

(v) Peeling off the labels, poor syringe-ability, longer solution time, pain, swelling and reactions (vials).

The reprocessiong of the above sales returns yielded saleable product valued at Rs. 5.35 lakhs; resultant loss being Rs. 4.53 lakhs.

The quality control department is equipped to carry out all tests on the finished products prescribed by Indian Pharmacopoeia. The finishing product is released for sale only after satisfying that it meets I.P. standards. However, some deterioration in the quality of product takes place in transit or under improper storage conditions which is normal for any pharmaceutical concern. (Sales returns in 1969-70 to 1971-72 amount to 0.7 per cent. However, shelf life in respect of Sodium Penicillin was a problem for which modifications have been carried out. Trend is encouraging). In the sales returns for 1972-73 and 1973-74 it has been noticed that bulk antibiotics and formulations passed by Quality Control were returned by the customers which would be 1.46 per cent for vials and 0.15 per cent for capsules of the total sales during these two years. These figures would indicate that the percentage of rejection is about the same order. In so far as 5 reasons given for rejection are concerned, the same are examined below:—

(i) Non-sterility and lumping

It has been stated by the I.D.P.L. that the nature of the test being of a biological nature is subjective. In any biological evaluation

the limits for sensitivity are 5 to 10 per cent. There have been cases where same sample rejected by the Quality Control or IDPL has found acceptance when tested by other laboratories *viz.* Sarabhais and vice-versa.

(ii) Non-conforming to Indian Pharmacopoeia

This can take place on account of storage deterioration over a period of time and there after when the samples are subsequently drawn by Drug Control Authorities, these may not conform in all cases to Indian Pharmacopoeial standards. It has, however been stated by the management that the storage conditions of the management are ideal and deterioration some times takes place with the dealers or retailers. Whenever such cases are brought to the notice of the management, immediate replacements are made and such batches withdrawn.

(iii) Fall in potency and PH

The fall in potency and PH in the case of Pencillin produced by IDPL is due to process of production adopted by IDPL. It is due to this reason that the Antibiotics Plants, Rishikesh has undertaken major modifications both for Sodium Penicillin and Procaine Penicillin. Earlier, technology for the production of Sodium Penicillin was based on precipation method which has now been changed to Azeotropic distillation method. It was not possible to know the deficiency of the earlier process as it had not been tried out at that stage in the Indian conditions and the problems would emerge in the case of biological products particularly when the system has been tried out and finished product obtained over a sufficinetly long period.

(iv)Change in colour, Lump formation, brittleness|cracking, etc. (capsule)

This is also partly due to nature of technology and partly due to storage with the dealers referred to above. The brittleness cracking referred to above could arise due to the nature of capsuls obtained from the indigenous producers which over a period may developed carcks or brittleness. The management has taken steps to obtain a fair percentage of imported empty hard gelatin capsules to over come this problem.

(v) Peeling off the labels, poor syringe-ablility longer solution time, pain, swelling and reactions (vials).

The quality of gum used for affixing lables has been changed and this complaint is no more received. Poor syringe ability was due to technological gap as in the original Soviet technology no

provision was made for microniser. This has since been provided. Regarding pain and swelling, the reason has been identified and rectified. (This was due to excess of formalin in the produce which has now been reduced to an acceptable level).

2.217. It may be seen from the above that the reasons for return of products sold to the market were not due to defective quality control organisation but for other reasons as indicated above:

2.218. The reply given by the Ministry to the Comptroller and Auditor General of India is reproduced below:—

> "The Company has traced the main reasons responsible for the deterioration of the quality of products released for sale, to the inadequacy of the systems, such as, deficiency in equipment layout and services like maintenance of sterility air conditioning, etc. Suitable modifications in the procaine and sodium penicillian sections have already been carried out to overcome these deficiencies. In case of Streptomycin sulphate, the sources of non-sterility have been traced and after implementation of the measures, the quality of products has shown remarkable improvement during August, 1973. Improvement in quality of sodium and procaine salts is yet to be evaluated as these products have been only recently commissioned after modification."

It has now been reported by IDPL during our discussions with them that the major modifications to eliminate the deficinecies in system have already been taken for Sodium and Procaine Penicillian by introducing improved technology for the production of Sodium Penicillin and by providing a microniser in the case of Procaine by Penicillin. A special type of mixer has also been provided for getting better homegenisation of the product. The improved technology would entail a change from the earlier precipitation method adopted for the Sodium Penicillin to Azeotropic distillation for its manufacture. In regard to input of services particlarly for uninterrupted supply of air the company is considering decentralisation of the present huge system to smaller compressors coupled with generators so that in case of interruptions in electric supply continuity of production is maintained. For the maintenance of sterility special filters in the processes have been provided. To improve-sterility additional Ultra Violet lamps have also been put in the sterile area. With the steps taken, we expect that the rejection would be minimised. But there has been an improvement in the steritlity as well as the quality of the product. But, further results are yet to be awaited.

The proposals for remodelling airconditioning are still under consideration of the management and steps necessary in this direction have yet to be worked out. It may also be mentioned that filters are being changed more frequently to improve the efficiency of the air-conditioning.

With the steps enumerated above the Government expects that the difficulties with regard to the rejection of items sold in the market would be further minimised during 1974-75. It would, however, not be correct to say that these problems can ever be completely overcome in view of the insherent nature of the industry."

2.219. The Committee have been informed that the most important problem with regard to quality control is the mode of transport. In view of the sharp variations of tempreature, pressure and humidity etc. appropriate refrigeration measures must be undertaken when the consignments are in the transit for more than fifteen to thirty days. The Committee, therefore, desired to know whether any refrigeration measures have been adopted for despatch of consignments which are expected to be in transit for more than 15 days, or what special procautions have been taken to see that the quality of products does not suffer on account of improper/improper inadequate storage? The Management informed the Committee in a written note that the methods of transportation followed by the plant are the same as followed by other manufacturers. In order to avoid deterioration of quality of the products during transit, every precaustion is taken to ensure that the goods reach the destination within the shortest possible time. In case of Nystatin, which is highly susceptible to high temperature and humidity conditions, the consignments are being transported in air-conditioned coach or by air.

2.220. Regarding complaints about the antibiotics producerd by IDPL as regards their colour, clarity, rate of solution, stability, potency and standards etc., the Management stated as follows:—

"There have ben a few quality complaints especially with regard to the stability after lapse of some time and wherever complaints were received immediately action was taken to withdraw those batches as per Drug Act requirement.

To avoid such complaints, following steps have been taken:—

(i) A micronizer has been installed to micronise procaine penicillin to improve its syringeability.

(ii) Modifications have been made in the process of manufacture of Sodium and Procaine based on our experience with a view to obtain a better product. In case of Sodium, the technology has been changed from precipitation method to azeotropic distillation which gives a much stabler product."

Consumption of raw materials

2.221. An analysis of the consumption of some of the important and costly raw materials being used in the production of various antibiotics is given in Appendiv IV. The analysis shows that:

(i) in most of the cases the consumption was in excess of the reglement norm; and

(ii) the consimption co-efficient (kg./mlrd.) fluctuated from year to year.

The Management have stated (September, 1972) as follows:—

"The consumption co-efficients will come down as the yields in fermentation and efficiency of recovery improve. Till then the only effective step being taken is to reduce handling losses and wastages."

2.222. The Management in a written note further stated as under:—

"The consumption co-efficients of various raw-materials are dependent on efficiencies of fermentation and recovery processes and olso handling losses out of the process vessels and wastages due to drainage of fermentors. No separate records are available to indicate the incidence of handling losses and wastages from the stage of issue till the charging of the materials in the process stream. The handling losses and wastages in the course of receipt and storage till issue to the shop floor are not treated as a part of the consumption, if they are beyond the norms fixed.

2.223. The question of handling losses was examined by the committee of officers. In June, 1970 they have recommended the following percentage of losses in respect of liquids:

Butyle acetate and butanol	.2%
Methyl Alcohol	.3%
For other raw meterials	.1%

Based on thes norms, losses in respect of liquids upto the percentages fixed are charged to consumption.

The handling losses and wastages in the course of receipt and storage till issue to the shop floor are not treated as a part of the consumption, if they are beyond the norms fixed.

Abnormal handling losses in respect of liquids and any loss in respect of other raw materials are not directly charged to consumption. These are investigated and action for write off is taken after investigation.

2.224. The incidence of excess Raw material consumed during 1972-73 is as under:

Sl. No.	Raw Material	Quantity variance (Rs. in lakhs)	
1	Ammonium Nitrate	(—)	1·60
2	Corn Steep Liquor	(—)	1·59
3	Butyle Acetate	(—)	16·27
		(—)	19·46
Streptomycin Sulphate (Fermentation)			
4	Ammonium Sulphate	(—)	1·25
5	Corn Steep Liquor	(—)	0·46
6	Calcium Carbonate	(—)	0·80
7	Glucose	(—)	8·06
8	Hydrol	(—)	1·84
9	Oxalic Acid	(—)	4·41
10	S.B. Flour	(—)	4·44
11	Sod. Triploy Phosphate	(—)	1·48
12	Sod. Hydroxide	(—)	0·98
13	Hydrochloric Acid (T)	(—)	1·22
		(—)	24·94

Tetracycline (Fermentation)			
14	Corn Steep Liquor	(—)	0·6
15	Maize flour starch	(—)	2·49
16	Hydrochloric Acid	(—)	2·31
17	Sod. Tripdyphosphate	(—)	2·59
		(—)	8·00
Oxytetracycline (Fermentation)			
18	Corn steep liquor	(—)	0·04
19	Maize Starch	(—)	0·37
20	Soyabean Flour	(—)	0·10
21	Hydrochloric Acid	(—)	0·43
22	Sod. Hydrozide 40%	(—)	0·29
23	Sod. Tripolyphisphate	(—)	1·48
24	Oxy. Tetracycline	(—)	0·25
25	Methanol	(—)	0·79
Summary			
1	Potassium	(—)	19·46
2	Streptomycin	(—)	24·94
3	Tetracycline	(—)	8·00
4	Oxytetracycline	(—)	1·48
5	Oxytetra. HCI	(—)	0·79
		(—)	54·67

NOTE : Minus (—) indicates Unfavourable variance.
Plus (+) indicates favourable variance.

2.225. In a written note the Ministry informed the Committee as follows:—

"The Plant has not been able to achieve reglament norms because of the various factors like equipment efficiency and system deficiency as well as non-availability of stable inputs particularly power. The Government constituted a Technical Committee on Antibiotics Plant, Rishikesh with the following terms of reference:—

(i) To determine the installed capacities for various antibiotics at IDPL's Antibiotics Plant at Rishikesh and the extent of utilisation of the installed capacities.

(ii) To determine the factors responsible for inadequate production, and the effectiveness of measures taken so far to augment the production of various antibiotics.

(iii) To suggest measures to be adopted for maximising the production and for improving the overall economics of the plant.

The Committee has submitted their report and on the subject of consumption of raw materials they have made the following recommendations:—

Services

1. Provision of standby power generation equipment of a limited capacity to enable maintenance of active fermentation equipment under positive pressure of air during periods of power failure.

2. Additional refrigeration facility needed to supply 5-8° C chilled water to fermentation vessels.

3. Modification of air-supply system to the fermentation vessels in order to bring down the temperature of the in-going air.

II. **Fermentation Block**

1. Installation of a closed system for inoculum transfer in place of the present 'open' system.

2. Progressive replacement of secondary air-filters with membrane filters.

3. Foam control probes fermentation vessels.

III. **R&P Block**

1. Changes in the dehumidification system to enable sterile areas to control relative humidity at low levels.

2. Separate pulverising and sieving equipment for Sodium Penicillin G.

3. One-line PH control equipment for all recovery processes.

It is expected that with the adoption of the above mentioned steps it will be possible to improve consumption of raw material and consumption co-efficient will come

down as the yield in fermentation and efficient recovery improve. In the meanwhile effective steps being taken to reduce handling losses and wastages would also improve the situation."

2.226. The Committee were informed that on account of excess consumption of raw material during 1972-73 over the reglement norms there have been loss of Rs. 54.67 lakhs, the Committee would like that the Recommendations made by the Technical Committee in this regard may be taken into account and suitable remedial measures introduced to ensure strict adherence to the prescribed norms as any excess consumption would only affect the profitability.

UTILISATION

A. Compressed Air

2.227—29. Venting of surplus compressed air—

Compressed air is mostly required by the Plant for use in the Fermentation Block. For meeting the requirements of compressed air, the Collaborators had supplied three Turbo Compressors (including one as stand-by), each having a compressing capacity of 970M^3 per minute. Keeping in view the actual and likely future production (based on market demand), the Management, however, assessed in April, 1972 the total demand of compressed air as 1200 M^3 per minute (approximately).

2.230. As the second compressor was required to be operated to meet the requirement of compressed air, as and when needed, it resulted in venting of surplus quantity of compressed air which was about 75 per cent of the production of the second compressor.

2.231. Certain proposals were mooted by the Plant Authorities during the period from October, 1969 to February, 1972 to instal a compressor of smaller capacity. These were not, however, approved by the Soviet Experts or the Company on financial/technical considerations. Another such proposal made in April, 1972 envisaged the procurement of a compressor of 250 M^3 minute capacity. On the basis of the economics of the proposal the plant Authorities expect a saving of Rs. 12 lakhs per annum even after taking into account additional amount required to be paid to the Uttar Pradesh State Electricity Board for not consuming 60 per cent of the contracted demand for electricity. The proposal is still (September, 1972) under consideration. Meanwhile, venting of the compressed air

continues. The details of the air so vented during the last few years ending 30th September, 1972 are indicated below:

Year	Compressed air produced	Compressed air vented (10^3 M^3	% age of air vented to compressed air produced	Cost of air vented (excluding depreciation and interest)
				(Rs. in Lakhs)
1968-69	5,12,621	3,76,451	73·43	23·87
1969-70	5,09,840	1,98,333	38·90	10·64
1970-71	5,46,893	1,11,461	20·38	7·78
1971-72	6,75,280	1,75,380	39·07	14·84
1972-73	7,20,360	2,95,080	40·97%	27·84
1973-74	1,92,220	13,410	6·98	1·50

2.232. As regards the proposal to instal a compressor of smaller capacity, the Management have stated (October, 1973) as follows:—

> "The Management had approved this proposal in principle. It appears, however, that the cost of equipment has in the meanwhile gone up considerably and the proposal is being examined afresh. Besides, with the expansion plans of the production especially tetracycline and streptomycine, the amount of air vented would undergo a change. It is expected that substantial percentage out of the 75 per cent which is now vented will be utilised."

2.223. The Committee note that for meeting the requirements of compressed air, the collaborators had supplied three Turbo Compressors (including one as stand-by) each having a compressing capacity of 970 M^3 per minute. In April, 1972, Management, however, assessed that the total demand of compressed air would be 1200 M^3 per minute only. As the second compressor was required to be operated to meet the requirement of compressed air as and when needed, it resulted in venting of surplus quantity of compressed air which was about 75 per cent of the production of the second compressor. The plant therefore contemplated the procurement of a compressor of smaller capacity. Meanwhile venting of compressed air has continued. The Committee find that percentage of air vented to

compressed air produced was to the tune of 40.97 per cent in 1972-73. The venting of air in 1972-73 costs the plant Rs. 27.84 lakhs, (excluding depreciation and interest). The Committee have been informed that the original proposal of installing a compressor of smaller capacity is being studied by the Management afresh because it is now expected that the expansion plans of the plant specially for tetracycline and streptomycin would enable utilisation of substantial percentage of air vented. The Committee recommend that a decision to instal a compressor of smaller capacity should be taken soon considering the requirements of the expansion plans so that venting of compressed air at a considerable cost may be avoided.

(b) *Excessive consumption of electricity.*

It was noticed that there was excessive consumption of electricity in the production of compressed air over and above the norms fixed by the Management as per particulars furnished below:—

Year	Quality of compressed air produced (in the and cubic metres)	Electricity consumed (KWH)	Norm as fixed by the Management per 10^3 M^3	Consumption of electricity per 10^3 M^3 (KWH) (KWH)	Excessive consumption of electricity (KWH)	Rate per KWH (Rs.)	Total (Rs. in lakhs)
1970-71 . . .	5,46,891	3,55,39,597	62·3	64·98	14,68,288	0·1029	1·51
1971-72	5,75,280	4,76,95,518	62·3	70·63	56,24,474	0·1156	6·50
1972-73	7,20,360	4,54,71,821	62·3	63·1	59,33,93	0·1150	0·63
1973-74 (April to Sept. 73) .	1,92,220	1,31,78,328	62·3	68·6	12,0 ,022	0·1150	1·38

2.235. The Management have explained (September, 1972) the variation in power consumption to the following factors:—

i) Variation of the power factor of the load.

ii) Different load conditions.

iii) Variations in supply voltage which varies the current and power losses.

(iv) Running of the motor at the maximum excitation.

It has further been stated as follows:—

"We make every possible attempt to run the machine at unity power factor when the losses are minimum. However, the losses due to running of the compressor below its full load rating according to the requirement of the production department cannot be avoided."

2.236. In regard to the technical and financial considerations as a result of which proposal to instal a Compressor of small capacity was not acted upon and in view thereof why another proposal was made in April, 1972 for the procurement of a Compressor of 250 M^3 minute capacity and approved in principle (as stated by the Management in October, 1973), the Committee were informed in a written reply by the Management that the initial proposal to install a compressor of small capacity was not a comprehensive one since it covers the air supply system to inoculators and seed vessels only. The capital charge on the investment for such a compressor was much higher than the expected gains arising out of the increased production. It was, therefore, considered necessary to keep positive pressure only in inoculators and seed vessels in the event of power failures was not pursued. As an insurance against power interruptions leading of large scale contemination of inoculators, seed vessels and fermentors, a revised proposal to instal a compressor of 250 M^3 per minuted capacity was conceived which could keep general air supply system under positive pressure. The enquiries were sent to the major manufacturers in the line in India and their offers are under detailed scrutiny and follow up.

About the time when the expansion plans for tetracycline and Streptromycine are likely to be implemented and whether it implies that even on attaining the rated capacity as given in the protocol, Plant will not be able to utilise the full production of the compressed air, it was stated that the expansion programme of tetracycline and streptomycine are likely to be implemented by

the end of Fifth Five Year Plan. The requirement of air corresponding to 44 fermentors will be equivalent to about 2 big air compressor running simultaneously.

2.237. It was further stated that the compressor of 250 M^3/minute capacity running with one main compressor would have been an economical proposition in the project decision. In respect of excess consumption of electricity in the production of compressed, it is stated that the excess consumption of electricity in the production of compressed air in 1972-73 amounted to Rs. 0.68 lakhs. The basic reasons for excess consumption of electricity has been on account of running the second air compressor on demand from the technologist when its capacity is only partially utilised. As has already been indicated earlier, the Management is considering installation of a small compressor of 250 M^3 minute capacity to run on diesel generator with the twin objective of maintaining positive pressure during power failures and avoiding venting of excess air during the normal operation.

POWER

Fall in the consumption of power as compared with the contracted demand

After taking into account the projection in the Project Report and the installation of optional equipment in Auxiliary Services Block of Sterile Finishing Block, the Management with approval of the Uttar Pradesh State Electricity Board fixed in December, 1966 the following contract demand on 6.6 K.V. supply :—

Period	Maximum demand
From 23-12-1966 to 28-2-1967	6,000 KVA (First three months consumption as actual demand)
From 1-3-1967	8,000 KVA
From 1-5-1967	11,000 KVA
From 1-9-1967	14,000 KVA
From 1-1-1968	17,000 KVA
From 1-5-1968	23,500 KVA (Subsequently reduced to 20,000 KVA)

2.238. The Commitee find that there was excessive consumption of electricity in the production of compressed air over and abeve the norm fixed by the Management. In all the year from 1970-71

onwards as against the norm of 62.3 KWH fixed by the Management per 10^3 M^3 (KWII), the actual consumption of electricity per 10^3 M^3 of compressed air has been of the order of 64.98 KWH, 70.63, KWH 63.1 KWH and 68.6 KWH during the years 1970-71, 1971-72, 1972-73 and 1973-74 (upto September, 1973) respectively. The cost of excessive consumption of electricity ranged between Rs. 0.68 lakhs in 1972-73 to Rs. 6.50 lakhs in 1971-72. The Committee were informed that the main reasons for excessive consumption of electricity have been variation of the power factor of the load, different load conditions, variations in supply voltage which varies the current and power losses; running of the motor at the maximum excitation. It has been stated that losses due to the running of the compressor below its full load rating according to the requirement of the production department cannot be avoided. In order to meet this situation the plant, it was stated, was considering installation of smaller compressor to run on diesel generators with the twin objective of maintaining positive pressure during power failures and avoiding venting of excess air during the normal operation. As recommended earlier, the Committee desire the Management to take an early decision in the matter for installation of Compressor of smaller capacity in the best interest of the smooth and economic running of the plant.

Power . .

Fall in the consumption of power as compared with the contracted demand

2.239. After taking into account the projections made in the Project Report and the installation of additional equipment in Auxiliary Servitees Block and Sterile Finishing Block, the Management with the approval of Uttar Pradesh State Electricity Board fixed in December, 1966 the following contract demand on 6.6 K.V.A. supply:—

Period	Maximum Demand
From 23-12-1966 to 28-1-1967	6,000 KVA (First three months consumption as per actual demand)
From 1-3-1967 .	8,000 KVA
From 1-5-1967 .	11,000 KVA
From 1-9-1967 . .	14,000 KVA
From 1-1-1968 . .	17,000 KVA
From 1-5-1968	23,500 KVA (Subsequently reduced to 20,000 KVA)

2.240. Owing to non-attainment of the capacities, however, the actual demand was much less and varied between 2,033 KVA and 13,600 KVA during the period from March, 1967 to 31st March, 1972. As a result of the actual consumption being less than the 60 per cent of the contract demand (on the basis of which payment had to be made to the Electricity Board) the Company had to incur an extra expenditure of Rs. 21.91 lakhs upto 31st March, 1972. During 1972-73 the plant incurred an extra expenditure of Rs. 21,900 on account of the consumption being lower than 60 per cent of the contract demand in one month only (July, 1972). No extra expenditure has been incurred during 1973-74 (upto September 1973) as the Plant was subject to a continuing power cut of 40 per cent imposed by the UPSEB since March, 1973.

2.241. Attempt made by the Company to reduce the contract demand in the light of realistic estimates of production did not prove successful except that the Electricity Board agreed to the reduction of maximum demand from 23,500 KVA to 20,000 KVA.

2.242. Regarding demand for electricity in the light of production achieved and likely to be achieved and further reduction in the maximum demand of 20,000 KVA the Management stated that as per the existing and proposed connected load, the maximum demand of 20,000 KVA does not need any revision downward. The proposed expansion programme at the plant is also hoped to be accommodated within this level.

2.243. About the claim for compensation of the loss of production of the value of Rs. 87.55 lakhs during 1968-69 to 1971-72 on account of frequent fluctuations of voltage and interruptions in power supplied by the Uttar Pradesh Electricity Board, the Management stated that there is no contractual obligation on the part of UPSEB to make good and any losses to the Plant on account of fluctuations and power failures. Hence, it has not been possible to lodge a claim on the UPSEB on account loss due to fluctuations in voltage and interruptions in power.

2.244. In this connection the Ministry informed the Committee as under:—

> "The problem of steady and regular power supply in the Antibiotics Plant, Rishikesh by UPSEB has been engaging the attention of the IDPL as well as the Government and has been repeatedly pressed with the UPSEB as well as by the U. P. Government. While they have always

assured their co-operation and have also taken some action from time to time, the problem has not been solved. It is needless to mention that the severe setback to the Plant occurred at the time of strike of UPSEB engineers from 16th to 25th January, 1973. Since March, 1973 a power cut of 40 per cent was imposed by UPSEB which continued till September, 1973. The matter was taken up by Government with the Government of Uttar Pradesh and in early December 1973 the U.P. Government order restoration of regular and full supply to Antibiotics Plant,Rishikesh. But again by the end of January, 1974, they imposed a 40 per cent power cut and limited the maximum demand not to exceed 50 per cent of that recorded between July, 1971 and June, 1972.

In July, 1973, the IDPL's Board of Directors considered this problem and whether IDPL should go in for a captive power plant to ensure adequate power supply. They considered three alternatives:—

(i) Setting up of two power generation units each of 10 MW at the Plant which was estimated to involve an expenditure of Rs. 5 crores.

(ii) Utilisation of excess generating capacity available at BHEL, Hardwar by providing a separate line between Hardwar and Virbhadra.

(iii) Request UPSEB to set up facilities of generation for use of this plant.

As the cost of power from a diesel generator was likely to be quite high, the Board decided that a feassibility report for setting up a capative power plant of 10 MW capacity should be prepared and that arrangement with BHEL Hardwar be explored to mitigate their situation.

In August, 1973, the Managing Director, IDPL in a meeting with the officers of UPSEB requested them to examine the feasibility of supply of power from BHEL, Hardwer in the event of grid failur through the existing part of the grid between BHEL and IDPL. The Member (Engineering) UPSEB agreed to have this looked into. The Managing Director, IDPL, also raised the question of UPSEB establishing a large thermal power plant near Antibiotics Plant. The UPSEB representatives, however, felt that

such a scheme might not be feasible on account of the large cost involved in transportation of coal and as large hydro-electrical stations are being established in the area.

A serious problem in this connection is that the Plant has two large compressors each requiring 3.5 power, but the starting current required is 20 MW. Therefore, a smaller captive power plant cannot make Antibiotics Plant, Rishikesh, self-reliant, while the cost of 20 MW plant will be very large, perhaps of the order of Rs. 10-12 crores. The matter also needs careful consideration in view of the recent steep increase in prices of crude oil and a need to reduce the consumption of petroleum products. For a coal based captive power plant it will be necessary to consider whether reliable coal supply will be available. In order to solve the problem of the large starting current for the compressors, and also the waste of power involved in having to run a second compressor when only the marginal additional air over that given by one compressor is required, it might be desirable to have several small compressors so that even if partial supplies are available form UPSEB, the whole plant need not come to a standstill Or, alternatively, Antibiotics Plant may do with a smaller captive power plant than 20 MW.

IDPL is being asked to examine the whole matter comprehensively and to furnish a report to Government early."

2.245. The Committee find that the plant management had with the approval of the Uttar Pradesh State Electricity Board fixed in December, 1966 their maximum contract demand on 6.6 KVA supply. Owing to non-attainment of capacity the actual demand was, however, much less and varied between 2,033 KVA and 13,600 KVA during the period from March, 1967 and 31st March, 1972. As the actual consumption was less than 60 per cent of the contracted demand (on the basis of which payment had to be made to the Electricity Board) the Company had to incur an extra expenditure of Rs. 22.12 lakhs upto 31st March, 1973. No extra expenditure was, however, incurred during 1973-74 (upto September, 1973) as the plant was subject to a continuing power cut of 40 per cent. The Committee have been informed that the present demand of 20,000 KVA does not need any downward revision and would be sufficient to take care of the plant expansion programme. It has been stated that the problem of ensuring adequate power supply to the plant

cannot be resolved by going in for a small captive power plant because of the huge cost involved and in view of the steep increase in the price of crude oil. The Committee recommend that plant authorities may examine the matter in depth in consultation with the Ministry of irrigation and Power/(U.P. State Electricity Board so that the production in the plant is not affected due to shortage of power supply.

2.246. Boiler House

(a) *Steam condensate*—According to the design, 30 per cent of the condensate should be returned to the boilers. However, the condensate return was found to be not more than 5-6 per cent because of technilogical requirements. Further, the condensate return was of higher hardness mixed up with water. It was, therefore, unsuitable for use as a feed to the boilers. The matter was, therefore, brought to the notice of the Soviet delegation during the course of the discussions in October, 1969. The detailed study was carried out by the Chief Soviet Expert but no success was achieved.

2.247. Non-availability of return condensate as per design specification resulted in the increased use of steam for internal consumption to the extent of about 20 per cent of internal load. On this basis, excessive consumption of steam was valued at Rs. 8.12 lakhs as per details given below:—

Year	Internal consumption of steam (M.tons)	Excess consumption (20%) due to under utilisation of condensate (M.tons)	Cost excluding depreciation and interest (Rs. in lakhs)
1968—69	24,186	4,837·2	1·36
1969—70	34,906	6,981·2	1·76
1970—71	41,845	8,369·0	2·18
1971—72	50,731	10,146·2	2·82
1972—73	45,713	9,143	2·64
1973—74 . . . (April to September, 1973)	21,299	4,260	1·15

(b) *Venting of Steam*—As per manufacturers' recommendation the boilder load should be 70 per cent minimum. Owing to the requirement of the steam being less than the quantity produced, the

excess production had to be vented as per particulars furnished below:—

Year	Steam produced (M. tons)	Steam vented (M. tons)	Cost excluding depreciation and interest (Rs. in lakhs)
1969—70 . . .	1,99,248	978	0.25
1970—71	2,62,429	9,197	2·39
1971—72	3,17,560	4,273	1·19
1972—73	2,87,786	—	—
1973-74 . . . (April to September, 1973)	13,995	—	—

[There had been no ventage of steam during 1972-73 and 1973-74 (Septs. 1973)].

NOTE: The steam vented during 1968-69 and 1969-70 (upto Sept. 1970) was apportioned in other blocks.

2.248. The Management stated (September, 1972) that "with planned increased production, steam consumption is likely to increase beyond 70 per cent of boiler load and Venting will come down automatically".

In this connection, the Management in a written note stated as under:—

"After the commissioning, the plant experienced difficulties in cooking of steam traps and contamination of condensate. This necessitated isolation of steam traps thereby letting out the used steam into the atmosphere resulting into a drastic reduction in the return condensate to boiler house.

(b) TThe then Chief Soviet Expert carried out a detailed study of the system, but did not submit any specific recommendations for improvement in the existing lau-out.

(c) The Chief Soviet Expert was himself the representative of the collaborators.

(d) As the return condensate is generally conteminated, it is likely to adversely affect the quality of boiler feed water and consequently the working of the boiler house.

(e) The plant is already utilising more than 70 per cent of the boiler capacity with two boilers working simultaneously."

Incidence of Certain Services per mlrd. of filtered broth gross production etc.

2.249. The following table indicates the consumption of some of the services (e.g. electricity, steam, raw water, 14°C water) per mlrd. of filtered broth|gross production and consumption of electricity per 1000M³ of water pumped during the last 3 years ending 1971-72:—

	1969—70	1970—71	1971—72
1 *Consumption per mlrd. of filtered broth.*			
(i) Electricity (Kwh) . . .	805	372	337
(ii) Steam (M. tons) . . .	0·90	0·69	0·53
(iii) Raw water (M³).	..	103·99	74·2
(iv) 140 C Water (106 K. Cal) . .	0·256	0·20	0·18
2. *Consumption per mlrd. of gross Production*			
(i) Electricity (kwh)	1200	775	744
(ii) Steam (M. Tons)	2·88	3·09	2·62
(iii) Raw water (M³).	..	206·00	164·00
(iv) 140C Water (106 k.Cal)	..	0·46	0·45
(v) Consumption of elctricity per 1000 M³ of water pumped from in-take (kwh)	505	539	164·8

2.250. The Management stated (September, 1972) as follows:—

'Meters for the consumption of electricity, steam, raw water and 14°C water and of other services have not been installed in any of the products. The distribution of the services to the products, is therefore, merely on approximation basis which is calculated on the basis of capacity of the equipment and their utilisation or on production basis.... Since the production has not been stabilised, the norms have not been fixed so far....the vairation in consumption of services are also due to fluctuation in productivity parameters of filtered broth and gross production.

We are initiating action for fixing meters to measure the consumption of the important services."

As regards the fixation of norms and installation of meters the Ministry have stated (October, 1973) as follows:—

"Project Report drawn up by the Collaborator indicates the norms of consumption of various services. The meters

have been installed which given block-wise consumption of services. It has not been found feasible to install the meters product-wise and as such the comparison of the actual consumption of these services as laid down in the DPR (Product-wise) is not possible".

2.251. About the possibility of installing meters product-wise and the evaluation of efficiency of actual consumption in comparison with the norms laid down in the project report in the absence of product-wise meters the Management stated in a written note that the proposal to install individual meters for each product had been examined and was not found feasible in the existing lay out. In the absence of these meters, the allocation of consumption of services is being made on the basis of running hours of each equipment consuming the service. The detailed particulars in regard to the allocation of consumption of services on the basis of running hours of equipment as compared with norms given in the Detailed Project Report in this regard were not available with the company.

2.252. Justifying the non-installation of meters product-wise and allocation of consumption of services on the basis of running hours of each equipment consuming the services, the Ministry stated in a written note as under:—

"Admittedly, the present method of allocation of services is neither accurate nor the most desirable. Allocation of consumption of servvices is being done on the basis of running hours to each equipment consuming the service. Though DPR indicates allocation of services on product-wise basis, it did not contemplate provision of separate meters. In Antibiotics Plant, Rishikesh, the Services for various products, for example in Fermentation Block, are for all products at one place and include, besides the fermentors also the seed Vessels, inoculators as well as the filteration and chilling system. All the fermentors have supplies from a common header and separate meters for each product will really involve separate meters for each set of fermentors and similarly in case of seed vessels, inoculators etc. thus requiring several dozens of meters for each service. Some of the meters, for example, flow meters, are very expensive. The system of allocating the consumption of services on the basis of running hours of each equipment though not accurate may be considered acceptable in the circumstances."

2.253. The Committee note that according to the design, 30 per cent of the steam condensate should return to the boilers. However, the Condensate return was found to be not more than 5 to 6 percent resulting in the increased use of steam for internal consumption to the extent of about 20 per cent of internal load. The Committee find that the excessive consumption of steam cost Rs. 11.91 lakhs during the period of 1968-69 to 1973-74 (upto September, 1973). The Committee understand that the question of low condensate return was studied by the Chief Soviet Expert in October, 1969 but no success was stated to have been achieved.

2.254. The Committee recommend that best expert advice in the field should be taken so as to improve the condensate return thereby avoiding extra cost.

2.255. The Committee find that it has not been found feasible by the Company to install individual meters for each product and in the absence of these meters the allocation of consumption of services is being made, at present, on the basis of running hours of each equipment consuming the service and as such the comparison of the actual consumption of these. services with the norms laid down in the Detailed Project Report has not been possible. The Committee feel that the present procedure is neither scientific nor accurate for the allocation of consumption of services and therfore recommend that this aspect may again be reviewed with a view to ensure control on consumption of Services and effecting economy wherever feasible.

2.256. Sterile and Finishing Block.

Formulation capacity: The Sterile and Finishing Block, which is one of the four main blocks is designed mainly for:

(i) formulation of bulk;

(ii) filling of formulated bulk in vials and capsules; and

(iii) packing of capsules in bottles and strips, etc.

Out of the total rated production of 290 tonnes, a quantity of 165 tonnes was to be in the form of ready made drugs and the remaining 125 tonnes was to be in the bulk form. As this meant that a large portion of antibiotics will have to be sold in bulk to other pharmaceuticals concerns for vialling, capsulation and tablet ting, the Committee on Public Undertakings recommended in para 6.39 of its 46th Report (4th Lok Sabha—April, 1969) that the formulation capacity in the Antibiotics Plant should be increased.

2.257. In October/November, 1970 the Ministry of Petroleum and Chemicals informed the Committee as follows:—

(a) As against the rated capacity of 218 tonnes based on the efficiency levels indicated by the Soviet Team, existing formulations capacity was 115 tonnes (80 tonnes tonnes for vialling, 25 tonnes for capsulation and 10 tonnes for tableting).

(b) Action to expand the formulation capacity would be taken after production is stabilised and proper assessment of the demand of various formulations is made, having regard to the formulations which are already being made and marketted by the various drug products in the country.

2.258. Further progress in this direction is not known. It may, however, be mentioned in this connection that the quantity formulated so far has been less than the capacity of 115 tonnes as shown below:—

Year	Quantity formulated (Metric tons)
1969—70	19·23
1970—71	40·03
1971—72	71·20
1072—73	55·29
1973—74 (April to Sept. 73)	22·02

2.259. In this connection, the Ministry have stated (October, 1973) as follows:—

(a) "The quantities of the bulk formulations shown in the review are, no doubt less than the maximum capacity that could be formulated. This was because of the lower production of the indigenous bulk as compared to the targets fixed for these years. IDPL being the authorised distributing agency of canalised bulk drugs has to cater to the industry's requirements for bulk as allocated to them by the various State Drugs Controllers—whether from indigenous production or out of imports, besides

meeting its own requirement of bulk for formulation. As in these years the total quantity of indigenous production of bulk drugs fell short of targets, the available bulk drugs fell short of targets, the available bulk was not adequate to cater to the bulk requirements of other formulators as well as Company's own formulations."

(b) "The formulations programme suffered a set back due to the non-availability of packing materials like glass vials, stoppers and empty Gelatine Capsules. In addition, non-utilisation of machine capacity because of inadequacy of spare parts has also affected the formulation programme especially during the years 1971-72 and 1972-73. The plant has now been able to stabilise the sources of packing materials and indigenous spare parts."

(c) "Plants are under consideration to import other drugs as well, as to cater to the formulation unit to utilise its capacity to the maximum extent possible. Most of these drugs are likely to be taken up for basic manufacture during Fifth Plan period. The Company have also applied for industrial licence for the manufacture of Ampicillin formulations."

2.260. The anticipations of bulk made by the IDPL for formulations during 1969-70 to 1972-73 and the bulk actually available.

Year	Anticipated requirements	Met by Plant's on production	Purchase
1969—70	43,285 mlrds	25470 mlrds	1,305 mlrds
1970—71	80,110 mlrds	37154 mlrds	863 mlrds
1971—72	1,06,045 mlrds	55362 mlrds	13,333 mlrds
1972—73	69,291 mlrds	9610 mlrds	15,740 mlrds

As regards the assessment of the demand of various formulations vis-a-vis the capacity available in the Public and Private Sector for this purpose and the share of Public Sector and Indian Drugs and Pharmaceuticals Ltd., in the total formulation capacity, the Management informed the Committee the present total market of pharmaceuticals based on the information compiled by DGTD, is Rs. 300 crores. There are about 100 pharmaceuticals companies in

the Organised Sector and nearly 2200 Companies in the Small Scale Sector producing a large number of diversified formulations. Even the Government, through DGS&D, purchases on an average 1200 different type of formulations. IDPL manufactures approximately 12 major formulation products out of this entire range. The total sale of IDPL from indigenous production will be around Rs. 22 crores during 1973-74 which will account approximately 7.3 per cent of the total pharmaceutical market.

2.261. In regard to the inadequacy of the available bulk (indigenous as well as imported) to cater to the requirements of all the formulators (including IDPL) equitable disposal of this shortfall amongst all the formulation capacity it was stated by Management that the formulation capacity of IDPL had been utilised to the extent possible based on the orders available through Government. Institutions and trade. One of the major reasons for possible non-utilisation has been the non-compliance of directive issued by the Government to accord 10 per cent price preference to IDPL and because of the insistance of DGS&D to issue parallel rate contracts to parties quoting lower rates than IDPL though falling within 10 per cent of the price range and State Government not giving effect to this directive.

2.262. In most of the cases, there had been no shortage of available bulk indigenous as well as imported barring few exceptions where change in technology has temporarily resulted in short-fall in availability like pencilline, Sodium procaine pencillin and Streptomycin. Now that the change in technology has been completed and the production is being stabilised, this situation shall not repeat itself. Efforts have been made to draw up import plan in such a way that the required quantity of bulk is made available to meet the total requirements of the country. The requirements of all the formulators have inveriably been met in full. On the contrary, there are situations where formulators have failed to lift the allocated quantities of the bulk as per the recommendations of the State Drug Controllers and IDPL had to carry excess inventories of raw-materials, as far instance Tetracycline during the year 1970-71 and 1971-72 (a shelf-life product) which IDPL sold at a inter stage without any loss to the company. Whenever there has been a short-fall in total availability either due to late arrival of the shipments or to short-fall in production, *a pro-rata* distribution had been made to the entire industry and the entire short-fall has been equitably disbursed to all the formulators in the country. The installed formulation capacity and the actually utilised capacities are usually at variance. In certain

items, IDPL contention is true that in case the entire bulk materials was utilised in making formulations without giving it to the private Sector formulators, it would have been in a position to market them without any difficulty. Such products were Sulphaguainidine, Sulphadimidine and Analgin. However, it could not be done keeping in view of the over-all policy of the Government.

2.263. About the non-availability of packing materials and inadequancy of spare parts and the extent to which these responsible for the under utilisation of the capacity and whether the existing supplies of packing materials and spares are adequate to cater to the Plants requirements, the Committee were informed that "it is a fact that the formulation capacity could not be fully utilised, partly due to non-availability of packing materials within remained in short supply and affected the production of the sterile and finishing block including glass vialing, eluminum caps, emplty relative capsules, ruber stoppers, etc. The plant took measures to have a glass vials factory as an ancilliary industry at Rishikesh. Unfortunately the Plant could not be commissioned due to power shortage. The Plant is commissioning this month after the Power supply is available. We hope the position regarding vials may get eased after March, 1974. The firm has also another unit at Pimpri. They could not meet our full requirements due to their commitments to Maharashtra industry and their shifting of some of the machinery to Rishikesh which remained idle uptill now.

2.264. In respect of the import plans under consideration and when these are likely to be implemented, so that formulation capacity is utilised to the maximum extent possible, it has been stated that IDPL has supplied for Industrial Licence for a large number of items out of which the following have already been cleared/under clearance:—

	Date of application	Date of issue of letter of intent
1 B. Complex Super Forte tablets	29-9-73	—
2 Griseofulvin tablets . .	—	24-7-70
3 Oxytetracycline Intramascular Inj .	—	—
4 Ampicillin Capsules	17-4-73	—
5 Chewable Vite. 'C' tabs	29-9-73	—

		1	2
6	Diasepam tablets . . .	—	15-9-73
7	Trime thoprinv + Sulphame thoxi-atole tablets	—	—
8	Metronidiazole tables .	—	15-9-73
9	Chloramphonicol capsules .	12-9-72	—
10	Chlorempheniocol with streptomycin capsules Chloroquin tablets .	12-9-72	—
11	Chloroquin tablets . .	—	15-9-73

2.265. Out of these, the following are already under manufacture and have been marketed thereby utilising the formation capacity available at the Plant:—

1. Oxytetracycline Injections 10 ml-Human and veterinary.
2. Oxytetracycline Injections 30 ml-veterinary.
3. Chloramphenical capsules.
4. Chloramphenicals with Streptomycin Capsules.

The other items are in the final stages of development and are likely to be marketed in the 3—6 months of time.

In addition, a full range of veterinary products is under development and is likely to be marketed very shortly.

Besides, IDPL have already applied for an Industrial Licence for the following items:—

		Date of application	Date of issue of letter of intent
1	Furazomide tablets .	2.99.73	—
2	Methyldopa . . .	29·9·73	—
3	Doxychcline Hyclate caps	12 11 73	—
4	Indomethacin . . .	29 9 73	—
5	Prenylamine Lactate . . .	—	—

2.266. We are also examining the possibility of introducing further newer formulations under the brand names out of the range of the items which are already canalised and which are likely to be canalised in the near future. With the introduction of all these formulations, we shall not only be able to utilise the formulation capacity available with the Plant but shall also be able to improve the trade sales of the company thereby improving the overall profitability of the company."

In this connection the Ministry stated as under :—

> It is, however, not possible to make an assessment of the demand of various formulations vis-a-vis capacity available in the country since the number of formulations with slightly varying formulas run into thousands and their demand fluctuate from time to time depending upon the market conditions prevalent, incidence of diseases and seasonal variations. However, the Ministry is aware that the present demand for the various formulation by the end of 1973-74 would be of the order of Rs. 300 crores which is likely to go up to Rs. 500 crores by the end of 1978-79. Of the above, the public sector constituted by IDPL and HAL account for a total production of Rs. 31.5 crores (Rs. 22 crores for IDPL and Rs. 9.5 crores of HAL). However, the formation shore of the public sector is about 5.6 per cent (IDPL accounting for a production of Rs. 11.5 crores and HAL approximately Rs. 5 crores making a total of Rs. 16.5 crores).

The formulation capacity of IDPL had been utilised to the extent possible based on orders available through Government institutions and trade. In most of the cases there had been no shortage of available bulk drug as well as imported barring a few exceptions where change in technology has temporarily resulted in shortfall in availability like Penicillin, Sodium Procaine Penicillin and Streptomycin. With the completion of change in technology production is being stabilised by IDPL, at present imports of 36 bulk drugs are canalised through S.T.C. The requirements of these drugs are being met by the STC or in other cases by IDPL where they are themselves the distributing agency for bulk drugs. The Import Plans for all such bulk drugs are finalised well before the commencement of the financial year, taking into account the overall requirements of the public sector as well as the private sector. The representatives of Ministry of Health, DGTD, STC and IDPL are associated while drawing up the import Plans and the Plans are later discussed in

the Import Advisory Committee meeting of the STC and reviewed every quarter in the Ministry. As a result of these measures situations arise where formulators some time fail to lift the allocated quantities of bulk drugs as per the recommendations of the State Drug Controllers. Whenever there has been a shortfall in the total availability either due to late arrival of shipment or due to shortfalls in production, a prorats a distribution had been made to the entire industry and the entire short-fall has been equitably distributed to all the formulators n the country. The installed formulation capacity and actually utilised capacities are usually at variance.

The idle formulation capacity ABP is likely due to the marketed constraint. It is only in case of Sodium Penicillin, Procaine Penicillin and Streptomycin that it could have utilised the formulation capacity to a larger extent had more bulk drug been available to it. It may be mentioned that Sodoium Penicillin and Procaine Penicillin are not being omported.

Allocations of bulk drugs imported through STC and|or distributed by IDPL were being made to various drug manufacturing firms on the replenishment basis i.e. the best of past two years' consumption till the end of 1972-73 the units in the organised sector were being allowed incremential allocation of 15 per cent while the small scale units were being allowed incremental allocation of 30 per cent except in West Bengal where those were allowed incremental allocation of 50 per cent. Since other companies which were marketing the various drugs could not be starved of their requirements, those were made available by IDPL. It was for this reason that in case of the above-mentioned three drugs they were left with less bulk drugs than they could have marketed. It may be mentioned that quantities of imports for various drugs were decided on the basis of country's estimated requirements in a particular year and the indigenous production expected in that year and therefore, various companies are not allocated all that they demand. The recommendations of the State Drug Controller concerned are also kept in view in making the allocation. From 1973-74 a slight change has been made in as much as the units in the organised sector are not being given any incremental allocation, while the small scale units having a turnover exceeding Rs. 1 crore are being given incremental allocation of only 15 per cent, the units in the organised sector can however, ask for larger allocation in case the licensed capacity so justifies.

IDPL has also to play its role in developing the drug industry as a whole in this country and particularly in the small scale sector.

This is a social objective for which the price has to be paid by way of lesser formulations by IDPL. Government however, have come to the view that IDPL must also market formulations in adequate quantities because it is the formulations which are used by the consumers. The idea is that IDPL should increase the quantity of its formulations so as to utilise 50 per cent or more of the bulk drug produced by it. It may be mentioned that in case of licences being issued since the last few years to all drug companies in the organised sector, a condition of making available a proportion of the bulk drug produced to non-associated formulators is being imposed.

Not only is IDPL now being permitted to import the concerned bulk drug for its formulations pending commencement of basic manufacture of the concerned bulk drug by it, but it is also being permitted to take up formulations not based on bulk drugs produced by it e.g. Chloryamphenicol. These measures are expected to gradually lead to full utilisation of the formulation capacity by IDPL.

As stated above, the General position is that the capacity in public sector is not being kept idle to enable the private sector formulators to utilise their formulation capacity. As a matter of fact representatives of IDPL participated in the meetings where Import requirements of the country assessed. However, IDPL are the monopoly producers of several bulk drugs, like Sulphaguinadine, Sulphadimidine, Analgin and Phenobarbitone and as producers of these items they owe a responsibility to other licencees whose capacity requirements have to be met by the Government either by way of import of through local production."

2.268. It may be seen from the above that IDPL has been depending upon the order received from the Government institutions especially because the product-mix at present being manufactured by IDPL is mainly meant for use in hospitals and dispensaries.

It has been stated that the formulation capacity of IDPL could not be fully utilised, party due to non-availability of packing material which remained in short supply and effected the production of the sterile and finished block capsules, rubber stoppers, etc. The plant took measures to have a glass vials factory as an ancillary industry at Rishikesh. Unfortunately it could not be commissioned due to power shortage. We hope the position regarding vials may get eased after March, 1974. The firm has also another unit at Pimpri. They could not meet full requirements of IDPL due to their

commitments to Maharashtra industry and their shifting of some of the machinery to Rishikesh which remained idle uptil now. The plant could utilise only a limited capacity of vialling section due to non-availability of packing materials etc. The plant has aso already developed some indigenous sources of supply for spare parts. The performance of spare parts received from the indigenous sources is satisfactory and there is no capacity loss on this account. In regard to vial, the ancillary industry located near the Plant is expected to be commissioned shortly. The details about Import Plans have already been indicated above.

2.269. The Committee find that out of total rated production of 290 tonnes of Antibiotics Plant, Rishikesh, a quantity of 165 tonnes was to be in the form of readymade drugs and the remaining 125 tonnes in the bulk form. In October-November, 1970 the Committee were informed by the Ministry that as against the rated capacity of 218 tonnes based on the efficiency levels indicated by the Soviet Team in 1969, existing formulation capacity was only 115 tonnes. (80 tonnes for vialling, 25 tonnes for capsulation and 10 tonnes for tabletting). The Committee find that the quantity formulated by IDPL has been less than even the reduced capacity of 115 tonnes, the quantity actually formulated being only 19.23 metric tonnes in 1969-70, 40.03 metric tonnes in 1970-71, 71.20 metric tonnes in 1971-72, 55.29 metric tonnes in 1972-73, 22.02 metric tonnes in 1973-74 (upto September, 1973). The main reasons for the set back to the formulation programme of IDPL have been the non-availability of packing material like glass vials, stoppers and empty gelatine capsules, non-utilisation of machine capacity because of inadequacy of spare parts. In order to raise the utilisation of formulation capacity the plant is stated to have taken measures to have a glass vias factory as an ancillary industry at Rishikesh. The Plant has also developed some indigenous sources of supply of packing materials and spare parts.

2.270. The Committee fail to understand why preventive measures were not taken well in advance to develop the manufacture of glass vials and gelatine capsules to match the manufacturing capacity of the Plant. The Committee would like to be informed within six months the concrete action taken by the Government/IDPL to make good this deficiency.

2.271. The Committee find that the demand for various formulations which was of the order of Rs. 300 crores by the end of 1973-74 is likely to go up to Rs. 500 crores by the end of Fifth Plan i.e. 1978-79. The present formulation share of public sector is stated to be about 5.6 per cent (IDPL accounting for a production of Rs. 11.5

crores and Hindustan Antibiotics ltd. approximately Rs. 5 crores). By the end of 1978-79 the formulation capacity of the public sector is likely to be raised to Rs. 31.5 crores (Rs. 22 crores for IDPL and Rs. 9.5 crores for Hindustan Antibiotics Ltd.). As a result the share of Public Sector would increase to 6.4 per cent by 1978-79. Government have denied that the capacity in public sector was being deliberately kept low to enable the private sector formulators to utilise their formulated capacity. They have however admitted that idle formulation capacity in Antibiotics Plant is largely due to the market constraint except in the case of Penicillin and Strephomycine where capacity to a large extent could have been utilised had more bulk drug been avaliable. It has been stated by Government that "IDPL has also to play its role in developing the drug industry as a whole in the country and particularly in the small scale sectors." This, it has been stated, "is a social objective, for which the price has to be paid by way of lesser formulations by IDPL." The Committee have been assured by Government that since formulations is a profitable activity the idea is that the IDPL should increase the quantity of its formulation so as to utilise 50 per cent or more of the bulk drugs produced by it. As a matter of fact, since the last few years, Government are stated to be insisting on all drug companies in the organised sector to make available portion of the bulk drug produced to non-associated formulators. It has also been stated that IDPL is now being permitted not only to import the concerned bulk drug for its formulations but is also being allowed to take up formulations not based on bulk drugs produced by it, for example, chloramphenicol. The Government have claimed that these measures would gradually lead to full utilisation of formulation capacity by IDPL.

2.272. The Committee would like Government/Undertaking to remove the various constraints and draw up a time bound programme to put to full use its formulation capacity in the interest of meeting the demand of public for drugs in common use and to improving its financial position. The Committee would like to be informed of the action taken by Government in pursuance of this recommendation.

PERFORMANCE OF INDIVIDUAL SECTIONS

2.273. *Vials*: The vialling section is meant for washing and sterilisation of glass vials, rubber stoppers etc. the filling of vials with antibiotics and cap sealing and labelling of the filled vials.

2.274. The section has a rated capacity of 150 million vials @ 5 lakh vials a day for 300 days per annum. However, on account of variations in the (a) bulk density and size of the particles, (b) tole-

rances of filling materials and (c) substitution of imported spare parts by indigenous spare parts, etc. the annual capacity of certified vials has been assumed in the latest profitability report as 108 million vials. The actual performance has, however, been far below this capacity as well as the targets as per details given below:—

(in lakh vials)

Year	Targets as per revised estimates (No.)	Actuals	Percentage of actuals to targets
1968—69	62·50	1·01	1·62
1969—70	307·77	106·47	34·59
1970—71	424·84	348·37	82·00
1971—72	664·86	520·93	78·35
1972—73	593·00	396·22	66·82
1973-74 (upto April 73 to Sep.73)	187·46	130·74	69·74

2.274. It has been explained that reasons for fixing the targets lower than the capacity were the limitations arising out of uncertainty in the supply of vials, rubber bungs, etc. the limited availability of bulk drugs and the need to increase the production gradually.

An analysis of item-wise vialing indicated the following features:—

(i) Revised targets had not been achieved in respect of any of the items in 1968-69 and 1969-70. During 1970-71 and 1971-72 also, the revised targets could not be attained except in the case of Sodium Penicillin (2 lakh units) in 1970-71 and (5 lakh units) in 1971-72 and Fortified Procaine Penicillin (4 lakh units) in 1970-71 and 1971-72.

(ii) Vialling of Fortified Procaine Penicillin (20 lakh units) could not be taken up on account of delay in the import and installation of a microniser.

In this connection, the Management have stated (September, 1973) as follows:—

"... Microniser has been installed and commissioned in the month of September, 1972. The production of Fortified

Penicillin (20 lakh units) vials could not be taken up as it was found that the capability of filling machines to the required dose is not suitable unless one imported part i.e. auger of higher capacity is available. Import action to produce this part is in hand."

2.275. The short-fall in production has been attributed by the Management to the following factors:—

1968-69 Non-availability of bulk drugs and short supply of filling materials.

1969-70 Limited availability of bulk drugs

and

1970-71

1971-72 Interruptions in production due to power failure, non-availability of spares or poor quality of indigenously fabricated spares and non-availability/poor quality of packing materials.

2.276. The Ministry have stated (October, 1973) the steps are being taken by the Company to step up production to a rate of 7.50 million vials per month in the first instance and then to step up to the achievable capacity of 9 million vials per monthly by next year.

2.277. In this connection the Management stated as under:—

"The production capacity of vialling section was determined on the basis of norms indicated in the literature given by the suppliers, after making due allowances for inefficive time. This exercise was made in 1968 and the capacity was fixed at 120 million vials per annum.

The decision to instal a micronizer was taken in January, 1971. The application for import of micronizer was sent to DGTD in February, 1971. After completing the formalities of licence, the order was placed in July, 1971 and the equipment was shipped on 3rd March, 1972. The equipment was cleared at the Bombay Port in May, 1972 and received at the Plant on 7th August, 1972. The delay in receipt is, therefore, only procedural. The micronizer has already been installed and commissioned.

The plant could utilise only about 50 per cent of the available capacity of vialling section due to non-availability of packing materials, bulk drugs etc.

As has been indicated earlier, the plant has already developed indigenous sources of supply for spare parts. The performance of spare parts received from the indigenous sources is satisfactory and there is no capacity loss on this account. In regard to vials, an ancillary industry has been located near the Plant which is going to be commissioned shortly.

The plant is fully equiped to give an output of 9 million vials per month, provided there is no interruption in the availability of packing materials and vials."

2.278. *Capsulation*:—The rated capacity of Capsulation section which was commissioned in August, 1968, is 120 million capsules (@ 4 lakh capsules a day for 300 days in a year) per annum. The annual output of certified capsules as envisaged in the latest profitability report (after taking into account the rejection of capsules during filling, band sealing strip packing and sampling etc.) is however 90 million caps.

2.279. The table below indicates the targets of capsulation and the actual there against for the last few years:—

Year	Targets as per revised estimates (No.)	Actuals (No.)	%of actuals to targets
1968—69	62·50	18·69	29·90
1969—70	163·00	150·67	92·44
1970—71	199·17	254·47	127·77
1971—72	905·65	759·10	83·82
1972—73	643·23	405·47	63·04
1973—74 (April to September 73)	398·54	408·80	102·52

Note : Actuals in 1971-72 include 40·29 lakh capsules got manufactured through an outside party.

In this connection, the Management stated (October, 1971) as follows:—

> ".....one of the constraints responsible for low production in the capsules section was the limited availability of hard gelatine capsules. In addition to arranging imports, the Company has also taken the letter of intent for the manufacture of 20,00,00,000 capsules."

2.280. The Ministry have stated (October, 1973) that "the Company dropped the proposal for the manufacture of Gelatine Capsules as suitable technology was not forthcoming for the manufacture of Gelatine Capsules. Additional capacities are also being created as a number of letters of intent/licences have been issued which are in various stages of implementation."

2.281. On being asked, whether any technical exercise undertaken by the Management before reducing the capacity from 120 million capsules to 90 million capsules per annum if it will even by possible for the Plant to achieve the capacity of 120 million capsules and how far the Plant has been able to solve the problem of gelatine capsules, which acts as a constrant on the performance of this Section whether similar difficulties are encountered by the formulators in the Private sector, the Management stated as under:—

> "The theoritical capacity in the encapsulation section is 120 million per annum based on the suppliers' norms. However, the experience of the plant with these high speed machines indicated the ineffective time arising out of the necessity of the frequent cleaning and adjustment of machines was much higher than stipulated in the suppliers' norms. On the basis of the actual experience of the Plant, the capacity was placed to 90 million capsules per annum. However, with the installation of additional semi-automatic filling machines, the capacity has again ben revised to 120 million capsules per annum. The plant has already achieved the rated capacity level in this section on the basis of monthly performance.
>
> Out of the three empty geletine capsules manufacturing concerns in the country only one party namelyM/s PCL are capable of supplying capsules suitable to our automatic capsulation machines. The capsules manufactured by the by the other two plants give very high rejection (20—30 per cent). As a result of discussions with M/s P.C.L., with respect of our specifications, they have been able to improve

their product to meet our quality standards. They have also expanded their capacity with the result that they can now meet our major requirement. The balance requirement is either met from other two manufacturers or through imports. As most of the private sector industries in this field are having semi automatic filling machine, they are not experiencing the same type of difficulties as we are feeling because of rigid specifications required for our automatic high speed machines.

2.282. In this connection Ministry apprised the Committee as follows:—

"No technical exercise was under taken by the Ministry before Company has on their own reduced their encapsulation capacity from 120 million per annum to 90 million capsules per annum.

The Technical Committee headed by Shri Borker has worked out the encapsulating capacity at 120 million capsules/ annum, after making allowances for preventive maintenance and other unavoidable operational delays, with four automatic capsule filling lines. In addition the capacity available for semi-automatic capsuling machines has been estimated at 10 million capsules, totalling to an overall capsulating capacity of 130 million capsules/annum. Depending upon the market demands, it should be possible for the plant to achieve the capacity of 120 million capsules/ annum.

IDPL installed 4 automatic capsule filling lines, with the idea of attaining large turnover. Most of the large houses manufacturing units have automatic filling lines. To feed this plant, it is necessary to provide gelatine capsules produced from automatic filling lines. To feed this plant, it is necessary to provide gelatins capsules produced from automatic capsule manufacturing lines. Out of these automatic lines, it is possible to obtain capsules having uniform shape and size, uniform thickness of the wall with no bulging at the end without any pin-holes in the capsule walls. The automatic encapsulating lines do not accept defective capsules. As a result, empty capsules produced by non-automatic plants get rejected to a large extent than those produced by automatic plants.

As has been mentioned above, galatine capsules do not pose a problem at present to the company. It is meeting its requirements by way of imports as well as procurement from local manufacturers. Out of the empty gelatine capsules Companies in the country only one party viz. M/s Pharmaceuticals Capsules Laboratories are capable of supplying capsules suitable to IDPL's automatic capsulation machines. The capsules manufactured by other give very high rejections (20—30 per cent) and are only used on semi-automatic machines. As a result of discussion with M/s. Pharmaceutical Capsules Laboratories' regarding IDPL's specifications, the former has been able to meet IDPL's quality standards and they have also expended their capacity with the result that they can now by and large meet IDPL's requirements. The balance requirement is met either from other manufacturers or through imports.

The estimated requirements for hard galatine capsules during 1973-74 is 1200 million in numbers. As against the above a capacity of 1400 million in numbers has already been licenced and installed. In addition, a capacity of another 400 million is covered either by an Industrial Licence or a letter of Intent and further capacity is under consideration of the Government. It is expected that the capacity licenced and under consideration will materialise during the Vth Plan period."

283. *Tabletting Section*:—It has been stated by the Management that this section was essentially intended for the production of Nystatin tablets. As the production of Nystatin was started only in January, 1971 and has been under trial production, the tableting section has not been used so far. Further, Nystatin tablets are not to be produced in the near future in view of the very small market potential. However, proposals are under consideration for development of tabletting of certain other drugs, such as Tetracycline Hcl. (250 mg.) and Oxytetracycline Base (250 mg.)

2.284. Owing to non-commissioning of this section the plant and equipment worth Rs. 5.28 lakhs erected in December, 1967 continues to remain idle.

2.285. In this connection, the Ministry have stated (October, 1973) as follows:—

".....with the securing of a contract with the Government of Maharashtra for tablets of Tetracycline Hcl. (250 mg.)

the section was utilised in 1972-73 for tableting the requirements of this order viz. 9—10 lakhs of tablets. Development of tetracycline tablets of higher dosage (500 mg.) is also under way in the formulations process laboratory which will enable utilisation of part of the capacity of the tableting section. It is also proposed to produce Griseofulvin tablets from imported Griseofulvin bulk in the first stage. The Management have also decided to transfer one of the two machines of the Synthetic Drugs Plant to augment tabletting capacity of that unit.

The value of equipment for Tabletting section started during 1972-73 was Rs. 5.05 lakhs. During the year 1973-74 equipment valuing Rs. 0.25 lakhs have been transferred to SDP Hyderabad and the balance equipments in this section remained to the tune of Rs. 4.80 lakhs on 30th September, 1973.

Rejections

2.286. In addition to the rejections at the bulk production stage referred to earlier certain rejections arise after formulating and filling into vials. The details of such rejections have been given in the Appendix V. It will be seen therefrom that the total increase in the cost due to rejection during 1969-70 to 1971-72 (after taking into account the salvaged value of rejections viz. Rs. 4.52 lakhs in 1969-70 Rs. 5.59 lakhs in 1970-71 and Rs. 12.69 lakhs in 1971-72 amounted to Rs. 87.27 lakhs, Rs. 69.43 lakhs and Rs. 60.85 lakhs respectively.

The management have attributed (September, 1972) the following main causes for the rejections:—

(i) High bacterial count in sterile area.

(ii) Improper sterilisation temperature in the tunnel.

(iii) Non-availability of suitable spare parts for the automatic filling machines.

(iv) Shredding of rubber particles by rubber stoppers.

On being asked as to what effective steps have been taken to eliminate the various causes of rejections. The Management informed that the major causes of rejections of filled vials were lack of clarity, weight variation and non-sterility. Strict checks at the intermediate stages of processing and on the adjustment of the machine have been introduced to ensure elimination of rejection

on account of the first two reasons. As regards non-sterility, air-conditioning system has been modified to ensure maintenance of proper sterility parameters. The conditions of the sterile area are also monitered daily to ensure effective of control over the sterility of the premises. These steps, it was claimed, had significantly reduced the rejections of filled vials.

Consumption of Bulk in filling of capsules

2.288. The capsules are required to be filled with a minimum quantity of bulk as printed on the lable. A certain percentage is, however, added to the prescribed weight (after taking into account the stability, density and shelf life of the bulk), if necessary to enable the product to retain the potency indicated on the label till the date of its expiry.

2.289. The parameters for filling of the capsules as fixed by the Company on 1st April, 1969 and 18th January, 1971 were as follows:—

Tetracycline	
Overage and moisture	5 per cent
Oxytetracycline	
Overage and moisture	7.8 per cent

2.290. Appendix VI incorporates the number of capsules filled and the quantity of bulk utilised in filling in the last few years ended 30th September, 1973. The excess consumption of bulk over the norms ranged between 4 per cent and 15 per cent in case of Tetracycline and between 14 per cent and 19 per cent in the case of Oxytetracycline. In the case of tetracycline excess consumption of bulk over the norms was 7.11 per cent in 1972-73 and 2.21 per cent in 1973-74 (September, 1973) there was no excess consumption.

2.291. In the case of Oxytetracycline, excess consumption of bulk was 12.28 per cent in 1972-73 and 11.15 in 1973-74 (September, 1973). The value of excess bulk consumed, after taking into account the credit for salvage collected, amounted to Rs. 8·56 lakhs. It may be mentioned that, in the case of filling of capsules got down by the Company from a private firm in November, 1971, the excess consumption was only 0.769 per cent over the theoretical norms.

2.292. It has been stated that the relatively higher consumption of bulk on filling machines was accounted for by the breakage of capsules in processing as the filling machines can not take wide

variability in the size of empty capsules which is generally the case with the indigenous supplies. In the case of the private firms machines rejections on account of variation in size of capsules are almost absent."

2.293. The Management stated (September, 1972) that "..... with the stability of production and improvement in the bulk density of the products action is on hand to eliminate reduce the over dozing incapsules during 1972-73 and onwards....."

2.294. In a written note the Management informed the Committee that they have been examining the excess consumption over the norms from time to time and has taken steps to reduce the same. There has been considerable improvement in this regard over the last 2 years.

Handling losses of packing materials

The profitability report drawn up in March, 1970 provided the following norms for handling losses:—

Class vials	15 per cent
Capsules	5 per cent

2.295. While the handling losses in the case of vials were within the norms, in the case of capsules these were quite high in 1970-71 and 1971-72, as per details given below:—

Year	Capsules filled (Nos.)	Capsules used (Nos.)	Excess used (NOs.)	Excess over 5%. (Nos.)
1968—69	19,02,940	23,67,500	4,64,560	3,69,413
1969—70	181,05,812	190,75,000	9,69,188	63,867
1970—71	248,94,570	276,88,000	27,93,430	15,48,701
1971—72	775,67,960	864,41,000	88,73,040	49,94,642
1972—73	366,95,140	29,43,00,00	27,34,860	9,00,103
1973—74	411,69,200	45,26,50,00	40,95,800	20,37,340

2.296. About the criterian adopted by the Plant for the fixing of norms for handling losses of packing materials and how the percentages of rejections in capsulation and handling losses of packing

materials compared with those obtaining in the Hindustan Antibiotics Ltd., Pimpri, the Management informed the Committee that the criterian adopted by the Plant for fixing of norms for loss of packing material was on the basis of their experience of rejections| breakages of indigenous materials on high speed automatic machines.

2.297. M|s. Hindustan Antibiotics Ltd., Pimpri does not manufacture broad spectrum antibiotics which require encapsulation. The question of comparing IDPL's norms with the Hindustan Antibiotics Ltd., Pimpri, therefore does not arise.

2.298. The Committee find that the Profitability Report drawn up in March, 1970 had provided for handling losses of packing materials to the extent of 15 per cent in glass vials and 5 per cent for capsules.

While in the case of vials the handling losses were within the norms, in the case of capsules, however, these were quite high in 1970-71, and 1971-72. The excess over norm of 5 per cent being 15,48,701 numbers in 1970-71 and 49,94,642 numbers in 1971-72. The Committee recommend that the abnormal high handling losses incurred in the case of capsules may be investigated and concrete measures taken to bring such losses within the norm fixed by the Management themselves.

2.299. The Committee note that the rejections in the case of Sodium Penicillin, Procane Penicillin and streptomycin were much higher than the norms and ranged between 10 per cent to 57 per cent of the total production and the total increase in cost due to rejections pertaining to these three drugs amounted to Rs. 5.18 crores from 1968-69 to 1971-72. The Committee have also gone through the reasons put forward by the Management for such high rejections and feel that these reasons are not such as cannot be remedied. The Committee urge that remedial measures must be taken without delay to reduce if not eliminate the rejections and thus avoid waste.

The Committee would like to draw pointed attention to the reported poor quality of raw materials. The Committee stress that steps should be taken to see that raw materials of requisite quality become available.

2.300. The Committee deprecate that apart from rejections of antibiotics in the course of production detected by the Quality Control, bulk antibiotics and formulations worth Rs. 8.82 lakhs and Rs. 1.06 lakhs respectively passed by the Quality Control were returned by the customers. The Committee would like this matter to be investigated thoroughly and all the requisite measures taken to strengthen quality control so that such flaws do not re-occur.

2.301. The Committee note that rejections not only arise in bulk production stage but also occur in the course of formulating and filling into vials. The Committee find that total increase in the cost of rejections during 1969-70 to 1971-72 after taking into account salvaged value of rejections viz. Rs. 4.52 lakhs in 1969-70, Rs. 5.59 lakhs in 1970-71 and Rs. 12.59 lakhs in 1971-72 amounted to Rs. 87.27 lakhs Rs. 69.43 lakhs and Rs. 60.85 lakhs respectively. The Management have attributed these rejections to high bacterial count in sterile area, improper sterilisation temperature in the tunnel, non-availability of suitable spare parts for the automatic filling machines, shredding of rubber particles by rubber stoppers. It has been claimed that the steps taken by the Management like modification of air-conditioned system and strict check at the intermediate stages of the processing Streptomycin has significantly, reduced the rejections of filled vials.

The Committee would like the progress to be maintained in this regard and the position intimated to the Committee in due course, based on the results of operation for the full year i.e. 1973-74.

2.302. The Committee note that the Management had fixed parametres for filling up the capsules in April, 1969 and January, 1971, at 5 per cent for "over age and moisture" in the case of tetracycline and 7.8 per cent in the case of Oxtyetracycline. The Committee find that the excess consumption of bulk over the norms ranged from 4 per cent to 15 per cent in the case of Tetracycline and between 14 per cent and 19 per cent in 1972-73, in the case of Oxytetracycline. In 1972-73 the excess consumption over the norms however came down to 2.01 per cent in the case of Tetracycline and 3.96 per cent in the case of Oxytetracycline. Although the excess consumption has come down in 1972-73 as compared to the previous years it is still more than the norms and that of the private firm to whom the contract was given by the Company for capsulation. The Committee therefore, recommend that vigilance should continue to be exercised to see that consumption of bulk in filling of capsules does not go beyond the norm. The Committee further recommend that the norm itself should be reviewed in the light of experience gained so as to bring the level of rejection even lower.

D. Profitability

HISTORICAL BACKGROUND

2.303. The economics/profitability of the Antibiotics Project was not indicated in the Detailed Project Report. It was, however, indi-

cated in the Report submitted by the Soviet Expert to Government in October, 1958 that the gain on Chlorotetracycline, Penicillin and Streptomycin would be Rs. 154.3 million (per annum) on the total production of Rs. 218.6 millions (per annum) of these three products. It was also indicated in the Report that based on the then existing prices of imported drugs and allowing a profit of 10 per cent thereon, the Antibiotics Project would have a pay-back period of 4 years.

2.304. In 1961, the Company during discussions with the Soviet Party obtained the estimates of the cost of production. These estimates did not conform to the level of prices for varius components of cost of production and practices followed in the country. With a view to enabling the Government to take a decision regarding the setting up of the Plant, the Company on (9th November, 1961) prepared an estimate in the light of the availability of raw materials, manpower, fuel and other Indian practices with regard to depreciation, administrative charges and overheads, etc. While framing the estimates, the same quantities, of raw materials, labour, units of power and other basic services were adopted as were indicated by the Soviet Experts in the Project Report. These estimates showed that the Antibiotics Project would be a profitable proposition from an economic point of view, apart from other practice and policy considerations.

Revision of the Estimates of Profitability

2.303. The estimates of cost and profitability prepared in November, 1961 were revised by the Company on a number of occasions after taking into account the capital investment, cost of materials, labour overheads, selling prices, etc. The estimates drawn up to January, 1968 were based on the data indicated in the Project based on the data indicated in the Project Report/Regements on the basis of full rated production of 290 tonnes or 3,70,250 mlrds. (125 tonnes in the form of bulk and 165 tonnes in the form of formulations). The estimates were further revised in March, 1970 and October, 1970 mainly to take into account the reduced capacity of 2,89,300 mlrds. assessed in October, 1969 by the Soviet Team.

2.304. The table below summarises the profitability of the Project as estimated by the Russians and the Company:—

(Rs. in crores)

Particulars	As estimated by the Russians	Nov.	Oct.	As estimated by the Company				
				1965	April, 1967	Jan., 1968	March, 1970	Oct. 1970
Total cost	5·90	8·48	8·61	14·50	15·30	15·79	16·04	66·28
Total sales	Not indicated	28·19	25·00	28·00	30·43	32·38	24·42	18·38
Profit	Not indicated	19·71	16·39	13·50	15·13	16·59	8·38	2·10

2.305. The profitability study made in October, 1970 envisaged the sale of drugs and formulations in the proportion of 36.64 respectively. According to the details worked out by the Management the profit projections *inter alia* indicated:—

(i) a loss of Rs. 16.95 lakhs on the sale of Procaine Penicillin and Streptomycin Sulphate in bulk and a loss of Rs. 59.82 lakhs in vialling operations; and

(ii) a profit of Rs. 54.80 lakhs on Nysatin tablets.

2.306. As mentioned in para 6.3.1, the production of Nystatin tablets is not to be undertaken in the near future in view of market constraint, the profit projection of Rs. 2.10 crores will, therefore, stand reduced to Rs. 1.55 crores.

2.307. The main reason for the reduction in the projected profits from Rs. 16.59 crores in January, 1968 to Rs. 8.38 crores in March, 1970 was the reduction in the Plant capacities on the basis of Protocol of discussions. The reduction in the anticipated profits from Rs. 8.38 crores in March, 1970 to Rs. 2.10 crores in October, 1970 was mainly the result of drastic reduction in the selling prices due to the introduction of the Drugs (Prices Control) Order, 1970 and also the slight change in product-mix.

Future Projections

2.309. The table below indicates the assessment of the profitability of the plant during the period from 1967-68 to 1970—80 as submitted by the Company to Government from time to time together with the details of the actual loss incurred by the Plant for the years 1967-68 to 1971-72:

(Rs. in lakhs)

	Date of submission to Government				
	3rd Oct.,1969	12th Nov., 1969	14th Feb., 1970	20th Oct.,/ a/4th Nov., 1970	Actual loss*
1	2	3	4	5	6
1967—68	(—)63·35	Not submitted	(—)63·35	Not submitted	55·71
1968—69	(—)501·91	—Do—	(—)501·91	—Do—	509·54
1969—70	(—)424·58	(—)396·05	(—)407·74	(—)491·10	491·05

*The loss as indicated in the last column is inclusive of prior period adjustment in the years in which these were accounted for.

1	2	3	4	5	6
1970—71	(—)254·01	(—)49·24	(—)55·13	(—)435·03	464·77
1971—72	(—)105·89	(+)344·27	(+)344·27	(+)188·35	250·83
1972—73	(+)333·74	(+)356·24	(+)356·25	(+)210·69	
1974—75	(+)366·12	(+)568·56	(+)568·56	(+)234·60	
1975—76	(+)399·70	(+)617·38	(+)617·38	(+)260·18	
1976—77	(+)435·63	(+)666·18	(+)666·18	(+)287·55	
1977—78	Not submitted	Not submitted	Not submitted		
1978—79	Do.	Do.	Do.	(+)381·71	
1979—80	Do.	Do.	Do.	(+)391·88	

2.311. The above profitability studies were made by the Management on the following assumptions:—

(a) Attainment of full rated production from 1971-72 and for the earlier years on the basis of anticipations of likely production.

(b) Sale of bulk and formulations in certain assumed proportions.

(c) Availability of raw materials and balancing drugs at the prices current at the time of making studies.

(d) Salaries and benefits at the rates ruling at the time of making projections.

(e) Bulk sales and formulation sales on the prices notified by Government in May, 1970 (in the case of study made in October, 1970).

(f) Reglement norms on the basis of the Indian Specialists.

2.312. The Plant had already incurred the cumulative loss of Rs. 17.72 crores upto 31st March, 1972. Assuming that the Company will be in a position to attain the rated capacity by the last quarter of 1973-74 and achieve the anticipations of profitability during 1974-75 to 1979-80 it will merely be wiping off the past losses and no return on investment will accrue to Government.

2.313. The Ministry in a written note further stated as under:—

"Profitability—revision of

The profitability study made in 1970 was based on the revised capacities of various products assessed after the Protocol of discussions, of the various technical problems and factors limiting the capacities as envisaged in the Project Report, with the Delegation of USSR Medical Industry in October, 1969. As stated in the Protocol of discussions itself, the attainment of the "Protocol Capacities" was again dependent on removal of certain limitations of equipments and facilities and on carrying out necessary modifications in existing facilities and methods.

Varous schemes of work (in this connection viz., "New Works", "Priority Works", "Essential Facilities" were drawn up and got sanctioned by Government. These schemes were taken up immediately on sanction and are nearing completion.

Reasons for not attaining rated capacity in 1972-73:

The rated capacities envisaged in the Protocol of Discussions could not be reached so far because the various schemes of work taken up to achieve rated capacities are still to be completed. Some technical problems particularly in respect of Penicillin, Streptomycin, Tetracycline, Oxytetracycline, Griseofulvin, a product which has to be included in the product-mix because of under-utilisation of capacity for Nystatin, due to market constraints for this product were discussed by the Indian Delegation with the Soviet Experts in Moscow in June, 1973 and certain decisions were taken the more important ones being:—

(i) Introduction of fresh strains, to be supplied by Soviet side, for Pencillin with higher activity.

To use new strain for Streptomycin, Tetracycline, Oxytetracycline and Griseofulvin with higher activity so that not only the capacities will be achieved but also increased.

(iii) To adopt improved technology of fermentation and purification of Nystatin to improve shelf life.

Revision of Profitability not opportune now:

2.314. As the above decision will involve change in media composition, norms for raw materials, as well as for utilities and also

in view of pending revision of pay scales revised profitability will be more realistically assessed after these changes instrain, media composition and methodology have been tried in actual production and commercial production is actually commenced."

Break-even level

The Soviet delegation during discussion in August/October, 1969 had indicated that it would be possible to gradually reach the rate of production sufficient to enable the plant to break-even during the first quarter of 1971. On 10th March, 1970 the Company assessed the percentage of capacity at which each of the products would break-even. Thereafter, the Company, after the issue of Drugs (Prices Control) Order, 1970 dated 16th May, 1970, re-assessed the break-even levels. The table below indicates the product-wise break-even levels as assessed by the Company in March, 1970 and October, 1970:—

Name of the product	Protocol capacity	Break-even capacity (March, 1970)	Break even as %age to Protocol capacity	Break-even capacity (October, 1970)	Break-even as % age to Protocol capacity
1	2	3	4	5	6
	(mlrds.)	(mlrds.)		(mlrds.)	
1 Sod. Penicillin	53,000	31,058	58·6	33,932	64·02
2 Procaine Penicillin	52,000	37,336	71·8	44,213	85·03
3 Streptomycin Sulphate	57,500	93,610	162·8	3,95,435	687·71
	(85,000)*		110·1*		465·22*
4 Tetracycline Hel.	12,500	5,188	41·5	8,931	71·45
5 Oxytetracycline Hel.	25,000	7,400	29·06	12,279	49·12
6 Nystatin	46,800	4,212	9·0	6,583	14·07

Notes :—1. In view of the limited demand for Nystatin, the Company has since decided to manufacture 5 tonnes of Griseofulvin in the Nystatin Section of the Plant. However, the revised break-even level after taking into account the proposed production of Griseofulvin, has not been worked out so far (August, 1971).

*2. The production of streptomycin sulphate would increase to 85,000 mlrds. after the installation of two-stage dryer.

2.315. The break-even level for each of the products was moved upwards as per October, 1970 study mainly due to the introduction of Drugs (Prices Control) Order, 1970. In the case of the Streptomycin Sulphate, the break-even level works out to more than 4 times the protocol capacities, proposed to be expanded for this drug.

2.316. It is noticed that the Company achieved the break-even level in respect of Sodium Penicillin and Tetracycline Hel. in 1971-72. In respect of other items, the production in 1971-72 was much below the break-even levels.

2.317. The Management in a written note stated that no fresh estimates of profitability have been drawn up since March, 1970, in the light of actual operating conditions and product-mix and general rise in the cost of production and due to changes in raw materials, consumption co-efficient the revised norms for which are yet to be laid down.

2.318. The Management was asked as to how far the future projections of profitability drawn up in October/November, 1970 were likely to materialise on the present indications specially, as certain assumption on the basis of which the profitability study was drawn up in October/November, 1970 do not hold good any longer. The Committee were informed in a written note as under:—

> "In the projection profitability report of October, 1970, it was assumed that after curtailing of prices by the Drug Prices Control Order, the plant will be able to make profit of Rs. 2.10 crores inclusive of profit of Rs. 58 lakhs on account of Nystatin. It may be mentioned that it has not been possible to produce Nystatin, as there is no market for it. Therefore, this leaves a margin of Rs. 1.52 crores. Due to rise in input cost and on the achievement of the rated capacity for formulation and bulk as included in the profitability report of 1970, it would be possible only to make a marginal profit which may be equivalent to 3.5 per cent on the capital invested."

2.319. About the fresh estimates of profitability, break-even capacity, the Ministry stated as follows in their written reply:—

> "No fresh estimates of profitability have been drawn up after October-November, 1970. In the light of actual operating conditions and product-mix and general rise in the cost of production.

The projections of profitability drawn up in October-November, 1970 are not likely to materialise for the following reasons:—

(i) continued problem of regular and steady power supply to the plant as also the problems of sterility and consequential complications which have continued to plague the plant;

(ii) the rise in the cost of raw materials and services and particularly the steep rise in prices of these in the last few months.

In view of substantial increase in prices of raw materials and services as mentioned above, the break-even capacity fixed in October, 1970 would not hold good.

The prices of pencillins, streptomycin and tetracycline were *inter alia* fixed by Government in 1970 on the basis of a cost examination of a number of manufacturing units in the country. That examination was based on the data on manufacturing cost collected by the Tariff Commission in respect of 1965-66 and 1966-67. In view of the increases in cost of raw materials and services since then and particularly the substantial increases which have occurred in the last few months, a revised costing has become necessary so that suitable revision of prices may be considered. This investigation is proposed to be taken up shortly. A realistic revised estimate of profitability projections and fixation of break-even capacities will be possible only thereafter.

As regards the problem of streptomycin sulphate, a significant factor in it appears to have been the low yield of the strain which was being utilised. The Soviet authorities have supplied a new and improved strain in November, 1973 which is expected to give a yield of 8,000—10,000 units/millions as against the yield of 3,500—4,000 units/millions which was obtained from the strain so far in use. The results of the new improved strain can be assessed only after production therefrom stabilise.

For the Hindustan Antibiotics Ltd., an improved strain which is claimed to be capable of a yield of 18,000 units has recently been obtained from M/s. Glaxo. Results thereof in H.A.L. are also being watched.

The Government constituted a Technical Committee in June, 1973 on the following terms of reference:—

(1) To determine the installed capacities of IDPL's Antibiotics Plant, Rishikesh and extent of utilisation of installed capacities.

(2) To determine the factors responsible for inadequate production and the effectiveness of measures taken so far to augment the production of various antibiotics.

(3) To suggest measures to be adopted for maximisation of production and for improving the overall economics of the plant.

The Report of the Technical Committee has been considered by Government who have accepted all the recommendations except those at Sl. Nos. 9, 12, 17 which have been modified by Government.

It does not appear possible to indicate any date by which the plant can be predicted to break even. This will depend on solution to the various problems which have been affecting the plant such as that of regular and steady power supply, sterility, etc. It will also depend on the success of measures to be taken in the light of the recommendations of the above mentioned Technical Committee and on the revised prices for various antibiotics that might be fixed by Government on the proposed investigation as mentioned above."

2.320. The Committee find that the economics/profitability of the Antibiotics Plant, Rishikesh was not indicated in the Detailed Project Report. In the Report prepared by the Soviet Expert, however, in October, 1958 it was indicated that the gain on Chlorotetracycline, Penicillin and Streptomycin would be Rs. 154.3 million (per annum) on the total production of Rs. 218.6 million per

annum of these three products. It was also indicated in the Report that based on the then existing prices of imported drugs and allowing the profit of 10 per cent thereon, the Antibiotics Project would have a pay-back period of 4 years. The estimates and cost of profitability were prepared in November, 1961. These estimates were revised on a number of occasions. The Committee find that the main reasons for the reduction in the project profits from 16.59 crores in January, 1968 to 8.38 crores in March, 1970 was the reduction in the capacity of the plant on the basis of protocol discussion. The reduction in the anticipated profit from Rs. 8.38 crores in March, 1970 to Rs. 2.10 crores in October, 1970 was mainly the result of drastic reduction in the selling prices due to the introduction of the Drug Prices Control Order, 1970. These projections of profits did not materialise. On the contrary the plant incurred losses to the extent of Rs. 0.56 crores in 1967-68, Rs. 5.10 crores in 1968-69, Rs. 4.91 crores in 1969-70, Rs. 4.65 crores in 1970-71 and Rs. 2.51 crores in 1971-72. The Committee note that the plant achieved the break-even level in respect of Sodium Pencillin and, Tetracycline Hcl in 1971-72. In respect of other items the production in 1971-72 was much below the break-even level. It has been stated by Government that even the projections of profitability drawn up in October-November, 1970 are not likely to be materialised because of continued problem of regular and steady power supply, and the rise in the cost of raw materials and services. The Committee have been informed by Government that "it does not appear possible to indicate any date by which the plant can be predicted to break even." Now that decision on recommendations of Borker Committee Report have since been taken by Government and the revised selling prices of bulk drugs announced by Government on 19th April, 1974, fresh estimates of profitability may be drawn up as the last estimates were prepared more than 3 years ago

E. Costing System

2.321. The Plant is following the system of process costing whereunder the cost of each antibiotics is determined process-wise.

2.322. The Plant Authorities had not compiled any Cost Manual till (June, 1971). However, the proforma in which the cost sheets are being compiled, was finalised in consultation with the Central Office.

2.323. Although on the basis of monthly cost sheet a critical anlysis of cost is prepared and discussed at the top Management level

in the Plant yet the critical analysis of cost on the basis of annual cost sheet is not prepared. The Ministry subsequently stated (October, 1973) that the Manual has since been compiled and will be issued by the Company shortly.

Cost Analysis

2.324. In March 1970, the Management worked out the standard cost of the various bulk antibiotics and formulations on the basis of following production level:—

	Production level
Bulk drugs formulations	2,88,778 mlrd.
Vials	108 million
Capsules	90 millions

2.325. Appendix VII incorporates the details relating to the standard costs fixed and the actual cost of production for 1969-70 to 1971-72. It will be seen from the details given in the Appendix that the actual cost of production had come down considerably in 1971-72 as compared with the date for 1969-70 and 1970-71 except in respect of one item (Oxytetracycline Hcl.—capsules). Where the decline was marginal. The actual cost was, however, still much higher than the standard costs (except for Tetracycline Hcl. Capsules in 1971-72 and Oxytetracycline Hcl—capsules in 1969-70) for the following reasons:—

(a) Production was less than the projections assumed for the calculation of standard costs.

(b) Variable cost was higher on account of consumption coefficient being higher than the reglement norms and higher percentage of rejections.

The Management stated in a written note that:

"The incidence of excess consumption of materials over the reglement norms is not readily available. The preparation of product wise profitability on the basis of actual monthly cost of production is being introduced from the current year. The extent to which the cost of production of each of the items has been affected by the higher percentage of rejections is being worked out. It has been estimated that with the attainment of rated capacity and

the consumption co-efficient of raw material and percentage of rejection conforming to the norms, the cost of production including overheads of the total product-mix would compare favourably with the selling price. Norms are being fixed for raw materials, handling loss and utilisation of services. Once the said norms are fixed, it will be possible to localize areas of variation and take remedial steps."

The Ministry stated in a written note as follows:

"The cost of production of each item is worked out, on the basis of overall actual cost of its production, in the Monthly Cost Sheet. Critical Review of the cost of each item *vis-a-vis* its standard cost is discussed every month at the Top Management level. The profitability or otherwise of each item is evident from the actual cost of production of each item and its sale price approved price fixed by the Govt. under Drug (Price Control) Order, 1970. The actual cost of each item *vis-a-vis* its standard cost is indicated in Appendix VI.

2.326. The Committee find that it has been possible for the Management to reduce the cost of production considerably in 1971-72 as compared with the cost of production in 1969-70, 1970-71 except in respect of one item (oxytetracycline Hcl capsules) where the decline was marginal. The actual cost was, however, still much higher than the standard costs (except for Oxtetracycline HCL Sapsules) in 1971-72 and Oxytetracycline HCL capsules 1969-70). It has been stated that production was less than the projections assumed for the calculation of standard cost and the variable cost was higher on account of consumption co-effcient being higher than the reglement norms and higher percentage of rejection. The Committee have been informed that a critical review of the cost of each item vis-a-vis its standard cost is conducted every month at the top management level. The Committee recommend that the system of preparation of cost of each product on the basis of actual monthly cost of production may be introduced early and cost of production of each of the items which are affected by the higher percentage of rejections may be worked out, critical analysis of cost on the basis of actual cost sheets may also be prepared.

The Committee would like to be informed of the result.

F. Research and Development

2.327. The detailed Project Report envisaged the installation of a Pilot Plan to carry out experiments in improving manufacturing

process and developing new antibiotics. In para 10.17 of the 46th Report (4th Lok Sabha—April, 1969) also, the Committee on Public Undertakings had recommended the proper organisation of the technological research and development of processes which would enable the plant to utilise the indigenous raw materials thereby reducing the cost of production.

2.328. The progress made by the Company in this direction is indicated below:—

(a) As a result of various studies undertaken in the Research and Development Sections of the Plant various processes have been improved as well as some new antibiotics found which may be of some use. These are still under investigation. Further work is needed for their indentification and development both at Pilot Plant and commercial scale.

(b) As against 32 raw materials required as per product-mix envisaged in the Detailed Project Report, the number of raw materials requiring to be imported has now come down to 22 with the discontinuance of the production of Chlorotetracycline and Di-hydro-Streptomycin Sulphate. As a result of the efforts made, the Plant has been able to substitute potato starch partly soyabean catexol, chlorine cloth thick kapron cloth.

2.329. Out of 32 items of raw materials required to be imported one item had been deleted due to discontinuance of Di-hydro-streptomycine sulphate. Out of 31 items, 13 items have been fully/partially substituted and four more items have been deleted.

2.330. The table below indicates the expenditure incurred by the Plan on Research and Development during the last 4 years and its percentage to the total expenditure:—

Year	Research & Development	Pilot Plant	Total (Rupees in lakhs)	%age to total expenditure	Remarks
1968—69	5·30	4·96	10·26	1·97	95% of the expenditure was stated to have been spent on applied research and in touble shooting for the Plant problems.
1969—70	5·37	5·34	10·71	1·71	
1970—71	4·16	5·90	10·06	1·00	
1971—72	5·64	5·36	11·00	1·00	
1972—73	6·60	3·80	10·40	0·91	
1973—74 (April-Sept, 73)	2·96	4·34	7·30	1·30	
	Total :			59·73	

The Ministry stated in a written note as under:—

"Raw Materials imported at present are:

1. Lactose Tech.
2. Phenyl Acetamide
3. Diatomaceous Earth (Dicalite-478)
4. Activated Charcoal 'A'
5. Twee-80
6. Soyabean Flour
7. Potassium Ferrocynide
8. Benzyl Thiocyanate
9. Sugar of Milk
10. Kapron Cloth
11. F.PP—15 Cloth
12. Resin KB-4 P-2
13. Resin KV-2-20
14. Resin EDE-10P
15. Resin SBS-3
16. Resin KB-2
17. Ammonium Thiocyanate
18. Capsules (Packing materials)

Value of imprts during the years 1969-70 to 1972-73 is as under:—

1969—70	Rs. 6,11,054.00
1970—71	Rs. 14,21,189·00
1971—72	Rs. 37,25,176·00
1972—73	Rs.27,92,000·00

Note: Value mentioned above excludes customs duty, freight and other incidental expenses in rupees.

Items fully or partly substituted amount to Rs. 182.64 lakhs on the basis of their annual requirement."

The Management stated in a written note that the plant has been able to develop the following processes through its R&D efforts:—

(i) Change of ion-exchange resin technology of extetracycline to precipitation technology. This has resulted in 10 per cent increase in the yield and the new technology also avoids use of imported SBS-3 resin.

(ii) A modified technology for the preparation of tetracycline hydrochloride from technical base has been worked out and implemented in 1973.

(iii) The technology in streptomysin purification was modified which has resulted in the improvement of biological potency to 730 u|mg and above.

(iv) A new technology for the purification tetracycline has been worked out which will eliminate import of SBS-3 resin and will also increase the yield. This is yet to be implemented in the main plant.

2.331. As regards new products, several developmental problems have been attended which include studies on new polypeptide antibiotics. The progress had also been made in the above in respect of fermentation, recovery and purification and method of antimicrobial activities etc.

2.332. It is further stated that the Ministry of Petroleum and Chemicals has constituted a Co-ordination Committee comprising representatives of HAL and IDPL to pool their experience in production marketing and research activities. This Committee is supposed to meet at convenient intervals and provide avenues for mutual cooperation.

2.333. The plant is equipped with a good library to keep its technologists abreast with the latest development in their fields of specialisation. Various technical journals and magazines are also made available with a view to keep in touch of current development in the field of manufacture of antibiotics.

2.334. The present scope of activity of research and development department is mainly limited to the solution of various technological problems faced by the plant in addition to suggesting improvement in the processes and import substitution. With the gradual stabilisation of technology the emphasis will have to shift more towards developmental research aimed at identifying new and more effective antibiotics. The R&D efforts are adequate to meet the current needs.

2.335. The Management has further stated that the main activities of Research and Development during the last three years have been:

(i) Resolution of production problems experienced in the production of drugs and antibiotics.

(ii) Rationalisation and improvement of the existing technology for the production of various drugs and antibiotics with a view to reduce the costs.

(iii) Development of technology for the production of other drugs and antibiotics of therapeutic importance which are in short supply in the country.

(iv) Substitution of imported raw materials in the production of drugs and

(v) Development of technology for new drugs and antibiotics not being manufactured in the country.

2.336. As regards import substitution, the plant has been able to substitute fully or partially eleven out of thirty imported raw materials as per details given below:—

S.No.	No. of item	Annual req.	Total value in lakhs (Rs.)	Replacement fully/partially
1.	Catexol	85 MT	16·50	Fully
2.	Lactose	1274 MT	40·00	Partially
3.	Potato Starch	584 MT	10·80	Fully
4.	Phenyl acetamide	100 MT	27·00	Fully
5.	Activated carbon	90 MT	5·04	Partially
6.	Seed material	9000 Bottles	14·00	Fully
7.	Thick Kapron	125000 Metres	4·00	Partially
8.	Chlorine cloth	6000 Metres	2·40	Fully
9.	Soyabean flour	1500—2000 MT	36·40	Fully
10.	Procaine Hydrochloride	50 MT	26·50	Partially
11	SBS-3 Ion-exchange resin	—	—	Partially

2.337. About the pace and results of research and development being undertaken by the plant and the adequacy of the existing outlay on R&D for the purpose and goal to be attained; liaison between

the company and HAL in the matter of research and development of abtibiotics; the details of the process which have been improved and new antibiotics found by the plant when it is expected that the work relating to their identification and development both at pilot plant and commercial scale be over, the Ministry informed the Committee in a written reply:

> "Research and developmental activity entails substantial expenditure as well as time. The results are not always very fruitful, and, as such, continued efforts are required to be made for achieving the goal. Research and development activity could be aimed towards various objectives like (a) development of new drugs, (b) development of new technology for the existing drugs.

(c) substitution of imported raw materials for the production of drugs, and (d) rationalisation and improvement in the existing technology for the production of various drugs in the product mix etc. Presently, IDPL have been concentrating their attention mainly on the import substitution as well as resolution of the production problems. As a result of various studies undertaken in the plant certain processes are said to have been improved yielding stable bulk products. In the case of Sodium Penicillin, the earlier technology for its production by the precipiatation process has been changed to azeotropic distillation which is expected to give a much stabler product. In the case of Oxytetracycline, the ion-exchange process for its recovery from the filtered broth has been replaced by a precipitation process which avoid use of imported resin..

The table below indicates the expenditure by the ABP on research and development for the last 4 years:—

S.No.	Year	R&D expenditure in Rs. lakhs	Total sales in Rs. lakhs	%age of total expdr/Sales
1	1969—70	10·71	136·81	7·83
2	1970—71	10·06	489·98	2·06
3	1971—72	11·37	735·44	1·56
4	1972—73 . . .	10·40	841·16	1 24

"Investment on drug development research forms substantial percentage of the turnover of the drugs and pharmaceuticals industry in Europe, USA and Japan. The average investment varies between 5 per cent to 13 per cent of the turnover in the developed countries.

As against this, AB Plant has been spending to the extent between 1 to 2 per cent during the last three years and only the year 1969-70 it was about 8 per cent on their sales.

It will be seen from the table above that the percentage on account of R&D expenditure in the recent years is only about 1 per cent of the sales turnover, which by international standards is, no doubt, low. The company would therefore, need to spend more on R&D efforts. But in this regard the financial resources of the Company would also have to be kept in view. Government have also been trying to assist the party by procuring better."

2.338. As regards liaison between HAL and IDPL Ministry stated that:—

"So far, there has not been any appreciable liaison between IDPL and HAL in the matter of research and development of antibiotics. The Scientists Committee comprising of senior scientists each from HAL, CDRI and NCL was, however, appointed in 1971, to suggest remedial measures for the improvement of potency of Streptomycin Sulphate. The recommendation by this Committee was submitted in June, 1972, and as a result of implementation of their recommendation, a marginal improvement in the potency of Streptomycin was achieved namely form an average of 700 units to 710 units/mg. Since even this improvement was on the low side, the R&D Group of the company along with Soviet experts carried out further detailed studies and were able to identify more specific reasons for this low potency of Streptomycin, and the potency of streptomycin is now in the range of 730 units/mg.

A Coordination Committee comparising of the representatives of IDPL and HAL was also consitituted by the Ministry of Petroleum and Chemicals, to pool their experience in production, marketing and research activities. This Committee has, so far, met on 5 occasions and as a result of mutual exchange of experience certain improvements like introduction of azeo-tropic distillation for isolation of Sodium Penicillin and improvement in extraction technology for Potassium Penicillin have been brought about. The results are, however, yet to be evaluated."

2.339. The Borker Committee concluded that:—

"Undoubtedly, inadequate assimilation of technology and inadequate management of operations have significantly contributed to the non-attainment of production targets.

we have been struck by the fact, that with limited exception even key technical personnel on the plant are hopelessly out of touch with developing trends in technology and concepts in the management of technology."

2.340. The Committee have been informed that as a result of various studies undertaken in the Research and Development Section of the Plant, manufacturing process have been improved and new Antibiotics found. The antibiotics are, however, still under investigation and further work is need for their identification. The Plant has been able to substitute fully 11 out of 30 items of raw materials. Expenditure on Research and Development ranged between one per cent to 1.97 per cent of the total expenditure during the period of 1968-69 to 1973-74 (upto September, 1973). It has been stated that present scope of activity of Research and Development is mainly for solution of various technological problems faced by the plant in addition to suggesting improvements in the processes and import substitution. The Plant is equipped with a library to keep its technologists and scientists abreast with the latest developments in the fields of specialisation. The Borkar Committee which had the occasion to study the working of the plant has, however, observed "even key technical personnel on the plant are hopelessly out of touch with developing trends in technological and concepts in the management of technology." The Committee recommend that Government should undertake a eritical evaluation of the research and development activities of the Plant so that emphasis is laid towards development research aimed at identifying new and more effective antibiotics. Government should also ensure that the technical personnel in the plant keep themselves fully abreast of the latest technological developments in the field of manufacture of antibiotics, so that in course of time they are in a better position to attain higher operaional efficencies in the interest of optimum production. The Committee were also informed that though the Ministry of Petroleum and Chemicals has constituted a coordination Committee comprising representatives of HAL and IDPL to pool their experience in production marketing and research activities, there has not been any appreciable liaison between IDPL and HAL in the matter of R&D of antibiotics. The Committee desire that there should be greater coordination in the R&D activities nor only between the two Public Undertakings but the Private Sector as well.

2.341. Though the stock of raw materials in terms of months' consumption has come down year after year, it is still more than the prescribed limit of the buffer stock (*i.e.* 2 months for indigenous and 6 months for imported materials) in certain cases. The build-up of

the inventory over the normal prescribed limit in these cases has been ascribed by the Management to:—

(i) frequent changes in the production plans;

(ii) low off-take in comparison to planned requirement;

(iii) transportation in bigger lots as per the minimum load requirements of the road transport/wagon loads in case of items of low consumption;

(iv) failure of the suppliers to strictly adhere to the delivery schedules;

(v) changes due to technological requirements; and

(vi) imports take much more time due to present system of getting import licence tendering and other formalities.

Apart from the excessive stock holdings as compared to the buffer stock limits in certain cases, it was mentioned in the Annual Report of the Company for the 1971-72 that the Plant faced considerable difficulties in obtaining some essential raw materials from indigenous suppliers in required quantity and according to the specification. In particular, there was difficulty in obtaining Supplies of ammonium sulphate, ammonium nitrate, hydrochloric acid, soda ash, empty capsules and rubber stoppers of required specification and qualities and desired quantities. As regards empty capsules, it has been mentioned in the Annual Report that the Company is examining the possibility of setting up a plant for manufacture of capsules with foreign collaboration, for which it has already received a letter of intent from Government. To obviate the difficulties in securing supplies of other raw materials, Company has decided to purchase materials in bulk from the manufacturers. The proposal for setting up a plant for the manufacture of capsules has, however, been dropped.

2.342. About the steps taken by the Management to ensure that the stock of raw materials, etc. on the one hand, is not more than the prescribed limit of buffer stock and, on the other hand, there was shortage of essential raw materials in the required quantity and according to the specification the Management stated in a written reply as follows:—

"The inventory status of A and B class items is being reviewed every month to ensure that there is neither overstocking of

the raw materials beyond the prescribed buffer stock nor there is not stock out. For C class items the inventory is normally regulated on the basis of minima/maxima limits.

Annual contracts for all items of raw materials are entered into with the various suppliers. The delivery schedules are given two months in advance depending on the Plant's requirement and stock available in hand. Exceptions have, however, been made in case of certain specific raw materials such as soyabean grains, maize grains, etc. which have to be procured during the harvesting season. Inspite of such planning difficulties are presently being experienced in the procurement of raw materials like formalin, methanol, oxalic acid, butyl acetate, butanol, glass yials and maize grains based raw materials like corn steep liquor, hydrol, maize starch and glucose, etc.

(b) The difficulties in obtaining the supplies of Ammonia Sulphate and ammonia nitrate have been solved by entering into a long term contract with Fertilizer Corporation of India in 1971-72.

Prior to entering into contract with FCI, the plant worked with certain local parties who were required to reprocess the intermediate materials. This arrangement was not only inadequate to meet our requirement in quantity but quality was not also upto the mark. The matter was brought to the notice of the Ministry of P&C in respect of ammonia sulphate and ammonia nitrate, hydraulic acid and soda ash."

(g) Material Management and Inventory Control

Inventory holdings

The table below indicates the position of inventory at the end of each of the last 4 years ended 31st March, 1972 and 1973-73 (up to 30-8-1973).

(Rs. in lakhs)

	31-3-69	31-3-1970	31-3-1971	31-3-1972	31-3-1973	30-9-1973
1. Raw materials (including in-transit)	122·84	115·20	105·25	139·50	115·38	105·82
2. Packing and filling materials (including in-transit and value of canisters lying with outside parties)	21·47	26·63	46·44	63·60	61·27	53·99
3. Stores and spares (including in-transit)	88·07	161·12	179·36	205·71	206·96	213·89
4. Work-in-process	15·47	35·51	19·38	27·59	45·38	76·02
5 Semi-finished drugs	39·90	29·72	6·02	32·18	54·13	103·57
6. Finished drugs	21·28	145·31	128·82	219·83	95·39	42·57
TOTAL :	309·03	513·49	485·27	688·41	578·51	595·86

Slow-foving and non-moving items

2.343. The slow-moving/non-moving stores of the following groups were reviewed by the Requirement Committee consisting of General Manager/Deputy General Manager (T), Finance and Accounts Controller Purchase and Stores and Chief Maintenance Engineer during 1971-72 and stores of the value of Rs. 22.10 lakhs were declared surplus:—

	Rs. in lakhs	Remark
Building materials	6·33	The surplus materials
Chemicals	1·09*	valuing Rs. 10·99
Electricals	5·97	lakhs are awaiting
Raw materials	7·78	disposals for more
P.O.L.	0·93	than one year.
Total	22·10	

*Chemicals worth Rs. 2899·68 have since been transferred to Synthetic Drugs Plant Hyderabad.

2.344. The review of the remaining groups has not been conducted (June, 1972).

2.345. The Committee were further informed by Management that one more group has been reviewed and the following is the position of stores:

Declared surplus	Rs. in lakhs
Raw Materials	·4
Electricals	5·65
P.O.L.	0·31
Building Materials	6·24
Glass-ware	1·99
Chemicals	1·05
	22·66

Fixation of minimum, maximum and ordering levels

2.346. Out of 10,484 stores items as on 31st March, 1972 the maximum, minimum and ordering levels were fixed for 412 items in

February, 1969. As however, the Plant has not come to full production level, the norms already fixed are under review. It was stated (July, 1972) by the Management that the work relating to fixation of maximum/minimum levels will be taken up when the production has stabilised.

2.347. As regards the progress made so far, in the matter of the review of the onrms already fixed as well as the fixation of maximum/minimum levels in other cases, the Management subsequently stated in a written reply that maxima and minima limits were reviewed in 1972-73 taking into consideration the consumption pattern and also variability in the lead time. During this review maxima/minima of 546 items have been fixed up to February, 1973. Further review to bring more items under the system is in progress and it is expected that about 500 more items will be covered within next two months. This work is likely to be over within a period of next two years in respect of all items except some spare parts which are basically stocked as insurance items.

2.348. The Committee find that though the stock of raw materials with the Antibiotics Plant in terms of month's consumption has come down year after year, it is still more than the prescribed limit of the buffer stock, that is two months for indigenous and six months for imported material in certain cases. The mangement have stated that the bulid up of the inventory in these cases has been due to frequent changes in the production plans, low off take, transportation in bigger lots, failure of the supplier to strictly adhere to delivery schedule, changes due to technological requirements, etc. The Committee also find that according to the review conducted by the Management in 1971-72 stores of the value of 22.10 lakhs were declared surplus. Out of these stores and spares of the value of Rs. 10.59 lakhs are awaiting disposed for move than one year. The Management have also fixed minimum, maximum and reordering levels for 546 items in February, 1973 out of 10,484 store items. The norms of the maximum and minimum limits were reviewed by the Management in 1972-73. The Committee have been assured that this work will be over within a period of next two years in respect of all items except some sapre parts which are basically stocked as insurance items. The Committee recommend that the Management should expedite this work and ensure that in no case, the stock of raw materials in terms of month's consumption exceeds the prescribed limit.

Clearance of consignments

2.349. In December, 1962, a private firm of Bombay were appointed as the Company's clearing agents for an initial period of 3 years

with effect from 1st January, 1963 for clearing and forwarding of machinery and equipment imported from USSR and other countries. The contract which was signed on 6th June, 1963 was subsequently extend for a further period of 11 months *i.e.* up to 30th November, 1966. According to the terms and conditions of the contract the clearing agents were to pay landing and all other port trust charges in the first instance and to claim reimbursement of the amount so paid in bills, duly supported with relevant receipts. However, the Company after a meeting with the clearing agents in December, 1962 opened two Personal Deposit Accounts (in December, 1962 and March, 1966) with Port Trust Authorities which amounted to a material deviation from the conditions attached to notice waiting tender.

2.350. In this connection, the Management stated (July, 1971) as follows:—

> "No specific reasons have been recorded for opening the Personal Deposit Account by the Plant. However, it appears from the note of discussions held on 27th December, 1962 between the then Project Administrator and the Clearing Agents that the question was discussed by them and a decision was taken to open the P. D. Account."

2.350. Out of the various amounting deposited by the Project Authorities in these two Personal Deposit Accounts from time to time, a sum of Rs. 29.13 lakhs was adjusted by the Port Trust Authorities on account of ground rent, wharfage, demurrage and miscellaneous expenditure. The incidence of demurrage included in the above amount worked out to Rs. 27.35 lakhs (approx.). Out of this, a sum of Rs. 3.95 lakhs only was refunded by the Port Trust Authorities and an amount of Rs. 0.24 lakh was written off by the Company.

2.351. It was held by the Company that the payment of demurrage of the order of Rs. 23.16 lakhs was mainly due to the negligence on the part of the clearing agents in obtaining wagons, expeditious customs clearance, etc. As the agents had not furnished details and explanations for the demurrage incurred in spite of repeated requests and reminders, the Company filed on 29th May, 1970 an application with the District Judge, Dehradun for the appointment of an Arbitrator. The decision of the Court is still (July, 1973) awaited. Meanwhile, the Company has also approached the Trust Authorities for the refund of the balance amount of demurrage.

2.352. The Management informed the Committee in a written reply as follows:—

In terms of the contracts, the Clearing Agents were entitled for payment on account of the following:—

(1) Agency fee (2) Transport and Labour charges (3) Crane and siding charges (4) Loading and unloading (5) lot inspection fee (6) Rly. freight and siding (7) survey attendance fee (8) Post ad Telegram charges (9) custom examination fee (10) Packing and Lashing charges (11) Stacking & sorting charges (12) Repair charges.

Clearing agents were required to submit the bill for reimbursement of expenditure incurred by them. During the years 1963-64 to 1966-67 a sum of Rs. 8,33,894.06 was paid to the clearing agents on the presentation of the bills as detailed below:—

	Rs.
1963-64	2,07,404·43
1964-65	1,61,691·35
1965-66	3,01,479·54
1956-67	1,63,318·74
	8,33,894·06

2.353. These amounts include Rs. 2.57 lakhs on account of service charges and Rs. 6.07 lakhs for making payments against freight and stevedoring to the Shipping Companies. There had been certain discrepancies in these bills and as such these payments were treated as advance initially but on receipt of clarification a sum of Rs. 6,48,708.62 had been finally adjusted in accounts and balance amount is being shown as an advance.

2.354. Case for refund with BPT authorities is being pursued at the highest level.

Case for refund the demurrage charges is being pressed as such charges have been paid out of the P.D. Account. Further examination will be possible after the Court case is decided.

2.355. The Committee note that in December, 1962 the private firm of Bombay was appointed as the Company's clearing agent for clearing and forwarding all machinery and equipment imported

from USSR and other countries. According to the terms and conditions of the Contract, the Clearing Agents were to pay landing and all other Port Trust charges in the first instance and to claim reimbursement of the amount so paid in bills, duly supported with relevant receipt. However, the Company opened two Personal deposit accounts (December, 1972 and March, 1966) with Port Trust Authorities. Opening of these accounts was a material deviation from the conditions attached to the notice inviting tender. Specific reasons for opening these accounts by the plant are not on record. Out of the amounts deposited by the Project Authorities a sum of Rs. 29.13 lakhs was adjusted by the Port Trust Authorities on account of ground rent wharfage and demurrage. The incident of demurrage included in that amount demurrage worked out to Rs. 27.37 lakhs (Approx.) Out of this, a sum of Rs. 3.95 lakhs only was refunded by the Port Trust Authorities and an amount of Rs. 0.24 lakhs was written off by the Company. According to the Company, the payment of demurrage of the order of Rs. 23.16 lakhs was mainly due to the negligence on the part of the clearing agents in obtaining wagons, expeditious customs clearance. The Committee feel that IDPL should have recovered the amount of demurrage from the clearing charges. As the matter is now stated to be pending in a Court of Law, the Committee would refrain from offering any comments at this stage. The Committee, however, recommend that the whole position may be reviewed by the Management after the case has been decided by the Court. The Committee would like to be informed of the final position.

H. Man Power analysis

2.356. The Detailed Project Report indicated the man power norms on the basis of optimum production. However, as the operational practices and labour efficiencies in the USSR were different from those in India, the Board in November, 1966 appointed a Committee to assess the requirements of man power. The Committee did not do any investigation and in August, 1967, the Industrial Engineering Department was set up by the Company for the assessment of the man power requirements of the Plant. The preliminary studies made by the Department showed that the Project Report figures could form a reasonable basis for manning Technical Departments and the assessment was placed at 2174 for Depratments within the perimeter wall of the Plant.

It was also felt by the Management that certain adjustments were necessary to maintain optimum level of operation. The detailed Industrial Engineering Studies were, therefore, taken up at

the Plant level to assess objectively the work load in each section. The revised assessment has so far (September, 1972) been completed in case of five out of the six blocks.

Appendix VIII incorporates the requirements of man power as indicated in the Detailed Project Report and assessed by the Industrial Engineering Department (original and revised) together with the actual employment there against during each of the three financial years ending on 31st March, 1970- 1971 and 1972.

2.357. Justifying the excessive manpower especially as the Plant is yet to attain the capacities as per protocol, the Management stated in a written note as under :—

> "The man power requirement of the plant was worked out by the Industrial Engineering Department at the rated capacity level for stabilised operations. In the commissioning and trial period, however, the requirement of staff was slightly higher because of running in difficulties of the equipment and the extra cleaning and up-keep activities necessary to bring the premises to the technological norms. The manpower on the regular establishment is lower than the strength recommended by the Industrial Engineering Department. The muster roll and work charged staff is for casual and modification jobs and will have to be either retrenched or absorbed against the requirement of expanded capacity.

2.358. The IED has not yet undertaken the studies for assessment of manpower requirement for R & D Department and Administrative Block. The other departments have already been covered as is indicated in the Audit Report.

2.359. The Ministry also stated as follows in this regard:—

> "The employment position in the plant as on 30-6-1973 was as follows:—

S.No	Name of Block	Regular	W	CMR	Total
1	R&M & Block for preparation of culture media	383	16	47	446
2.	Recovery and Purification Block	416	34	37	487
3.	Sterile and Finishing Block	418	50	35	503
4.	Laboratory, Quality Control, Pilot Plant and Animal House	274	24	25	323
5.	Maintenance & Auxillary Service Block	808	129	301	1237
6.	Admn. Block (Tech)	47	..	..	47
		2346	253	444	3043

2.360. It will be seen that the manpower of regular establishment does not exceed the strength recommended by the Industrial Engineering Deptt. The excess manpower rises slowly from the staff employed on W|C and Muster Roll basis.

The lack of regular and steady power supply and the problems of sterility, etc., on the one hand cause loss in production and on the other create complications for tackling with extra manpower becomes necessary. Hence the situation that while on the one hand the Plant is yet to attain the capacities as per protocol, the total manpower employed is in excess."

2.361. The Committee note that the Detailed Project Report had indicated the manpower norm on the basis of optimum production. But as the operational practices and labour efficiencies in the USSR were different from those in India, the Board of Directors appointed a Committee in November, 1966 to assess the requirements of manpower. The Committee, however, did not do any investigation. In August, 1967, the Industrial Engineering Department was set up by the Company for the asessment of the manpower requirement of the Plant. The Department asessed the requuirement at 2174 within the peremeter wall of the plant. In September, 1972 a revised assessment was made by the Industrial Engineering Department. The revised strength fixed for the plant was 2297. For five out of the six blocks the present strength of staff on 30.6.73 is 3043 which includes the staff employed on work charge and muster roll basis. The regular strength is 2346 including 47 personnel for the 6th Block for which study is still to be completed, and it does not exceed the overall strength recommended by the Industrial Engineering Department. The Committee recommend Government IDPL should ensure that unless the requirements of higher production demand, moreover staff strength of the plant may be kept within the assessed level.

The Committee would also like to be informed in due course of the staff for the sixth block, i.e. Administrative Block—Technical and Research & Development Department.

Training

2.362. The plant is having a small training cell which essentially caters to the needs of operatives and supervisory staff. The need of executive development is at present being met by sending executives to outside courses organised by specialised agencies like National Production Council and Administrative Staff College, Hyderabad, etc.

2.363. Apart from imparting induction trading to the employees, the Training Department is engaged in refresher courses designed to upgrade the skill of the existing work force. Special programmes are also being organised for under-qualified staff so as to impart them necessary skill for their present and future assignments. The training programmes are also organised with the help of the faculty drawn from National Productivity Council on various aspects of plant operations.

2.364. No specific terms and conditions are required to be fulfilled by the employees to become eligible for such training programme excepting that the level of participation is pre-determined. However, for sponsoring candidates for training programmes in foreign countries and for induction training of fresh entrants, the trainees are required to execute a bond.

2.365. The expenditure incurred by the Company on each trainee depends on the type of course and its venue.

2.366. The participation in such training programme is aimed at improving the skill of the work force of the plant and has, thus helped in stabilising of technology and achievement of norms prescribed in the reglement.

2.367. The details of expenditure incurred on training programme during the last 3 years is given below:—

1970-71	Rs. 46,139·00
1971-72	Rs. 44,716·00
1972-73	Rs. 55,525·00

Non-enforcement of the terms of bond executed by the trainees.

2.368. In terms of the bond executed by the trainees, they were required to serve the Company for a minimum priod of 3 years after completion of the training. In the event of their failure to do so, they were liable to refund—

(a) amounts ranging from Rs. 300 to Rs. 1000 with reference to the year of leaving service in the case of apprentice trainees; and

(b) the entire amount of pay and allowances drawn during the period of training plus other expenditure, if any, in the case of Senior Scientific Assistants|Assistant| Foremen|Operators, etc.

2.369. Between 21st December, 1966 and 10th May, 1971 as many as 78 trainees left the Company either before or after the completion of training. Out of these, 15 trainees did not draw any stipend during the period of their training. The amount recoverable from the remaining 63 trainees was assessed (June, 1972) at Rs. 71,814.96.

2.370. Out of these, 13 trainees had resigned mainly due to family circumstances and their resignations had been accepted on compassionate grounds. The amount recoverable from 50 trainees, who had discontinued attending duties without any notice or information, worked out to Rs. 42,190.96. As regards non-recovery of the amounts recoverable from these trainees the Management stated (October, 1970) as follows:—

> ".....the persons who had left the plant either during the period of training or after completion of the training were contanted at their given addresses to pay necessary amount on account of non-fulfilment of conditions of the bonds executed by them in favour of the Company. In all cases either, such correspondence remained unreplied in spite of repeated reminders or our letters were returned undelivered by the postal authorities. To avoid such situations we have since introduced a clause in the draft bond where, besides personal undertaking, such trainees are required to give a surety for the fulfilment of the conditions of the bond by the appointee....."

2.371. The Committee were informed by the Management in a written reply that the amount of Rs. 42,190,96 which would not be recovered from the trainees has not been written off. The clause relating to giving of surety was inserted from June, 1969. In all cases, the trainees are now required to sign the bond in the revised form.

2.372. About the trainees and foreign experts the Ministry informed the Committee in a written note as under:—

> "There were 50 trainees in the plant as on 31.3.1973:—
>
> I. IDTIL Graduate Engineers Apprentices Scheme —3
>
> II. Government of India practical training stipends Scheme. —9
>
> II. Under Apprentices Act, 1961. —38
>
> The Plant has been experiencing difficulty in the recruitment of Apprentices under the Apprentices Act, 1962, specially

in the trades of Boiler attendents, Air-Conditioning and Refrigeration Mechenics, Surveyor (Civil) etc.

Regarding trained manpower, posts of instruments mechanics, Cost assistants|Accountants are relatively difficult to fill.

(b) The number of Soviet technicians working at the Antibiotics Plant during the last four years was :—

Year	No. of Soviet technicians.
1969-70	9
1970-71	20
1971-72	3
1972-73	3

At present, only one Soviet Expert with an interpreter is working at the Antibiotics Plant. Employment of Soviet Experts in the Plant is constantly under review. However, we have to draw upon their services whenever considered necessary to overcome technological/ shortcomings achieving efficiencies and planned capacities/rated capacities indicated in the Project Report.

The operational expenditure on Soviet Experts from the dates of commissioning to 31.3.1973 is Rs. 27.97 lakhs."

2.373. The Committee note that Antibiotics Plant, Rishikesh is having a small training cell which essentially caters to the needs of operatives supervisory staff. Apart from imparting industrial training, the Department is engaged in arranging refresher courses designed to upgrade the skill of the existing workers. In organising the training programmes help is also taken of the specialised agencies like the National Productivity Council. The Committee find the expenditure incurred by the plant on training programmes has increased from Rs. 46,000 in 1970-71 to Rs. 55,000 in 1972-73.

2.374. The Committee find that as between 21st December, 1968 and 10th May, 1971 as many as 78 trainees had left the Company either beore or after the completion of their training. Out of these 50 trainees, however, did not draw any stipend during the period of their training. The amount recoverable from the 63 trainees was assessed at Rs. 71.814. Out of these 13 trainees resigned mainly

due to family circumstances. Amount recoverable from the remaining 15 trainees who discontinued attending duties without any information or notices works out to Rs. 42,190. It has not been possible for the Plant to recover the amount so far despite repeated reminders. To avoid such situations the plant introduced in June, 1969 a clause in the draft bond where, besides personal undertaking, such trainees were required to give a surety for the fulfilment of the conditions of the bond. The Committee are surprised that such a surety was not insited upon by the Management prior to June, 1969.

III

SYNTHETIC DRUGS PLANT, HYDERABAD

A. Project Estimates

3.1. As in the case of other plants of IDPL, the estimates of the Synthetic Drugs Plant were also revised on a number of occasions prior to their sanction by Government in October, 1966. The Appendix IX compares the estimates of costs sanctioned by Government in October, 1966, as revised by the Company in 1968 and approved by Government in August, 1971, the actual expenditure incurred up to 31st March, 1972 and the further expenditure to be incurred to complete the Project.

There was a reduction of Rs. 109.48 lakhs under civil works in succeeding paragraphs.

There was a reduction of Rs. 109.48 lakhs under civil works in the approved estimates of August, 1971 over the approved estimates of October, 1966. This was mainly due to pruning of the civil construction works both under Factory and Township.

3.2. In this connection, the Ministry in a written reply apprised the Committee as under:—

> Reduction of Rs. 109.48 lakhs under civil works comprised Rs. 66.82 lakhs under "Township" and a sum of Rs. 42.56 lakhs under 'Factory.' The reduction in case of 'Township' was due to pruning of expenditure on buildings consequent on declaration of emergency during the Indo-Pakistan war of 1965. Only 802 residential buildings were constructed at against 1306 originally contemplated. Among the non-residential buildings, hospital, Post-Office, Estate Office and Police outpost buildings were not constructed.

The reduction in case of factory was not due to any pruning but due to savings."

There was an increase of Rs. 49.39 lakhs under 'Administration and general expenses' and 'Apprentice training and other items' in

the approved estimates of August, 1971 which was largely the result of increase under establishment charges on account of extra time taken in completion of the Project.

3.3. Regarding the total period of delay in the completion of the Project and the incidence of delay which had to be absorbed by the capital estimates, the Management stated that the time schedule for the commissioning of the project are not included in the Project Report. Based on the progress in construction, revised schedules of construction were drawn up by the management. There were delays of 3 to 42 months in the actual completion of Civil Works, Services, acquisition and erection of imported and indigenous machinery etc. The delay in this was caused inter alia by late supply of some equipments (indigenous and imported) delay in receipt of drawings; delay in construction by the contractors; changes made in the layout, etc. by the collaborators. Taking into account these factors, revised estimates were prepared in 1968 for Rs. 2292.94 lakhs against the estimate for Rs. 2134.78 lakhs sanctioned by the Government in December, 1966. The revised estimates took into account the expenditure already incurred and the further expenditure required to complete the remaining phases of the Project, and also the savings in the expenditure on Township to the extent of Rs. 66.92 lakhs and Rs. 40.87 lakhs under th Factory civil works.

3.4. The Management admitted that this was an omission that common items like 'interest on capital' and 'commissioning expenditure' were not taken care of in the approved estimates of October, 1966.

No provision was made in the estimates of October, 1966 for Rs. 190.97 lakhs on account of capitalisation of 'interest on capital' and 'commissioning expenses'.

The actual expenditure including the future expenditure likely to be incurred would exceed the sanctioned estimates of August, 1971 by Rs. 59.32 lakhs which was mainly due to excess of expenditure over the estimates in respect of 'Plant & Machinery'.

3.5. Asked whether increase of Rs. 59.32 lakhs in the approved estimates of August, 1971 for 'plant and machinery' was due to price rise or due to procurement of additional items of Plant and Machinery, the Committee were informed as under :—

> "The increase under 'Plant and Machinery' in the approved estimate of August, 1971 over that in the estimate of October, 1966 is Rs. 25.59 lakhs (and not Rs. 59.32 lakhs).

This increase was on account of the provision made for equipment for new schemes for sulphadimidine, Metamizol and Inert Gas Plant, estimated to cost Rs. 12.42 lakhs, and the increase in the Customs Duty, consequent on the revision of rate from 22 per cent to 45 per cent during the year 1965-66.

The likely excess of Rs. 59.32 lakhs over the sanctioned estimate of August, 1971 may not materialise since it is not proposed to charge any further amount of 'interest on Capital' or on 'commissioning Expenses'."

The actual expenditure under 'Apprentice training and other items' had gone up by Rs. 12.75 lakhs, representing an increase of more than 10 per cent over the approved estimates of August, 1971 and therefore, required the approval of Government in term of the instructions issued by Government.

3.6. In this connection the Management stated that the approval of the Government has not been obtained for the increase of more than 10 per cent in expenditure on 'Apprentice Training and other items' since the project estimate had not yet been closed. It was proposed to take up all cases of excesses after closing the Project estimate.

3.7. The Ministry informed as under in a written reply:

"Government sanction to the revised project estimates in August, 1971 was only under three broad heads as follows:—

	(Rs. / Lakhs.)
(i) Factory	2030·27
(ii) Town ship	135·70
(iii) Interest	126·97
	2292·94

However IDPL should have sought approval separately for the increase in expenditure on 'apprentice training and their items' and also on skilled workers who have been trained in the Plant and given stipend.

3.8. The actual expenditure as on 31st March, 1972 included an amount of Rs. 83.14 lakhs incurred upto September, 1968 and during the period from April, 1969 to March, 1972 on carrying out a number of modifications in the course of erection and also with a view

to attaining the installed capacity and stabilising the production processes. No details were available for the expenditure incurred on the modification during the period from October, 1968 to March, 1969.

Although a procedure for estimating the effect of modifications was prescribed in October, 1967, it was noticed that the procedure had not been implemented with the result, that there was no evaluation of the results of modification.

As regards the responsibility of the Collaborators, the Management stated (December, 1971) as follows:—

> 'The modifications made subsequent to March, 1969 were with a view to effecting improvements in technology as a result of the Plant's own efforts, and as such does not involve collaborator's responsibility. The modifications made prior to that date were not chargeable to the Collaborators as they had arranged under the contract to make modifications from time to time in the light of the technological developments taking place in their country and consider necessary by them during the process of stabilisation of the drugs which have been commissioned."

The Management informed the Committee in a written note that the erection works of the imported Plant and Equipment were in progress during the years 1965 to 1969. All the expenditure incurred on erection was booked separately in respect of each Block. The modifications referred to had been carried out even during the course of erection; hence no distinction was made of the expenditure on such modifications from the expenditure incurred on the normal erection. In the Budgetary meeting held on 12-2-1969 that the expenditure on modifications should be classified under two categories viz. (i) modification works arising out of contractual obligation and (ii) others. On receipt of these instructions from the Head Office, separate accounts for modifications were maintained by the Plant with effect from 1-4-1969.

3.9. As to whether the expenditure on modifications was not envisaged and included in the approved estimates of August, 1971 and how expenditure on modifications was booked against the estimates, the Management stated that the estimates which were approved by the Government in August, 1971 had been submitted during April, 1968. Hence no amount had been provided in these estimates towards the cost of modification. However, it was stated that expenditure on modifications also covered the cost of Plant and Machinery erected, together with the erection and installation charges; hence

they would have to be accommodated against the provision of Rs. 1,075.66 lakhs and Rs. 107.31 lakhs respectively in the Revised Estimates submitted to Government. The expenditure incurred on modifications has, accordingly, been booked against the above provision.

3.10. The Committee pointed out that the procedure prescribed in October, 1967 for estimating the effect of modifications had not been implemented and enquired how in the absence of evaluation of results of modifications the management came to know that the modifications had yielded the desired results. The Management stated as follows:—

> "The procedure prescribed in October, 1967 was in respect of capital replacements and capital modifications, which were to be taken up after the commissioning of the plant. Since the modifications were initially carried out during the course of erection, no separate study of the impact of modifications in the manner laid down by the Head Office was possible. However, in respect of the modifications, which were carried out after the commissioning of the Plant, a simpler procedure was followed. As regards the evaluation of the results of modifications, the same is assessed during weekly coordination meetings, monthly fulfilment reports etc. in respect of minor modifications, the Superintendents satisfy themselves about the fulfilment of the objects needs for which they were carried out."

3.11. The Committee were informed that the expenditure incurred on modifications after 1st April, 1969 to 31-3-1972 was Rs. 69.95 lakhs. Full details of expenditure on modifications carried out prior to 1-4-1969 had not been recorded separately.

3.12. The Committee desired to know whether it was specifically mentioned in the contract that the modifications carried out prior to 1-4-1969, would be chargeable to the company. The Management stated that since there was no provision in the contract for charging the expenditure on the modifications to the collaborators, such expenditure had to be borne by the Company.

3.13. The Committee pointed out that according to the table at page 108 of the Audit Report, new works involving an estimated outlay of Rs. 48.57 lakhs had been sanctioned in the estimates of August, 1971 for establishing and improving the production of Plant. The Committee enquired about the details of these works and whether these were over and above the modifications which were carried

out in the course of erection and also with a view to attaining the installed capacity and stabilising production processes.

The Management stated as under:—

"The details of the new works for Rs. 48.57 lakhs are as follows:—

	Rs. in lakhs
1. Analgin and PAS	20·00
2. Ammonia Receiving Station	7·50
3. Inert Gas Plant	3·60
4. Sulphadimidine Expansion	12·27
5. Phenacetin	3·79
6. Misc. Items.	1·41
	48·57

3.14. The expenditure on these items, except that on Ammonia receiving Station, has been booked to modifications and is included in the figure of Rs. 83.14 lakhs incurred upto September, 1968 and during the period from April, 1969 to March, 1972 for carrying out a number of modifications in the course of erection and also with a view to attaining of the installed capacity and stabilising the production processes.

3.15. The Ministry stated as follows:—

"It is quite usual in projects for certain modifications to be found necessary during the course of implementation of the project. The modifications herein mentioned do not form the subject matter of any separate sanction by Government. Separate booking of expenditure, for such modifications would not appear to be assential. These modifications were carried out even during the course of the erection. It was only in February 1969, that IDPL instructed the plant for maintaining separate account of the modifications and separate accounts were maintained by the plant from 1-4-1969 only. The modifications covered the cost of plant and machinery and of their erection and installation and have accordingly been booked by the plant under the corresponding heads."

3.16. The actual expenditure against the project estimates includes a sum of Rs. 78.05 lakhs on the execution of effluent disposal scheme.

As the Plant was located at Hyderabad at the instance of the State Government and as the existing arrangements for disposal of effluents in the city were inadequate and were the responsibility of the State Government, the arrangement arrived at was that the State Government would bear the cost of the effluent disposal scheme up to Rs. 32 to 40 lakhs, even though it was their intention to make a smaller lump sum contribtuion, if possible.

3.17. In 1961, the Ministry of Industry informed that a simpler and economical scheme for disposal of effluents had been suggested by the Russian Experts and that it would involve an expenditure of Rs. 15 lakhs only. On this, information being communicated to the State Government, they agreed in August, 1961 to bear full cost of the effluent disposal scheme.

Actually, however, the simpler scheme was not adopted by the Company and after considering various proposals for effluent disposal, the Company ultimately adopted on 26th February, 1966, the scheme prepared by the Central Public Health Engineering Research Institute, Nagpur which was estimated to cost Rs. 57.74 lakhs. This scheme was approved by the High-level Technical Committee (which included a representative of the State Government) constituted for working out an effective and economical scheme for disposal of effluents.

3.18. The State Government were approached in 1969 for reimbursement of the expenditure incurred by the Company on effluent disposal. The State Government, however, repudiated any liability in excess of Rs. 15 lakhs and informed the Government of India that the State Government had to incur extra expenditure to the extent of Rs. 25 lakhs on account of payment of enhanced compensation for the land acquired by it and gifted to the Plant which should be borne by the Company. Subsequent efforts to obtain reimbursement from the State Government had so far (October, 1973) not borne any fruit.

3.19. With reference to (g) above, the Committee enquired in what respect the Rs. 15 lakhs scheme by the Russian Experts in 1961 for disposal of effluents suggested differed from scheme involving an outlay of Rs. 57.74 lakhs and adopted in February, 1966. The Management apprised the Committee as under:—

> "A high level technical Committee consisting of C&MD, C.E. Works Manager, Project Engineer, Executive Engineer (PH) of IDPL and representative of DGTD, Director General of Health Services, C.P.H.E.R.I. and Public Health

Department of A.P. Government, decided that the original scheme proposed by the Soviet expert was designed to provide a temporary solution of the problem and after taking due note of the corrosive effect of the effluent on masonary structures and other serious disadvantages brought out in the deliberations of the meeting with regard to structural stability of the dam, it was decided that it would be unsafe and not in the public interest to adopt the scheme recommended by the Soviet expert.

The scheme proposed by the Soviet expert was merely to store the effluent as a temporary measure without treating it in any manner for disposal. The scheme which was finally adopted has incorporated biological treatment of the effluent before disposal. This scheme had been developed by the Central Public Health Engineering Research Institute, Nagpur.

The commissioning of the main plant was getting delayed as the effluent treatment scheme was not finalised. After examination of the Soviet expert's scheme by the committee mentioned above, it was decided to go in for biological treatment scheme recommended by Central Public Health Engineering Research Institute, Nagpur. As there was already delay in finalisation of the effluent treatment scheme, it was thought fit to go in for the new scheme immediately to avoid any further delay in commissioning of the plant. Subsequently, the matter was taken up with the State Government for the reimbursement of the expenditure on the new scheme."

3.20. The Cost estimates of the scheme were worked out at Rs. 52 lakhs in February, 1966 when the scheme was considered by the Technical Committee and the Board of Directors. Later on, a provision of Rs. 60 lakhs was made in the Project Estimates for this scheme. which were sanctioned by the Government.

About the efforts now being made to obtain reimpursement from the State Government, the Committee were informed that the matter has been taken up by the Chairman and Managing Director of IDPL with the Secretary to the Ministry of Petroleum and Chemicals and pursued with the Ministry from the Head Office. However, State Government have raised a counter demand on Government of India of Rs. 25 lakhs towards the additional expenditure incurred by them in connection with the acquisition of land for SDP. They have not reimbursed any amount to the Company.

3.21. In this regard the Ministry stated as under:—

"The reimbursement required from State Government does not concern the land acquired by it for SDP. The position is that as the Plant was located at Hyderabad at the instance of the State Government, it had agreed to bear the cost of effluent disposal which was then estimated at between Rs. 32 and Rs. 40 lakhs. Later a simpler scheme was suggested by Russian experts which was expected to involve an expenditure of Rs. 15 lakhs only. On this being intimated to the State Government, they agreed to bear the full cost of effluent disposal. Ultimately however, in 1966 the Company adopted a scheme prepared by CPHERI, Nagpur which was estimated to cost of Rs. 57.74 lakhs. The State Government repudiated any liability in excess of Rs. 15 lakhs and informed Government that they had to incur extra expenditure to the extent of Rs. 25 lakhs on payment of enhanced compensation for land acquired by it and gifted to the Plant. On this ground the State Government refused to make any reimbursement. We have not accepted this and the matter is being pursued at Government level."

3.22. The Committee note that the estimates of Synthetic Drugs Plant were revised on a number of occasions prior to the sanction, by the Government in 1966 for Rs. 2135 lakhs. As admitted by the Government no provision was made in the estimates towards interest on capital and commissioning expenses. The estimates were again revised by the undertaking in 1968 for Rs. 2293 lakhs and approved by the Government in 1971. The actual expenditure upto 31st March, 1972 is of the order of Rs. 2,195 lakhs. The Committee find that an expenditure of Rs. 157 lakhs was further to be incurred on the Project, bulk of which related to Plant and Machinery (Rs. 110 lakhs).

3.23. The Committee also note that the actual expenditure upto 31st March, 1972 included an amount of Rs. 83.14 lakhs incurred upto September, 1968 and during the period April, 1969 to March, 1972 on carrying out a number of modifications in the course of the erection and also with a view to assessing installed capacity and production practices.

3.24. The Comittee regret to note that no details were, however, available about the expenditure incurred on the modifications during the period of October, 1968 to March, 1969 with the result that the responsibility of the collaborators, if any, could not be assessed and

the expenditure got automatically charged to the project estimates. Although, a procedure for estimating the effect of modifications was prescribed in October 1967, the Committee note that this procedure was not implemented with the result that the effect of this modification could not be evaluated.

3.25. The Committee also note that the estimates of 1971 included new works costing Rs. 48.57 lakhs. The Committee regret that even though these new items constituted material modification of the original estimate of the Project, these were not got approved by the Government nor were these to the notice of the Parliament as recommended by the Committee in paragraph 2.20 of their 39th Report (1972-73—5th Lok Sabha). The Committee expect that Management/ Government will bring these facts to the notice of the Parliament without delay.

3.26. The Committee note that actual expenditure on the Project included a sum of Rs. 78 lakhs on the execution of effluent disposal scheme. According to the arrangements entered into with the State Government, the latter would bear the cost of effluent disposal scheme upto Rs. 32 to 40 lakhs. In 1961 the Ministry informed that a simpler and economical scheme for effluent disposal was suggested by the collaborators involving an expenditure of Rs. 15 lakhs. When this scheme was communicated to the State Government they agreed in August, 1961, to bear the full cost of the effluent scheme. The Committee note that this simpler scheme could not be implemented after considering various proposals for effluent disposal and ultimately a scheme prepared by the Central Public Health Engineering Institute, Nagpur for Rs. 58 lakhs, was adopted by the undertaking in February, 1966. When the State Government was approached in 1969 for reimbusement of the expenditure incurred on the scheme the State Government repudiated any liability in excess of Rs. 15 lakhs on the ground that the State Government had to incur extra expenditure to the extent of Rs. 25 lakhs for payment of enhanced compensation for the land acquired by it and gifted to the Undertaking. The result was that the expenditure on the scheme had to be borne by the Undertaking itself. Subsequently, efforts to get reimbursement of money from the State Government were not fruitful. The Committee were informed that the matter is now being pursued at Government level. The Committee would like to be informed of the development in the case.

B. Performance Appraisal

Installed capacity

3.27. According to the Detailed Project Report, the Plant was designed to produce 851 tonnes of Vitamins, sulpha drugs, Anthel-

mintics, Analgesics, Antipyretics, Diuretics, Anti-tubercular drugs, etc. (Bulk drugs) per annum. These drugs are to be produced from the basic raw materials.

3.28. As regards intermediates, the Detailed Project Report, envisaged a projected capacity of 4,932.8 tonnes per annum. As against this capacity, the requirement of the Plant is 4,561.3 toones per annum for inter-plant consumption and 220 tonnes for sale.

3.29. The installed capacity of various drugs mentioned in the Detailed Project Report was based on 300 working days. It was, however, found by the Management that the Plant was capable of working 330 days in a year. Accordingly, the capacity mentioned in the Detailed Project Report was increased *pro rata*. Appendix X incorporates the date relating to the item-wise capacity of the bulk drugs as provided in the Detailed Project Report, as worked out by the Management for the year 1967-68 to 1971-72 on the basis of 330 working days and after taking into account the items deleted from the range of Detailed Project Report and the additional items not provided for in the Detailed Project Report but taken up for production.

3.30. It will be seen from the details given in the Appendix that:

(A) Out of 16 items of bulk drugs provided for in the Detailed Project Report;

(i) One item (Acetazolmide) had been dropped in September, 1965 on account of obsolescence and marketing difficulties;

(ii) one item (NIH) had been deferred due to high cost of manufacture;

(iii) producion of one item/Diethyl-Carbamazine Citrate) had to be stopped as the Plant could not compete with the other manufacturers who were producing this drug by importing a later intermediate (out of the total production of 17.407 tonnes from 1968-69 to 1971-72, a quantity of 9.734 tonnes was lying in stock as on 31st March, 1973);

(iv) the production of Sodium Sulphacetamide was restricted because of limited demand whih was harly 30 to 50 per cent of the rated capacity of 30 tonnes; and

(v) the capacity of piperazine Adipate which became idle due to availability of imported stocks in the market was partially utilised for the production of other piperazine salts.

3.31. As regards D.C. Citrate, the Ministry have stated (October, 1973) as follows:—

(a) "The import of D.C. Citrate is already in the 'banned' list. The Ministry would consider banning the import of later intermediates for production of D.C. Citrate in consultation with D.G.T.D. The IDPL are being asked to furnish the availability of such intermediates out of their own production to meet other manufacturers' requirements."

(b) In view of higher prices of Indian Drugs and Pharmaceuticals Ltd., very limited stock could be liquidated.

(B) The production of new items, Sodium PAS and Paracetamol with a capacity of 150 tonnes and 85 tonnes respectively was envisaged.

(C) The overall rated capacity on the basis of actual product-pattern, as worked out by the Management was as follows:—

Year	Rated capacity (In tonnes)
1967-68	732·6
1968-69	732·6
1969-70	786·1
1970-71	1068·6
1971-72	1399·6

Actual Production Performance

Bulk Drugs

3.32. According to the Management, the Plant entered into the phase of continuous commercial production in 1968-69. A statement showing the rated capacity as fixed by the Management, targets of production taken for framing the budgets, the actual production there against during 1968-69 to 1973-74 (Upto December, 1973), and the reasons for shortfall in actual production with reference to the targets is enclosed (Appendix XI).

3.33. In connection with the production performance, the following features deserve mention:—

(a) The actual time taken by the Plant for stabilising the production of certain items as against the reglement of the foreign Callorators or the fixed by the Management was much higher, as per details given below:—

Item	Time for stabilisation as given by the Callaborators Management (Months)	Actual time taken as furnished by Management (Months)
1. Sodium Sulphacatamide	6	32
2. Phenacetin	18	27
3. (a) Vitamin B1	24	36
(b) Vitamin B2	30	Not established
4. Analgin	18	29
5 Piperazine Hexzahydrate	12	Not worked out
6. Piperazine Adipate	3	25
7. Nicotinamide	12	24
8. Ditrazine Citrate	18	28
9. Phenobarbitone	18	30
10 Hydrazine Hydrate	12	Not worked out

3.34. In this connection the management stated in their written reply as under:

"*Sodium Sulphacetamide*: The method given by USSR was not giving quality product. To improve the quality of the product, modifications had to be carried out. Further, there were also market constrains. Hence, it took longer time to come to the rated capacities.

Phenacetin: The technology given by the collaborators yielded a product which conformed to the pharmacopeia of USSR. According to the Drug Regulations, the manufacture and sale of Plenacetin in India has to conform to the Indian Phamacopoeia which is more stringent. The USSR pharcamopoeia product is also not acceptable to the market on account of its higher toxicity. Hence, changes had to be made in the process and the product had to be re-stabilised.

Analgin: The manufacture of analgin consists of several complicated stages which involve handlin of hazardous and poisonous chemicals like dimethyl sulphate, methyl ester of benzenesulphonic acid. Some of the important intermediates like methyl ester of benzene sulphonic acid, etc. had to be imported and subsequently the process for the manufacture of these intermediates was developed successfully in the plant as the foreign suppliers failed to supply these materials.

Since the technology given by U.S.S.R. was found to be not giving satisfactory yields and purity, certain modifications had to be carried out.

Piperazine Hexahydrate: This is only an intermediate that goes into the production of pipedazine salts.

Piperazine Adipate: The manufacture of piperzaine is done at high temperature cyclisation reaction involving corrosive raw materials and evolution of dangerous fumes. Hence, the initial stabilisation has token considerable time. The working conditions for the manufacture of piperazine had to be improved by making certain modifications which delayed the production.

Nicotinamide: The plant experienced serious process problems in production nicotinamide, as the final product contained ash impurities. A new step had to be introduced to eliminate this ash and the process took considerable time for stabilisation.

Ditrazine Citrate: Production of Ditrazine Citrate involves a 11-step process. The Plant experienced quite a few problems in the final stages and a few modifications had to be introduced to get the drug of the required purity.

Phenobarbitone: Sub-standard quality of absolute alcohol from the only supplier prolonged the trial period for the manufacture of the commercial product. Secondly, the production of pheno-barbitons involves the cyanidation process which is highly poisonous. The reaction was done only in the General shift under the guidance of the head of the block.

Hydrazine Hydrate: The plant was able to stablise the production within a period of 13 months."

(b) The production of Vitamin B_2 was commenced in July, 1968.

The technology involved the production of D. Ribose, an intermediate, by reduction of Ribonolactone using sodium amalgam as a reducing agent. In practice, this method proved to be extremely expensive as the consumption of imported Metallic Sodium and Mercury were found to be very high.

3.35. In October, 1968, the General Manager of the Plant proposed the adoption of a continuous electrolytic process for producing D. Ribose which had been under trial in U.S.S.R. and had been stabilised by them. The new process was to use only 400 Kgs. of Mercury for circulation as against 5,000 Kgs. in the old process and was to eliminate the use of imported Sodium.

3.36. The new process was introduced in March, 1972 at a cost of Rs. 2.66 lakhs. It was however, found that the consumption of Mercury in the new process was more than that in the earlier process. The production by the new process was, therefore, ordered to be suspended in April, 1972 and the old process using a single stream has been continued so far (June, 1973). Two persons who were deputed in June, 1973 to USSR to study the electrolytic process in operation there had come back and the electrolytic process for the production of Vitamin B2 was stated to be under stabilisation.

3.37. It will be seen from the Appendix XI that there was shortfall in production of these drugs with reference to the capacities and targets. Imports of the drugs to the extent shown herein would not have been necessary if the Company had attained capacity|targets of production.

It is seen that in addition to non-stabilisation of processes and non-availability of raw materials, one other reason for shortfall in production during 1968-69 to 1971-72 is stated to be frequent interruptions in the water supply.

On being asked whether no proper arrangements were made for water supply before commissioning of the Plant in 1967-68 and how the delay of four years from the commencement of production in tackling this vital problem occurred, the Management stated that the decision to establish the syntheic Drugs Plan at Hyderabad was based on assured suppily of water to the Plant by the State Government. In spite of this assurance, as a safety measure, storage facility was provided by construction of two overhead reservoirs during the initial stage itself to meet any breakdowns in the water supply system. However, after the water supply scheme was commissioned, there was an abnormal incidence of breakdowns due to various operational

reasons. As it became clear, due to these breakdowns, the production of the plant would get adversely affected, a decision was taken to augment the storage capacity.

3.38. About the measures taken by the Plant to ensure an uninterrupted suppiy of raw materials, it was stated that the requirement of raw materials for the year have been covered by the Purchase Orders on the suppliers with the provision for reasonable safety stocks. To ensure continuity of supplies, action for the subsequent year has also been taken well in advance so that the orders can be issued for the coming year well in time.

3.39. The extent to which absenteeism and strike were responsible for shortfall in production, the Committee was informed that the shortfall in production due to strike in the plant in March|April, 1970 was 164 tonnes of drugs and due to absenteeism in 1969-70 (due to Telengana agitation) was 13.7 tones.

3.40. Whether the production of piperazine adipate and other items which were affected by the availability of low priced imports has pocked up, the Management stated in the written note that the production of piperazine salts (including Hyderate, Adipate, Phosphate and Citrate) during the year 1972-73 was 44.347 M.Ts. The production during the current year, upto December, 1973 works out to 51.842 M.Ts. The production had therefore, picked up.

3.41. After the system of canalisation came into vogue (1970) by actual users, lot of Pip. Hxy. was imported at cheap prices, resulting in availability of Pip. Salts at price much below that of IDFL. The imported stocks have now dried up and the stocks in hand of Pip. Salts are sold out. In fact, at present the demand has outstriped the supply resulting in imports of Pip. Hxy. by STC. to meet the country's total demand. Present demand of Pip Hxy. and its sales as estimated by the Import Advisory Committee of Ministry of P & C is around 175 tonnes for the year 1974-75.

3.42. Regarding the items where, on account of limitation of market demand, full capacity is not likely to be achieved, it was stated that I.D.F.L. had not produced the items of Sodium Sulphacyl, D.C. Citrate and Sulphanilamide to the fullest extent due to market constraints.

3.43. About the steps being taken by the Management to improve production performance, it was stated that on most of the products, company had been able to come up to the rated capacities except in Vitamin B2 where there were process problems.

3.44 During evidence of the Ministry the Committee pointed out that during 1968-69 to 1972-73, SDOP fixed targets of the production far below the rated capacity and revised the targets downward during the course of the year. The Committee po'nted out that even the revised targets were not achieved by he Plan and desired to know whether the Government had analysed the reasons for shortfall in achievement of revised targets and if so what remedial measures were planned to ensure that targets of production were fixed realistically and once fixed were achieved. The representative of the Ministry stated as under:—

"The reasons for shortfall in production with reference to targets for the years 1968-69 to 1971-72, have already been indicated in the report of CAG Reasons for 1972-73 are stated to be shortage of raw materials like ammonia gas, Sodium sulphide, MAP and alcohol which affected the production of Sulphas, Sodium PAS, Vitamin B1 and Folic Acid. Shortage of water due to break in supply from State Government and also the deteriorated labour situation in July, 1972, affected the production activities. In the last quarter of 1972-73, production had to be restricted due to cut in power supply enforced by the Andhra Pradesh State Electricity Board.

Targets are fixed realistically with the knowledge available at a particular point of time. In the case of SDP, technological problems do not pose much of a problem in achieving the production except for a few isolated cases like the production of D. ribose from Ribono Gama-Lactone in the manufacture of Vitamin B2. To overcome th's difficulty, the company had deputed two of their technical officers to be Soviet Union in June, 1973 for a period of two months to study the process. They have since come back and the electrolytic process for the production of D. ribose has since been implemented.

The plant had taken up expansion programmes simultaneously, which required re-arrangement of the facilities and equipment, addition of new equipment etc., and which affected the overall production, as certain sections or part of the sections were not fully available for utilisation. Production conforming to targeted figures would, no doubt, depend on availability of raw materials and other essential serivces. It is understood that the company has already sent their Chief Purchase Officer abroad to

locate sources of supply of critical materials like Dicyandiamide. It is expected that with these remedial measures taken by the company, they would be able to achieve their production as per targets fixed."

3.45. According to the statistics of imports (made available by Drugs Controller) the drugs falling within the production profile of Synthetic Drugs Plant and imported during 1969-70 to 1972-73 are shown in Appendix XII.

3.46. A statement showing the extent to which the imports would have been obviated by production conforming to anticipations made in the budget of the Plant for 1972-73 as furnished by the Management is also enclosed (Appendix XIII).

3.47. The Committee note that according to DPR the plant was designed to produce 851 tonnes of bulk drugs on the basis of 300 working days. Since it was found that the plant was capable of working for 330 days, the capacity on the basis of actual production pattern was increased to 1,399 tones as on 31-3-1972. The Committee note that out of 16 items of bulk drugs originally provided for in DPR on item Aacetazolamide was dropped on account of obsolescence and marketing difficulties, second (INH) was deferred due to high cost of manufacture, third (D C Citrate) had to be stopped as the production of the plant could not compete with other manufacturers, fourth (Sodium Sulphacetamide) was restricted because of its limited demand in the market and the capacity of fifth (Piperazina Adipate) become idle because the imported variety was easily available. Excluding these and including some new item the overall capacity on the basis of actual product-mix was of the order of 1399 tonnes as on 31-3-1972.

3.48. The Committee also note that though the rated capacity has been increased the target of production has been less than the rated capacity. Even the revised target has shown downward trend. Considering the overall performance the actual production has been less than the revised target from 1968-69 to 1971-72, the shortfall ranging from @ 4 per cent to 32 per cent. However, in the cases of Piperazine Adipate in 1968 in 1968-69 Analgin, in 1970-71, Sul-Hyderate, Phenobrabitone and Sodium PAS in 1971-72 and Phenacephanilamide Sodium Sulphacyl, Piperazine Phosphate, Piperazine Hyderate, Phenobrabitone and Sodium PAS in 1971-72 and Phenacetin. Paracetamoal and Phenobarbitone 1972-73, the actual production was in excess of the revised targets. The major reasons for shortfall in production were stated to be non-stabilisation of

technology, frequent failure in power and water supply and non-availability of raw-materials. The Committee find that the actual time taken by the plant for stabilisation in the production of certain items was much higher than the reglement of the foreign collaborators or even that fixed by the Management. The Committee were informed that the delay in these cases were mostly due to market mendations about market constraints in a separate Chapter. The table to Indian market with the result that certain modifications had to be carried out in the plant. The Committee have given recommendations about market constraints in a separate Chapter. The Committee also hope that it should be possible for IDPL to develop drugs, acceptable to Indian market with the assistance of the Research and Development facilities available with it so that the existing capacity could be utilised to the fullest extent.

3.49. The Committee also note that Synthetic Drugs Plant Hyderabad was based on assured supply of water to the plant by the State Government. As it was felt that due to frequent breakdowns on account of operational reasons production would be affected, a decision was taken to augment the storage capacity. The Committee hope the work in this regard has been completed and continuous water supply assured.

The Committee recommend that in the interest of continuous production and making available essential drugs to the consumers, Government should render all possible assistance to the undertaking in the procurement of raw materials.

3.50. The Committee also note that there had been shortfall in production in Vitamin B_1 Vitamin B_2 Folic Acid, Amidopyrine, Piperozine Salts and D.C. citerate etc., on account of which the country had to import these drugs to the extent of Rs. 269.83, Rs. 366.81 and Rs. 219.98 lakhs in 1969-70, 1970-71, and 1971-72 respectively. The Committee need hardly stress that any shortfall in production and non-utilisation of the capacity will only increase the import of the drugs with greater out go of foreign exchange.

3.51. The Committee recommend that IDPL should ensure the full utilisation of the capacity in all products and thus avoid the necessity of importing them to save valuable foreign exchange.

Rejections

3.52. Rejection at the Synthetic Drugs Plant take place in processing as well as at the finished stage for quality test. The products so rejected are re-processed.

3.53. Appendix XIV incorporates the item-wise details of production and rejections in quantitative terms as well as the losses incurred in processing, re-processing and drainage for the last 3 years.

3.54. It will be seem from the particulars given in the Appendix XIV that process losses and losses due to drainage had decline sharply in 1971-72 as compared with the data for 1969-70 and 1970-71. The overall loss incurred by the Company during 1969-70 to 1972-73 on account of each factor was as follows:—

(Rupees in lakhs)

	1969-70	1970-71	1971-72	1972-73
Process loss	17·37	7·14	2·82	*
Expenditure on repocessing	0·35	0·66	1·86	
Loss due to drainage .	1·95	0·30	Nil.	
	19·67	8·10	4·68	*8·67

in this connection the Management stated—total amount of rejections, losses in reprocess and drainage during the year 1972-73 worked out to Rs. 8.76 lakhs. There were not total rejections as such and that the batches which were rejected by the Quality Control were reprocessed rectified to pass the pharmacopoeial standards. Hence, the only additional cost was on account of reprocessing which could be very little considered in the context of total value of production of Rs. 1265.81 lakhs. The proportion of losses compared to total production was very little. It was assumed that continuous efforts were being made to minimise such losses.

3.55. The Committee find that overall loss incurred by IDPL on account of process losses and loss due to drainage have been of the order of Rs. 19 lakhs in 1969-70, Rs. 8 lakhs in 1970-71 and about Rs. 5 lakhs in 1971-72. The Committee also find that the process loss has shown a declining trend from 1969-70 to 1971-72, although the value of such process losses in individual products like Vitamin B_{12}, Amidopyrine, Folic acid exceeded Rs. 1 lakh during 1970-71. In regard to loss due to drainage the Commmittee note that the

*Break up of the overall loss not supplied.

loss has come down from Rs. 1.95 lakh in 1969-70 to nil in 1970-71. The Committee recommend that since the production in a number of items has been stabilised it should be possible for the Management to fix norms for process losses/rejections and thus have an effective control over such losses.

Expansion Schemes

3.56. Based on the market demand assessed by it, the Company submitted a proposal in March, 1971 to the Ministry of Petroleum and Chemicals for the expansion of the Synthetics Drugs Plant. The expansion scheme envisaged an increase of 887.5 tonnes in the existing capacity of nine drugs and creation of a capacity of 315 tonnes in respect of five new drugs (Sodium PAS, Paracetamol, Pthalyl Sulphacyl, Sodium Sulphadimidine and Sodium Phenobarbitone). In addition, it contemplated the expansion of the capacity of the saleable intermediates by 282.1 tonnes and creation of capacity of 530 tonnes for the new intermediates Item-wise details of the drugs where capacities were to be expanded/created are indicated in Appendix XV.

3.57. The capital cost of the expansion scheme was estimated at Rs. 5.25 crores, excluding the equipments valued at Rs. 40 lakhs which were already available and proposed to be utilised. It was anticipated by the Management that the pay back period after the completion of expansion will be 1.64 years and will result in a profit of Rs. 3.20 crores. According to report on expansion scheme drawn up by the Unit in March, 1971, it was mentioned that it was to be completed during 1971-72 and 1972-73 by incurring half the capital outlay in each of the years.

3.58. The Government, while according approval in April, 1972 to the expansion scheme at a total cost of Rs. 5.25 crores, a foreign exchange component of Rs. 1.6 crores, directed the Company that scheme may be implemented as expeditiously as possible.

3.59. It has been mentioned in the Annual Report of the Company for 1971-72 that the expansion scheme has already been implemented in respect of five existing drugs *i.e.*, Phenacetin, Analgin, Sulphanilamide, Sulphaguanidine and Sulphadmidine and that two new drugs *i.e.*, Sodium PAS and Paracetamol have also been commissioned to production in 1971-72.

3.60. In this connection, the Ministry have stated (October, 1973) that "the total expenditure on the expansion scheme up to 31st

March, 1973 is Rs. 162.60 lakhs. The expenditure on expansion which was anticipated to cost Rs. 525 lakhs has been reduced by Rs. 49 lakhs to Rs. 478 lakhs because of overlapping of some items included both in the expansion scheme and the revised project estimates of the first phase."

3.61. The Ministry further stated in a written note as follows:—

"The rated installed capacity in 1972-73 after expansion of the facilities in Synthetic Drugs Plant, Hyderabad was:—

S.N.	Product	Rated installed capacity in tonnes)
1.	Phenacetin	250·00
2.	Sulphanilamide	132·00
3.	Sulphadimidine	308·00
4.	Sod. Sulphadimidine	
5.	Sulphacyl	55·00
6.	Sod. Sulphacyl	
7.	Paracetamol	85·00
8.	Vitamin Bl Hcl	33·00
9.	Vtiamin Bl (Ampoule grade)	
10.	* Vitamin Bl. (mononitrate)	
11.	Vitamin B2	5·50
12.	* Vitamin P25 Phosphate	1·10
13.	Folic Acid	150·00
14.	* Sod. PAS	
15.	Analgin	105·00
16.	Amidopyrin	11·00
17.	Pip. Hydrate (Cryst)	55·00
18	Pip. Adipate	
19.	Pip Phosphate	
20.	Pip Citrate	33·00
21.	Pip Anhydrous	..
22.	Dirrazine Citrate	22·00
23.	* Thiacetazone	..
24.	Micotanamide	..
25.	Acetazolamide	..
26.	*Sulphamethizole	..
27.	*Pthalyl Sulphacyl	11·00
28.	Phenobarbitone	
29.	*Sod Phenobarbitone	
	TOTAL:	1250·60

* New products introduced in the Product-mix of the Plant in 1972-73."

3.62. When asked about the reasons for delay in completion of expansion scheme by 1972-73 as originally envisaged and as to when the expansion scheme was likely to be completed, the Management stated as under:

"The delay in the completion of expansion scheme of 1972-73 was mainly due to late receipt of letter of intent from the Government. We could apply for import licence for import of equipments only after getting the letter of intent. Even the procurement of the imported equipment has been delayed due to the late receipt of import licence. We have completed the expansion scheme related to Sulphaguanidine, Sulphadmidine, Sulphanilamide and Analgin. In the case of Phenacetin, since the market demand was not much till redently priority was not given to this. In the case of Vitamin B1, Vitamin B2 and Folic Acid, it was decided to merge the Phase I expansion with Phase II expansion taking into account the long lead line required for the procurement of the required equipment, to minimise the down time required for carrying out the modifications, and also in view of the better economics obtainable by carrying out the expansion at one time. Regarding Monoethylamine, the scheme will be taken up when there was indications of market demand for this. Regarding other items we expect to complete the expansions envisaged during 1974-75."

3.63. Whether the expansion of the capacity various items was based on the result of market survey and demand, the Management stated as follows in a written note:—

"The SDP has not only done expansion from 850 tonnes to 1380 tonnes but have gone for expansion to 2000 tonnes and are contemplating expansion to 3500 tonnes in 5th Five Year Plan. The first phase of expansion has been as per out market survey and the demand which has been known to IDPL as IDPL is the sole distributing agency for these products in the country, whereas further expansion is as per the target fixed by the Task Force, Planning Commmission and Ministry of P. & C. As regards INH we do not have any plans to produce INH in the near future. As per the published statistics available

from the DGTD sources, the import of INH in 1971-72 and 1972-73 is as under:—

1971-72	3.10 ts *
1972-73	1.30 ts

Under the import trade control policy for the year April, 1973 to March, 1974 the import of this product *i.e.*, ISONICTONIC ACID HYDRAZIDE (INH) is not permitted. In fact, INH is being exported from this country."

3.64. The Committee enquired as to why the other manufacturers were allowed to import a later intermediate for the manufacture of Diethyl Carbamazine Citrate as the Plant was licenced for the manufacture of Diethl Carbamazine Citrate. The Management stated in a written note that besides, IDPL, there were few other units in the country who were licensed to manufacture Diethyl Carbamabine Citrate in the organised sector. Besides certain units in the small scale sector had also taken up the manufacture of this item. Though IDPL was manufacturing right from the basic stage, the other units were manufacturing from a penultimate intermediate which was imported and the imports were being allowed by the Government. IDPL took up the matter of banning of import of Diethyl Carbamyl Chloride (the intermediate required for DCC as early as 8/11-1-71) and because of their persistant efforts, this item was placed on banned list in the import policy for the year 1972-73.

3.65. About the disposal of the stock of D.C. Citerate of 9.734 tonnes lying as on 31-3-1973 the Management stated as under in a written note:

"The present stock holding of DCC at the plant is 7845.8 kgs. as on 1-1-1974. At one time, it was a fact that the higher price of IDPL was one of the main reasons and even today it remains so although the market has improved slightly. Another factor for slow disposal of this product is the limited market and major consumers are being licensed to manufacture this product for their captive consumption (Burrough Wellcome and Uni-Chem).

The product does not deteriorate on storage because it does not have a self-life. We are evaluating the market situation and if the situation so demands, we might adjust our

*This is spill over the licences issued earlier.

prices with a view to dispose of the stocks earlier. The prevailing market price covers 75 per cent at 190 and 55 per cent at 140 of the total cost of production.

3.66. The idle capacity of D.C. Citerate Plant has been stated by the Management, as being used for producing other drugs like Thiacetazone, Sulphamethizole etc.

3.67. In view of limited demand for Sodium Sulphacyl, the Management had stated in September, 1972 that the equipment meant for this item was being utilised for the production of a new drug Paracetamol. The extent to which the capacity utilised for the manufacture of Paracetamol in 1971-72 and 1972-73 and whether the production of Pharacetamol was able to make use of the entire idle capacity, the Management stated that to the extent the raw materials were available, the Plant produced 1 tonne in 1971-72 and 10.6 tonnes in 1972-73 of Paracetamol.

3.68. About the plant's requirement after expansion for the intermediates and the quantity of intermediates intended for sale it has been stated that the intermediates required after the full expansion for captive consumption will be about 7,300 tonnes annum. Saleable intermediates after the expansion will be about 1,115 tonnes per annum depending upon the market demands.

3.69. In connection with the Expansion Scheme as detailed above, the Ministry stated in a written note as follows:—

"The SDP has not only done expansion from 850 tonnes to 1390 tonnes but have gone for expansion to 2000 tonnes and are contemplating expansion to 3500 tonnes in 5th Five Year Plan. The first phase of expansion has been as per our market survey and the demand which has been known to IDPL as IDPL is the sole distributing agency for these products in the country, whereas further expansion is as per the target fixed by the Task Force, Planning Commission and Ministry of P & C.

3.70. It was estimated that after achieving an expansion to 1994 tonnes additional profits accruing to the plant would amount to Rs. 174.03 lakhs based upon the calculation that the profits prior to expansion which stood at Rs. 75.36 lakhs would increase after expansion to Rs. 259.39 lakhs thereby giving a net additional profit of Rs. 174.03 lakhs. The plant is expected to attain its prescribed capacity after expansion of 1994 tonnes by the end of 1974-75 itself.

In so far as results are concerned, plant made an operational point profit of about Rs. 301 lakhs in the year 1972-73 based on a total production of 1162 tonnes. It hopes to touch about 1300 tonnes in the year 1973-74 and the expectation of the profit this year may not materialise on account of the steeply rising prices of raw materials and increased incidence of salaries and wages on account of Pay Commission's recommendations.

3.71. The drug-DEC Citrate—is also being produced by Burroughs Wellcome and Unichem Laboratories. They are being allowed import of the intermediates based on their manufacturing programme as indicated by IDPL, it is only in the in situ stage and not insoleted by them earlier. Even then, as and when the intermediates are developed indigenously in adequate quantities, the conecrned drugs manufacturers are advised to draw such intermediates from local sources. In the case of this drugs the intermediates that are being allowed to these two firms, are N. Methyl Piperazine and Phosgin. N. Methyl Piperazine though produced by them in the pure state. IDPL continues their manufacturing operations with this chemical and once they are able to isolate this chemical and once they are able to isolate this chemical, from the reaction mixture, they could supply this chemical to other manufacturers. At that point of time, the two other units in the private sector would, no doubt, be advised to draw their requirements from IDPL. Until then, the manufacturers would need to be allowed the import of this chemical to maintain their production of DEC Citrate.

3.72. IDPL applied to CCI & E in November, 1971 for banning imports of Diethyl-Carbamyzine citrate and its import was banned in 1972-73, IDPL have not yet applied for banning the import of methyl piperazine."

3.73. About the steps taken or proposed to be taken so that IDPL's range of production may cover all items of antibiotics, Synthetic Drugs and surgical instruments in order to meet their demand and steps taken or proposed to be taken to stand competition in the market *i.e.* for improving the quality and reducing the cost. The Management stated as under:—

> "IDPL has launched expansion programme to cover a wider range of drugs. To cover the entire range of products available in the market it is left to Government to formulate a suitable policy.
>
> IDPL drugs are sold meeting the specifications laid down in the Pharmacopoeia. As far as the question of reduction

in the cost is concerned, efforts are being made to expand the production facilities. However, in spite of expansion, our efforts are offset by the abnormal increase in the cost of the raw materials."

3.74. The Committee pointed out that though the drugs and surgical instruments manufactured at Synthetic Drugs Plant, Hyderabad and Surgical Instruments Plant, Madras respectively were quality products but IDPL range of production did not cover all items required by hospitals and some Government and Semi-Government hospitals purchase items which were even in IDPL's range of production from other suppliers on the basis of competitive offers and desired to know the steps taken or proposed to be taken so that IDPL's range of production may cover all items of Antibiotics, Synthetic Drugs and Surgical Instruments in order to meet their demand and also how do the Government propose to ensure that Government and semi-Government hospitals purchase their requirements from Indian Drugs and Pharmaceuticals Ltd.

3.75. The Ministry stated in a written note as follows:—

"IDPL have plans to take up the formulations based on a number of new drugs like Diazepam, (ii) Metronidazole, (iii) Chloro Phosphate, (iv) Trimethoprim and (v) Sulphamethizole for which industrial licences have been issued to them. They have also asked for permission to take up the formulations based on (i) Indomethacin, (ii) Frusemide, (iii) Sulphamethoxypyridazine, (iv) Methyl depa (v) Vitamin C, etc. For some of these drugs, they have also plans to take up the basic manufacture themselves.

The number of formulations purchased by hospitals and Government departments runs into several hundred. It is not possible for any single unit to take up the manufacture of all the formulations or even all bulk drugs as such, a selective approach has to be made in this field. IDPL have been concentrating on production of a few items with large turnover, mostly based on their own bulk drugs. It is not the intention that they take up production of all drugs whether bulk or formulations. However, as indicated above, they have been diversifying their product mix. IDPL propose to take up manufacture of many more antibiotics and synthetic drugs during the Fifth Five Year Plan period."

3.76. The Committee find that IDPL has gone in for expansion of the plant at Hyderabad to be executed in two phases. The first phase of expansion to 2000 tonnes is stated to be based on the Market Survey and the demand for the products as known to the undertaking as it is the sole distributing agency for these products, while the 2nd phase of expansion is stated to be based on the target fixed by the Task Force of Planning Commission and Ministry of Petroleum and Chemicals. The Committee find that the estimated cost of Rs. 525 lakhs for the expansion scheme has been reduced to Rs. 478 lakhs because of overlapping of some items included both in the expansion scheme and the revised project estimates of the first phase. The actual expenditure upto 31st March, 1973 was Rs. 162 lakhs. Although the scheme was scheduled to be completed by 1972-73, according to present anticipation, it is expected to be completed only by 1974-75. The Committee are of the opinion that IDPL instead of going in for expansion on a large range of product-mix should make a selective approach consistent with the demand of products in the market in order to utilise its available capacity to the maximum.

3.77. The Committee are surprised to find that when the Hyderabad plant is licensed for production of DC Citrate and a stock of 9.734 tonnes of DC Citrate is lying with the plant for disposal as on 31st March, 1973 other manufacturers were being allowed to import a later intermediate for manufacture of D.C. Citrate. It is only after the IDPL has taken up the matter with Government that this item was placed on banned list in the import policy for 1972-73. The capacity thus rendered idle is being utilised for producing other drugs.

3.78. The Committee would like to be informed about the disposal of the stock of DC—Citrate. The Committee recommend that Government should look into the capacity available with IDPL and the range of products manufactured by it, before private manufacturers are allowed imports of the same products.

C. Loss of Mercury

3.79. During discussion on a Calling Attention Notice in Rajya Sabha on the 24th March, 1970 concerning theft of a large quantity of mercury in the Synthetic Drugs Plant of the Indian Drugs & Pharmaceuticals Ltd. at Hyderabad, a number of Members strongly criticised unsatisfactory working of this Public Undertaking and the heavy losses it was incurring. A suggestion was made that the matter be referred to the Committee on Public Undertakings for examination and report.

3.80. The Chairman, Rajya Sabha referred the matter to the Speaker, Lok Sabha on 26th March, 1970.

3.81. After considering various aspects of the matter Committee on Public Undertakings requested the C & AG to undertake a comprehensive review of the IDPL by Audit Board so that Committee may have an authentic and verified data about the performance of the undertaking. The Audit Report on the working of IDPL was laid on the Table of the House on 21st December, 1973.

3.82. Mercury is used as a carrier of Sodium (in Sodium-mercury amalgam form) in the Plant for the production of "Ribose", which is an intermediate for the manufacture of Vitamin B2.

3.83. Theoretically almost the whole quantity of mercury used should be salvaged with insignificant loss at the end of the process cycle, but in actual practice some losses occur due to handling and side reactions, such as vaporisation of mercury, etc. The Project Report had, therefore, indicated very nominal loss (*i.e.* 0.00264 tonnes of mercury per tonne of Vitamin B2). However, the mercury loss in the Plant was quite abnormal as per details given below:—

(i) *Loss due to defective design*: The first stream of Ribose was commissioned on 25th April, 1968 and during test trials conducted in July, 1968, it was noticed that the mercury was splashing through the insultation of the pipes. The magnitude of the loss was assessed on 20th July, 1968 after the damaged pipe was repaired and the mercury collected. An investigation into the matter revealed the following facts:—

(a) Location of the mercury trap was discovered only after the loss was known.

(b) Mercury trap was not fully completed and was found covered with mud.

(c) Certain shortcomings in design and procedures were not discovered at the time of construction and measurement of work and during test trails.

Certain remedial measures proposed by the Deputy Superintendent of the Block were implemented in August, 1968, to avoid similar losses.

3.84. The question of fixation of responsibility was also considered by the Management and taking an overall view of the relevant facts and the circumstances under which the loss took place, the Management did not find it possible to pin point the responsibility for a loss. The loss of Rs. 1.19 lakhs was, therefore, written off by the Board at its meeting held on 14th July, 1970.

(ii) *Loss due to pilferage*: The average consumption of mercury per kg. of Ribose produced continued to rise from time to time. A doubt was felt in February, 1970 by the Management about the possibility of mercury being pilferred from the process stream in the block. Consequently, the situation was reviewed by the Management in the same month (February, 1970) and the following measures were taken:—

(a) Transfer of persons of doubtful integrity to other sections.

(b) Tightening of security measures.

3.85. On 13th March, 1970, an Operator Grade II of the Block was caught while stealing mercury. He was placed under suspension along with others pending investigation. Since pilferage of mercury from the Block was suspected to have taken place only from the process stream, it was found difficult to estimate the exact loss specifically caused by theft, apart from operational loss. In order to arrive at the extent of loss due to pilferage alone, an exercise was made by the Management by assuming an operational loss of mercury at 0.185 kg. per kg. of Ribose produced. This exercise indicate a likely theft of about 1,500 kg. of mercury valued at Rs. 2.2 lakhs during the period from April, 1968 to March, 1970.

3.86. In view of frequent complaints of loss and theft of mercury at the plant, a Committee was also constituted on 8th January, 1971 (consisting of the Superintendent, Central Bureau of Investigation, Hyderabad, Works Manager and Chief Security Officer of the Plant) to examine the entire procedure for receipt, storage, security and issue of mercury to the Production Block and to make a proper and scientific assessment of consumption of mercury in the process of production of Ribose. The Committee came to the following conclusions:—

(i) Weighing of mercury was not done as soon as flasks containing this material were received through the transport agencies.

(ii) The transport agencies did not take any responsibility, whenever shortage was detected on open delivery.

(iii) In some cases there were delays between the time of receipt of mercury and posting of the entries in the bin cards, while in others the consignment was not accompanied by the documents containing full details.

(iv) Mercury was, for a long time, kept alongwith the general items.

(v) The securrity arrangements for mercury in the Ribose section were defective.

(vi) The workers used to go in and come out of Ribose Section freely.

3.87. In order to remove the above shortcomings, the Committee made the following recommendations (21st July, 1971):—

(i) The plant should send a representative to Bombay or Madras to take charge of the mercury and get it transported in iron boxes under proper seal.

(ii) The consignment of mercury should be accompanied by an invoice/challan containing full details.

(iii) The mercury should be kept in a separate strong room.

(iv) A better process *viz.*, electrolytic process in place of the existing process might be introduced for the production of Ribose.

(v) The normal consumption of mercury should be 0.2 kg. of mercury per 1 kg. of Ribose.

3.88. The Management stated (October, 1971) that the accepted recommendations had been implemented and the change over to electrolytic process would be completed by the end of 1971. It may, however, be mentioned that, as mentioned earlier the electrolytic process was introduced in March, 1972 but had to be suspended in April, 1972.

3.89. During evidence, the Managing Director, IDPL stated that there was loss of mercury due to defect in design and pilferage. Dealing with the defect in design, he said:—

"As regards mercury whatever the design was given we have implemented and I must say that the design given by the collaborator was defective. There should always be

spillover because mercury is a free-flowing material. If there is any pinhole in a pipeline it must flow. They have provided small catch-hole inside the plant and within that they have provided a much larger catch-hole in the sanitary system. The defective design was that the size of the pit inside the block should have been much larger so that if at all there is any eventuality that a certain people completely leads the whole mercury which may fall down should be in the trap inside the block but this was not provided.

3.90. Asked whether loss due to defect in design had occurred for the first time in IDPL the witness said:—

"It was not the first chance that this has happened."

3.91. The Committee enquired whether such a mishap had occurred in the Soviet Union also, the witness stated:—

"I learn in the Soviet Union itself this mishap had happened but unfortunately they did not alert us and they did not change the design."

The Committee wanted to know where the 'pit' was located. In reply, the witness said:—

"If this big pit had been provided inside the main block then this whole mercury would have remained there. The pit was provided in the sanitary system and as the sanitary system was not known they were considering the pit is there. It was full of dust and the mercury passed into the line.

3.92. Asked whether the collaborators had given the same design as they used in their own country, the witness replied:—

"When I was in the Soviet Union, I found that the process that they had given to us, was quite different from what they were following. They had given us stainless steel pipes, whereas they were using glass pipes. In stainless steel pipes, there will be lot of other material and it would form amalgam immdiately and the loss will be higher. When the electrolytic process design was given to us initially, it was at an experimental stage in their own country. They have now perfected the design and

have changed the material of construction. To modify the process as they used in Russia, we sent our two engineers last year. They studied the process there and they brought all the drawings and design. The new plant has been put and it is giving very good results.

3.93. The Committee asked if the trap was located before the loss had occurred. In reply, the witness stated:—

"We were able to locate the trap only when the loss had already occurred and not earlier, because inside the block there are a large number of vessels and the production people are carrying out the process."

3.94. The Committee desired to know it the Committee appointed in January, 1971 to examine the entire procedure for receipt, storage, security and issue of Mercury had held the Block Superintendent and the Chief Technologist responsible for the loss of mercury, the witness said:—

"The Block Superintendent has the primary responsibility and the Chief Technologist and their project Administration the vicarious responsibility and they have fulfilled their responsibility as far as ther sphere was concerned.

The normal consumption of mercury should be 0.2 kg. of mercury per 1 kg. of Ribose. We have come to 0.16 to 0.2. Theoretically, there should not be any loss, but practically there would be, because the mercury gets accumulated and it has to be exidised and treated with acid. In that process, there will be loss.

The fact that the mercury trap was not fully completed and was found covered with mud, from Civil Engineering point of view.

3.95. Asked whether it was not the responsibility of the Sanitary Engineer that the pit is not covered with mud, the witness stated:—

"Had the sanitary engineer been careful in looking and removing the mud, then this mishap would not have happened. But the collaborators were more experienced. They should have pointed out. It was the duty of the sanitary engineer to see that the mud is not there and that it is removed. The sanitary people, being the auxiliary service, will not know the hazards of the chemical process.

3.96. Asked if the security arrangements had been tightened to guard against the possibility of pilferage, the witness assured the Committee that—

> "Management caught certain people, and five of them have removed from service. After that we have put the security guard and there has not been any pilferage. We have made some *pucca* arrangement now. When a person enters that particular section, even the General Manager, he is searched and he has to write on the register and so on."

The Management also stated in a written note as under:—

> "As review was taken earlier on the consumption coefficients of mercury in view of the high magnitude of the loss of mercury with reference to the norms of consumption, but since the processes were not at all stabilised, the yields were very much fluctuating resulting in high consumption of mercury."

3.97. The Committee enquired the decision has been taken by IDPL on the report of the Enquiry Committee. In reply, the witness stated:—

> "A High Power Committee was appointed by the Board of Directors to go into the question of finding out the reasons for the loss of mercury. The finding were considered by the Board of Directors and in the circumstances of the case, the Board was satisfied that it was not possible to pinpoint the responsibility."

3.98. Asked if the members of the Enquiry Committee were technically qualified to enquire into the loss of mercury, the witness said:—

> "One of the Members of the Committee, appointed in January, 1971 to investigate the loss of mercury was technically qualified officer who had taken the assistance of senior technical officers in the course of investigation by the Committee."

3.99. The Committee enquired what parameters were adopted by the Enquiry Committee to fix the normal consumption of mercury. In reply, the witness stated that briefly these parameters were:—

(i) Evaporation of mercury during the preparation of amalgam,

(ii) Introduction of 3rd shift working in the Grinding and acid,

(iii) escaping of mercury in the form of minute globules along with the washing. The limitations of the existing batch process was known to the Plant. IDPL were informed by the Soviet Collaborators that they have got a better process *viz.* electrolytic process for the prodution of Ribose. It was decided to go in for the new process which involves less handling of mercury. Due to the inherent disadvantages in the process, the decision was taken to switch over to the new electrolytic process that is being adopted in the Soviet Union.

The consumption of mercury per kg. of Ribose during 1972-73 was 0.1583 kg. and 1973-74 (upto October, 1973), was 0.1808 kg."

3.100. About the loss of mercury the Ministry admitted that:—

"The design also provided a catch pit outside the manufacturing block but that was only in the sanitary line. Provision of this large pit in the sanitary line was, however, not shown in the design of the production block using mercury. IDPL at the time did not have much of competence to detect all these defects in the design, and the utility or otherwise of providing the large pit in the sanitary line was not fully appreciated. Measures have since been taken to place a big pit inside the block where any spilt over mercury would get collected. This pit is kept under special looking arrangements."

3.101. It was stated that—in the opinion of the Government the Enquiry Committee appointed was a fully competent one, as the then Works Manager who is presently the General Manager of the Plant, was a member of the said Committee.

3.102. About the action taken on the Report of the Enquiry Committee the Ministry stated that—

"The Technical Committee has made comprehensive suggestions in their report dated June, 1971, in regard to procurement of mercury, storage, issue etc. The recommendations of the Committee have been implemented by the plant management. Consumption of mercury per kg.

of Ribose during 1972-73 was 0.1583 kg. and during 1973-74 upto October, 1973 was .18083 kg. Since adequate precautions have been taken to trap the mercury and the electrolytic process implemented, it is considered that the possibility of pilferage of mercury would no longer be there."

3.103. In order to remove the above shortcomings the departmental Committee made the following recommendations (21st July, 1971):—

(i) The Plant should send a representative to Bombay or Madras to take charge of the mercury and get it transported in iron boxes under proper seal.

(ii) The consignment of mercury should be accompanied by an invoice/challan containing full details.

(iii) The mercury should be kept in a separate strong room.

(iv) A better process, *viz.*, electrolytic process in place of the existing process might be introduced for the production of Ribose.

(v) The normal consumption of mercury should be 0.2 Kg. of mercury per 1 kg. of Ribose.

The Management stated (October, 1971) that the accepted recommendation had been implemented.

3.104. The Committee find that though according to the process for production of Ribose, almost the whole quantity of mercury used should be salvaged with insignificant loss at the end of the process cycle, the loss of mercury in the plant was quite abnormal. The Committee note that during test trials of the plant in July, 1968, mercury was splashing through the insultation of the pipes. After the damaged pipe was repaired, the loss was assessed in July, 1968. An investigation into the matter revealed that location of the mercury trap was discovered only after the loss of mercury was known, the trap was not fully completed and was found covered with mud and certain shortcomings in design and procedures were not discovered at the time of construction and measurement of word and during test trials. Certain remedial measures proposed by the Deputy Superintendent of the Block were implemented in August 1968 to avoid similar losses. The Management after taking into account the relevant facts and circumstances under which the loss took place, decided in July, 1970 to write off the loss of Rs. 1.19

lakhs. They did not also find it possible to pin point the responsibility for the loss.

3.105. In February, 1970 the Management, however, felt doubt about the possibility of mercury being pilferred from the process stream in the block. The situation was reviewed by the Management and measures taken to transfer persons of doubtful integrity and also to tighten the security measures. An operator who was caught in the process was placed under suspension pending investigation. On the basis of certain norms decided by the Management the loss of mercury was estimated at Rs. 2.2 lakhs during the period April, 1968 to March, 1970. In view of the frequent complaints of loss and theft of mercury a departmental committee was constituted in January, 1971 to examine the procedure for receipt of storage, security and issue of mercury and also to make a proper scientific assessment of consumption of mercury in the process of production of Ribose. The departmental Committee found that (a) the weighment of mercury was not done as soon as the material was received through the transport agencies, (b) the transport agencies did not take any responsibility whenever shortages were detected on open delivery; (c) there were always some delays between the time of receipt of mercury and the accounting of the same; (d) in some cases consignments were not accompanied by documents; (e) mercury was, for a long time kept alongwith the general items (f) security arrangements for mercury in the Ribose Section were found defective and the workers were allowed to go in and come out of the Ribose Section freely.

3.106. The Committee find it hard to accept the plea of the Management that it was not possible to pinpoint the responsibility for the loss of mercury. The Committee would like Government to review the matter and take action to fix responsibility in this regard. The Committee were assured that since adequate precautions have been taken to trap the mercury and the electrolytic process implemented the possibility of pilferage of mercury would no longer be there. The Committee cannot but observe that because of certain shortcomings in designs and procedures not being discovered at the time IDPL was put to a loss of Rs. 1.19 lakhs which had to be written off. The Committee recommend that a careful watch of the consumption of mercury against norms should be kept so that the Management may analyse any abnormal variations from the norms with a view to ensuring that such variations are not on account of any pileferages or wasteful practices etc. The Committee would also recommend that the security arrangements for the mercury in the Ribose Section should be tightened to guard against the pos-

sibilities of such pilferages. The Committee would like to be informed of the action taken in the matter, within six months.

3.107. The Committee find that the Project Report had indicated a loss of 0.0064 tonnes of mercury per tonne of Vitamin B2 but in order to arrive at the extent of loss due to pilferage alone, an exercise was made by the Management by assuming an operational loss of mercury at 0.185 Kg. per Kg. of Ribose produced. Subsequently the Committee which was constituted in January, 1971 recommended that the normal consumption of mercury should be 0.2 Kg. of mercury per 1 Kg. of Ribsose.

The Committee feel that in order to inspire confidence refixation of norm should have been done by an independent agency after taking into account norms followed in similar plants in the Collaborators country, lest upward revision of norm by the Management themselves should be construed as an induction regularisation of a loss.

D. Profitability

3.108. As already mentioned, the Project Report did not indicate the profitability of the Synthetic Drugs Plant. However, the Company prepared in March, 1967 a statement showing cost and profitability during the Fourth Plan period assuming that the Plant would work at full rated capacity from 1968-69 and for 300 working days in a year. According to this study, the plant was expected to incur the following losses:—

Year	Net operating Loss
1967-68	205·31
1968-69	138·13
1969-70	141·53
1970-71	145·00

3.109. The Unit went into full commercial production in 1968-69.

In October, 1970 the Company made a fresh assessment regarding the profitability of the Plant based on the estimates of cost of production framed in July, 1970, rated capacity recalculated with reference to 330 working days and taking into account the expanded capacity for Phenacetin (from 100 tonnes to 250 tonnes). As per

this study, a total profit of Rs. 233.85 lakhs per annum was estimated by the Company on the basis of full rated production as per details given below:—

Product	Profit (Rupees in lakhs)
Bulk drugs	69·76
Intermediates	33·95
Formulations	126·26
Power packs	3·88
TOTAL.	233 85

3.110. The table below compares the estimated losses|profit as per the profitability forecast (March, 1967 and October, 1970), budgeted operating results and the actual losses incurred since the commencement of commercial production:—

(Rupees in lakhs)

Year	Estimated loss(—)/ profit (+) as per profitability reports	Budgeted		Actuals	
		%age utilisation of capacity	Operating loss	% age utilisation of capacity	Loss
1967-68	(—)205·31	19·2	N.A.	6·5	90·82
1968-69	(—) 138·13	63·2	360.43	31·0	321·92
1969-70	(—) 141·53	133·0	134·90	105·0	344·88
1970-71	(—) 145·00	271·4	68·87	136·3	235·84
1971-72	(+)233·85	(—)197·6	125·11	160·9	85·10

NOTES. Figures of loss for 1967-68 to 1970-71 in column 2 are based on the profitability study of March, 1967 and that of the Profit of Rs. 233·85 lakhs on the basis of the profitability report of October, 1970.

2. Percentages are higher than 100% in the case of budgeted utilisation of capacity as the rated capacity adopted for the budget was different from that mentioned in other documents.

3.111. It will be seen from above that as against the profit of Rs. 233.85 lakhs in 1971-72 envisaged in the profitability study of envisaged in the profitability study of October, 1970, the annual budget estimates of the Company anticipated a loss of Rs. 125.11 lakhs.

3.112. The variations in the anticipations made for the years 1967-68 to 1970-71 in the profitability studies, annual budget estimates and actuals have been explained by the Management due to the following factors:—

(i) Under utilisation of capacities.

(ii) Low selling prices mainly due to availability of imported material at lower prices.

(iii) Higher consumption of raw materials, intermediates, etc. as compared with the cost estimates.

(iv) labour strikes from 9th March to 29th April, 1970 resulting in a production loss of Rs. 79.85 lakhs (at net realisable value).

3.113 The Management stated (May, 1972) that it had taken up with the Bureau of industrial Costs and Prices the question of revision of selling prices in the light the actual cost of production and that their representation was under active consideration.

The Management in a written note stated that based on the expanded capacities the estimates of profitability for bulk drugs were worked out at the time of the submission of the report in February, 1971. The net profit was tentatively estimated at Rs. 1.58 crores. Since then, the cost rising factors, particularly in raw materials, salaries and wages, services, stores and spares etc. have adversely affected this profitability. The Management feel that unless the selling prices are revised the plant would continue to incur the losses even on attaining the rated production as the prices of raw materials and also wages, cost of services etc. have gone up considerably. The representation made by the Company to the Bureau of Industrial Costs and Prices for revision of selling prices is still under consideration of the Bureau of Industrial costs and prices and Government.

In this connection, the Ministry stated as under:—

"The profitability of the plant based on the estimate of July, 1970 was not submitted to Government."

3.114. Government agree with management's statement that the rising cost of raw materials, salaries and wages, services, stores and spares etc. have adversely affected the profitability of the plant based on the expanded capacity worked out in February, 1971.

3.115. Government agree that unless the selling prices are revised, the plant would continue to incur losses even on attaining

the rated production. The working group of the Bureau of Industrial Costs and Prices have already submitted their report to Government and this was in four parts, three relating to prices of bulk drugs were submitted in April, 1972 and the fourth part relating to pricing of formulations in October 1972. The* report is under consideration of Government. As drugs are essential commodities of mass consumption, the report required a careful examination from various angles. In view of the substantial increases in the costs of various raw materials and services, the BIC&P have been asked to work out the revised selling prices taken into account the current costs. The report in this regard is expected to be received shortly."

E. Costing

(Cost of Production)

3.116. In Detailed Project Report no exercise was made either relating to cost of production or profitability of the various products. On the basis of the full rated capacity, Company prepared in March, 1967 product-wise estimates of cost of production. These estimates were revised in November, 1967, October, 1969 and July, 1970 after taking into account the following factors:—

(i) Changes in the raw materials input as a result of modifications|process changes and improvement in the existing processes.

(ii) upward revision in the prices of raw materials.

(iii) Change in depreciation rates and quantum due to change in book value of the assets consequent on the actual capitalisation.

(iv) Handling loss of 2 per cent.

3.117. In the cost estimates of July, 1970 a provision of 5 per cent towards increase in the prices of raw materials was also made.

3.118. It is seen from the details regarding the estimates of cost of production framed from time to time and the actual cost of production for the four years ending 31st March, 1973 given in

---

*At the time of factual verification the Ministry of Petroleum and Chemicals stated as under :—

"The report from BICP has been received and Government have also taken a decision on the report of the Working Group in so far as the revision of prices of bulk drug packaging are concerned. These cover the specific terms of reference of the Working Group. Other recommendations which the Working Group has made under the residuary terms of reference are under consideration.

the Appendix XIII of the Audit Report that even in 1971-72 the actual cost of production was significantly higher than the estimated cost in all the items, except two. The Management have stated that the increase in the actual cost of production was mainly the result of:—

(a) Under utilisation of the capacity partly caused by limited market demand in respect of D.C. Citrate, Piperazine Salts, Diethylamine, etc.

(b) Increase in the usage of raw materials and intermediates due to poor quality, frequent break-down of furnances, etc.

(c) Increase in the cost of raw materials as compared with the cost adopted in the estimates.

(d) Rise in the wages consequent on the agreement with the Union.

3.119. As regards (b) above, it may be mentioned that a study of the actual consumption of the major raw materials (which accounted for about 80 per cent of the total value of raw materials consumed) with reference to the standards laid down in July, 1970 indicated excessive consumption aggregating Rs. 29.73 lakhs during 1970-71 and 1971-72, as per details given below:—

(Quantity in tonnes and value in lakhs of rupees).

Year	As per standards fixed in July, 1970		Actual		Excess consumption	
	Qty.	Value	Qty.	Value	Qty.	Value
1970-71	6,269·973	139·83	6,992·184	152·94	722·211	13·11
1971-72	8,943·791	213·41	9,750·101	230·03	806·310	16·62
				Total :		29·73

3.120. It has been stated (August, 1973) by the Management that production was under stabilisation during the initial years and this might have accounted for the excessive consumption of raw materials over the norms. It has further been stated that Departmental Committee is, however, examining the question of fixation of norms on realistic basis.

The item-wise cost of production expressed as a percentage over the cost estimates drawn up in July, 1970 for major drugs is given below:—

The item wise cost of production expressed as a percentage over the cost estimates drawn up in July, 1970 for major drugs is given below:—

	July, 1970 Estimates	1971-72 Actuals	1972-73 Actual
1. Phenacetin	100	94	107
2. Sulphanilamide	100	142	134
3. Sulphaguanidine	100	147	142
4. Sulphadinidine	100	150	138
5. Sodium Sulphacyl	100	131	138
6. Vitamin B1	100	150	110
7. Vitamin B2	100	284	280
8. Folic Acid	100	96	71
9. Amidopyrine	100	216	165
10. Analgin	100	106	119
11. Piperazine Adipate	100	152	233
12. D.C. Citrate	100	165	..
13. Phenobarbitone	100	155	138

3.121. The Departmental Committee stated to have been examning the question of fixation of norms for the consumption of material on realistic basis has started the work on revising the norms. But the work has been delayed as there has been quite a few changes in the process with a view to rationalising the production.

About the other measures taken by the Management to reduce or to contain the cost of production apart from the reduction in cost consequent upon the rated capacity the Management stated that "efforts are in progress to rationalise the processes and this work is being done in our Research Division and also in the Process Control Laboratories of various production block."

3.122. In this connection the Ministry stated as under:—

"The following measures have been taken by IDPL to reduce the cost of production. These are in the nature of tech-

nological improvement to increase the productivity and to contain the cost by spreading the incidence of fixed expenses over a larger production viz.

1. *Synthetic Drugs Plant, Hyderabad*

The Plant has taken several measures to impose and rationalise the process by conducting experiments in Research and Development Section and process control laboratories of the various production block, apart from expanding the capacities.

2. *Surgical Instruments Plant, Madras*

(i) Booking of job orders for light engineering items to use the spare capacity in the Forge Shop, Tool Room, heat Treatment shop and Elecetoplating Shop. This was enabled through competitive pricing of these jobs, to recover part of the cost of fixed over heads.

(ii) Introduction of 3rd shift working in the Grinding and Assembly Shop so as to avoid bottlenecks at this stage to improve the utilisation in other shops.

(iii) Improving the productivity of workmen for newly developed items like box joint instrument.

(iv) Development of new lines of production with minimum addition to equipment; for example, a project for the production of Detachable Scalped blades of DP type in under implementation.

The results will have to be watched but certainly these measures should go a long way in achieving the objective of cost reduction."

3. *Antibiotics Plant, Rishikesh*

(i) Azeotropic distillation system has been introduced instead of present method of prcipitation which will improve efficiency as well as quality and stability of Sodium Penicillin.

(ii) As gas sterilisation unit has been installed to improve the quality of Procaine Penicillin.

(iii) Old Culture/strains have been replaced with better culture/strains to improve the activity and thereby increase the production.

(iv) Substitution of existing resins with better quality in exchange column to improve the recovery efficiencies in case of tetracycline.

(v) Microniser has been installed to improve the syriangibility of Proceine Penicillin.

The consumption co-efficients of raw materials are being analysed batch-wise with a view to take corrective action wherever possible.

The incidence of rejections on cost of production is requlary reviewed and the reasons for rejections on various ground analysed.

3.123. The Committee find that the DPR did not give any indication either about the cost of production or the profitability of products. The Plant prepared product-wise estimates of cost first in March, 1967 and these were revised in November, 1967, October, 1969 and July, 1970 after taking into account the changes in the raw materials input as a result of modification, process changes, revision in the prices of raw materials etc. The Committee find that even in 1971-72 and 1972-73, the actual cost of production was significantly higher than the estimated cost in all the items except two. The Committee note that excess consumption of raw materials alone over the standards laid down in July, 1970 accounted for Rs. 29.73 lakhs during 1970-71 and 1971-72. The Committee recommend that IDPL should analyse the cost of production to examine as to how far these norms are adhered to. The Committee understand that a departmental Committee is examining the question of fixation of norms of consumption of raw materials on scientific basis. The Committee hope that Departmental Committee would finalise its work soon so that reliable data may be available to enable the Management to review the cost of products. The Committee need hardly stress that the aim should be to achieve an economic and competitive cost of production.

The Committee find that the plant will continue to incur losses even on attaining the rated production unless selling prices are revised. The Committee have no doubt that the Departmental Committee would look into this aspect as well and suggest concrete measures for improving the profitability of the project. The Committee recommend that the plant should endeavour to bring down its cost of production so that it may be possible to reduce the selling prices and make available drugs to the common men at reasonable prices.

F. Research and Development

3.124. The Detailed Project Report prepared by M|s. Technoexpert envisaged the setting up of a pilot plant to carry out experiments in improving manufacturing processes and for developing new drugs.

In para 10.17 of its 46th Report (Fourth Lok Sabha—April, 1969), the Committee on Public Undertakings opined that technological research should be properly organised for improving the processes and that special attention be paid to develop processes and introduce changes which would enable the Plant to utilise indigenous raw materials to the maximum extent so as to bring down expenditure and production costs.

3.124. In the initial stages the Synthetic Drugs Plans efforts were mainly concentrated on the solution of the production problems, especially of process conditions to achieve quality, improvement in efficiencies of reaction and in substituting costlier or imported raw materials by the cheaper raw materials. Various studies were undertaken by the Plant in connection with the improvement of processes and development of new products.

3.125. As a result of these studies and improvements effected in the processes, Unit has been able to eliminate six items of imported raw materials out of 42 items imported so far. The saving in foreign exchange due to elimination of these imported materials amounted to Rs. 22.70 lakhs during the last 3 years.

3.126. The table below indicates the expenditure incurred by the Plant on Research and Development during the last 4 years ended 31st March, 1973:—

(Rupees in lakhs).

Year	Total expenditure	Percentage to total expenditure
1969-70	9·95	1·5
1970-71	8·81	1·1
1971-72	17·40	1·5
1972-73	18·59	1·5
Total :	54·75	

3.127. The Management in a written note stated as under:—

Various studies have been made and improvements effected in existing plant processes in respect of Phenacetin, Sulpha drugs, Vitamins, DCC, Analgin, etc.

Technology has been developed and implemented, at the main plant in respect of other drugs such as Paracetamol,

Thiacetazone, Sodium Sulphacetamide, Pip. Citrate, Sodium Phenobarbitone, Tiamine Mononitrate and Sulphamethizole.

3.128. In addition to development of technology for different drugs|products for expansion of this present SDP, Hyderabad, the R&D Department will undertake development of technology for quite a few of the drugs to be manufactured at the new Synthetic Drugs Plant which IDPL plan to establish during the Fifth Five Year Plan. Research work will be taken up on about 34 new drugs important of which are Vitamin B6, Sulphadiazine, Metronidazole, Daizepam etc.

3.129. As a result of import substitution of six items of raw materials, (1) Chloroform (2) Bromine (3) Potassium Carbonate (4) Phosgene (5) Methylobenzene Sulphinate (6) Ammonium thiocynate|ion exchange resin and also Phyridine, eliminated from sulphacetamide technology, no extra cost burden was put on the company by their elimination.

Presently, seventeen major raw materials are being imported for production purposes at this plant. Constant efforts are being made in this R&D Laboratories to find out alternative routes so that imported raw materials can be avoided or substituted by indigenously available material."

3.130. About the proposals for undertaking research and development in respect of Synthetic drugs during the Fifth Five Year Plan, the possibility of substituting the imported raw materials by indigenous raw materials and their dependence on imported raw materials, the Ministry informed the Committee as under:—

"Besides expansion in capacity for the production of the existing drugs, IDPL has plans to produce a large number of other new and essential drugs during the 5th Five Year Plan period. Process know-how in the laboratory has been developed for Chloroquin, Chlorpropamide, Frusemide, Trimethoprim, Sulphamethoxazole, Nitrofurzzone, Nitrofurantion and Sulphaphenazole. In addition, pilot plant operations are also in progress for sulphaphenazole and Chlorpropamide lab. work for Metronidazone, Diazepam and Allpurinol (unicosin) has been taken up. Technology for the commercial production of Vitamin B-6 is also being developed at their R&D Deptt. in collaboration with National Chemical Laboratory, Poona.

In order to expedite the production of some of these essential drugs, Govt. is also exploring the possibility of procuring the know-how from well-established firms abroad. This would eliminate the time as well as the associated expenses that would otherwise have to be incurred for the development of such technology in the country. Government is also trying to assist the unit by providing some funds through the Deptt. of Science & Technology for strengthening their Research base.

Task force on Drugs & Pharmaceuticals has also identified the requirements of major raw materials required by the drugs industry for achieving the 5th Plan targets. The imported and indigenous items have also been indicated therein. It is expected that suitable entrepreneurs in the respective lines would take up their manufacture. The drugs industry has to depend on the other Chemical industries, particularly the organic-chemical industry. It is practically impossible on the part of the drugs industry to take up the manufacture of all such intermediates or raw materials themselves. The drugs industry have however, taken up the production of a number of intermediates themselves either for their own consumption or for supply to other. IDPL are also producing a number of intermediates totalling approx. 7725 tonnes, and have plans to take up the manufacture of other intermediates also in the course of the next 5 years. Special mention may be made of MEP required for the manufacture of Niacin|amide and Nikethamide. Other intermediates like Para-Aminop-enol, Ethoxy Methylene malonic ester, N-Methyl piperazine, Noveldiamine etc. are also in their production programme during the 5th Plan period. Most of these items are presently being imported by the drugs industry.

With the availability of such basic chemicals and intermediates from local sources, the drugs industry would switch over to those items for their use. IDPL have through their R&D efforts been able to replace the imported Bromine by indigenous Chlorine. They have also eliminated the use of imported Potassium Carbonate by modifying their process.

At present, about 20 major raw materials are being imported for production purposes at SDP.

Constant efforts are being made by the R&D Group to substitute these imported raw materials or find alternative routes for the synthesis of the concerned drugs. Since the drugs and drugs Pharmaceutical industry is primarily a chemical based industry, it has to depend on the supply of raw materials from other sources and it is practically impossible for any drug manufacture to produce their own raw materials. As a result, unless the chemical industry and the organic chemical industry in particular are developed indigenously and take the production of all the necessary chemicals, it would not be possible to eliminate their imports completely. As such, it is not possible to indicate any time period by which Government could put an end to the dependence on imported chemicals."

G. Material Management and Inventory Control

3.131. (i) *Inventory Holdings*: The table indicates the comparative position of the inventory holdings and consumption of raw materials and stores and spares for the last six years:

	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74 (upto 30-9-73)
A. Raw Materials	140·09	101·72	107·54	221·97	195·88	117·01
Stores and spares	73·87	136·32	162·41	226·43	252·79	240·82
Loose tools	4·97	5·43	4·10	5·44	5·47	5·23
Works-in-progress	15·78	24·34	30·73	53·47	52·34	41·33
Semi-finished stock	13·69	23·04	28·08	55·34	34·48	36·45
Finished stock	173·15	135·64	35·24	138·10	101·46	164·26
TOTAL :	421·55	426·49	368·10	700·75	642·42	605·05
B. (i) Consumption of raw materials		140·41	196·44	300·80	560·85	667·58
(ii) Consumption of stores and spares		35·45	36·28	46·11	78·08	93·14
C. Closing Stock (excluding materials under inspection and in-transit) in terms of months' consumption.						
(i) Raw materials		8·0	4·5	3·2	3·75	3·16
(ii) Stores and spares		22·8	39·7	39·7	30·20	31·12

3.132. In this connection, the following features deserve mention:—

(i) Fixation of maximum and minimum limits

(a) *Raw materials*: In February, 1968, the Unit fixed the maximum and minimum level of stock of raw materials as follows:—

Item	Maximum	Minimum	Remarks
Imported raw materials.	7 months' consumption	6 months' consumption	
Indigenous raw materials	6 months consumption	3 -do-	For low value items
-do-	1½ months to 2 months.	2 weeks to 1 month	For high value items

The above levels were reviewed in August, 1969, particularly for indigenous items and a safety stock margin (varying from 2 to 3 months) was also added.

It was noticed that in spite of fixation of stock levels the production performance of the Unit was affected by the difficulties in regard to raw materials.

3.133. The critical ittems of raw materials in respect of which the management has been experiencing difficulty are listed below:—

(i) *Imported Items*

1. Dicyandiamide
2. Adipic Acid
3. Citric Acid
4. Guanidine nitrate
5. Monoethanolamine
6. Acrylonitrile

(ii) *Indigenous Items*

1. Acetanilide
2. Meta-aminophenol
3. Methyly Acetoacetic Easter
4. Formic Acid
5. Activated carbon

6. Acetone

7. Aniline

8. Caustic Soda Lye

9. Caustic Soda Flakes

10. Ethyl Alcohol|Rectified Spirit

11. Methyl Alcohol

12. Sodium Sulphide flakes.

(b) *Stores and spares*: The Company Auditors mentioned in their supplementary report for the year 1971-72 that the maximum and minimum limits in respect of stores and spares have not been fixed except in the case of a few items. The Management stated in this connection, as follows:—

> "Maximum and minimum levels of stores|spares are not yet fixed as the annual requirement pattern is not yet stabilised due to constant higher trend in production, continuous modification and expansion.... Maximum and Minimum levels of Stores|spares will be fixed after the revision of code list and completing ABC analysis."

(ii) Slow-moving|Non-moving items:—

The Management expect to complete the work relating to the revision of code list and 'A', 'B', 'C' analysis in respect of stores and spares during the year 1974-75

All stores not moved for over a year are considered by the Unit as non-moving and stores having negligible consumption are treated as slow moving.

The Company prepared, during January, to April, 1971, lists of both non-moving and slow-moving items of stores and raw materials for 12 out of 17 groups. During 1971-72 all the groups (indigenous and imported) were covered. The following table indicates the position of non-moving and slow-moving items (excluding

materials in transit under inspection and those in sub-stores, etc.) as per the latest report:—

(Rupees in lakhs)

Description	Total Inventory		Non-moving stoeres		Slow-moving stores	
	No. of items	Value (Rs.)	No. of items	Value (Rs.)	No. of items	Value (Rs.)
(a) Raw materials .	148	147·20	12	0·53	Nil	Nil
(b) Other stores .	6676	98·67	1168	8·03	176	23·16
(c) Spares (indigenous)	650	7·51	356	2·70	14	1·69
(d) Spares (imported)	1033	83·23	460	24·50	Nil	Nil
TOTAL : . .	8507	336·61	1996	35·76	190	24·88

3.134. About the disposal utilised slow-moving and non-moving items, which as on 31-3-1972 constituted a significant proportion of the holdings of stores and spares, the Management further stated that "the list of slow-moving and non-moving items are being reviewed frequently and such of the items which can be used during our expansion programme, will be utilised for expansion. The items which cannot be utilised for expansion will be disposed of through public advertisements and writing to other public sector undertakings which may be in a position to utilise them. This work is already being done."

(iii) *Physical verification*: With effect from November, 1967, physical verification of all stores, raw materials, spares, loose tools, etc. is conducted on the basis of perpetual inventory system. The table below indicates the value of items not covered by the physical verification during 1968-69 to 1972-73:—

Year	Stores not verified (No. of items)	Value	Percentage to sortes and spare parts (excluding materials under inspection and in-transit)
1968-69 . .	374	3,91,927	2·3
1969-70 .	1,686	46,71,807	24·2
1970-71 . . .	882	49,75,065	21·3
1971-72 .	208	57,12,692	15·2
1972-73 . . .	284	11,25,066	4·6

3.135. In connection with not conducting physical verification of a substantial proportion of the stores, spares, etc. the Management stated "during the year ending 1969-70, there was a general strike at the Synthetic Drugs Plant. This is one of the reasons for not verifying as many as 1886 items valuing Rs. 46.71 lakhs. For the remaining three years *viz.* 1970-71, 1971-72 and 1972-73 certain items of raw materials, stores and spares could not be verified due to the difficulties in the stacking of the items and the large number of items to be verified. In respect of some of the raw materials, the physical verification could not be conducted due to huge stocks, or due to their being stacked in a manner which did not facilitate verification. The physical verification of a number of items of spares for imported machinery could not be completed in earlier years owing to the limited number of Stock Verifiers. Subsequently, a separate technically qualified stock Verifier was deployed and the verification of all items was completed during 1973-74. All the raw materials have been physically verified during 1973-74. The physical verification of all the items of stores and spares was also conducted during the subsequent years, except for one item of cables, which could not be verified due to non-availability of description and quantity on the Cable drums and want of proper stacking. However, efforts are being made to complete the verification of this item, which requires certain gadgets to facilitate the verification.

3.136. The Committee note that inventory holdings of Synthetic Drugs Plant have increased from Rs. 421 lakhs in 1968-69 to Rs. 700 Lakhs in 1971-72. These came down to Rs. 642 lakhs in 1972-73. The stocks of raw materials increased from Rs. 140 lakhs representing eighth months consumption in 1968-69 to Rs. 195 lakhs in 1972-73 representing 3.16 months consumption. Similarly stores and spares increased from Rs. 73.87 lakhs representing 22.8 months consumption in 1968-69 to 252.07 lakhs in 1972-73 representing 31 months consumption. The Committee also note that stocks of stores and spares have generally been much in excess of the annual consumption of stores, while consumption of stores and spares ranged from Rs. 35 lakhs in 1968-69 to Rs. 93 lakhs in 1972-73. The actual stocks ranged from Rs. 74 lakhs in 1968-69 to Rs. 250 lakhs in 1972-73.

3.137. The Committee also note that the Management have fixed the maximum and minimum levels of stocks and raw materials both for imported raw-materials and indigenous raw-materials, and those stocks levels were subsequently reviewed in August, 1969 and stock margin was added. The Committee are surprised that despite of the fixation of stock level the production performance of the

unit, is claimed to have been affected, due to shortage of raw-material. The Committee would like that this matter should be gone into to find out the critical items of raw-material in respect of which the management have been experiencing difficulties so that advance action may be taken to procure them for purpose of stock. The Committee also recommend that the Management should take immediate action to fix up the maximum and minimum levels in respect of other items of stores after completing A.B.C. analysis.

The Committee find that the slow moving and non moving items of stores and spares constituted a significant proportion of the inventory holdings of these items as on 31st March, 1973. The Committee recommend that a careful review of these holdings should be made and the items no longer required should be disposed of.

3.138. The results of the physical verification of raw materials, stores and spare parts including finished goods for the last 2 years revealed the following shortages/excesses:—

Year	Raw materials and stores and spare parts		Finished stock	
	Excess (Rs.)	Shortage (Rs.)	Excess (Rs.)	Shortage (Rs.)
1966-67	94,071	26,744	—	—
1967-68	3,58,647	3,32,216	9	1,04,118
1968-69	4,12,119	5,80,986	1,42,242	3,23,290
1969-70	2,28,634	33,953	1,10,062	2,06,409
1970-71	4,68,496	11,63,990	30,853	96,224
1971-72	4,19,93[illegible]	8,78,887	27,396	41,653
1972-73	4,81,125	4,59,141	95,959	563

3.139. The Unit made investigations into excesses and shortages revealed in 1967-68 for the items having an individual value of more than Rs. 5,000. No investigation was made for the shortages and excess noticed in other years except for shortages relating to finished stocks for 1967-68 and 1968-69. It may be mentioned, in this connection, that the Board of Directors had decided in September, 1970 that all cases of losses, shortages, etc. should be investigated thoroughly and action taken both to fix responsibility and to avoid

them in future. It was further desired by the Board that the shortages of raw materials should be looked into by the Technical Officers of the Plant.

3.140. About a through investigation of all cases of losses, shortages, etc. the management state that "Action was already taken for investigation of the cases of losses and shortages as per the decision of the Board taken in 1970 and after necessary investigation, shortages etc. to the tune of about Rs. 12 lakhs have already been written off. This work is being further taken up continuously and the remaining items will also be taken up and completed during the course of time."

3.141. The Committee note that physical verification of all stores, raw materials, spares, tools etc. is conducted on the basis of perpetual inventory system. The Committee also note that stores and spare parts to the extent of 24, 21 and 15 per cent have not been verified during 1969-70, 1970-71 and 1971-72, respectively. During 1972-73 however, the percentage has come down to 4.6 per cent. The Committee note that the results of stocks verification of raw materials, stores and spares including finished goods for the last 7 years (1966-67 to 1972-73) revealed that Rs. 24.6 lakhs of raw material and spares were in excess and Rs. 34.75 lakhs were found to be short. Similarly more than Rs. 3 lakhs, worth of finished stocks were found to be in excess and more than Rs. 7.7 lakhs worth of finished stocks were found to be short. The Committee were informed that as decided by the Board of Directors in September, 1970 investigation of shortages etc. was undertaken and shortages to the tune of about Rs. 12 lakhs have already been written off. The Committee recommend that responsibility for all cases of losses and shortages should be fixed after a thorough investigation of the remaining cases.

(iv) Impact of modification in the packing programme:

3.142. On the basis of the provision made in the Project Report and the contemplated production programme of 1967-68 the Unit procured during the period from March, 1967 to April, 1968, 36.74

lakhs bottles costing Rs. 4.16 lakhs for packing of finished products. In addition, it procured in 1968-69, 11.31 lakhs pilfer proof caps of the value of Rs. 80,000 for use in the above bottles.

3.143. Regarding the indenting of packing materials prior to commencement of production made on the basis of full years' procuring the materials in a phased manner so as to avoid anticipated requirement; over-stock due to shortfall in production or any other factor, and efforts being made by the Management to dispose of the balance stock of bottles and pilfer proof caps of the value of Rs. 4.25 lakhs, the Management stated that 'IDPL' was entering the market for the first time and no proper sales forecast could be made. To start with, it was decided to go in for formulations in bottles and on an ad hoc basis orders were phased for bottles and packing materials to cover three months' anticipated requirements. Considerable efforts to dispose of the bottles and pilfer-proof caps are being made by conducting periodical public auctions and advertising in newspapers and also writing to other likely users, but the response to purchase these items is very poor, probably due to the fact that most of the Pharmaceutical suppliers have switched over to other modes of packing like tins, strips, polythene bottles, etc. However, further efforts for disposal are being made.

3.144. About the steps that have been taken by the Management to effect improvements in the system of inventory control, so as to avoid over-stocking on the one hand and ensure uninterrupted supplies of raw materials on the other hand. The Committee were informed by Management as under:—

> "Periodical review of high value items are done daily, for medium value items weekly and for other items fortnightly and supplies are regulated according to actual requirements to suit the production schedules. To avoid over-stocking and locking up of funds, supplies of some of the item are even arranged on day-to-day basis. A system of maximum and minimum has been introduced to ensure smooth running of the plant. However, in spite of these steps have been taken, on account of shortage of raw materials in general and on account of transport bottlenecks like non-availability of adequate number of wagons (both ordinary and special type), frequent interruption in power supply etc. at the suppliers' end, and strikes, etc. we are not able to maintain the minimum stocks of a large number of items and as such the supplies have to be forced to hand-to-mouth basis."

3.145. The Plant used 2.74 lakhs bottles upto September, 1969 and the balance stock of 34 lakhs bottles worth Rs. 3.75 lakhs was still lying (February, 1973) Besides the Plant was carrying a stock of 8.17 lakhs pilfer proof caps valued at Rs. 50,000 approx. as on 30th September, 1972.

3.146. The Management explained the accumulation was due to mode of packing in the light of market demand. Besides, formulations of single Vitamin, envisaged in the Project Report, did not materialise due to market assessment.

Steps taken to utilise or dispose of the above stock is not known.

3.147. The Committee note that on the basis of the provision in the Project Estimate and contemplated production programme of 1967-68, the undertaking procured from March, 1967 to April, 1968, bottles costing Rs. 4.16 lakhs for packing of finished products. In addtion it procured 11.31 lakhs pilfer caps of the value of Rs. 80000 for use in the bottles. The Committee regret to note that because of indenting packing materials prior to commencement of production bottles worth Rs. 3.75 lakhs and caps worth Rs. 50000|- approximately are lying in stock. The Committee were informed that since most of the pharmaceutical suppliers have switched over to other modes of packing, response for the purchase of the bottles and pilfer caps is poor, but efforts are being made for their disposal. The Committee would like to be informed of the developments. In the opinion of the Committee the transaction is likely to result in a loss.

(v) Accumulation of the stock of Hydrazine Hydrate

3.148. As on 31st March, 1973, the Company was carrying a stock of 33,002 tonnes valued at Rs. 10.16 lakhs of the above intermediate drug as against the stock of 1,357 tonnes valued at Rs. 0.43 lakh as on 31st March, 1972. It was reported (January, 1973) by the General Manager of the Plant that the sale of this item had been affected adversely on account of imported material being offered by a Bombay firm at a price lower than that of the Plant. It may be mentioned that the import of this item was banned in 1971-72.

3.149. The Committee note that as on 31st March, 1973 the company was carrying a stock of 33 tonnes of value over Rs. 10 lakhs of Hydragine Hyderate as against stock of 1.3 tonnes of value Rs. 43 thousands as on 31st March, 1972. It has been reported by the

General Manager of the Plant that the sale of this item had been adversely affected on account of imported material being offered by a Bombay firm at price lower than that of plant. It was also stated that import of this item was banned in 1971-72. The Committee would like to be informed about the disposal of the huge stocks of Hydrazine and Hyderate. The Committee have made their recommendation about the expansion of the capacity of this intermediate elsewhere in this Chapter.

(ii) **Ammonia Receiving and Storage Station**

Delay in completion of the Ammonia receiving and storage Station

3.150. With a view to ensuring un-interrupted supply of liquid ammonia and to aviod extra expenditure involved in its procurement in cylinders instead of in bulk (in tank-wagons), the Company decided in August, 1966 to set up an Ammonia Receiving and Storage Station with a storage capacity of 100 tonnes.

3.151. The Fertilizer Corporation of India agreed to provide the design, technical assistance in the procurement, inspection, erection and commissioning of the equipment for the Station on a remuneration of Rs. 96,750.

3.152. Out of eleven tenders received in November, 1967 for the supply of two ammonia storage tanks, the tender of M|s. Indian Sugar and General Engineering Corporation, Yamunanagar was accepted on 3rd June, 1968 at cost of 2.80 lakhs. Due to some addtional work like stress relieving, etc., the value of the order was later increased to Rs. 3.14 lakhs.

3.153 According to the purchase order, the firm was to complete the delivery within 9 months from the date of receipt of order, clearance of all technical details and receipt of the approved drawings and plates, etc. Owing to frequent revision of drawings by the Fertilizer Corporation of India at the instance of the firm and delay in execution by the firm, the tanks have not been fabricated and supplied so far (September, 1972). The firm stated in July, 1972 that it proposed to complete the supplies by the end of February, 1973.

3.154. The tanks were actually received by the Plant on 31st May, 1973 and are awaiting (June, 1973) inspection and erection.

3.155. The delay in the completion of the ammonia storage tanks not only resulted in the locking up of company's funds to

the extent of Rs. 2.30 lakhs advanced to the firm but nas also led to an extra expenditure of Rs. 4.99 lakhs during 1969-70 to 1971-72. by way of price differential between the supply in cylinders and tanks-wagons.

3.156. In this connection, following features deserve mention:—

"One of the considerations for selection of the firm mentioned by the Fertilizer Corporation of India in its letter of 12th January, 1968 was reliability (past experience and standing in the fabrication of pressure vessels of the firm. In respect to the complaint for inordinate delay lodged by the Company with Fertilizer Corporation of India Ltd. the latter, however, informed the Committee in April, 1971 as follows:—

"....your experience with ISGEC is in no way unique since, we have also had similar problems with them... they have been seeking a number of changes in the drawings from time to time to suit their convenience ....Most of the changes suggested by the ISGEC have been on account of changes in materials, changes in dimensions due to wrong supply of material received by them as also due to either their inability (or could also be deliberate intention) not to follow the drawings furnished by us:"

3.158. In terms of clause 21 of the purchase order, penalty|liquidated damages @ 1|2 per cent over fortnight or part thereof subject to a maximum of 5 per cent of the value of stores not delivered was leviable for delaved deliveries. No such penality|liuidated damages were, however, levied.

3.159 The Management stated, in a written note, about the commissioning of the storage levying penalty|liquidated damages for delay in delivery and taking up the matter with the Fertilizer Corporation of India, as follows:—

"The storage tanks have since been erected and trial runs are in progress. A sum of Rs. 30,489|- is held back and the question of levying penalty|liquidated damages for delay in delivery is under consideration. The Fertilizer Corporation of India are our Consultants in this work and the decision to award the work to the firm has been taken by them. The question of expediting the supply

of tanks has been taken up with the Fertilizer Corporation of India continuously and the urgency of these tanks has been impressed upon them suitably."

3.159 The Committee note that the undertaking decided in August, 1966 to set up an Ammonia receiving and storage station with a capacity of 100 tonnes for ensuring uninterrupted supply of liquid Ammonia and to avoid extra expenditure involved in it procurement in cylinders. The Fertilizer Corporation of India agreed to provide the design technical assistance in the procurement, inspection, erection and commissioning of the equipment for a remuneration of Rs. 96750. After invitation of tender, the Undertaking accepted the tender of M|s. ISGEC at the cost of Rs. 2.8 lakhs. The tender was subsequently increased to Rs. 3.14 lakhs due to some additional items of work allotted. The firm was to complete delivery within nine months from the date of the receipt of the order, clearance of technical details and receipt of approved drawings etc. Because of frequent revision of drawings by the Fertilizer Corporation of India at the instance of the firm there was a delay in completing the supplies and the supplies were actually received by the Undertaking on 31st May, 1973. As a consequence of this delay, the undertaking had to bear an extra expenditure of nearly about Rs. 5 lakhs during 1969-70 to 1971-72 by way of price deffrential between supply of cylinders and tank wagons. The Committee note that one of the considerations for the selection of this firm was its past experience and standings in the fabrication of pressure vessels. It is surprising that the Fertilizer Corporation which recommended the award of work to this firm stated that their experience with the firm was in no way unique and they had similar problems with them. The Committee fail to understand as to how, inspite of their experience with the firm they had recommended the firm to the Undertaking.

3.160 The Committee were informed that the storage tank had since been erected and trials were in progress. A sum of Rs. 30489 was held back and the question of levying penalty for delay in delivery was under consideration. The Committee recommend that the matter should be fully investigated and the Committee apprised of the results.

H. Manpower Analysis

3.161. While commenting upon the inadequacy of the estimate of 2200 personnel made in the Detailed Project Report, the Committee on Public Undertakings emphasised in para 64 of its 22nd Report (3rd Lok Sabha—March, 1966) recommended that the work load of

various categories of staff should be fixed with a view to determine the exact number of persons required in the various sections of the factory. The matter was again examined by the Committee in its 46th Report (4th Lok Sabha-April, 1969) and in para 10.01 of the Report *ibid* it was mentioned that the staff requirement as estimated by the Unit was 5522 personnel. The Committee also recommended in para 10.10 of the Report *ibid* that the staff requirement should be carefully considered and reduction brought out, wherever essential. It was *inter alia* stated by the Ministry in November, 1969 in reply to above recommendation that the action had already been initiated on the lines suggested by the Committee.

The study of the manpower requirement by the Industrial Engineering Department of the Unit was completed in September, 1972. The Manpower requirement estimated by the Industrial Engineering Department for the expanded capacity of the Plant (2,000 tonnes per annum) was 4.53 personnel as against 5522 personnel reported to the Committee on Public Undertakings vide para 10.01 of the 46th Report (Fourth Lok Sabha, April, 1969). The Report of the Industrial Engineering Department was sent by the Plant to the Chairman and Managing Director for approval in September, 1972.

The Ministry have stated (October, 1973) that "The C&MD has accepted the recommendations of the Industrial Engineering Department for additional manpower requirements. The General Manager has also been asked to fill up the posts in a phased manner according to the needs from time to time during the expansion."

3.162. The table below compares the actual staff strength with the estimates made in the Detailed Project Report and that assessed by the Industrial Engineering Department:—

Estimates			Actuals				
As per Detailed Project Report		As per Industrial Engineering Department.	31·3 69	31·3 70	31·3 71	31·3 72	
Total : Staff Strength	2,200	40,53	2,859	2,974	3,131	3,038	3,143

Category-wise break-up of the projections made in the Detailed Project Report and as assessed by the Industrial Engineering Department together with the actual staff strength there against was not readily available.

In a written note the Management stated as under:—

"On completion of the construction phase the company had asked Synthetic Drugs Plant to assess its manpower requirement on the basis of their expected workload. Accordingly, estimates were prepared by the Unit. These estimates in respect of Synthetic Drugs Plant were 5522. As these figures were considered to be significantly high, it was decided to constitute an effective Industrial Engineering Section to determine manning requirement scientifically. Detailed Industrial Engineering study was carried out by the Industrial Engineering Department of the Head Office, and in December, 1967 the manpower requirement for Departments with in the battery limits of the plant (Technical Departments) was placed as 2328.

3.163. The manpower assessment of Industrial Engineering Department was put up to the Board of Directors in their 43rd Meeting held on 15th December, 1967. The Board approved these assessments and also allowed a flexibility of 10 per cent to the Chairman and Managing Director for readjustment of the manpower depending on the actual requirement for the first year of introduction. For the other departments situated beyond the battery limits of the plant, and including the manpower of the above Departments, the total manpower was fixed as follows:—

1970	3275
1971	3309

Subsequently provided at 4053 as per Industrial Engineering study for expanded capacity. As per the Industrial Engineering Department study the break-up of 2328 for Technical Department and the actual staff strength there against the at the beginning of 1970-71, 1972 and 1973 is as follows:—

		No. of persons working on			
		(1·4)	(1·4)	(1·4)	(1·4)
1	2	3	4	5	6
Production Blocks .		1364			
Laundry . . .		13			
Central Plant Laboratory		117			
Engineering Deptt. .		673			

1	2	3	4	5	6
Supervisory Posts					
(a) Plant Management. .	36				
(b) Production Blocks . .	60				
(c) Central Plant Laboratory	24				
(d) Engineering Deptts. .	41				
	2328	2869	3061	3094	3038

3.164. During their visit to the Synthetic Drugs Plant, Hyderabad on 7th July, 1972 the Committee were informed that total expenditure in that Plant on establishment was Rs. 140 lakhs per annum out of which 60 per cent was technical and 40 per cent on non-technical staff and the overtime paid was about Rs. 3 lakhs per annum.

The Management gave the following break-up of the last three years as called for are as in the statement given below:—

(Rs. in lakhs)

Year	Establishment expenditure		Overtime paid		Percentage of total establishment expenditure to total production cost
	Technical	Non-technical	Technical	Non-technical	
1970-71	97·07	20·60	1·52	0·06	14·59
1971-72 . .	107·59	20·69	1·60	0·07	11·15
1972-73 . .	118·26	22·52	1·55	0·08	12·41

NOTE : 1. The salaries and allowances paid to staff on the pay rolls of administrative departments like Personnel Accounts, Purchases, Security, Transport, Police, CISF, Fire Service Commercial School, Guest House, Field Hostel Dispensary Trainees' Hostel and Clerical staff working in the offices of Sr. Deputy General Manager, Chief Engineering, Dy. Chief Engineer and Sr. Mechnical Engineers have been taken as on technical and shown accordingly. Salaries of all others working in the Plant area have been taken under technical.

2. The overtime figures include the overtime paid to workers for public holidays'.

3.165. The Committee on Public Undertakings in their 46th Report (4th Lok Sabha) had mentioned that staff requirement as estimated by the Unit was 5522 and recommended that the staff requirement should be carefully considered and reduction brought about wherever essential. In response to this recommendation a study of the man-power requirement was undertaken by the Industrial

Engineering Department of the Unit. According to their recommendation the total manpower was fixed at 3275 in 1970, and 3309 in 1971 and 4053 for the expanded capacity. It has been stated that the strength at the end of November, 1973 is 3143.

3.166. The Committee find that though a total strength was recommended by the Industrial Engineering Department, no details are available category-wise with the result that excesses under any category cannot be ascertained.

3.167. The Committee also find that the percentage of total establishment expenditure to the total product cast was of the order of 14.5 per cent in 1970-71, 11.15 per cent in 1971-72 and 12.41 per cent in 1972-73. The Committee recommend that undertaking would make realistic assessment of the staff requirements and regulate the staff strength with reference to production levels obtained from year to year and deploy the staff found surplus for other useful and productive purposes.

Intermediates

3.168. On the basis of 330 working days, the Project Report capacity of 4932.8 tonnes of intermediates was increased to 5346 tonnes per annum. The item-wise details of the capacity and the targets of production as per budget estimates and the actual production for the year 1968-69 to 1971-72 are indicated in Appendix XI. It will be seen from the details given in the Appendix that, by and and large, the production of intermediates fell short of the targets in all the years. Except in three cases in 1971-72 the targets were generally less than the capacities.

The reasons for shortfall between the targets and the actual given in the case of bulk drugs are stated to hold good in the case of intermediates as well.

On being asked about the items which are meant for sale and not intended for inter-plant consumption and whether the expansion of the capacity in the case of the intermediate was necessitated by the expansion of the capacity for main drugs, the Management stated that originally as per the product-mix there was no intermediate meant exclusively for sale. In case of Hydrazine Hydrate, since I.D.P.L. did not go in for production of I.N.H., bulk of the intermediate went for external sale. As for Diethylamine is concerned, part of the quantity went for D.C. Citrate while the rest was offered for sale.

To a great extent the capacity of the intermediates was increased to meet the captive consumption. In case of Hydrazine, Hydrate, taking note of the market trend which indicates increase in the sales, it was decided to expand the capacities of this intermediate.

3.169. About the reasons for allowing the import of Hyderazine Hydrate, an intermediate, whether the demand for this product outstripped the indigenous supply; (whether the expansion of the capacity was likely to be completed; and the present position regarding disposal of the accumulated stock and the prospects for the sale of the product on completion of the expansion programme) the Management stated as follows in a written note:

> "As on 15th January, 1974 we have approximately 51 tonnes of Hydrazine Hydrate (various concertrations). Efforts are a foot to liquidate the stocks against market constraints as imported material is available at much lower prices. We hope to sell the available stocks in the course of next 3 to 4 months."

3.170. In this connection the Ministry informed as follows in a written note:

> "The material Hydrazine Hydrate is being imported into the the country against R.E.P. licences by Established Export Houses besides exporters of drug items like I.N.H. and Thiacetazone. It was reported by I.D.P.L. to the Ministry that imported Hydrazine hydrate is available in the market at much cheaper price compared to I.D.P.L.'s price with the result that I.D.P.L. was finding it difficult to sell their indigenous production as the imported material was being offered at a price lower than that of I.D.P.L. The matter was accordingly taken up with the C.C.I.&E. who informed the Ministry that the current Import Policy for Registered Exporters has been framed keeping in view that excess imports do not take place to the detriment of indigenous production. The import of Hydrazine hydrate is allowed only against export of I.N.H. and Thiacetazone. A similar restriction has also ben placed on the import of Diethylamine which would be allowed only against export of 5 specific products as laid down in Public Notice No. 138/73 issued on 17th August, 1973. The Public Notice was issued after consulting I.D.P.L. CCII & E further indicated that these restrictions are equally applicable to Export Houses who are allowed to import applicable to items only against

export of specified products as indicated and to the extent of not more than 20 per cent of the F.O.B. value of exports. No Export House can have these items against transferred licences. A complete ban on import of these items will adversely affect exports. A substantial difference that exists between the local selling price and the landed cost of imported material will make Indian products uncompetitive in the world market. It was, further indicated by CCI&E that they are writing to the Export Houses to report to them the names of Actual Users to whom the goods were passed on by them and the purpose for which such Actual Users would use the material.

The present capacity of I.D.P.L. is 210 tonnes/year as against an estimated demand of 300 tonnes/year by 1978-79. It is understood from I.D.P.L. that they are the only producers, namely M|s Bengal Immunity and M|s Pfizers have discontinued production of this item."

3.171. The Committee note that capacity for production of intermediates has been increased from 4932 tonnes to 5346 tonnes per annum on the basis of 330 working days. The Committee find that the production of intermediates fell short of the targets in all the years from 1968-69 to 1971-72. The Committee also note that the targets were generally less than the capacities except in three cases in 1971-72. The Committee were informed that to a great extent the capacity of the inter-mediates was increased to meet the captive consumption.

3.172. The Committee also find that a decision was taken to expand the capacity of intermediates like Hydrazine Hydrate taking into account the market demand for the product. The Committee, regret to note that as indicated in the Chapter on Inventory Control, there was a heavy accumulation of stock of this material to the extent of 33 tonnes of the value exceeding Rs. 10 lakhs as on 31st of March, 1973. The Committee also find that the sale of this item has been adversely affected on account of the imported material being offered by a private firm of Bombay at a price lower than the price of the I.D.P.L. The Committee do not see any justification for the expansion of the capacity of this intermediate in the face of the existing conditions. The Committee find that import of this item has since been banned. The Committee, therefore, recommend that the undertaking should ensure that the cost of this product is competitive compared to the imported item, already available in the market.

3.173. The Committee also recommend that the management should take action for the clearance of the huge stock of this material to avoid unnecessary locking up of capital to the extent of Rs. 10 lakhs.

Formulations

3.174. The Company had intimated the Committee on Public Undertakings (vide para 6.37 of its 46th Report—April, 1969) that the Plant had a tableting capacity of 5,000 million tablets (1500 tonnes) per annum. In the Detailed Project Report there was no provision for stand-by machines. In reply to the recommendation of the Committee on Public Undertakings contained in para 6.39 of its 46th Report referred to above, the Ministry of Petroleum and Chemicals, however, informed (November, 1970) the Committee that, after taking into account stand-by capacity and time required for change-over from one product to another, the effective capacity of tableting would be 3,051 million tablets per year based on two shifts, machine working 6·7 hours per shift.

3.175. In September, 1973, it was further intimated by the Management to Audit that, keeping in view the following limiting factors, the achievable capacity would be about 2,000 million tablets per annum:—

(a) Down-time due to change over of the product-mix from time to time.

(b) Isolation of products to avoid contamination.

(c) Size of the tablets.

(d) Physical characteristics of the mass.

(e) Working time.

(f) Capacities at other stages like mixing, granulation and drying.

3.176. As against the above-referred capacities, the product-mix indicated in the Project Report for formulations was for 199.8 tonnes only (equivalent to 666 million tablets of the size of 0.3 gm. per tablet, per annum).

3.177. It will be seen from above that the Management have been revising the formulating capacity down-ward from time to time.

3.178. From the details given below it will be apparent that the actual production fell short of the reduced capacity even:—

Year	Capacity	Target	Actual formulations	Percentage of Actual formulations to	
				Capacity	Target
		(In million tablets)			
1968-69	3,000	1950	268	8·9	13·8
1969-70 .	3,000	1,612	440	14·7	27·3
1970-71 . .	3,000	1,375	598	19·9	43·5
1971-72 . .	3,000	539	1,504	50·1	279·1
1972-73 . .	3,000	1,397	1,822	60·7	130·4
1973-74 . . (up to Oct. 73) .	3,000	1,600	1,141	38·3	..

3.179. In reply to the recommendation of the Committee on Public Undertakings (*vide* para 6.37 of its 46th Report—April, 1969) that Sabha—April, 1969) regarding utilisation of excess formulation capacity by importing some intermediates, the Ministry had stated on 26th November, 1970 as follows:—

> "Action on the recommendation will be taken after production. . . . is established and proper assessment of the demand of the various formulations is made, having regard to the formulations which are already being made and marketed by the various drugs producers in the country."

3.180. The result of the exercise undertaken, if any, by the Ministry in the light of the above commitment is not known.

3.181. In this connection, the Ministry have stated (October, 1973) as follows:—

(a) Indian Drugs and Pharmaceuticals Ltd. have been issued a letter of intent for the manufacture of following drug formulations on the condition that the manufacture of bulk drug should be taken up within three years of the date of issue of the licence:—

(i) Diazepam (5 mg. and 10 mg.) tablets.

(ii) Metronidozole (200 mg.) tablets.

(iii) Trimethoprim & Sulphamethoxazole (80 mg. and 400 mg.) tablets.

(iv) Chloroquin phosphate (250 mg.) tablets.

(b) They have also been issued letters of intent/industrial licences for various bulk drugs which would enable them also to utilise the formulation capacity by importing the bulk drugs in the interim period until they commence basic manufacture.

(c) It is also proposed to grant them industrial licence for Thiacetazone which will enable them to produce anti TB formulations in addition to the present range of PAS and INH formulations.

The Management stated in a written note as under:—

"It had been mentioned in the Detailed Project Report that the formulations capacity of S.D.P. was 5000 million tablets. The capacity of 3051 million tablets per annum was given in 1970 when we were producing less than 600 million tablets per annum consisting mainly of sulpha drugs. Later on, the Plant took up new sophisticated formulations like Hexavitamin, B-Complex, Cemizol etc. These formulations require special conditions of humidity, drying etc. and as already mentioned, the capacity got reduced due to the change in the product mix. It may be mentioned that the Plant today is producing almost at the level of 1800 to 2000 million tablets per annum. The production of formulations during the year 1972-73 was approximately 1731 millions. The profit from formulations division during the year 1972-73 was approximately Rs. 140 lakhs. In respect of certain formulations like Piperazine Phosphate, Piperazine Citrate and Sodium PAS (granules), the selling prices are lower than the cost. The present capacity of 2000 million tablets is being fully utilised to meet the requirement of the market."

3.182. About the assessment of the demand of the various formulations made by the Management it was stated that the market assessment of the various formulations introduced by the Company is done from time to time. They study in depth the total potential of a particular formulation and their likely market share on their introduction of a similar formulation.

3.183. About the economics of the Formulation section on the basis of the reduced capacity of 2,000 million tablets/annum the Ministry stated in a written note as under:—

"Economics of the formulation section was not worked out

as it would vary greatly with the product-mix. The Company produced approximately 1731 million tablets during 1972-73. This resulted in a profit of approximately Rs. 140 lakhs for that year, after depreciation and interest.

IDPL have stated that in respect of certain formulations like Piperazine Phosphate/Citrate and Sodium PAS, the selling prices were lower than their costs. The company has been given a revised price in respect of Sodium PAS granules, from 19-1-1974. It is for the company to approach the Government for revision of the prices of the other two products also. Revision of prices, should improve their profitability position. It is also understood from the company that the capacity of 2000 million tablets is now being fully utilised to meet the requirements of the market. In case of production of formulations by the Company, the capacity is not a limitation as it can be slapped upto 3000 million tablets per annum by introducing a third shift, and by adding some balancing equipment in the drying section."

Whether any assessment of the demands of the various formulations was made by the Ministry, it was stated that no specific assessments about the demand of the various formulations were made by the Ministry as there was a very large number of formulations, many with slight variations and the total number ran into tens of thousands. The Task Force on Drugs & Pharmaceuticals constituted by the Planning Commission, had assessed the country's requirements for drugs and had indicated the requirements of the various bulk drugs during the 5th Plan period. Earlier, the demands of the individual bulk drugs were being assessed by the Drugs and Pharmaceuticals Development Council.

3.184. As regards individual formulations, it is for the management and particularly the Marketing Division of the Company to assess the requirements of the various formulations and based on their estimates of marketability.

3.185. About the import and utilisation of formulation capacity the Ministry informed the Committee in a written note that:—

"IDPL is presently being allowed imports or releases of bulk drugs imported through STC, to enable them to take up formulations based on new drugs. The extent of utilisation of the formulation capacity would depend upon the

market demand of the product mix out of plant and also the quantum of bulk drugs that would be available to them for formulation purposes.

"IDPL is expected to contribute in the development of the industry by producing and supplying the bulk drugs for formulation purposes. If IDPL are required to utilise their entire production of the bulk drugs for formulation activity, it would mean starvation of the existing formulators who are already in the field, which would not be a desirable situation. It is on this consideration that the bulk drugs produced by IDPL as well as the imported quantities are distributed amongst the various formulating units based on the recommendations made by the State Drug Controllers, who, in turn, take their past consumption as the basis for recommendation and certain additional quantities are also being allowed depending upon the categorisation of the firm.

This preferential treatment is being accorded to them to gear up their/production which was affected during the last few years as a result of disturbed conditions prevailing there. The DGTD units are being given only on the basis of their past consumption and no incremental quantities are being allowed to them, since their activity is regulated under the Industries (D & R) Act."

3.186. The Committee note that the plant had 5,000 million tableting capacity per annum. In reply to an earlier recommendation of the Committee (para 3.39 of their 46th Report 1968-69 4th Lok Sabha), the Ministry of Petroleum and Chemicals had informed the Committee in November, 1970 that after taking into account stand by capacity and time required for change over from one product to another, effective capacity of the tableting would be 3051 million tablets per year based on two shifts machines working. The Committee find that in September, 1973 the achieveable capacity was reduced to 2,000 million tablets per annum keeping in view the change in the product mix, size of the tablets, physical characteristics, capacities at various stages like mixing, granulation and drying. The Committee find that as against these capacities, the product mix indicated in the Project Report for formulation was only 666 million tablets per annum. It will thus be seen that the management has been revising the formulation capacity downwards from time to time.

3.187. The Committee also note that actual production fell short of even the reduced capacity. The percentage of actual formulation to capacity (3000 million tablets) ranged from 9 per cent in 1968-69 to 60 per cent in 1972-73. The Committee were informed that the plant is now working at a capacity of 2,000 million tablets per annum and production of formulation during the year 1972-73 is of the order of 1731 million tablets.

3.188. The Committee regret to note that economics of formulation section on the basis of reduced capacity of 2.000 million tablets per annum has not been worked out, as it is stated it would vary greatly with the product mix. The Committee were also informed that plant is being allowed imports or releases of bulk drugs imported through STC to enable them to take up formulation based on new products. As the main margin of profit is in formulations the Committee stress that undertaking should carefully assess demand of drug and medicines commonly in demand and on which foreign firm are making sizeable margins so as to undertake their manufacture/marketing at the earliest & thus bring about more competitiveness in drugs and bring down the rates.

IV

SURGICAL INSTRUMENTS PLANT, MADRAS

A. Project Estimates

4.1. As mentioned in para 5.3 of the 46th Report (1968-69) of the Committee on Public Undertakings, the Project Estimates of Surgical Instruments Plant were revised a number of times. The table at Appendix XVII indicates the estimates approved for the first time by Government in October, 1966, when the plant had already been commissioned, the revised estimates framed by the Company in August, 1968 and approved by Government in August, 1971 and the expenditure incurred (including commitments) there-against up to 31st March, 1973.

4.2. It will be seen from the Appendix that:—

(a) increase of Rs. 24.70 lakhs under "Administrative and General Expenditure" over 1966 estimates was more than counter-balanced by the decrease of Rs. 20.21 lakhs in expenditure under "Township" owing to the pruning of the construction programme; and

(b) a further expenditure of Rs. 5.28 lakhs was required against plant and equipment to complete the project.

4.3. The Ministry in a written note stated as under:—

"Position of employees *vis-a-vis* allotment of residential accommodation is:—

Types of Quarter	No. of quarters available	Occupied by SLP employees	Occupied by others	Vacant
B	316	307	6	3
C	117	113	2	2
D	52	43	4	5
E	16	11	4	1
Servants' quarters	11	10	..	1
	512	484	16	12

4.4. Plant had 1003 employees as on 15-11-1973. The break up of employees according to their eligibility for different types of quarters is not readily available."

4.5. About reducing the outlay on township, the Committee were informed by the Management as follows:—

"A total outlay of Rs. 124.13 lakhs was sanctioned by the Government in October, 1963 for the township, consisting of 644 quarters and other ancilliary facilities, the requirement of the quarters of 644 was based on the undeveloped nature of the area and its distance from city when the project was sanctioned. The construction of the township was taken up in a phased manner and 501 quarters were either completed or in different stages of completion by the time the Indo-Pakistan hostility started in 1965. In September, 1965 under instruction from the Ministry the expenditure on township was frozen and works costing approximately Rs. 31.711 lakhs (as on that date) were decided to be postponed for the next financial year. This was subsequently further postponed due to the emergency that was declared then. Later, by 1967-68 it was noted that the housing facilities in the city and also in the adjoining areas had improved considerably and hence the outlay on the balance works was not taken up as a measure of economy. The Management has made available accommodation to all those who have applied for the same."

4.6. The Committee in paragraph 5.3 of their 46th Report (1968-69) on IDPL had pointed out that the estimates of the Surgical Instruments Plant had been revised 5 times during a period of 8 years from 1961 to 1968. The Committee note that estimates revised in August, 1968 were approved by Government in August, 1971 for Rs. 464.71 lakhs as against the estimate for Rs. 476.69 lakhs approved by Government in October, 1966 for the first time. The Committee find that the actual expenditure upto 30th September, 1973 was Rs. 469.66 lakhs which is more than even the final estimate approved by Government. Apart from the increase of over Rs. 2 lakhs in administrative and general expenses, the Committee find that there has also been an excess of over Rs. 2 lakhs on Plant and equipment. The Committee are surprised that estimates revised and approved in 1966, i.e. after the plant had been commissioned had again to be revised in August 1968 and approved by Government in August, 71 and the actual expenditure had, however, exceeded the approved estimates of 1971. The Committee are not sure whether even now

the liabilities to be adjusted against the project had been taken into account and there would be no further revision of project estimates. The Committee would like to be informed of the position.

B. Performance Appraisal

4.7. *Rated capacity*:—According to the Detailed Project Report, the rated capacity of the Plant is 2.5 million pieces per year of 166 types of instruments. Out of 166 types 18 types alone account for 1.8 million pieces.

4.8. The Plant was commissioned in 1965-66 and began to produce instruments for stock without proper market survey. These instruments did not, however, command a ready indigenous market for the following reasons :—

(a) The Russian pattern did not carry conviction with Indian doctors on account of their being heavy or different in specifications.

(b) High prices based on partial fulfilment of capacity.

(c) Plant was designed to produce large bulks of a rather restricted number of varieties, whereas the market required a large variety of instruments of various types; each type being required in small numbers.

4.9. Consequently, large stocks of unsold instruments accumulated between 1965 and 1968.

4.10. A survey of the indigenous market was then undertaken by the National Applied Economic Research in April, 1966. The study related to 283 types of instruments against a known list of 1770 types as per catalogues of international manufacturers. In July, 1967—March, 1968, Marketing Division of IDPL conducted a "Quick Demand Survey" covering 467 items as against 286 types covered by NCAER study. According to these surveys, the instruments in the original product-mix envisaged in the Detailed Project Report were required to be modified.

The Surgeon's Committee constituted by the Company in 1967-68 reported that out of original 166 instruments, 26 items had been dropped out of the programme, 67 were acceptable, 11 were acceptable with modification. The Committee also recommended that only about 25 per cent of the original product-mix could be acceptable in the Indian market and the remaining have either to be modified or given up and in its place a new set of instruments, required for various surgical disciplines were to be developed.

4.11. No exercise was undertaken by the Company to determine the rated capacity of the plant in the light of the change in the product-mix till 1971-72. It was stated (May, 1972) that the capacity of the Plant had been viewed recently at the instance of the Ministry of Petroleum and Chemicals. According to such a review the capacity, on the basis of product-mix expected to be developed in future, has been evaluated at 1 million pieces of instruments and Rs. 30 lakhs worth of job orders, per annum.

In the perspective plan for the period 1972-73 to 1974-75 drawn up by the company, the following operating contraints were, however, mentioned:—

(a) The imbalance in the capacity of the various shops due to changes in the composition of the product-mix from time to time, resulting in bottlenecks in grinding and assembly operation.

(b) Low productivity of the workmen in grinding and assembly shops where operations are mainly manual.

4.12. It was also reported (May, 1972) that although the Plant had taken some steps to remedy the above situation by developing some ancillary unit for off-loading a part of the grinding and assembly operations and also by engaging temporary staff in the grinding and assembly shops, these did not prove very effective.

4.13. In this connection, the Ministry have stated (October, 1973) as follows :—

"The capacity of plant was reduced from 2.5 million instruments to one million instruments because of the technological problems, especially in grinding and assembly shops and due to drastic changes in the product-mix. It was assessed that the plant could produce a maximum of one million pieces broken up into various categories as detailed below :—

Name of the instrument	Qty. in lakh
Box Joint Instruments	4·00
Scissors	2·00
Items for PHE & Family Planning	0·75
Dental Forces	07.60
ENT & Eye instruments	0·10
Misc. Items (including knives, spot welded hollow handle and misc. original product-mix instruments)	2·55
	10·00"

4.15. Asked as to why the rated capacity of the plant was not determined in the light of the change in the product-mix till 1971-72, the Committee were informed that since 1967-68, the need for effecting suitable changes in the product-mix were noted and steps taken to diversify production both in Surgical Instruments and light engineering jobs. Since diversification was in new lines of production for ready technology was not available, and production was only to orders and hence restricted, productive norms had to be built up with care. Hence no attempt at fixing the capacity rating were made. Subsequently based on the experience gained in the intervening years and finalisation of a specific pattern of product-mix, the rated capacity of the plant for the product-mix alongwith an assessment of the spare capacity in the other areas that could be utilised for light engineering works was undertaken in 1971-72.

4.16. About the evaluation of the capacity of the Plant and the level at which was done, the Management stated that "the plant analysed the work content of the revised product-mix that would fetch at least an average value of Rs. 10/12 per piece, and be acceptable to the Indian surgeons. Also the types of instruments required by Made export were included in the product.

It was also stated that the product-mix might change still further depending on the contomer areas—indigenous on western market subject to this possibility, one millions capacity would be the optimum production turn-over of Surgical Instruments.

4.17. Based on this product-mix, the surplus capacity in areas like the Tool Room, Forge Shops, etc. was taken analysed and it was assessed that with a few balancing equipment for the Tool Room, a job order production of approximately Rs. 30/- lakhs could be achieved within the overall available infrastructure.

4.18. The types of jobs that could be processed on SIP's equipment capacities and specifications in the surplus equipment areas were assessed. Ruling marketable prices were considered.

4.19. It was then decided that the logic and purpose of accepting jobs orders should primarily be to relieve the incidence of the heavy fixed costs of SIP which the Surgical Instruments alone could not bear. The principle of marginal costing was to be adopted in such cases, for deciding the economics of accepting the jobs orders at market prices. The revenue that would be forthcoming on the product-mix of surgical instruments and the light engineering works was than considered in relation to the total expenses.

4.20. The Management has stated that "the market demand for surgical instruments in the country is not expected to meet fully the break-even requirement of the plant. Hence, for a number of years to come, SIP will have to be treated as export oriented and as such, the Government have been approached to provide SIP active export assistance. Based on these premises the profitability of the product-mix of one million instruments and jobs orders production of Rs. 30/- lakhs was found to be sound and the economic viability of the plant assured."

4.21. The Committee were informed that the evaluation of the capacity at one million pieces of instrument and Rs. 30 lakhs worth of job orders per annum were not placed before the Government for approval.

4.22. The Committee regret to note that SIP was commissioned in September, 1965 to produce 2.5 million instruments for stock without a proper market survey with the result that the instruments did not command a ready indigenous market because of high prices restricted number of varieties and pattern of instruments not carrying conviction with Indian Surgeons. Consequently, the Plant was faced with an accumulated stock of Rs. 2.57 lakhs at the end of March, 1968. The Committee find that in April, 1966 a market survey was conducted by the NCAER. Subsequently in 1967-68, the Marketing Division of IDPL conducted a "Quick Demand Survey." According to both these surveys, the original product-mix in the DPR needed to be modified. In 1967-68, a Committee of Surgeons recommended that only about 25 per cent of the original product-mix could be acceptable in the Indian market and the remaining had either to be modified or given up and instead new types of instruments were to be developed. No exercise was done by the Company to determine the rated capacity of the Plant in the light of the change in product-mix based on this survey till May, 1972 when the rated capacity was brought down from 2.5 million instruments to 1 million instruments and Rs. 30 lakhs of jobs orders.

4.23. The Committee were informed that the reduction in the rated capacity was not placed before Government for approval.

4.24. It has been admitted by the Management that "the market demand for surgical instruments in the country is not expected to meet, fully the break-even requirements of the plant." The Committee are of the opinion that all the problems of the Plant are due to the absence of a market survey before deciding upon the product-mix for this plant. The Committee feel that even now it is not

too late to ascertain the types of surgical instruments which would be suited to the Indian market and re-determined the existing product-mix suitability so as to make the plant economically viable.

4.25. The Committee would like Government to go carefully into the question of export possibilities from this Plant to East European and other countries and have a long term arrangement so that the built in capacity which is surplus to requirements can be put to profitable use. The Committee would like to be informed within six months of the concrete steps taken in pursuance of this recommendation.

C. Actual Production Performance

(i) *Instruments*

4.26. As against 166 types of instruments envisaged in the Detailed Project Report, actual production was confined to 142 types only. Out of the 142 types, only 46 types were acceptable to the Committee of Surgeons appointed by Government in 1963-64 to advise on the suitability of the instruments included in the programme of manufacture.

In order to clear the accumulation of unsold stocks worth Rs. 25 lakhs, the Board decided in July, 1967 not to undertake production in future unless there were definite orders in hand. As the orders from individual customers were in small lots, the Plant waited to accumulate sufficient orders for the same categories so as to organise production in economic lots. This, however, led to the diversion of customers to other sources. In certain cases, even when the individual orders had been clubbed, the lots were not economic. The pattern of indigenous orders received showed a high degree of varieties but each variety was required in relatively small numbers, whereas the Plant was designed to produce large bulks of a rather restricted number of varieties. No indigenous orders conforming to this requirement were available and steps were taken to secure export orders confined to large number of restricted varieties of instruments. Accordingly, in the trade agreement with the Soviets, a provision was made for the export of certain instruments for a period of 5 years. In fact, the Plant had been mainly dependent on export orders for these instruments since 1970-71.

4.27. In March, 1972 the Board, however, agreed to the building up of stocks beyond 1500 pieces of such instruments whose annual demand economically justified their manufacturing to stock.

4.28. The table given at Appendix XVIII indicates the planned and actual production of acceptable and non-acceptable items under the Detailed Project Report and the diversified items not included in the Detailed Project Report for the last 5 years.

4.29. It will be seen from above that the actual production fell short of the planned production in all the years and under all the categories, even though the planned production itself was much lower than the reassessed capacity of 1 million pieces of instruments. The Management have assigned the following reasons for the shortfall in production during 1971-72:—

(a) Production deficiencies, specially in the Assembly and Grinding operation which had rendered it difficult for the Plant to keep pace with the order position.

(b) Disturbed labour situation.

(c) Enhanced quantum of work involved in removing the cracks and rectifying other defects found in the finishing stages of production.

4.30. In connection with factors responsible shortfall in production in 1971-72, the Management further stated as follows:—

While the cumulative effect of the different causes like the production deficiencies, disturbed labour situation and defects found in the finished stages of the production was indicated, it is not possible to quantify the shortfall in production in 1971-72 under each element. While framing production plan, these factors were considered and certain targets of improvement in productivity skill and also smooth flow of material to and from the off-loading centres were assured. However, the rise in productivity skill of workers or in differing operations with who were continuously being retained and hence changing personnel on short cycles and then being put on more and more skilled jobs, did not always keep pace with the planned rate of improvement. Similarly, the off-loading centres also could not keep to our plan requirements as they also faced similar problems. Hence, while substantial improvements in production quantities were achieved year by year, the net performance was short of the production targets. Since the steps taken in Grinding and Assembly shop on new instruments like Box Joint and knives had substantially improved the avail-

ability of skill and to a large extent productivity on individual operations, the practice of off-loading could now be stopped and the full set of operations taken in the SIP's shop itself. This would contribute to more rigid control of consistency of quality of every stage. As some of the defects found in the finishing stages of production had emanated from earlier operations like forging, machining and assembly, the following steps have been taken to avoid such errors:—

(a) In the Forge Shop a sand blasting equipment has been added on to the lay-out so that the forgings could be cleaned and surface defects and cracks due to improper forging detected at the earliest stage.

(b) Some of the cutters required for machining in the Box Joint Technology needing greater accuracies than possible in the capacity of the Tool Room were procured from Standard Tool Manufacturers.

(c) A detailed analysis of the causes of rejections had indicated that some of the cracks and failures in the final functional tests had also emanated from excessive strains caused by improper fitting operations. Steps have been taken to avoid or minimise such strains at the earlier operation on Assembly.

4.31. It has been reported in the Annual Report of the Company for 1971-72 that the Plant has introduced changes in the technology and special tooling to improve the productivity of workmen. In addition, steps have been stated to be taken to increase the production by off-loading a part of Grinding and Assembly operation.

4.32. The extent of off-loading resorted to by the Company is indicated below:—

(Rupees in lakhs)

1970-71 .	1·43
1971-72 . .	4·95
1972-73 .	8·44
1973:74 . . . (April to Dec. 73)	0·71
	15·53

4 33. About the fact whether off-loading of Grinding and Assembly operations on a permanent basis would solve the problems of the imbalance in the shop, the Committee was apprised as under by Management:—

> "Development of ancillary industry for part of full operations on Surgical Instruments and other items of identical technology like domestic scissors and pliers etc. to augment SIP's production is a definite remedy to remove the imbalance. However, the scheme of off-loading practised earlier, by participation of SIP's employees in their spare hours to utilise their know how have been noted. But a full ancillary set-up could be organised only over a period of years, as considerably preparatory training and transfer of know-how would be necessary."

4.34. About the disposal of the unsold stocks of instruments worth Rs. 25 lakhs, the Committee were informed that "the inventory of finished instruments as on 31st March,, 1968 was for 21.49 lakh Rupees. The selling prices for these instruments were revised in 1969. As such a comparison on value of instruments for assessing the disposal of such unsold items as up to 31.3.1973 may not give a true appreciation. As such a statement of the stocks of the original 166 types of instruments as on 31.3.1968 and the current status of these instruments as on 31.3.1973 is enclosed (Appendix XIX). It will be seen from the statement that the total stocks of such instruments have come down from 2,57,124 numbers on 31.3.1968 to 82,810 on 31.3.1973. Another point that may be noted is that against the original product-mix of 166 types of instruments for which there were no stocks as on 31st March, 1968, 3900 numbers were in stock as on 31st March, 1973. These were produced against orders.

Asked whether in view of the fact that the pattern of indigenous orders received showed a high degree of varieties but each variety being required in relatively small numbers and the Plant designed to produce large bulks of a rather restricted number of varieties, it would ever be possible for the plant to execute the indigenous orders on economical basis. The Management stated that the following steps need to be taken:—

(a) Since the bulk of the demand for surgical instruments in the country would be for Government, hospitals and Government institutions, there should be advance planning on a national basis for the requirement of specific types of instruments in the requirements and placement of orders on the surgical instruments plant.

(b) While exploring the Export Market aggressively the development of specifications for such orders should be matched with the requirements of such specifications indigenously also. It would also enable the Surgical Instruments Plant to share the burden of development and pooling costs for such new designs. The consequent bulk production for export as well as indigenous market, would enable reduction in cost and make the indigenous and export prices attractive.

(c) In view of the very wide variety of instruments required by the surgical profession (over 2,000 types) there would still be large number of types for which the continued demand for Export and Indigenous markets may not satisfy the economic batch quantities requirement. To meet such requirements, development of ancillary units around the Surgical Instruments Plant and active collaboration, with small scale Industries in the country would be necessary."

4.35. About the total requirements of instruments in the country and the share of the Plant therein according to the survey, if any conducted by the Company the Committee were informed that as no systematic survey had recently been conducted, the total requirements of instruments in the country and the share of Surgical Instruments Plant therein could not be specifically indicated.

4.36. In respect of the shortfall in production under each of the category during 1968-69 to 1972-73 notwithstanding the fact that the planned production in these years was much lower than the reassessed capacity, the Management stated as under in a written note:—

"The shortfalls in production against plan under each of the categories are as indicated in statement enclosed, (Appendix XXI). It may however be noted that the pattern of product-mix has been changing and is at present comprised of Box joint, scissors and miscellaneous items (including curettes and knives for Medexport) which necessitates continuous retaining of personnel for new items."

4.37. From the item-wise production of instruments as planned and actuals there against for the years 1968-69 to 1971-72, it is seen that although no production was planned of a number of items,

yet actual production thereof was undertaken. Similarly production of a number of items was more than the planned figures. The Committee were informed as follows in this regard:—

"While the plans for each month in the years under reference were being evolved against the then current orders, they were based on certain anticipated improvements in skills and productivity of the workers in the Grinding and Assembly Shop. who were being constantly retained on different operations on varying types and sizes of instruments, whenever such build-up was not adequate affecting the production out-turn or when urgent small orders were received in the company, the shop plans were revised from time to time provided orders for such items existed and adequate work-in progress at appropriate stages were available.

This was done to maintain an increasing pattern of production month by month. This incidentally will continue to be a feature so long as a fairly stable product-mix is not achieved, and the difference between plan and production only tapered down over the years. That would explain why production was not strictly according to the plan."

4.38. The Committee note that the Surgical Instruments Plant was commissioned in September, 1965 and was designed to produce 2.5 million surgical instruments of 166 types according to the Detailed Project Report. As only 46 types were acceptable to the Indian Market, the Plant was faced with the problem of unsold stock worth Rs. 25 lakhs. In July, 1967 the Board of Directors decided that no further production should be undertaken unless there were definite orders for the same. The Committee find that since the Plant was essentially designed for bulk production of small number of instruments and the orders received by the Plant were only in small lots, with the result there was diversion of customers to other sources. Since 1970-71 the Plant had been mainly dependent on export orders. The Committee recommend that as the Plant is designed to produce large bulk of a restricted number of varieties of instruments, the Government/IDPL should pool in coordination with the State Governments, the requirements of Surgical Instruments for the Government Hospitals all over India so that the Plant can take up the production of such instruments in economic lots. This may be of some help in finding orders for the utilisation of the existing capacity of the Plant.

4.49. The Committee also find that actual production of the SIP fell short of the planned production in all the years and under all the categories, despite the fact that the planned production itself was much lower than the reassessed capacity of one million pieces of instruments. Apart from the disturbed labour situation the shortfall in production particularly during 1971-72 has been attributed to production deficiencies especially in the Assembly and Grinding Shop. The Committee also find that though no production was planned for a number of items yet the actual production thereof was undertaken. Similarly production of a number of items was also more than the planned targets. In this connection it has been admitted by the Management that "this incidentally will continue to be a feature so long as a fairly stable production is not achieved." The Committee recommend that in the interest of stabilising production, existing system of planning and control of production should be placed on a more rational footing so that the Plant is in a position to plan its production keeping in view the pattern of demand in the country.

Rejection of Instruments

4.40. The table below indicates the rejections in the various shops and overall percentage of rejections to the total production in respect of all the shops:—

Year	Forge shops	Machine shop	Grinding & Assembly Shops	Total	Percentage to rejections to total production
	(Nos.)	(Nos.)	(Nos.)	(Nos.)	
1968-69 .	12,852	11,810	27,538	52,200	22·40
1969-70 .	11,886	6,535	41,524	59,945	26·12
1970-71 .	47,459	15,557	99,333	1,62,349	27·37
1971-72 .	33,789	12,672	85,660	1,32,121	18·95
1972-73 .	36,712	12,249	1,06,160	1,55,121	20·00
1973-74 . (Upto Nov. 73)	14,206	6,029	34,624	54,829	22·00

4.41. It was noticed that the rejection percentages were the higest in Grinding and Assembly shop. No norms have been laid down so far, due to diversified production and absence of large scale production of each instrument.

4.42. In this connection, the Ministry have stated (October, 1973) as follows:—

"It is not possible to prescribe a norm for rejections with which the actuals can be compared for drawing conclusions Rejections may be due to a variety of reasons such as:—

(i) defect in the raw material-quality size, inherent defects like cracks.

(ii) Tooling defects.

(iii) In experience of workmen.

(iv) Absence of momentum of continuous production of each type of instrument.

(v) Fluctuation in power load etc."

4.43. About reducing the rejections due to defects in raw materials and tooling defects etc. the Management stated in a written note as under:—

"The steps taken by the Management to avoid technological failures and reduce rejections are in brief as under:—

(a) More rigid check on defects on the raw materials is being done, before taking up the materials for the fresh operations.

(b) More rigid inspection of the Forging Tools is being enforced even at the cost of interruptions in forging cycle's and forging dies and the trimming tools are taken for reconditioning as soon as any dimensional directions are noted. This would result in lesser rejections due to off-size dimensions on forgings having a bearing on subsequent rejections.

(c) The improvements in tooling for maching also have been enforced. More elaborate stage inspection on Grinding and assembly operation is also being introduced.

(d) As corrosion defects were found to be due to inadequate cleaning of stainless steel instruments in the Grinding and Assembly shops facilities have been provided for tri-chloro-Ethylene washing.

(e) Because of a more steady product mix that has now been developed, it is now proposed to allot specific

workers on specific operations as far as possible, so that continuity in processing and development of skill could be ensured."

4.44. About the rejections in the Grinding and Assembly Shops it was stated by Management that while the rejections detected had been the highest in the Grinding and Assembly shops, part of the rejections were in fact, caused in earlier operations but only detected subsequently. Even allowing for this fact, the rejections in the Grinding and Assembly Shops were high due to the in-experience of workmen, who were frequently being put on more and more skill operations without allowing them time to improve their skills, through substained application on the similar types of jobs. This had been particularly so, in cases of Box Joint instruments, scissors and knives.

4.45. Committee were informed by the Management that the existing procedure for feed back of information from the shop floor for reporting on rejections and their causes had been improved. The data was continuously investigated and based on such study, the remedial measures detailed earlier were taken. The finalisation of norms was stated to be already under active consideration.

4.46. The Committee note that the percentage of rejections in SIP to the total production ranged from 18.95 per cent in 1971-72 to 27.37 per cent in 1970-71. The Committee also find that the percentage of rejections was the highest in the Grinding and Assembly Shops where the rejection showed an increase from 27,538 number of instruments in 1968-69 to 1,06,160 in 1972-73. The Committee were informed that the Management had taken a number of steps to reduce the rejections by more rigid check on the raw materials, stricter inspection of forging tools, improvement in tooling and machinery, promoting facilities for cleaning of stainless steel instruments etc. The Committee were also informed that the rejections in the Grinding and Assembly Shops were high due to in experienced workmen being frequently put on more and more skilled operations. The Committee are surprised that inspite of the Plant having been in operation for more than eight years the necessary skill for operating the plant could not be developed. The Committee would like that in the interest of attaining high standards in production and minimising the rejections, the Undertaking should consider feasibility of introducing a time bound programme for training the workers in specified skills and deploy them suitably with a view to achieving quality production. The Committee recommend that norms for rejections may be finalised without any further delay.

Execution of Job Orders

4.47. The Plant has not been able to make use of all the machines and has spare capacity in the tool forge shop, heat treatment and electroplating shops.

No machine utilisation statements were, however, prepared till 1970-71. During 1969-70 the Plant prepared a list of surplus Plant and Machinery comprising 23 imported machines costing Rs. 20.66 lakhs and 4 indigenous machines costing Rs. 1.30 lakhs. Their disposal was kept in abeyance as it was reported (January, 1970 that job orders for processing on these machines were under negotiations. Subsequently, the Plant disposed of one imported machine costing Rs. 0.50 lakhs in February, 1972 and withdrew 11 machines from the surplus list. At the end of August, 1972 the Plant had 15 surplus machines valuing Rs. 9.35 lakhs awaiting disposal.

4.48. About the disposal of machines the Management stated that—

> "A list of these surplus machines for sale was circulated to all Public Sector Undertakings, likely to require such machine tools. Necessary publicity had also been given through the Magazine of B.P.E. "Lok Udyog". Advertisement through newspapers for sale to private sector, having import licence, was also stated to be under consideration."

4.49. In order to utilise the spare capacity available in various shops the Plant has taken up job orders for outside parties. The table below indicates the value of job orders executed by the Plant between 1968-69 and 1971-72 and the financial results thereof:—

W.R. replies (Rs. in lakhs)

Year	Value of job orders executed.		Sales Value	Loss(—) Gain (+)	
	On factory cost basis	On direct cost basis		On factory cost basis	On direct cost basis
1968-69 . .	4·36	0·42	1·55	(—)2·81	(+)1·13
1969-70 . .	7·40	0·80	2·94	(—)4·47	(+)2·14
1970-71 . .	8·54	1·04	8·06	(—)0·48	(+)7·02
1971-72 . .	14·08	1·60	12·76	(—)1·32	(+)11·16
1972-73 . .	15·69	1·56	10·11	(—)5·58	(+)8·55

4.50. It will be seen that the job orders increased from Rs. 1.55 lakhs in 1968-69 to Rs. 10.11 lakhs in 1972-73. but were still far below the envisaged capacity of Rs. 30 lakhs.

4.51. The Committee were informed that the figures of the value of job orders executed in 'direct cost' basis did not included direct labour cost, and desired to know that with the inclusion of direct labour cost, what would be the value of job orders executed on direct cost basis. The Management stated as under in this connection:

"In the early stages, when job orders were accepted they were done with a view to utilising the spare capacities both man-power and equipment, in certain areas like the Tool Room, Forge shop and the Machine shop. As personnel in such areas were already in position, it was decided to treat the 'direct labour' in such shops as a part of 'Fixed cost' and not shown under the direct cost. However, as the job orders have since increased in volume and have become a part of the overall plan in reaching break even, it is now proposed to retabulate the statement including the direct labour under direct cost and indicate the contribution made towards recovery and fixed costs. The statement is given below:—

(Rs. in lakhs)

Year	Receipts as value of job orders executed			Loss (—) gain (+)	
	On factory cost basis	On direct cost basis	Sales value	On factory cost basis	On direct cost basis
1969-70 . .	7·40	2·20	2·94	(—)4·47	(+)0·65
1970-71	8·54	2·46	8·06	(—)0·48	(+)5·60
1971-72 . .	14·08	0·86	12·76	(—)1·32	(+)8·90
1972-73 . .	15·69	4·35	9·61	(—)6·08	(+)5·26

4.52. The year wise details of cost of production of job orders have been given in Appendix XXI.

Asked as to when it would be possible for the plant to secure and execute job orders worth Rs. 30 lakhs per annum, the Committee were informed that the plant had since secured orders for light engineering works to an extent of approx. 30 lakhs rupees. Negotiations were now on hand for obtaining more orders. With this, it should be possible to aim at a target of 30 lakhs of rupees on job orders in 1974-75.

Diversification and Intensification of Production

4.53. The Plant has so far (August, 1973) developed 96 new types of instruments over and above the types given by the Collaborators.

It has been stated (August, 1973) that, by and large, all these can be put into commercial production provided sufficient bulk orders are available. Out of the 96 new types of instruments, the production of 17 types was actually undertaken in 1971-72 in small quantities.

4.54. It has further been stated that some of the new types of instruments have been developed for export to U.S.A. on the basis of samples and design given by an American firm and actually 1,000 instruments of 10 types were supplied to the firm in 1971-72.

4.55. In this connection, following features deserve mention:—

(a) With the approval of Family Planning Commissioner, the desiging and production of family planning instruments commenced towards the end of 1967. A rate contract was entered into with the Director General, Supplies & Disposal for the supply of these instruments. It was noticed that the production in 1970-71 and 1971-72 declined sharply as compared with the production in 1968-69 and 1969-70 as per details given below:—

	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74 (April-Nov. 73)
Total instruments produced including family Planning instruments.	1,80,713	1,92,982	4,27,915	5,65,118	6,69,247	1,93,715
Family planning instruments produced.	1,60,059	61,063	11,606	22,886	30,015	9,324
Percentage of family planning instruments to total instruments.	88·57	31·61	2·71	4·00	4·48	4·80

The Plant has stated (May, 1972) that another agreement has been executed with the Director General, Supplies and Disposals extending the validity of the rate contract up to 31st March, 1973 and that it was proposed to produce over Rs. 6 lakhs worth of instruments during 1972-73.

(b) With a view to diversifying and increasing production, the Company decided in April, 1970 to introduce two products viz. Detachable Scalpel Blades and Hypodermic needless by utilising the existing facilities. These two

items initially formed part of the proposal for original product mix but were excluded as the Collaborators did not have technology and equipment for the purpose. Detailed estimates additional facilities for the manufacture of blades were drawn up in April, 1971 and sanctioned by the Chairman and Managing Director in June, 1971. An expenditure of Rs. 2.6 lakhs has been incurred upto 31st August, 1972 and the production of blades was expected to commence by the end of the December, 1972. The proposal for production of needles was, however, deferred.

4.56. The production and sale of family Planning instruments during 1972-73 as compared to the projections made by the Management are as under:—

	Plan	Actual
(i) No. of Family Planning Instruments produced.	35,739	30,015
(ii) Nos. of Instruments sold	42,187	32,436

4.57. The performance in this field is considered to be adequate, the achievement being 83.98 per cent of production targets and 77 per cent of Sales targets."

4.58. A list of 96 new types of Instruments developed by the Surgical Instruments Plant of IDPL upto 1970-71 along with a list of these in respect of which bulk orders are expected by Management, is given at Appendix XXII.

4.59. About the production of 17 new types of instruments undertaken in 1971-72 the Management stated that all the 17 new types of instruments undertaken in 1971-72 were on orders, 10 of which were for export to United State and the rest 7 for the indigenous market.

4.60. Regarding the level at which it is felt that it will be economical to undertake production of new types of instruments and the potentialities for the development of export of instruments to USA, the Committee were informed as follows by the Management:

4.61. "Economical level for undertaking manufacture of instruments would be around 4000 to 4500 Nos. per instrument per type as this quantity is required to satisfactorily ammortise the cost of tooling in forging shop."

Asked about the scope of export of Surgical instruments to USA, the Management stated that:—

> "Based on information received from the Deputy Counsel General at New Yark it is understood that the United States imported from other countries surgical instruments for a value of approx. 15 million dollars in 1971. This may be compared with 12 million dollars of import in 1970. It is understood that this rated growth in imports continues and as such, there is substantial scope for export of surgical instruments to U.S.A. Apart from surgical instruments from the information received from the engineering export Promotion Council's Office, in Chicago and also the Consulate in New York, it is understood that there is substantial scope for export of commercial scissors in large bulks to the United States."

4.62. In this connection the Committee understand that the Test Report submitted to the American firm (to whom the SIP had supplied instruments on experimental basis) by a Hospital after use mentioned, "*inter-alia,* as under:—

> "the instruments were put into use in surgery at Swedish Hospital, Seattle".

The reporting authority also added that—

> "She was surprised at the way the instruments held up and could not see any appreciable damage. Everything looked very good."

4.63. The Committee were also informed that recently, a letter had been received by I.D.P.L. from another Instruments Corporation, whose present President, had been earlier associated with the supply of our experimental orders for surgical instruments to another firm. The letter reads as under:—

> "the tests I have initiated with your instrument at that time have found wide praise as to quality and I find myself

now in a position, where old friends asked me whatever happened to these very fine instruments from India and where can we get them."

4.64. Hence the response from the American firm to the supply of instruments in 1971-72 has been very encouraging and considerable export orders to the United States could be organised if SIP's request to the Government for active export assistance is granted and SIP's products rendered competitive in the United States market. In a note furnished after evidence it was stated that the IDPL's request for subsidy was under consideration of Government.

4.65. As regards the possibilities of securing orders for family planning instruments during Fifth Five Year Plan and the extent to which it would absorb the revised capacity of 1 million pieces, the Management stated as follows:—

"The requirement of instruments for the Family Planning Programme was assessed by the Marketing Division of the IDPL in March, 1968 as being around 3.87 lakh numbers and valued at Rs. 34.6 lakhs. However, this estimate did not materialise in practice. It would appear that this tapering is due to the following reasons:—

(a) The instruments supplied by SIP for the various kits are still in good shape and hence replacement demands has reduced;

(b) UNICEF grants for Primary Health Centres and Family Planning Centres are now in kind *i.e.*, instruments of imported origin are being supplied as 'Aid'.

4.66. As such it is difficult to asses correctly the possible requirement of F.P. instruments. Based on our past experience our assessment of the requirement would not exceed Rs. 15.20 lakhs per annum, of which SIP's share would be around Rs. 10—12 lakhs per annum, which would in effect mean 10-12 per cent of our total production of instruments (1 million capacity)."

4.67. About the progress made so far, in the production of Detachable Scalpel Blades and whether the demand and the production for this item would be economical, the Committee were informed that—"All the imported equipments and material for the manufacture of detachable blades were received at site by September/October, 1972 but due to the severe power cut imposed by Eelectricity Board, which commenced with 40 per cent in September, 1972 and

raised to 75 per cent in February, 1973, all development work on the detachable blades was suspended, the available power was very inadequate even to meet normal production. The Commissioning and trying out of the equipment and the technology has now been commenced and the first batch of experimental production has now been taken up. The semi-automatic equipment for Grinding and Assembly and Sharpening of the blades designed by the Central Machine Tool Institute Bangalore, is now being fabricated. The progress on the manufacture of these various components and sub-assembly for making this equipment was slow in the period 1972-73 due to power cut. This has since bee ntaken up vigrously and equipment is expected to be ready by March|April, 1974. Bulk production will commence thereafter."

4.68. For deffering the proposals for the production of Hypodermic needles the Committee, were informed by the Management as under:—

"The production of Hypodermic needles was considered by the sub-committee of the Board of Directors in March, 1970, the Government had indicated that the IDPL should undertake Hypodermic needles only, if the project would include processing of cannulae from basic tubes and not merely import cannulae from abroad and assemble the cut cannulae to Hubsas is being done in the small scale sector. To organise such a project various proposals were considered. The Committee felt that a combined Project of making 10 million capacity for processing cannulae from basis tube and making 2.4 million needles from cannulae and selling the balance of calliberated tubes to other manufacturers looked *prima facia* attraction. How ever, the IDPL management felt that the immediate task was to increase production of surgical instruments to meet the export orders and that it would not be advisable to undertake the project at present. Hence the proposal das dropped."

4.69. The Committee note that the SIP has not been able to use all the machines in the Plant. The Committee regret to note that no machine utilisation statements were prepared by the plant till 1970-71. It has been reported that ,at the end of August, 1972, the plant had 15 surplus machines valued at Rs. 9.35 lakhs awaiting disposal. The Committee understand that the management had already circulated the list of surplus machines to all the public sector undertakings and also given necessary publicity in "LOK UDYOG". The Committee hope that the plant would be able to dispose off the surplus machinery soon in the best interest of the unit.

4.70. The Committee note that in order to utilise the idle capacity available with the plant, the plant had been accepting job orders. The sale value of Job Orders accepted ranged between Rs. 1.55 lakhs and Rs. 12.76 lakhs during 1968-69 to 1971-72 as against the capacity of Rs. 30 lakhs. The Committee find that the costing of the job orders had been defective in that the value of the jobs executed did not include the direct labour cost which was being treated as part of fixed cost with the result that total cost of job orders had not been correctly worked out.

The Committee recommend that the procedure of job costing which is being followed so far should be reviewed and put on more scientific lines so that the true cost of the job is available for effecting recoveries.

4.71. The Committee find that as a part of diversification programme the Surgical Instruments Plant had taken up the manufacture of family planning instruments. As analysis of production performance indicates that the production of Family Planning instruments has declined from 1.60 lakhs in 1968-69 to 30,000 in 1972-73. The percentage of these instruments with reference to total instruments produced came down sharply from 88 per cent in 1968-69 to 4.4 per cent in 1972-73. The Committee were informed that based on past experience Management assessed the requirement for Family Planning instruments no exceedig Rs. 15.20 lakhs per annum, out of which share of surgical Instruments Plant would be around Rs. 10.12 lakhs per annum. This would work out to 10—12 per cent of the total production of instruments (1 million capacity). The Commmittee recommend that Government should pool their requirements for Family Planning instruments in advance so that there is a steady flow of orders and the plant is able to utilise its spare capacity to the maximum extent possible. The Committee would like Government to take up the matter with the State Governments in the interest of securing firm orders for Family Planning Instruments.

Perspective Production Plan:

4.72. The Company has developed a three year perspective plan beginning 1972-73 both for marketing and production. The plan is aimed at developing indigenous market progressively to maintain production of the Plan at least at the break-even level, if not higher, so as to;

(a) avoid complete dependence on export orders from Medexport; and

(b) build up of image of the Plant in the home market as a supplier of quality instruments so as to increase the company's share of market from a meagre sum of Rs. 15 to

20 lakhs at present to Rs. 1 crores by 1974-75.

4.73. The main features of the plan are mentioned below:—

(i) *Market demand*—On the basis of market inteligence collected by the Company, there were reasonable good prospect for developing indigenous market. The extent of indigenous supply which could be expected to be achieved during the plan period was as follows:—

(Figures in lakhs.)

Item	1972-73		1973-74		1974-75	
	No.	Value	No.	Value	No.	Value
1	2	3	4	5	6	7
		Rs.		Rs.		Rs.
1. Surgical Instruments Box Joint Instruments 16 types.	1·14	20·92	1·45	26·69	1·82	33·40
Scissors 11 types	0·56	8·82	0·76	12·20	1·08	17·08
Spring Instruments 5 types	0·34	2·70	0·50	3·98	0·66	5·26
New items to be developed-11 in 1973-74 and another 11 in 1974-75		..	0·65	12·66	1·26	24·80
TOTAL	2·04	32·44	3·36	55·53	4·82	80·63
1. Detachable scalpel blades and handles.			10·05	7·35	10·15	8·05
3. Consumers items Scissors and Forceps	0·30	2·00	0·73	5·00	1·00	7·00
4. Job orders	..	18·00	..	20·00	..	30·00
	..	52·44	..	87·88	..	125·68

4.74. In addition, dental instruments in the existing range of production were likely to contribute Rs. 3 lakhs per annum and marketing possibilities of these instruments were being examined. Over

and above the indigenous market, the value of export orders expected to be executed during 1972-73 to 1974-75 was as follows:—

Item	1972-73		1973-74		1974-75	
	No.	Value	No.	Value	No.	Value
1	2	3	4	5	6	7
		Rs.		Rs.		Rs.
1. Box joint Instruments	1·82	21·52	2 20	28·84	1·50	19·68
2. Hollow handle instruments.	0·83	9·13	0·50	6·11	0·40	4·89
3. Knives	1·07	5·65	1·00	6·55	1·00	6·55
4. Scissors	0·26	2·32	0 30	3·90	0·30	3·90
5. Spring instruments	0·74	3·21	1·00	4·78	1·00	4·78
6. 13-03	0·50	0·59				
7. Others	0·52	5·33	..	..	..	..
TOTAL	5·74	47·75	5·00	50·18	4·20	39·80

(ii) *Production Plan*—On the basis of the above sales forecasts for the indigenous and export market and the achieveable production norms, the production programme for the period 1972-73 to 1974-75 has been drawn up as per details given in para (i) above.

The production plan is based on the following assumptions:—

(a) 12.5 per cent increase in productivity of workmen for surgical instruments (including commercial items) each year.

(b) Achievement of rated production in respect of detachable scalpel blades and handles by 1973-74,

(c) Intensive efforts to secure job orders so as to reach the target of Rs. 30 lakhs by 1974-75.

(iii) *Strategy to achieve the plan targets*—To achieve the plan targets, the following steps are proposed to be taken:—

(a) *Production*

(i) Sustained drive to increase the productivity of the workers by rationalising production technology and also motivating the workmen.

(ii) Judicious planning for off-loading of instruments of those operations which require basically low skill but higher work content so as to mitigate the imbalance in the production capacity of grinding workshop with reference to other shops.

(iii) Rationalisation of equipments and facilities in the tool room to increase the volume of job orders.

(iv) Improvement in the planning and control set-up of the Plan to ensure proper utilisation of equipment and manpower.

(v) Success in designing and developing new items indicated in the plan.

(b) *Marketing*

(i) Appointment of dealers to consolidate the requirements of individual consumers and to place bulk orders on the Plant.

(ii) Persuading the Government to issued directives to various agencies to meet their requirements through the Medical Stores Depots who in turn will purchase their bulk requirements exclusively from Indian Drugs and Pharmaceuticals Limited.

4.75. A statement showing the performance against the perspective plan in 1972-73 and 1973-74 is enclosed (Appendix XXII-A).

4.76. About the implementation of the perspective production plan during 1972-73 and 1973-74 to the extent envisaged and non-achievement of the production programme outlined in the perspective plan the Management stated as under:—

"The steady increase in production since 1969-70 to 1972-73 has been mentioned earlier. The order position both in respect of indigenous as well as export of instruments and light engineering works has been improving according to the estimates made in the perspective plan. The build-up of the skills for the changed products-mix was also improving satisfactorily in the first half of 1972-73. But pro-

duction slumped down in the later half of 1973 due to serious power cut imposed by the electricity Board in Tamil Nadu.

4.77. It may be mentioned that in September, 1972, 40 per cent power cut was imposed, and again 75 per cent in February, 1973. The power was also under selective lay off, since the middle of March, 1973 to the end of June, 1973. Because of the power cut from September, 1972 and the lay-off the build-up of materials in various stages of operations was completely upset and production has not been up to the requirement of the perspective plan. A statement showing the extent to which the Plant was able to achieve the Perspective Plan during 1972-73 and 1973-74 and category-wise summery of production against perspective plan is given at (Appendix XXII-B).

4.78. In a Note furnished after evidence, the Ministry stated that:—

"While the overall performance against plan was approximately 82 per cent, the full plan could have been achieved but for the serious power cut in Tamil Nadu.

The production in April October, (7 months) was approximately 5 lakh nos. as against 1.69 lakh nos. (5 months) only in November, 1972|March, 1973.

Value-wise performance against plan was as under:

Plan	Actual	Per cent
Rs. 82 lakhs	59·25 lakhs	72% approx.

Performance in terms of value is less than that in terms of number, as the prices on export are considerably less than indigenous prices.

The plant could not achieve production targets on account of the fact that electricity cut was imposed from 45 per cent from September, 1972 increased to 75 per cent from February, 1973. Besides, the requisite skills have not yet been developed in the plant with the result that the plant was unable to function at requisite levels of efficiency. There were sectional imbalances between the grinding and forging sections and the other mechanised sections.

It was not lack of orders which were responsible for non-fulfilment of the perspective plan but as the plan could not complete the orders placed with them. The Management is conducting an investigation into the affairs of the S.I.P. After considering the result thereof Government will decide on further steps."

Order Position

4.79. As already mentioned the Plant was designed to produce large bulks of a rather restricted number of varieties of instruments whereas the market required a large variety of instruments each type being required in small numbers. Indigenous orders were not, however, forthcoming in conformity with the contemplations in the Detailed Project Report. The Company, therefore, arranged for the export orders from V|O Modexport which were confined to a restricted number of varieties but each variety in large numbers.

4.80. It was noticed in audit that, although the Plant was short of orders with reference to the capacity it was unable to execute the orders received in certain years as per details given below:—

Year	Orders received	Orders executed
	(Rs. in lakhs.)	
A. Indigenous		
1968-69	12·99	17·26
1969-70	17·44	11·49
1970-71	5·71	6·13
1971-72	16·86	6·14
1972-73	29·00	17·66
B. Export orders.		
1968-69	1·01	1·01
1969-70	26·32 (a)	4·87
1970-71	46·24 (b)	29·13
1971-72	33·43 (c)	45·91
1972-73	67·51	50·72

NOTE : (a) Out of this, orders worth Rs. 21·6 lakhs were received on 26th March, 1970.

(b) The order was received after November, 1970.

(c) Out of this, worth Rs. 20 lakhs were received on 29th December, 1971.

4.81. About the number and value of orders (indigenous as well as exports) which could not be executed in time and the reasons for delay in execution the Management stated as under:

"The orders for export and indigenous pending on 31st March, each year are indicated below:—

Pending Order Position

(Rs. in lakhs.)

As on	Instruments		Job orders
	Indigenous	Export	
31-3-1968	9·59		8·62
31-3-1969	3·79		8·33
31-3-1970	4·92	21·61	16·01
31-3-1971	4·92	38·72	26·81
31-3-1972	17·85	26·35	18·84
31-3-1973	27·08	64·50	20·00
31-12-1973	24·57	47·40	10·50

Since the export orders are on a calender year basis and on specific contracts the quantities and fulfilled within the specified period is indicated in the said statement:"

4.82. The unexecutetd export orders of the values of Rs. 17.33 lakhs relating to 1971 were allowed by the foreign buyers to be completed by 31st March, 1972. This commitment was not kept and the Plant asked for extension upto the end of June, 1972.

4.83. It was reported by the Management on 7th April, 1970 that the Plant was barely able to secure a loading worth Rs. 2 lakhs per month against Rs. 9 to 10 lakhs per month required to achieve the bread even stage. Steps envisaged to secure the orders and improve the production performance have been outlined in para on 'Perspective Production Plan.'

4.84. The Ministry have stated (October, 1973) that indigenous orders could not be executed in full in 1970-71 and 1971-72 because of the substantial export orders received during the period.

4.85. It is observed on the one hand, it has been stated that the Plant required the loading of orders worth 9 to 10 lakhs per month to the break-even stage, on the other hand it is noticed that the Plant could not execute orders secured which were far below this level. The Management stated in this regard that "While there were enough potential orders for getting both indigenously as well as on export to an extent of Rs. 9 to 10 lakhs, the plant was not able to reach this production out turn, due to various reasons mentioned earlier. However, it would be seen that the Plant did not make a steady increase in production of Surgical Instruments as indicated below:—

	Quantity (Nos. in Lakh
1969-70	1·70
1970-71	4·23
1971-72	5·65
1972-73	6·69

4.86. It may also be noted that the production in 1972-73 reached a total of 4.43 lakhs Nos. in April|September, 1972 but sufffered in the latter half of the year due to severe power cut. A thorodtical projection of the same production rating as in the first six months for the full year would have approached the reassessed capacity. Failure was due to extra ordinary conditions beyond the control of the Plant:"

4.87. Commenting on the non-execution of orders reviewed by the Surgical Instruments Plant, the Ministry stated that the position of execution of order in S.I.P. is far from satisfactory. Earlier the management had been pleading that their non-utilisation of full capacity was due to lack of orders coming from indigenous market and for export purposes. There were no doubt some extraneous factors which were outside the control of the management such as the electricity cut of 75 per cent effected during some periods of 1972-73 and low levels of productivity in the plant. The skills required for manufacture of Surgical Instruments have yet to be completed in full measures by the workers. However, despite the above mentioned factors the performance is considered to be much below the expectations.

4.88. The Committee note that, in order to avoid complete dependence on exports and to bulid up image of the plant in the

home market as a supplier of quality instruments, the Surgical Instruments Plant has formulated a three years perspective plan beginning 1972-73 to 1974-75, both for marketing and production. The Plan envisaged raising of the production of surgical instruments, detachable scalepable blades, some items like scissors and forceps and job orders amounting to Rs. 52.44 lakhs in 1972-73 to Rs. 125.68 lakhs in 1974-75. The value of export orders is expected to increase from Rs. 47.75 lakhs in 1972-73 to Rs. 39.80 lakhs in 1974-75. The strategy adopted by the plant to achieve the targets included, sustained drive to increase productivity, judicious planning for offloading of instruments, rationalisation of equipments and facilites in the tool room, improvement in the planning and control set up of the plant, and appointment of dealers to consolidate the requirements of individual consumers, etc.

4.89. The overall performance against the perspective Plan for 1972-73 and 1973-74 was as follows:

	1972-73			1973-74		
	Plan	Actual	%age	Plan	Actual	%rge
No. of Instalments (No. in lakhs)	8·08	6·59	82%	9·01	2·76	28%
Value including Job orders (Rs. in lakhs)	100·19	63·85	68·7%	138·06	27·97	20%

It was explained that but for the serious power cut in Tamil Nadu, the plant would have been able to achieve the targets in full.

The Committee find that it was not lack of orders which were responsible for non-fulfilment of the prespective plan.

4.90. The Committee are surprised to find that as on 31-12-73 indigenous orders to the extent of Rs. 24.57 lakhs, export orders to the extent of Rs. 47.40 lakhs and job orders for Rs. 10.50 lakhs were stated to be pending with the plant. It was admitted by Government "that the position of execution of orders in Surgical Instruments Plant is far from satisfactory." The Management sought to justify nonexecution of these orders on the ground that there was power cut by the State Government to the extent of 40 per cent from September, 1972 and 75 per cent from February, 1973. The Committee are not impressed by this plea as they find that orders were pending in each of the earlier years starting from 1968

to 1972. The Management have also attributed the shortfall to non-development of requisite skills and sectional imbalances between grinding and forging sections and other mechanised sections.

4.91. The Committee were informed that Management of IDPL are already conducting an investigation into the affairs of the Surgical Instruments Plant and that after this investigation was completed Government would decide about the future steps to be taken in this regard. The Committee recommend that this investigation may be conducted with expedition so that the working of the plant can be put on sound footing. The Committee hope that with the steps proposed to be taken to improve the working of the plant in the light of the investigations currently being conducted by the management, it will be possible to see that the plant is able to execute whatever orders are received by the Plant either to meet the internal demand or the export commitments. Committee would like to be informed of the result of investigations.

C. Profitability

4.92. The Surgical Instruments Plant, Madras has been continuously incurring losses ever since it started production. The profitability position for the last five years along with the reasons for losses is given by the Management below:—

Profitability

(Rs. in lakhs.)

Year	Loss excluding depreciation and interest	Depreciation	Interest	Loss including depreciation and interest
1968-69	46·32	11·36	32·96	90·64
1969-70	34·84	16·13	37·34	88·31
1970-71	22·92	15·11	41·72	79·75
1971-72	21·33	15·47	47·67	84·47
1972-73	40·41	15·43	26·47	82·31

Reasons for losses:

4.93. The main factors contributing to the losses incurred by the Plant since its inception are as follows:—

"(i) Poor capacity utilisation in earlier years due to lack of market demand and the low productivity of work-

men in the initial stages of handling diversified and new items till enough experience could be gained by them.

(ii) Heavy non-operational over-heads like interest charges etc.

(iii) Prices on export orders has necessarily to be kept low, without adequate compensation by way of export incentives, e.g. while there is no export subsidy on stainless steel instruments which form the bulk of exports, the subsidy for carbon steel instruments is only 10 per cent for FOB value, the customs draw back on imported stainless steel is also unrealistic and not related at all to inputs of raw materials.

(iv) Losses due to 25 per cent power cut imposed by Tamil Nadu State Elect. Board from Oct., 72 which was increased from Feb., 73 to 75 per cent. Even the power supply whatever being made was very erratic."

D. Cost Control

(i) *Costing System*

4.94. The Plant is adopting pre-determined rates in respect of overheads. No standard costs have been worked out in view of the widely varying product-mix from time to time and system of job costing is in vogue by which cost of production of each type of instrument is worked out each month.

Actual costs v/s selling prices

4.95. The table below indicates the sales value of the instruments produced during the four years ending 31st March 1972:—

	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74
1. Total instruments produced	1807·13	1929·82	4279·15	5651·18	6692·47	1937·1
2. Cost of production (Rs. in lakhs)	92·71	95·14	115·66	128·95	107·50	39·88
3. Sales value (Rs. in lakhs.)	15·54	13·82	37·19	45·79	59·26	18·25
4. Percentage of sales value to cost of production	16·76	14·53	32·16	35·51	55·13	45·75

The cost of production of all instruments in 1970-71 was higher than the selling price for local and export sales. The extent of such excess in the case of individual instruments varied from Rs. 2.24 to Rs. 206.20. The main reasons for this was the continued

underloading of the Plant which in turn was due to poor demand for the instruments manufactured by it and heavy cost of capital due to high interest and depreciation charges.

4.96. In the following cases the selling price did not cover even direct cost of production in the year 1970-71 as per details given below:—

S. No.	Instrument Code No.	Qty. produced during the year (Nos.)	Prime cost instrument (Rs.)	Total cost per instrument (Rs.)	Selling price per instrument (Rs.)
1.	02·05	26	12·95	46·59	10·00
2.	02·07	5	12·75	59·55	10·00
3.	02·09	80	10·57	45·75	10·00
4.	03·09	6	18·18	71·43	13·00
5.	03·09	6	15·73	82·67	14·00
6.	02·24	365	10·35	63·27	8·00
7.	03·25	37	13·51	74·79	9·70
8.	04·01	31	8·47	48·58	8·00
9.	06·01	14·39	8·25	39·76	8·00
10.	09·09	20	13·88	44·70	13·00
11.	09·11	390	29·88	146·80	22·67
12.	09·12	227	10·91	58·57	5·00
13.	11·03	25	28·35	118·58	18·00
14.	16·06	3	6·60	30·78	4·00

4.97. The Management have stated (September, 1973) that sale value covered the direct cost in all the cases in 1971-72.

During 1972-73, however, the selling price did not cover even the prime cost in the following cases:—

The position during 1972-73 was:—

S. No.	Instrument Code No.	Qty. produced during the year. (Nos.)	Prime cost per instrument (Rs.)	Total cost per instrument (Rs.)	Selling price per instrument (Rs.)
1.	02·03	406	7·32	30·56	6·00
2.	03·09	12	19·99	84·76	15·00
3.	03·16	25	26·69	119 25	24·00
4.	03·19	3	18·89	80·05	16·00
5.	03·20	11	29·92	141·97	23·00
6.	03·21	1367	19 38	88·75	19·00
7.	03·25	218	19 38	89·92	13·00
8.	03·50	56	23·28	110·44	20·00
9.	03·72	8	29·74	140·32	20·00
10.	05·01	2892	12·93	55·7	11·00
11.	06·03	191	12·56	53·77	11·00
12.	06·05	388	20·71	97·56	11·00
13.	07·07	1	7·67	36·47	4·00
14.	07·08	1	8·13	38·80	4·00
15.	10·03	110	2·96	14·08	2·00
16.	12·05	70	15·82	7·013	11·00
17.	12·06	4	25·45	104·73	14·00
18. 19.	16·14 (0-25)	826	34·61	153·36	34·00
20.	17·03	1	24·36	95·39	14·00
	Export				*Export Price*
21.	17-03M	91	24·36	95·39	12·08

Selling price did not cover the prime cost in these cases.

4.98. The Management in a written note stated that the cost of production was higher than the selling prices due to the following reasons:—

"(1) Unchanging selling price pattern both for indigenous as well as for export inspite of the abnormal increase in the

cost of raw materials, wages and salaries and the procurement prices on essential stores and other commodities. As regards the indigenous prices this has to be related to the comparable selling prices and other small manufacturers in the country, even though the quality of SIP's products is far superior to the former. However, in view of SIP having now established its reputation in the market, it is proposed to further review the selling prices. Such upward revision of prices may be only in the case of certain categories of instruments which attract the attention of the top Surgeons as most of the purchase in the Government Institutions are other wise made on tender basis.

(ii) The international prices of surgical instruments have also been more or less static, as such exports are almost subsidised by the Government with substantial export assistance overheads. Hence the Management has requested the Government for such assistance to enable SIP's product to render it more competitive in the world market.

The fixed overheads of the Company (including the cost of indirect labour) works out to approx. 70 lakhs against a total break even expenditure of Rs. 160 lakhs. The incidence of such high expenditure of fixed overheads on overall out turn cannot be made exclusively on surgical instruments, particularly, as the indigenous demand has been assessed for short of this level and the export demand is yet to be widened in its range to cover countries other than Russia. In order to reduce the burden of such fixed costs on the pricing of surgical instruments, steps have already been taken to diversify production into light engineering works by utilising the surplus equipment capacity in areas other than Grinding and Assembly shop and if necessary add some marginal balancing equipment to increase the revenue and recover fixed costs as far as possible and reduce the incidence on Surgical Instruments.

(iii) Lower productivity in the Grinding & Assembly shop. Various steps taken to increase the productivity in these areas as well as to increase the production, details have already been explained earlier.

The Management hope that with these steps, the rated capacity of the one million instruments per annum and 30 lakhs worth of light engineering job, it would be possible to eliminate losses.

4.99. In a written note the Ministry also admitted that the cost of production was higher than the selling price on account of disproportionate incidence of overheads and stated as follows:—

"It has been reported by the Management that for the year 1972-73 total production of Surgical Instruments Plant exclusive of job orders was of the value of Rs. 59.25 lakhs of which Rs. 8.63 lakhs was earmarked for domestic market and the balance for export market. The position with regard to the value of export, cost of production, Local sale value of exported items. Loss on exports as compared with cost of production and loss on exports as compared with local sales value may be seen from the following table:—

	1968-69	1969-70	1970-71	1971-72
1. Value of Exports . . .	1·01	4·87	29·13	45·91
2. Cost of production . . .	4·39	12·94	70·65	120·02
3. Local sale value of exported items. .	1·16	6·25	43·45	75.63
4. Loss on exports as compared with cost of production	3·38	8·07	41·52	74·11
5. Loss on exports as compared with local sale value	0·15	1·38	14·32	29·72

"Since the production during 1972-73 was of the order of 6.69 lakhs the overheads work out to about Rs. 10 per instrument. If production of one million numbers is achieved the overheads per instrument will come down to an average of Rs. 7."

4.100. In the opinion of Government the following steps are necessary with a view to reduce the cost of production in the plant:—

(i) More job orders should be obtained and executed.

(ii) Production of other light engineering goods should be taken up by the plant.

(iii) Labour productivity should be improved.

(iv) The supply of essential inputs such as electricity would need to be ensured.

The Committee were informed by Government Steps taken by the Management to set right this imbalance are as under:—

(a) Work towards a specific product-mix assessed in the one million capacity rating.

(b) Enabling steadier rates of production on the shop floor through bulking of orders required in the country as well as on export.

(c) Retraining of Non-production labour in production to augment the production of staff strength and doubling them on areas where more skills are required.

Government has admitted that since the full utilisation of the capacity appears to be a distant goal, the problem was not likely to be set right in the near future.

4.101. The Committee note that so far no standard cost have been worked out in respect of the products of Surgical Instruments Plant and only a system of job costing is in vogue by which the cost of production of each type of instrument is worked out. The Committee find that even under the system of job costing, the cost of production of all instruments in 1970-71 was higher than the selling prices both in respect of local sales and also for external market. The Committee were informed that during 1971-72 the sale value covered the direct cost although in 1972-73 there were as many as 20 items whose selling prices did not cover even the prime cost of production. The main reasons for such a situation were stated to be that fixed overheads of the Plant were of the order of 42 per cent of the break-even expenditure of Rs. 160 lakhs; the selling prices have been following a uniform pattern for the indigenous as well as for exports inspite of abnormal increase in the cost of materials and wages. Lower productivity in grinding and Assembly shop is also stated to be one of the reasons for high costs. The Committee find that there is a wide variation as between the total cost of production and the selling prices of various instruments. The Committee recommend that the Plant should take concerted measures to bring down the cost of production and raise the level of productivity, particularly in th Grinding and Assembly Shop.

4.102. The Committee find that the prices of Surgical Instruments were fixed in 1966 on the basis of estimated cost for 1966-67 when only a fraction of the capacity of the Plant could be utilised. The prices were consequently very high compared to the corresponding instruments manufactured in the private sector. It has been claimed by the Company that Instruments of this plant were superior in quality. The Committee regret to note that inspite of the revision of the prices of instruments substantially in July, 1967, taking into account changes in product mix, current cost of market prices, the selling prices continue to be lower than the cost of production

in all items except one and the extent of difference in the case of individual instruments varied from Rs. 2.24 to Rs. 206.20. The Committee are not however convinced that that cost of production was high due to lack of orders. The Committee have already pointed out elsewhere in this Report that the plant had pending orders worth lakhs of rupees which could not be executed. Th Committee fail to understand as to why inspite of existence of such orders, there had been shortfall in production leading to under-utilisation of capacities with consequential higher cost of production.

The Committee also find that during 1972-73 the plant produced 2892 instruments (code No. 05-01) at a total cost of 55.60 rupees per instrument and sold the same at only Rs. 11 per instrument. The prime cost of this instrument was stated to be Rs. 12.93. There are number of other instruments where the selling price was not only far below the overall cost of instruments but did not cover even the prime cost of the instrument. The Committee feel that if selling prices continue at the present level without any reduction in cost of production the working of the plant cannot be expected to become economically viable in the near future. The Committee, therefore, recommend that a high power Committee should be appointed to go into the entire working of the Surgical Instrument Plant to identify the areas where the cost of production can be reduced and to suggest viable selling prices for each type of instruments, including scope for diversification.

B. **Surgical Instruments**

4.103. The Board of Directors of the Company reviewed the pricing policy in 1967 and laid down the following principles:—

(a) Prices for products, in which the quality available in the market was good, should be at or near the market prices having regard to the cost at rated capacity.

(b) Quality extra should be appropriately charged in cases in which the products of the Plant were markedly superior to the products available in the market.

(c) As regards products which were manufactured in the Plant and were not available in the market, the charges should be according to what the market would bear but as far as practicable, the accounting cost should be recovered.

4.104. The prices which were fixed in July, 1967 on the above principles, were revised in May, 1971 to take into effect the changes

in the product-mix, current costs and market prices. The selling prices, however, continued to be lower than the cost of production in all items except one and the extent of differences in individual instruments varied from Rs. 2.24 to Rs. 206.20.

4.105. In regard to foreign sales the Company is following a policy depending on the local situation the strategy of competitors and the price intelligence and other information given by agents etc.

4.106. The Management informed the Committee as follows:—

> "The prices of surgical instruments were fixed in 1966 on the basis of estimated costs for 1966-67 which was a year of fractional utilisation of capacity. The prices were consequently very high compared to the corresponding instruments manufactured in the Private Sector, although it was universally conceded that SIP instruments were much superior in quality. It was difficult even to get a footing in the market on the basis of these high prices. In July, 1967 the prices of surgical instruments were substantially revised on the aforesaid guidelines approved by the Board of Directors."

4.107. The Committee find that the prices of Surgical Instruments were fixed in 1966 on the basis of estimated cost for 1966-67 when only a fraction of the capacity of the Plant could be utilised. The prices were consequently were very high compared to the corresponding instruments manufactured in the private sector. It has been claimed by the Company that Instruments of this plant were superior in quality. The Committee regret to note that inspite of the revision of the prices of instruments substantially in July, 1967, taking into account changes in product-mix, current cost of market prices, the selling prices continue to be lower than the cost of production in all items except one and the extent of difference in the case of individual instruments varied from Rs. 2.24 to 206.20. The Committee recommend that the management should critically go into the cost aspects and fix the selling prices at realistic level.

E. Material Management and Inventory Control

4.108. The following table indicates the stock of imported and

indigenous raw materials and stores and spares at the close of last five years:—

Item	1968-69		1969-70		1970-71		1971-72		1972-73	
	Value	Stock equivalent to number of months consumption	Value	Stock equivalent to number of months consumption	Value	Stock equivalent to number of months consumption	Value	Stock equivalent to number of months consumption	Value	Stock equivalent to number of months consumption
1	2	3	4	5	6	7	8	9	10	11
Raw materials.	71·48	275	64·65	230	58·76	209	48·02	81	44·89	150
Imported .	Nil.	Nil.	Nil.	Nil.	3·37	13	5·16	14	3·57	5
Stores and Spares										
Imported .	4·83	73	9·20	175	9·07	101	9·08	129	8·84	100
Indigenous .	12·73	33	12·59	35	10·05	15	8·31	16	9·46	14·4

4.109. It will be seen that the Plant is holding huge stocks of imported raw materials and stores and spares with reference to the average annual rate of consumption. An analysis of some of the individual items representing 75 per cent of the total value of the raw materials indicated that stainless steel and alloy steel valued at Rs. 40 lakhs imported from the USSR during 1965-66 to 1967-68 had been lying unused. The Management stated (February, 1972) that this had been ordered even before the Plant went into production taking into account the product-mix and capacity envisaged in the Project Report.

4.110. The Plant has not fixed the maximum and minimum limits of stores|spares for any of the items.

4.111. The Ministry have stated (October, 1973) that no maximum and minimum limits have been fixed as the production was fluctuating and the Russian order had not been received up to 1969-70. The Plant has since made arrangements for effective proper control of the stores and has also introduced the maximum and minimum limits for some items.

Written reply as follows:—

"In view of the changing product-mix it was decided not to immediately decide on the quantum of slow moving items but first to

list out the non-moving items on which action for disposal was to be taken. But even as such categorisation was being made, it was found that some items of stores could be used in the next two or three years on the anticipated product-mix, and it was decided not to enforce drastic reduction in such stocks which were not at present being consumed, and to continue to carry them till such time as the product-mix established itself. Certain special steels could not be obtained even for higher prices, if once they are sold on ground that they are not needed for manufacture for the present or even in the immediate near future.

The increase is accounted for by lower average monthly consumption in 1972-73 as compared to 1971-72.

As regards spares, the original stocking of spares was based on Soviet advice. The replacement of such spares has not been as much as was envisaged then due to less utilisation of equipment. However, in view of the fact that the equipments are getting older and that in recent times there have been more need for replacement of spares, and for reason that the supply of spares by the Manufacturers takes quite long time, the holding of spares at this level is not considered detrimental to the interest of the company. In this connection it may also be stated that there have been abnormal increase in prices of such spares in recent times. A technical Committee has recently been appointed to go into the requirements of spares and assess the inventory holdings under the following three broad heads:—

(1) Insurance items.

(2) Stores which may possibly to required during the next five years.

(3) Spares which could be straight way declared surplus and disposed of.

4.112. In this connection, the Ministry while confirming the position indicated by the Undertaking added that action was taken to list out the non-moving items with a view to dispose the same. It was found that some of the items of stores could be used in future years and could now be available only at much higher prices such as special steels. It was decided not to dispose the stocks of such valuable items. The remarks above would apply to spares also.

4.113. The Committee find that the plant is holding huge stocks of raw-materials, stores and spares, compared to the average annual

rate of consumption. The stock of indigenous raw materials as on 31st March, 1973 repesented 150 months consumption while the indigenous stores and spares 144 months consumption. The stock of imported raw materials represented 5 months consumption while the stock of imported stores and spares represented 100 months consumption. An analysis of some of the individual items indicated that stainless steel and alloy steel valued at Rs. 40 lakhs imported from U.S.S.R. during 1965-66 to 1967-68 had been lying unused. It was stated that this had been ordered even before the plant went into production taking into account the product-mix and capacity envisaged in the project report.

The Committee regret to note that even though the unit came into existence in September, 1965 no maximum and minimum limits have been fixed for the items. It has been indicated that the original stocking of spares was based on the advice of the collaborators and because of less utilisation of the equipment there has not been much out-go or replacement of the spares.

The Committee were informed that a Technical Committee had been appointed early in 1973 to go into the requirements of the spares and assess the inventory holdings under three categories (a) insurance items (b) stores which may be possibly required during the next five years; and (c) spares which could be straightway declared as surplus and disposed of.

4.114. The Committee were also informed that this Technical Committee have now recommended declaration of stores worth Rs. 50,000 as surplus and the management is now taking action for their disposal and also maximum and minimum limits have been fixed in respect of certain items. The Committee recommend that the Technical Committee should complete its work soon and identify stores which are really surplus to the requirements so that the undertaking can take immediate action to divert the surplus to more profitable use to other undertakings or dispose them of to the best interest of the undertaking. The Committee would like that Management should take action to fix maximum and minimum limits for all the stores without further delay so that the risk of high inventory holding is avoided.

The Committee find that stainless steel and alloy steel valued at Rs. 40 lakhs imported from USSR during 1965-66 to 1967-68 had been lying unused. The Committee are not sure whether the stainless steel and alloy steel has been used or disposed of. The Committee would like to be informed of the latest position.

F. Manpower Analysis

Labour efficiency

4.115. The table below indicates the utilisation of available manhours with reference to the standard time required during the last five years:—

	1968-69	1969-70	1970-71	1971-72	1972-73
1. Total available manhours during the year . . .	8,17,928	7,04,348	9,62,143	12,09,591	8,62,246
2. Less hours utilised for execution on job orders and making tools. . . .	1,13,189	1,53,374	1,02,574	2,04,187	1,36,170
3. Less idle time . . .	23,839	14,130	14,069	3,797	6,645
4. Man hours utilised for production of instruments. .	6,80,900	5,36,844	8,45,500	9,41,607	7,19,431
5. Standard time required for the production of instruments.	1,48,757	2,11,147	5,24,451	6,52,254	4,92,747
6. Percentage of labour efficiency	21·85	40·00	62·03	69·27	68·49

4.116. It will be seen from above table that though the labour efficiency expressed in terms of manhours utilised to standard hours required showed an improvement from year to year, there was still sufficient leeway to be made up. The improvement in the labour efficiency was also discernible in the value of production and sales per employee as per data given below, this increase in productivity was, however, accompanied by increase in the incidence of salaries wages (including benefits) per employee:—

	1968-69	1969-70	1970-71	1971-72
	(Rs.)	(Rs.)	(Rs.)	(Rs.)
1. Value of production per employee	1,292	1,831	4,902	6,328
2 Sales per employee	1,754	1,742	4,379	6,276
3. Salaries and wages (including benefits) per employee	3,547	3,320	4,806	5,752

4.117. While the labour efficiency percentage does not show an improvement over the 1971-72 corresponding figures, it was stated that from October, 1972 the Plant had to face severe power cut which went up to 75 per cent in February, 1973. The Plant also had to resort to selective lay-off during March, 1973.

4.118. During the year 1972-73, the labour situation in Madras and surroundings, was not too good. The plant however did not have any serious trouble except for token strikes for about 8 days, however the labour situation did have some depressing effect during the year.

4.119. The following steps were stated to have been taken by the Management to set right this imbalance:—

(a) Work towards a specific product-mix assessed in the one million capacity rating.

(b) Enabling steadier rates of production the shop floor through bulking of orders required in the country as well as on export.

(c) Retraining of non-production labour in production to augment the production of staff strength and doubling them on areas where more skills are required.

4.120. It has been stated that these problems were expected to be automatically solved when the current trade negotiations for export and indigenous material were finalised and a steady product-mix obtained, so that motivation of workers could be introduced to increase the skill and productivity required.

Incidence of honorarium payments

4.121. Honorarium payments amounted to Rs. 10.09 lakhs during 1972-73 against Rs. 12.64 lakhs during 1971-72.

1972-73	(In lakhs of Rupees)
(i) Forging and stamping	0·60
(ii) Machine and Assembly	2·6
(iii) Grinding	2·34
(iv) Quality Control	0·54
(v) Tool Room	0·90
(vi) Mechanical Maintenance	0·87
(vii) Administration	0·30
(viii) Civil maintenance	0·63
(ix) Planning and production	0·46
(x) Security, welfare, accounts stores and purchase and medical	0·77
	10·09

Staff Strength

4.122. The table below indicates the staff strength as provided in the Detailed Project Report, as fixed by the Management and that actually employed as on 31st March, 1971, 1972 and on 15th November, 1973.

	As per DPR	As fixed by the management and intimated in August, 1973	Actual position as on 31-3-71	31-3-72	31-3-73	15-11-73
(a) Factory production workers.	596	905	642	674	Figures not furnished.	646
Others	274	263	152	145		165
(b) Office Administration Transport etc.	114	330	220	196		192
TOTAL	984	1,498	1,014	1,015		1,003

NOTE : The project report did not provide for staff for service like township. Field Hostel, Circuit House, Water Workers etc. etc.

Although, as mentioned in para on 'Labour efficiency', the overall manhours available were more than the standard hours required and the production was less than the planned targets, heavy expenditure on honorarium was incurred during 1970-71 and 1971-72 and 1972-73 and 1973-74 (April—December, 1973) as per details given below:—

Year	Amount of honorarium (Rs. in lakhs)
1968-69	1·03
1969-70	0·11
1970-71	6·66
1971-72	12·64
1972-73	10·09
1973-74 (April to Dec. 73)	0·55

4.123. The increased incidence of honorarium was attributed by the plant to the following factors:—

"The need to diversify the production in surgical instruments and job orders posed an urgent problem to man more equipment days with the existing staff (skilled and unskilled) or alternatively to increase the staff in anticipation of better order position in future. The Management was not inclined to increase the staff particularly as considerable imbalance in positioning the existing personnel existed due to drastic changes in the product pattern. This necessitated utilisation of the existing skilled labour on extra hours alongwith the men of lower skill so as to provide increased capacity for the higher skilled operations.

4.124. It has further been stated that action has already been taken to minimise expenses on honorarium as the level of technological skill has improved.

4.125. About fixing the man power requirement of 1498 personnel the Management informed the Committee as under:—

"As a result of scientific study conducted by the Industrial Engineer, Board of Directors approved the Manpower strength of S.I.P. at 1482 to be filled in the light of progressive increase in load of work. Subsequently, some more posts were found necessary as the activities increased further at the Plant and were sanctioned from time to time.

The sanctioned strength as on 31st March, 1973 was 1498 whereas the actual Nos. in position as on 31st March, 1973 was 1011.

The real problem at the SIP is low productivity of workers which does not enable the Plant to achieve production of even the reduced capacity. The existing staff itself is not considered excessive."

4.126. The Committee note that the percentage of labour efficiency has increased from 21.85 per cent in 1968-69 to 69.27 per cent in 1971-72, correspondingly the value of production per employee has also increased from Rs. 1292 in 1968-69 to 6328 in 1971-72. The increase in productivity was however accompanied by an increase in salaries and wages, per employee. The Committee, find that

the percentage of labour efficiency has decreased to 68.49 in 1972-73 and the idle time has also increased to 6645 hours in 1972-73 as against 3797 hours in 1971-72. The Committee regret to note that though the overall man-hours available were more than the standard hours and production was less than the Plan targets, heavy expenditure on honorariam was incurred during 1970-71, 1971-72 and 1972-73. The Committee were informed that increased payment of honorariam was due to the need to diversify the production in Surgical Instruments Plant and job orders which pose an urgent problem to man more equipment days with the existing staff. The Committee need hardly stress that with the increase in labour efficiency and in the level of technical skill developed during the course of years, it should be possible for the Undertaking to keep the expenses on honorariam to the minimum. The Committee recommend that the staff already available should be usefully deployed for productive purposes so as to improve the labour efficiency and obviate the necessity for payment of honorarium.

4.127. It has been admitted by the Management that the real problem at the S.I.P. is low productivity of workers which does not enable the Plant to achieve production of even the reduced capacity. The Committee recommend that concerted efforts may be made to raise the level of productivity and achieve the capacity targets.

G. Delay in implementation of the Employees State Insurance Scheme

4.128. With effect from September, 1965, the surgical Instruments Factory came within the purview of Section 2(12) of the Employees State Insurance Act, 1948. Notwithstanding the fact that the Employees' State Insurance Corporation had asked the Unit in June, 1966 to get itself registered under the Employees State Insurance Act and pay the employer's contribution thereunder, it was not until April, 1967 that the Company decided to implement the provisions of the Employees State Insurance Act. The scheme was finally implemented in November, 1967 and the Company had to pay an amount of Rs. 1,16.117 as its arrear contribution for the period September, 1965 to October, 1967. Had the Company brought the Surgical Instruments Plant within the scope of Employees State Insurance Act from the due date i.e. September, 1965, it would have avoided an expenditure of Rs. 77.331 incurred by it on reimbursement of medical expenses under the Company's Rules during the aforesaid period.

4.129. In this connection the Management have stated (July, 1970) as follows:—

> "Right from the beginning, the Union of the Employees was not in favour of the E.S.I. Scheme and was clamouring for getting exemption from its scope as the medical and other facilities already provided by the Plant were attractive.....After great persuation the Union of the Employees agreed for the introduction of the E.S.I. Scheme in the plant with effect from 1st November, 1967 under protest.....It may be seen from the above that there was no delay in the implementation of the scheme by the Plant."

4.130. From the records made available it was noticed in audit that the representation against the scheme by the employees of the Union was made only in April, 1967. Thereafter, a settlement was reached with the Employees Union before October, 1967. In view of the known statutory obligation for introducing the scheme, timely action could, therefore, have been taken by the Management to get all the preliminary steps completed by the time the production was expected to commence or at the latest as soon as production commenced in September, 1965. The expenditure of Rs. 77,331 referred to above was, therefore, avoidable.

4.131. In regard to the delay in the implementation of the provision of the Employees State Insurance Act, the Management stated as follows:

> "Employees State Insurance Scheme is covered by a statute and it is incumbant on all factories falling within the area covered by the notification to introduce the scheme.
>
> However the act itself provides for grant of an exemption to those industries or factories wherein the benefits to the workers according to the rules of the Company are comparable or more liberal than those envisaged in the Act. The Company as well as the Union was of the view that the Medical benefit, leave benefits and maternity leave benefits, (Some of the important benefits available under the scheme) and superior to or equal to those admissible under the scheme. That being so the Company assumed that if the workers also demand exemption from the scheme, recommendations could be made to the Government for grants of exemption which is provided for in the Act.

The president of the Union did represent to the Management for not introducing the ESI Scheme in SIP."

4.132. About the delay in implementation of Employees State Insurance Scheme in the SIP Surgical Instruments Plant, the Ministry stated as under:—

"The Employees' State Insurance Act, 1948 provides that the Act shall apply to all factories including factories belonging to Government but other than seasonal factories. Section 90 of the Act, however, empowers the appropriate Government to exempt any company from operation of the Act if the employees in any such factory or establishment or otherwise in receipt of benefits substantially similar and superior to the benefits provided under this Act. There are arrears as in which the old rules of the Company prior to introduction of ESI Scheme were considered to be more advantageous to the employees as may be seen from the following:—

E.S. I SCHEME	COMPANY RULES
(i) The Employees have to contribute 2½ of their total wages.	(i) At present, the Employees are enjoying free treatment and do not make any contribution.
(ii) At present, members of the families of Employees are not covered by the scheme in our region.	(ii) At present, the members of families of employees also get free treatment.
(iii) The Employees have to take inpatient treatment in the ESI hospitals only.	(iii) At present, the Employees make take inpatient treatment at any Govt. Hospital in the city.
(iv) Employees staying in the Colony as well as outside can consult only the E. S. I. Doctor.	(iv) Employees staying outside the colony may consult any Authorised Medical Attendant as provided in the Central Government Medical Attendance Rules.
(v) A woman employee will be paid maternity benefit at the rate of 7/12th of her average wages for a period of 3 months for her confinement.	(v) A woman Employees is given 3 months Maternity leave with full pay as laid down in S.R. 267 of the Fundamental—— Rules.

4.133. Th extra benefits under the Employees State Insurance Scheme are given below but this is not by itself a source of attraction. (a) Giving artificial limbs or teeth. (b) Giving free spectacle and hearing aids when eyesight or hearing is impaired on account of employment injury.

4.134. It was in this background that the Management was considering the question of seeking exemption from the introduction

of Employees State Insurance Scheme, especially in view of the fact that the employees themselves were not keen on the introduction of this scheme. Management applied to ESI authorities for exemption but they did not agree. Management, however, failed to move the State Government for exemption."

SAFETY DEVICES

4.135. During their visit to the Surgical Instruments Plant, Madras on 12-7-1972, the Committee were informed that safety devices like face guards, gloves and headgear had been given to the Plant workers in the Surgical Instruments Plant of IDPL but some workers did not use them and desired to know:—

(a) the various safety devices provided to the workers in different units of IDPL.

(b) the expenditure incurred thereon;

(c) the measures taken or proposed to be taken to ensure that such safety devices are used by the workers concerned.

The Management in a written note informed the Committee as follows:—

"Items of Safety Devices and expenditure incurred thereon are given below:—

	1970-71	1971-72	1972-73
	Rs.	Rs.	Rs.
(i) Protective Clothing . .	8566	19205	20262
(ii) Safety glove . .	3551	2450	3764
(iii) Gloves	6956	5948	5138
(iv) Face shell	148	283	111
(v) Safety Gogles .	1185	192	419

It is a fact that there is a reluctance on the part of the workers to wear some of the safety appliances, like the gogles. Though safety Committee and circulars, the workers are being persuaded regularly to consistantly use the safety appliances while working. It may be mentioned that except in the matter of wearing safety gogles, the workers do use other safety appliances."

4.136. The Committee find that although the Surgical Instrument Plant should have come within the purview of the Employees State Insurance Act, 1948 as early as September, 1965 and should have atleast registered itself under the Act with effect from June, 1966 when it was asked by the Employees State Insurance Corporation to do so, it actually decided to implement provisions of the Act only in April, 1967. The result was that the Unit had to pay an amount of Rs. 1.16 lakhs as arrears of contributions from September, 1965 to October, 1967. The Committee need hardly point out that had the Company brought the Surgical Instrument Plant within the scope of the Act right from the beginning, it would have avoided an expenditure of Rs. 77,331 incurred by it on reimbursement of medical expenses under the companys rules. The Committee were informed that delay in the registration of the Unit under the act was on account of the medical facilities provided by the Unit being more favourable to its employees than would be available under the Act.

4.137. The Committee feel that because of the delay in the implementation of the statute payment of medical expenses to the extent of Rs. 77331/- has become avoidable.

CHAPTER V

PRICING POLICY

A. Antibiotics and Synthetic Drugs

Drugs are divided into two broad categories viz., (a) bulk drugs and (b) formulations. The former are further sub-divided into "essential" bulk drugs and "other" bulk drugs.

Under the Drugs Prices (Display and Control) Order, 1966 Government froze the prices of drugs and formulations and directed that the manufacturers could sell their products only at the then prevailing prices. As the Company had not yet gone into production, prices of its products were to be fixed with the approval of the Government. Anticipating that their cost of production was likely to be higher in comparison to the cost of other manufacturers, the Company approached Government in November, 1967 for fixation of prices on the basis of maximum prevailing prices. In February, 1968 Government approved the prices of the formulations and bulk (except Tetracycline and Vitamin B-2 5mg) which were more or less the same as recommended by the Company.

5.2. By the Drugs Prices (Display and Control) Amendment Order, 1968, dated 26th August, 1968 Government exempted the Pharmacopoeial drugs without special brand names from the purview of the Drugs Prices (Display and Control) Order, 1966. As the Company was manufacturing Pharmacopoeial drugs and generic formulations without specific brand name, it was able to regulate the prices of various drugs from time to time during 1968-69 and 1969-70 depending upon market conditions.

5.3. With a view to bringing down the prices of essential drugs and curbing excessive profits in the Pharmaceutical industry, Government issued the Drugs (Prices Control) Order, 1970 on 16th May, 1970. The salient features of this Order and its impact on the pricing policy of the Company are dealth with below:—

Bulk Drugs:

5.4. *Essential Drugs*:—All products in the current production range of Antibiotics Plant, Rishikesh and some of the products of

Synthetic Drugs Plant, Hyderabad (which were yet to be manufactured) were classified as "Essential Drugs". Their maximum selling prices were fixed by Government w.e.f. 18th May, 1970 on the basis of the recommendations of the Tariff Commission.

5.5. The Company approached Government on 30th May, 1970 for fixing the selling prices after taking into account its ultimate cost of production (including return on capital) based on rated capacity. Government have not, however, so far (December, 1972) agreed to raise the prices of any of the essential drugs in the manufacturing range of the Antibiotics Plant.

5.6. *Other bulk drugs*:—So far as the other drugs produced in the Synthetic Drugs Plant are concerned, Government froze their prices at the level obtaining on 16th May, 1970. It was aslo decided that further increase of prices could only be done with the prior approval of Government. The Company, therefore, applied to Government on 4th June, 1970 for fixation of fair prices on the basis of latest cost of labour, materials and overheads and taking into consideration a fair return on capital and the modifications in efficiencies and norms indicated in the reglements given by the Collaborators. In July, 1970 Government accepted the recommendations of the Company for the revision of prices suggested by it in respect of Analgin, Phenacetin, Sulphadimidine and Amidopyrine. In case of Vitamin B-2, Folic Acid and Phenobarbitone also Government agreed to the revision of the prices but not to the extent applied for by the Company.

5.7. In view of the increase in the cost of raw materials following indigenisation, Company again approached Government on 24th March, 1971 for enhancement of the prices of Sulphas and Vitamins. The proposal was turned down by the Ministry on 13th April, 1971.

5.8. *Study by the working group of the Bureau of Industrial Costs and Prices*:—On 11th September, 1970, Government decided to constitute a working group of the Bureau of Industrial Costs and Prices for:—

(i) studying the cost structure of the 25 bulk drugs specified by Government and to recommend fair selling prices therefor;

(ii) reviewing the norms for conversion costs and packing as prescribed by Government and recommending the extent to which these required to be modified having regard to the representation received and the objectives of the Drugs (Prices Control) Order, 1970; and

(iii) Studying any other item germane to the above matters.

5.9. The recommendations of the Bureau were submitted to Government between May to October, 1972 in four parts. It was stated by Government in April, 1974 that these reports were carefully examined by the Ministry and were considered in various inter-Ministerial meetings. In the meeting held on 7-12-1973 it was decided that since the period when the drugs were costed by the BICP. The prices of raw materials and other pharmaceuticals aids and services have risen, BICP should examine and advise on revised selling prices keeping in view the current costs. BICPs report in this regard has laso been received and is under consideration of Government. Meanwhile the request of the Company for enhancement of certain prices, especially of sulphas, to neutralise the escalation in raw materials prices (particularly in those cases where indigenous sources have come up to replace imports) has not been acceded to by the Ministry.

Out of the 25 drugs referred to above, 11 fall within the manufacturing range of the Company (Synthetic Drugs Plant). The final results of the study undertaken by the working group were not known.

5.10. *Formulations*:—The Drugs (Prices Control) Order, 1970 envisaged the fixation of retail prices of formulations by Government of India in accordance with the formula contained therein. The norms of conversion costs and packing charges for purposes of arriving at the formulation price were also announced by the Government on 25th May, 1970. The prices of the formulations manufactured by the Antibiotics Plant were worked out by the Company on the basis of the new formula and norms of conversion costs. In most of the cases, an upward revision of the prices was indicated. Government, however, intimated on 15th June, 1970 that where were the application of the formula for fixation of prices of formulations in case of Antibiotics Plant and Synthetic Drugs plant allowed a higher price than the existing selling prices, the latter should be retained; but if there were any cases where the formula resulted in reduction of the price, the lower prices should be allowed. Consequently, prices were not raised in respect of any formulation by the Company; but reduction was made in some cases.

5.11. In pursuance of the decision of the Board taken on 14th July, 1970, the Company reported to Government on 27th July,

---

At the time of factual verification the Ministry stated that "The Report of the BICP been received and Govt. has taken a decision on the report of the working Group in so far as revision of prices of bulk drugs and revision of norms of conversions and packaging are concerned. please.....also see footnote under para 3·115.

1970 that, consequent upon the retention of the existing prices of formulations, it would to put to an estimated loss of Rs. 1.98 crores during 1970-71.

5.12. In regard to the pricing policy the Management stated as follows:—

"When the Company went into production of synthetic drugs and antibiotics the price fixation of drugs and Pharmaceuticals was governed by the Drugs Prices (Display and Control) Order, 1966. They were fixed by Government on application from the Company. Under this order, the Company applied for prices of many of its drugs likely to be in sale during 19 8, on the basis of the then ruling maximum prices in the market, even though the costs of production would warrant higher prices. The reason for doing this were:—

(i) the indications that higher prices may not be sanctioned; and

(ii) even if they are sanctioned by the Government the Company in view of the pressure of similar imported drugs, might not be able to secure a share of the market at these prices."

5.13. In actual practice the Company found stiff resistance in the market to the sale of the drugs of Synthetic Drugs Plant even at the prices sanctioned by the Government and had to reduce even the sanctioned prices to lower levels to avoid the build-up of inventory of finished goods or to withhold the sale of sulphas for a few months so as to enable IDPL obtained reasonable prices. This situation resulted from the fact that Indian Drugs and Pharmaceuticals Limited was not controlling the whole market and the large gap between the indigenous demand and IDPL's initial production was met largely by direct imports by another formulators and traders at considerably lower prices. These C.I.F. prices were very low and bore no relation to the ruling prices in the country of their origin.

5.14. With the removal of the price restraint on pharmacopeial drugs, the remaining limitation for obtaining fair prices to IDPL was the continued availability of imported drugs. With the gradual tapering off of imports, the Company was able to progressively increase its prices especially of sulphas and phenacetin, but before this process could be completed and IDPL could obtain fair prices

commensurate with its cost of production and capital investments, the Drugs (Prices Control) Order, 1970 came into effect from 16-5-1970. Under this order Potassium Pencillin, Sodium Penicillin, Procaine penicillin, streptomycin, tetracycline, hydrochloride, para-amino-salicylic acid and sodium salt of paraamino- salicylic acid were defined as ESSENTIAL BULK DRUGS and their prices, were fixed by the Government by gazette notification on 18th May, 1970. The prices of other bulk drugs were frozen at the rates ruling on 15th May, 1970.

5.15. The Company pointed out to the Government that in the case of antibiotics, the Tariff Commission while recommending fair prices had not taken into account the costs of production of Antibiotics Plant which had not commenced commercial production at the time of Tariff Commission's scrutiny and that the prices fixed by the Government on the basis of Tariff Commission recommendations were uneconomical for IDPL. Similarly in the case of SDP, the process of rationalising the prices by progressively increasing them from the ruling landed prices to fair prices commensurate with the cost of production had not been duly completed at the time of promulgation of the Drugs (Prices Control) Order and there were a number of escalation in the price of raw materials, wages, services, etc., which had to be provided for. The Company, therefore, invoked para 5(i) of the Drugs (Prices Control) Order, and submitted the necessary cost and pricing data and sought higher prices. The Government approved revised maximum selling prices for sulphadimidine, phenacetin, vitamin B-1, Vitamin B-2, folic acid, analgin, amidopyrine, phenobarbitone on 15th July, 1970.

5.16 Giving effect to the recommendations of the Tariff Commission, Government also approved of a scheme of canalisation of the distribution of the drugs in the manufacturing range Antibiotics Plant and Synthetic Drugs Plant through IDPL at pooled prices, (which were worked out on the basis of weighted average rates of import prices and prices allowed to the indigenous manufacturers). This scheme came into effect from 9-7-1970 when the pooled prices for phenacetin, sulphadimidine, Vitamin B-1, Vitamin B-2 folic acid, analgin, amidopyrine, phenobarbitone, streptomycin and tetracycline were notified.

5.17. In regard to the extent to which the prices notified under the Drugs (Prices Control Order, 1970) are economic with raference to the ultimate cost of production based on the rated capacity and whether the fixation of cost of production by IDPL on the basis of

rated production is fair, the Ministry stated in written reply (March, 1974) as follows:—

> "The prices of drugs were frozen as per Drugs Price Control Order 1970. Although the Synthetic Drugs Plant, Hyderabad, achieved much higher production during 1972-73 than its original design capacity, the actual cost of production for almost all drugs was higher than the standard cost estimated in 1970. The major reasons contributing to this high cost are substantial increase in the prices of raw materials, power, fuel, services, increases in salary and wages etc."

5.18. In July, 1970, the plant management worked out certain standard costs of production for all the products produced at SDP. These were worked out on the basis of the then rated capacities taking into consideration the existing cost of the raw materials and services etc. The element on account of interest and depreciation were also included. No return on capital was however provided in such costing.

5.19. The prices were, however, not fixed by Government on the basis of the cost figures of IDPL. Prices of 17 bulk drugs whose cost was examined by the Tariff Commission were fixed by Government on that basis, while those of other bulk drugs were frozen at the level of May, 1970 when the Drugs (Prices Control) Order, 1970 was issued. Tariff Commission had based their cost studies on the costs of the units which were in production in 1965-66 or 1966-67. A single price for each particular bulk drug was fixed and not separate prices for different units according to their different costs. Since M/s. Indian Drugs & Pharmaceuticals Ltd. are expanding their production capacities gradually to meet the increasing requirements, prices worked out at a particular point of time depending upon the prevailing capacities would naturally not be applicable for production with higher capacity. This is also likely to offset to some extent the increased cost of inputs that is taking place.

5.20. Regarding the fact that the prices notified under the Drugs (Prices Control Order) 1970 are considered uneconomical by the Company, whether the Antibiotics Plant, Rishikesh and Synthetic Drugs Plant, Hyderabad would not continue to incur losses and whether any exercise has been made to indicate the profitability position on effective utilisation of rated capacity and if so, whether it indicates any loss; the Ministry further stated that:—

> "As mentioned above, the selling prices in respect of most of the bulk drugs produced at SDP have been examined by

the said working group. Government is presently considering as to whether any further escalation on the prices recommended on account of the recent increase in the cost of raw materials, and other inputs would be justifiable and if so to what extent. As regards streptomycin, penicillin and tetracycline manufactured at ABP, the prices of these antibiotics were notified in schedule I of the Drugs Price Control Order which were fixed on the basis of the examination and recommendation of the Tariff Commission vide their report submitted in 1968. Since a number of years have elapsed after the prices were costed by the Tariff Commission, it has been decided that those items should also be re-costed, with a view to fixing revised selling prices. The profitability position can only be indicated after the prices have been worked out on the present input costs."

5.21. A Committee to enquire into the various aspects of the drugs and pharmaceuticals industry has been constituted by Government in February, 1974 under the chairmanship of Shri Jaisukhlal Hathi, M.P. "with a view to ensuring the regulated and rapid growth of drug manufacture, and further with a view to ensuring that all essential drugs are made available to the consumers at reasonable prices." The terms of reference stipulate inter-alia examination of "measures taken so far to reduce the price of drugs for the consumer, and to recommend such further measures as may be necessary to rationalise the prices of drugs and formulations".

A copy of the Government Resolution is enclosed (Appendix XXIII).

5.22. The Committee note that the prices of products of the Antibiotics Plant and the Synthetic Drugs Plant were fixed for drugs likely to be on sale in 1968 on the basis of the then ruling maximum prices in the market, even though the cost of production at that time warranted higher prices. The undertaking had, however, to reduce the prices to lower levels and to sell the products at reduced prices to secure fair span of the market. With the tapering of imports, the Company was able to progressively increase its prices of Sulphas and penicilin when the Drugs (Prices Control) order came into effect from the 16th May, 1970 and certain drugs were defined as "essential bulk drugs". The prices of bulk drugs were, however, frozen at the rates ruling on 15th May, 1970. The Committee were informed that the prices fixed did not take into account the actual cost of production in the Antibiotics Plant, with the result that the

recommendations of the Drugs (Prices Control) Order proved uneconomical to I.D.P.L. A similar difficulty was also felt in the case of Synthetic Drugs Plan since the process of rationalisation of the prices had not been completed. There had also been a number of escalations in the prices of raw materials, wages, services etc. As bulk drugs are sold mostly to the private sector for formulation purposes the Committee feel that as a result of transfer of bulk drugs of formulation in the private sector, they were allowed to earn a greater margin of profit.

5.23. The Committee also note that the Company approached Government for fixing the selling prices after taking into account its ultimate cost of production including return on capital. The Committee understand that on the 11th September, 1970, Government constituted a Working Group of Bureau of Industrial Costs and Prices for settling the cost structure on 25 bulk drugs and to recommend fair selling prices therefor. The Committee regret to note that though the recommendations of the Bureau were received by Government as far back as October, 1972, Government took an unduly long time in taking a decision on these recommendations.

5.24. In one of the Inter-Ministerial meetings held on 7th December, 1973, it was decided by the Government that the Bureau should advise on the revised selling prices, keeping in view the current costs of raw materials and other pharmaceuticals aids and services.

5.25. The Committee need hardly emphasize that IDPL should improve efficiency and effect economies to make their products most competitive.

5.26. The Comittee note that in regard to formulations, Drugs (Prices Control) Order, 1970 had envisaged the fixation of retail prices of formulations by Government of India should be on the basis of formula contained therein. In June, 1970, Government decided that wherever the application of the formula for fixation of prices of formulations in the case of Antibiotics Plants and Synthetic Drugs Plant allowed a higher price than the existing selling price, the latter should be retained but if there were any cases where the formula resulted in reduction of the price, the lower price should be allowed. Consequently IDPL was unable to raise the prices of its formulations instead, it had to effect reduction in some cases.

5.27. Consequent upon the continuation of the existing prices of formulations, the Committee are informed that IDPL was put to an estimated loss of 1.98 crores during 1970-71 alone.

5.28. The Committee also note that Government have in February, 1974 constituted a Committee to enquire into various aspects of the Drugs and Pharmaceuticals Industry with a view to ensuring that all essential drugs are made available to the consumers at reasonable prices. The terms of reference inter alia stipulate an examination of the measures taken so far to reduce the prices of drugs for the consumers and to recommend such further measures as may be necessary to rationalise the prices of drugs and formulations. They hope that the Hathi Committee would give their recommendations by the scheduled date and that Government would take expeditious decision on these recommendations in the interest of making available medicines to the public at most competitive rates.

VI

SALES AND MARKETING

6.1. The Marketing Organisation of the Company was set up in March, 1967 for the purposes of (a) carrying out market survey; and (b) undertaking distribution of the products of the three plants.

6.2. In the initial stages, the Marketing Division concentrated its attention on obtaining market intelligence and statistics and the sales operations started in 1968-69 only. Recently, studies were also conducted to develop new products having market potential as well as in assessing the country's demand over the next five years. A number of new formulations have also been studied and suggestions made to the Plants to increase the trade business.

6.3. As a result of the Government's decision to entrust to the Company, distribution of imported drugs within the production range of the Company, the activities of the Marketing Division were expanded in 1970-71 to include the purchase and sale of imported drugs as well.

A. Organisation

6.4. The Marketing Division of the Company is headed by a Chief Marketing Manager. The Division has two wings namely, Sales Organisation Field Depots and Secretariat. The staff strength of the Marketing Division as on 31st March, 1973 was 364 (including 49 officers) as against the sanctioned strength of 364.

6.5. The Division has at present eight Regional Offices located at Delhi, Chandigarh, Bombay, Lucknow, Calcutta, Madras, Bangalore and Patna and a sub-regional office at Ahmedabad. In addition there are depots/Sub-depots at Hyderabad, Cochin, Jaipur and Pinjore.

6.8. The products are transferred by the Plants to the Sales Offices/Depots for sale. With effect from 1st January, 1971, the Marketing activities of surgical instruments have been transferred back to the Surgical Instruments Plant, Madras.

6.7. The bulk products and intermediate chemical are generally sold by the Plants to the pharmaceuticals/chemicals companies. In

the case of imported bulk, however, the sales are centralised at Bombay Depot of the Company and are made on the basis of the release orders issued by the State Drugs Controllers.

6.8. The sale of formulations to Government Institutions is mainly through rate contracts entered into with the Director General, Supplies and Disposals, State Governments etc. The sales to trade are executed by the Regional Offices through distributors who have been designated as preferred dealers.

6.9. About the adequacy of the organisational set up of the Marketing Division of the Company to perform the functions assigned to it, the Management stated that the present staff both in the field depots and Secretariat was adequate to meet the requirements of the Company's market function; however, with the expansion of the sales activity, there would be need for corresponding increase in the staff in both units viz., field force, depots and Secretariat.

6.10. In this connection the Ministry have also stated that the organisational set of the Marketing Division was adequate to perform the functions assigned to it. As the Company's sales expand, the staff at various levels within the field or at the depots or in Secretariat may have to be strengthened.

6.11. The Committee note that the marketing organisation of IDPL was set up in March, 1967 for the purpose of carrying out market surveys and undertaking distribution of the products of the three plants. As a result of Government's decision to entrust to the Company distribution of imported drugs within the production range of the Company, the activities of the Marketing Division were expanded in 1970-71 to include the sale and purchase of imported drugs as well. With effect from 1st January, 1971 marketing activities of surgical instruments were transferred back to the Surgical Instruments Plant, Madras. The bulk products and intermediate chemicals are generally sold by the plants to the pharmaceuticals|chemicals companies. In the case of imported bulk, however, the sales are centralised at Bombay Depot of the Company. The sale of pharmaceuticals formulations to Government institutions is mainly through rate contracts entered into with DGS&D/State Governments etc. The sales to trade are, however, executed by the regional offices through distributors. The total staff strength of the Marketing Division as on 31st March, 1973 was 364 (including 49 officers). The Committee recommend that organisational set up and arrangements for the sale of IDPL products may be kept under-review and improvements effected from time to

time so as to push up the sales of IDPL products in the best interest of the Company and at the same time keep the selling costs to the minimum.

B. Sales Performance

6.12. The Head Office fixes targets for sales for each of the Plants. Appendix XXIV indicates the original as well as revised targets of sales of Company's own products and the actuals there against during 1968-69 to 1972-73 and 1973-74 (upto November, 1973). In this connection, following features deserve mention:—

(a) The total value of production of drugs and pharmaceuticals of the large and medium scale units in the country during 1970 and 1971 was of the order of Rs. 250 crores (approximately) and Rs. 300 crores (approximately), respectively. As against this, the turnover of the company amounted to Rs. 10.25 crores in 1970-71 and Rs. 15.55 crores in 1971-72. This constituted 4.1 per cent and 5.2 per cent of the country's turnover for these two years. The Management have stated (September, 1973) that the turnover of the Company during 1972-73 was to the extent of Rs. 19.90 crores which was approximately 6.63 per cent of the entire turn-over of the Pharmaceutical Industry and 25 per cent of the country's total demand for all bulk drugs.

(b) The sales of the Company increased from Rs. 101.20 lakhs in 1968-69 to Rs. 2,058 lakhs in 1972-73. The Company could not, however, attain even the revised targets of sales in any of the years. The following reasons were assigned for non-achievement of sales targets:—

1968-69

The shortfall in sales was on account of lower production, resistance in the market due to cheaper imports of items on the restricted or banned list.

The shortfall in the case of instruments was mainly due to shortfall in production and lack of orders.

1969-70

The reduction in sales was mainly on account of lower production in all the units.

1970-71 *and* 1971-72

The reduction in sales was on account of lower production targets fixed for all the units.

1972-73

Non-achievement of sales targets in case of formulations for antibiotics (shortfall Rs. 194 lakhs) was due to fall in production of narrow spectrum antibiotics and certain new products, on account of closure of factory due to labour trouble and U.P. State Electricity Board strike. The non-achievement of targets in Synthetic Drugs Plant (Shortfall Rs. 76 lakhs) was mainly accounted for by lower production on account of non-availability of raw materials in requisite quantity at appropriate times.

It may be mentioned that, as a result of the recommendations of the Committee on Public Undertakings, Government had issued instructions in June, 1971/May, 1972 that Government Departments and Public Sector Enterprises should obtain their requirement of drugs from the Indian Drugs & Pharmaceuticals Limited/Hindustan Antibiotics Limited to the maximum extent possible and a price preference up to 10 per cent be allowed to them. It has been noticed that these directions are not being followed by some of the State Governments and Director General, Supplies & Disposals. As, however, Director General, Supplies & Disposals also enters into parallel rate contracts with private firms, all indentors do not obtain their requirements exclusively from the Company.

Government Medical Store Depots under the Ministry of Health and Family Planning have not given effect to the Government instructions issued in June, 1971 and May, 1972 to accord 10 per cent preference to IDPL. State Governments also contend that they do not come within the purview of the circular issued by the Government of India, since Health is a State subject.

While reduction in sales during 1969-70 to 1971-72 has been ascribed to poor production performance, it is seen from the Ministry's letter dated 8th May, 1972 that the inability of the Company to secure all the Director General, Supplies & Disposals orders, which it was in a position to execute, was resulting in considerable under utilisation of capacities.

(c) The composition of the total sales of drugs (indigenous as

well as imported) into bulk and formulations for the last 3 years was as follows:—

Year	Bulk	Formulations
	Percentage to total sales	Percentage to total sales.
1969-70	Data not available.	
1970-71	57·6	42·4
1971-72	54·6	45·4
1972-73	62·4	37·6

(d) As mentioned earlier, bulk products and intermediates are sold to manufactureres for vialling, tabletting, etc. and only formulations are sold to trade and Government Departments.

Out of its total sale of formulations percentage sale to Government Depots/Trade was as under:—

Year	% sale to Govt. Departments	% sale to Trade
1970-71	78·6	21·4
1971-72	80·5	19·5
1972-73	80·6	19·4
1973-74 (upto Nov. 73)	72·3	27·7

The facilities for manufacture of sophisticated formulations, it has been stated are being augmented and during the course of 1974-75, the Company propose to introduce a number of sophisticated formulations to further increase its share of Trade Market, which is already showing an increasing trend during 1973-74.

The Management have stated (January, 1973) as follows:—

> "We are proposing a change in the sales pattern systematically which will be brought over in the next few years to increase the Indian Drugs & Pharmaceuticals Limited sales in the Trade and reduce its overall dependence on the Government purchases."

(e) The formulations are sold to Government Departments and the trade under their generic names. However, with a view to exploiting the vast trade market, the Company has also introduced branded products. Three such products introduced in the market in August, 1970, March, 1971 and July, 1971 were "Apidin", "Cemizol" and "Hexavit" produced in the Synthetic Drugs Plant, Hyderabad.

6.13. During 1972-73 the Company introduced 'Sulphaguanidine' and 'Sulphadimidine' in strip packing from Synthetic Drugs Plant for trade sales and "Chloromphenicol" capsules from Antibiotics Plant for sale to the trade parties as well as to Government Departments.

During 1973-74 Company introduced its 1st liquid injectable product under the brand name 'OTCIM' (Oxytetracycline intravenous muscular injections) for sale to trade.

A number of new drugs are stated to be under development and are likely to be introduced by the end of 1973-74 or in early 1974-75.

It has been stated that the Company has also studied the market potential of various popular drugs and the steps have been taken to introduce the following formulations under brand names as quickly as possible:—

(a) Vitamin C, chewable tablets 50 mg. each
(b) B-complex forte tablets
(c) Diazepan tablets (5 mg. each)
(d) Ampicillin capsules (250 mg. & 500 mg.)
(e) Doxycyline Hyclate capsules (100 mg.)
(f) A tonic preparation
(g) Metronidazole tablets
(h) Tetracycline soluble powder for veterinary use
(i) Sulphadimidine & Sulphaguanidine strips
(j) Chloramphenicol capsules
(k) Chloramphenicol + Streptomycin capsules
(l) Chloroquin tablets
(m) B-Complex tablets
(n) Sodium Sulphadimidine 450 ml. injectable solution
(o) Oxytetracycline bolus
(p) Tetracycline 3 per cent & 1 per cent cintments.

They have also applied for an Industrial Licence for formulating the following items:—

1. Fursemide
2. Methyldopa
3. Indomethacin
4. Prenylamine Lactate

6.14. The Committee find that the turn-over of drugs and pharmaceuticals by IDPL amounted to Rs. 10.2 crores in 1970-71, Rs. 15.55 crores in 1971-72 and Rs. 19.90 crores in 1972-73 This constituted 4.1 per cent, 5.2 per cent and 6.6 per cent of the country's turn-over for these three years. The Committee also note that though the sales of the Company increased from Rs. 101.22 lakhs in 1968-69 to Rs. 2058 lakhs in 1972-73, the Company failed to attain even the revised targets of sales in any of the years. The main reasons for non-achievement of sales targets were stated to be lower production in all the years and availability of cheaper imported drugs in the market (for 1968-69 only). The Committee recommend that IDPL should evolve better sales strategies to push up the sales.

The Committee note that as a result of the recommendations made by the Committee in their 46th Report, Government had issued instructions in June, 1971/May, 1972 that Government Departments and Public Sector enterprises should obtain their requirements of drugs from the IDPL/Hindustan Antibiotics Limited to the maximum extent possible and a price preference upto 10 per cent be allowed to them. The Committee have been informed that these instructions are not being followed by some of the State Governments and Director General of Supplies and Disposals, who also enter into parallel rate contracts with private firms.

6.15. The Committee also understand that Government medical stores depots under the Ministry of Health and Family Planning have not given effect to the Government instructions issued in June, 1971 and May, 1972 to accord 10 per cent perference to IDPL. State Governments contend that they do not come within the perview of the circular issued by the Government of India since health is a state subject. The Committee recommend that Government should once again draw attention of the Government Departments/Public sector enterprises to the instructions issued in June, 1971/May, 1972 and impress upon them the need to meet their requirements from the IDPL/Hindustan Antibiotics Limited to the maximum extent possible. Government should also ensure that DGS&D places all orders for the products within the range of production of IDPL/HAL on these undertakings within the ceiling of price preference indicated above.

6.16. The Committee find that during 1972-73, IDPL's sales were 62.4 per cent of bulk and 37.6 per cent of formulations. Out of its total sales of formulations, the percentage sale to Government Departments was 80.6 per cent and to trade 19.4 per cent during that year. The Committee further find that during 1973-74 (Upto November, 1973) the percentage sales to Government Departments was 72.3 per cent and to trade 27.7 per cent. The Committee recommend that IDPL should strive to change its sales pattern so as to increase the percentage of its sales to the trade and reduce its dependence on the purchases by Government Departments.

6.17. The Committee find that with a view to exploit the vast trade market, IDPL has introduced some branded products like Apidin, Cemizol and Hexavite, Sulphadimidine, Sulphaguanidine and Choromphenicol, the Company has also introduced its first liquid injectable product under the brand name 'Otcim' for sale to the trade. The Committee have been informed that a number of new drugs are under development and are likely to be introduced by the end of 1973-74 or in the early of 1974-75.

6.18. While the Committee appreciate the efforts being made by IDPL to make available medicines to the people at reasonable prices, the Committee feel that in order to improve its profitability IDPL should also introduce some more sophisticated formulations in order to increase its share of trade in the market.

6.19. *Imported Bulk*: The sale of imported bulk drugs amounted to Rs. 734.91 lakhs in 1972-73. The turnover of Company's own products constituted 6.63 per cent (approx.) of the entire turn-over of the pharamaceuticals industry during 1972-73.

6.20. In respect of the inability of the Company to secure all DGS&D orders which it was in a position to execute, the Management stated as under:—

> "Generally most of the Pharmaceutical firms start first with formulation activity on the basis of imported drugs. However, in the case of IDPL though formulation blocks were ready, yet we were not a permitted to import the drugs to utilise this capacity. As during the initial commissioning period, the bulk product available from its own production was very little we could not produce sufficient formulations and meet the sale targets. However, in case of SDP products for which there were less constraints of the supply of formulations, the budgeted sales targets could

not be achieved because our major drugs which were mainly utilised by the Government hospitals and the DGS&D did not give us exclusive rate contracts in spite of other best efforts at all levels.

6.21. Central Rate contracts account for only 25 per cent of the total hospital sales of drugs in the country whereas the balance 75 per cent originates from State Governments, Municipal Corporations and the Public Sector Undertakings. The State Government mostly go by the price factor in matter of purchases and give price preference to units located in their States. The Public Sector Undertakings, Municipal Corporations also have been following a similar policy of purchases on the basis of lowest tenders. These were the main reasons for non-realisation of revised sales targets."

6.22. On being asked whether parallel rate contracts were entered into by the DGS&D with Private firms on account of lower prices offered or on account of inability of Indian Drugs & Pharmaceuticals Ltd. to meet the requirements and whether in the former case the price prefernce of 10 per cent was taken into account. The Management stated that:

"Price preference circular had very little impact on capacities of IDPL and a Government directive will be necessary to advise such states to go into formulation of products other than for which the capacity already exists with IDPL and where IDPL is the basis manufacturer of such drugs. There are about 1200 formulations which are purchased by the Hospitals in the country out of which IDPL is only formulating 12 to 15 major drugs. 70 per cent of such drugs are in the form of tablets or capscules and it could be possible for the state public sector units to have a rational policy of selecting simpler drugs from this large diversified range."

6.23. The Committee have been informed by the Company that DGS&D entered into parallel rate contracts with other companies for the following reasons:—

(i) It is the declared policy of the DGS&D to have more than one source of supply so that in the event of failure of supply from one source they fall back on the second source of supply.

(ii) Private firms quoting rates lower than that of IDPL.

The DGS&'s contention of having more than one source of supply is not tenable because of the following reasons:

(a) For certain products like sulphas, IDPL is the only source of manufacture and supply of bulk material in the country.

(b) Under the scheme of canalisation, IDPL is the sole distributing agency for canalised itemes which are manufactured by IDPL and balancing imports are done. In case of failure of production or non-arrival of imports, the entire industry will not be able to get the raw-materials because the sources of supply would dry up in such cases, and thus the other formulators also will not be able to supply such formulations to Hospitals.

(c) Even if the DGS&D insists on a second source of supply for emergency, the arrangements could be finalised in such a manner that a primary rate contract is issued on IDPL. The second rate contract is being kept reserved and in case of failure of IDPL to meet any commitments of supply, the reserved rate contract could be brought into operation."

6.24. Asked whether the sales to Government Departments were made on the prices notified in the Drugs (Prices Control) Order, 1970, issued by Government in May, 1970 and if not, what was the profit or loss made by the Company for supply of drugs under the rate contracts, with reference to price notified in the Drugs (Prices Control Order), the Management informed the Committee as under:—

"The supplies to the Government Departments are not made on the prices approved under the Drug Price Control Order but on the basis of lowest tendered price which is invariably below the price approved under the Price Drug Control Order. Most of the companies operate on marginal profits when supplying to the Government Hospitals not taking the advantage of full 75 per cent or more of the mark-up. However, in products like Sulphaguanidine and Sulphadimidine though we are supplying to hospitals at the prices frozen under the May 17, 1971 Order of the Ministry of Petroleum & Chemicals, we are making losses beacuse IDPL's request for an increase in prices based on the then Govt. fixed prices of bulk raw-materials and the norms fixed for formulations, was

not given to IDPL though other Companies get a price increase on the basis of the revised pooled prices fixed by the Govt."

6.25. About the sales performance of IDPL, as detailed above, the Ministry stated in a written note as follows:—

"There are several hundred formulations which are purchased by hospitals in the country out of which IDPL formulates only a few that is based on about a dozen major drugs. For the formulations not produced by IDPL, no doubt DGS&D will have to enter into rate contracts with other companies. In case of formulations in IDPL's product mix, parallel rate contracts were entered into by DGS&D with private firms not on account of any inability of IDPL to meet the requirements, but mainly on account of the lower prices offered by private firms and also in order to have more than one source of supply so that failure of anyone source may not dislocate supplies.

6.26. The prices fixed by Government under the Drugs (Price Control) Order, 1970 are only maximum selling prices and sale at any lower prices as permissible. For supply of drugs under rate contracts, the prices were much lower than those fixed under DPCO. The Company has not worked out the losses incurred by it with reference to the prices notified under the DPCO.

6.27. In view of the present prevalence of brand names in the market, Government agree that IDPL has to introduce more products with brand names in order to increase its share of the market. The concrete step taken is to increase its trade sales as distinguished from sales to Governments and to hospitals."

6.28. It has been stated that free availability of imported drugs in the market is militating against the sales of indigenous drugs in the country. About the measures taken or proposed to be taken to (i) popularise the products of IDPL (ii) to boost the sales thereof and (iii) to compete the free availability of similar imported products, the Management stated as under:

"Prior to the system of canalisation of drugs, imports of drugs were allowed to actual users against import licences. When the scheme of canalisation was introduced and while planning imports for the period 1970-71 no proper account was taken of the valid import licences held by actual users and the floating licences held by merchant

exports plus the inventories held by the parties as on date. This resulted in duality of arrival of imports culminating in excess inventories of such drugs in the country. Another factor which prompted parties to import larger quantities was the possible higher pooled prices likely to be fixed by the Government and the consequent trading profits which would accrue to the parties. As per the Import Trade Control Policy, the actual users' licences assued to parties for certain products used to be valid for a period of 18 months from the date of issue of the licences with a provision to revalidate. All these factors resulted in unduly large imports and the resultant large inventories with IDPL because the imports of IDPL were arranged through S.T.C. based on the requirements of the industry as per the recommendations received from the State Drug Control authorities and decided by the Import Advisory Committee of the Ministry of P & C. Most of the parties who had obtained recomendations from the Drug Control authorities in the States failed to lift the allocated quantities when the release orders were issued by IDPL, both in the large as well as small scale sectors. Even our efforts to discipline the parties through the good offices of their trade association and the help sought from the Drug Controllers in the States bore very little fruit. Subsequently, on constant representations made by IDPL, the CCI&E issued a Government notification cancelling all the valid import licences for certain items for which IDPL was holding large inventories from October, 1971. Even then some imports kept on trickling against the commitments made prior to October, 1971 as well as against REP licences. When the speculative stocks in the market were reduced, the parties started honouring their commitments and all the large inventories which were held by IDPL were sold out by 1972-73. At present, we maintain an inventory level of 2-3 months at the maximum with a view to service the industry systematically.

6.29. Even at present, we have to contend with two important situations:—

(1) The import of drugs in IDPL's range against REP licences by those parties who are not engaged in pharmaceutical the pooled prices because of the low international prices at which they are imported. On IDPL's representation,

very recently CCI&E has taken a decision to restrict permission to import canalised items REP licences and has also fixed the quantum of the value of exports against the imports made.

(2) IDPL can do very little in this case and clandestine imports in the country from neighbouring countries because of the disparity in prices in the international market and domestic market and IDPL can do very little in this case except to bring it to the notice of the authorities concerned as and when they find that such products are available in large quantities in the open market at Bombay or Calcutta. However, because of the uncertain availability of supplies from such sources most of the manufacturers do not refuse to honour their release orders issued by IDPL because such purchases will not form a part of their legitimate consumption for future allotment.

6.30. Since the release of bulk drugs in IDPL's range barring a few non-canalised items is made against recommendations received from Drug Controllers on the basis of past consumption, efforts to popularise these products, are not required. These are in manufacturing use for the past three decades or so and are well known pharmacopoeial products.

6.31. There is no competition because of free availability of imported material except when small quantities reach this country through unauthorised sources which in any case do not pose a very great challenge to IDPL's marketing of such products based on recommendations of State Drug Controllers.

6.32. However, for those items which are not canalised and certain drug intermediates which are being manufactured by IDPL special efforts are being made by IDPL sales staff to:—

(a) Prompt users to buy indigenously produced intermediates instead of importing them from abroad;

(b) To represent to CCI&E to ban the import of such material because of IDPL's capability to meet the total requirements. The products which have since been banned on IDPL's request are Diethylamine, Hydrazine Hydrate, Diethyl Malonate, Aceto Acetic Ester, Diethyl Carbamyl Chloride. Triethylamine is put under restricted list of items.

(c) We are also persuading manufacturers in the country to import substitution by using intermediates manufactured by IDPL against any other alternative imported material by undertaking developmental work.

(d) Certain non-canalised items such as phenacetin and DCC, etc. where small and large scale companies are also manufacturing IDPL has to undertake some sales promotion activities to boost the sale of such items and parties are encouraged to enter into long term contracts with I.D.P.L.

C. Canalisation Scheme

6.33. (i) In July, 1970, Government introduced a Canalisation Scheme under which the import of bulk drugs to make good the shortfall/supplement indigenous production was permitted through a single agency only. Out of the 11 canalised items, 10 items fell within the production range of the Company. The Company was therefore, designated as the canalising agency for these 10 items which were to be distributed by it alongwith its own drugs. The number of items canalised for import through S.T.C. increased to 18 in 1971-72, to 24 in 1972-73 and 36 in 1973-74.

6.34. In order to eliminate the dual prices that would prevail in the market for the same bulk drug (*i.e.* indigenously produced as well imported and also to ensure availability of raw materials at the same rates to defferent manufacturers, a system of pooling of prices was evolved by the Government in July, 1970. Under this system, pooled price is fixed by taking the weighted average of the prices allowed to indigenous manufacturers and the price of the imported material, inclusive of CIF price, customs and clearance charges, commission paid to the State Trading Corporation and an allowance for warehousing, handling and financing charges. The scheme further envisages that the defference between the price notified by Government for the indigenous production and the pooled price is to be reimbursed by the Company, out of profits earned under the scheme.

6.35. The Company made a gross profit of Rs. 63.60 lakhs during 1970-71 (*i.e.* from September, 1970 to 31st March, 1971) and Rs. 169.32 lakhs during 1971-72 on the trading in bulk imported drugs, after adjusting Rs. 55.75 lakhs for 1970-71 and Rs. 73.93 lakhs for 1971-72 paid by the Company to the indigenous manufacturers (including itself) on account of the difference between the price notified by Government and the pooled price. The Company made gross profit

of Rs. 219.26 lakhs during 1972-73 on trading in bulk imported drugs after adjusting Rs. 112.20 lakhs paid by the Company to the indigenous manufacturers (including itself) on account of the difference between the price notified by the Government and the pooled price.

6.36. These profits do not, however, take into account expenses on pooling operations (including financing) for which separate accounts have not yet been kept. Credit for the profit arising out of the scheme was taken in the accounts of the Company.

6.37. In this connection, the Ministry have stated (October, 1973) as follows:—

(i) It may be appreciated that system of weighted prices would not lead to either profiteering by importing institutions concerned nor would it set profitability as criterion for such imports. However, the likelihood of plus or minus emerging as consequence of this system of pooled prices cannot be ruled out. It is a constant endeavour of the Government to ensure that the system of pricing, based on the principle of weighted averages, is worked out in a manner which should be equitable to all concerned.

(ii) Although imports were made on the basis of the recommendations of State Drugs Controllers, it was noticed that there was delay on the part of the manufacturers in lifting their quota allotted by the State Drugs Controllers.

6.38. The table at Appendix XXV indicates the quantity imported for distribution, that allocated by the Drugs Controllers, actually lifted by the allottees and the closing stock of the various drugs as at the end of 1970-71, 1971-72 and 1972-73.

6.39. The following reasons have been assigned by the Management for the poor off-take by the allottees:—

(a) Excessive imports due to over-assessment of the country's requirements which occurred on account of lack of full information regarding the position of stocks with the various companies and in the pipeline.

(b) Large inventory with the consumers of the items falling under the distribution range of the Company.

(c) Free availability of the imported materials in the Market at comparatively cheaper prices.

(d) Continued trickling of imports against valid licences is-

sued to the actual users prior to imposition of ban on imports or canalisation of drugs.

6.40. In order to obviate delay by parties in lifting stocks, the Management decided in February, 1972 to take security/bank guarantee equal to 10 per cent of the value of the order. While some of the parties deposited the security, other objected to the same. The matter regarding enforcement of the condition is still (October, 1972) under consideration. However, interest @ 1 1/2 per cent is being levied for delay in lifting of goods after the expiry of the validity period of release order.

Reasons for poor off take by the allottees during 1972-73:

6.41. The poor off take by the allottees in 1972-73 was mostly accounted for by the fact that the quantity allocated to them by the SDCs was more than their actual requirements.

6.42. The decision to obtain security/Bank guarantee equal to 10 per cent of the value of the order has not been implemented in the light of representations from various associations of the Drugs Industry. However, interest @ 1 1/2 per month for delay in lifting of goods after the expiry of the validity period of release order continues to be realised.

6.43. The Company has not maintained any separate accounts for the accountal of imported items. In the absence of separate accounts being kept it has not been possible to compare the various elements which go into the fixation of pooled price with the actuals and review the pooled price from time to time. Also in the absence of such separate accounts being kept it has not been possible to ensure that the system of pricing based on principles of weighted averages has been operated in a manner equitable to all concerned.

6.44. About passing on the benefit of the system of canalisation and pooled prices; to the customers, the Management in a written note stated as follows:—

"The entire industry is getting canalised items at uniform prices. This enabled the Government to fix prices of finished products (formulations) at a uniform pattern. Prior to introduction of this system of canalisation, multi-national companies have imported raw materials from their parent units at exorbitant prices and recovered the same

from the consumer. When the introduction of the system of canalisation, a pattern of uniform prices for all sections of the industry has been introduced, irrespective of the quantities recommended to them by the Drug Control authorities. Besides the system of canalisation has also enabled STC to get such drugs in bulk quantities from any sources which offers the lowest prices and such drugs could now be made available to all the manufacturers whereas earlier, due to limitations of import licences the small scale sector companies could not afford to import such drugs in large quantities. Because of the capacity of small scale sector companies to undertake formulations of a large number of drugs, forces of market demand brought down the prices of such formulations and the benefit was thus passed on to the consumer. The introduction of Drug Price Control Order also had a salutary effect because the pooled prices having been fixed allowed for a uniform basis for calculating the ultimate price to the consumer whereas at earlier stage each individual company would price a product depending on the prices at which such drugs were imported by them.

Asked whether the entire demand of the Private manufacturers was met out of imported bulk and how much of the bulk drugs imported by the Company under canalisation scheme during 1970-71 to 1972-73 was issued to the manufacturers in the Private Sector and how much was consumed by Indian Drugs and Pharmaceuticals Limited. It was stated that the demand of the industry was met in full from imported and indigenous stocks as per the recommendations received from Drug Control Authorities except where the imports did not arrive in time when a pro-rate distribution of the quantities available was made. In fact at one stage, the industry was not lifting the entire allocations made to them and IDPL was carrying surplus inventories. Such stocks after meeting the industry's requirements were transferred to the plants for utilisation of excessive formulation capacities at the plants and to avoid losses because most of the products imported

have a limited shelf life. The quantum of import of each item during the three years and stocks transferred to Plant are given in the Appendix XXIX.

Regarding the extent to which the Company has been successful in liquidating the accumulation of the imported stocks of bulk and the measures taken by Government/Management to avoid accumulation of imported bulk, present position regarding enforcement of the conditions regarding securities/bank guarantee to be obtained from the parties who fail to lift the quota allotted by the State Drugs Controllers, the Management stated as under:—

"We have liquidated all imported stocks and are not carrying inventory more than 1-2 months sale at time. We have now arranged delivery schedule with STC in such a manner that bunch arrivals are avoided."

Regarding improvement of the system of bank guarantees, it was stated that this decision to obtain bank guarantees covering 10 per cent of the value of total recommendations was withdrawn in view of representations from various associations of the drug industry. The system of charging interest @ 1.5 per cent per month after the expiry of the validity of the release order had a very salutary effect and the parties were now lifting their allocations within the stipulated period or are paying interest as per the rules because of their failure in not honouring the commitments in time."

In respect of the advances/deposits taken, if any, by IDPL towards orders for purchases by drug manufacturers the Committee were informed that: "We are not taking advance from drug manufacturers for release of canalised items in terms of the recommendations from the State Drug Controllers. However, in case the parties desire deliveries to be made at places other than the plants and depots at Bombay they have to deposit 10 per cent of the value of the items released so as to enable the company to transfer such stocks from the plant or Bombay godown to our respective depots where the parties are located. In fact, this is an additional facility to the manufacturers because our normal terms of sales are cash against delivery and since the release orders are issued either ex-plants or ex-Bombay the parties will have to send full

value of such consignments in advance. By this system of depositing advance they pay balance 90 per cent when the goods are physically available at the depots.

It may be stated that it is a common practice in the international trade as well as in the country that manufacturers insist on certain deposits against long term contracts to ensure fulfilment of the contractual obligations."

In this connection, the Ministry informed the Committee as follows:—

"While the Company has been able to indicate the gross profit made by them on trading of bulk and imported drugs, they have not indicated the net profits on this account. This, however, is not relevant to the fixation of pooled prices.

In as much as the pooled prices are lower than the prices of indigenously produced drugs, the benefit accrues to the customer."

6.45. The Committee were informed that the objectives underlying for system of canalisation were:

(i) To curb the scope for the drug companies to import drugs at excessive prices from their principals and contracts abroad; and

(ii) To reduce the dependence for such drugs on a few multinational companies and to import the drugs at most economical price available.

(iii) To make the concerned bulk drugs available at a uniform price to all formulators and to secure an equitable distribution among them."

6.46. The Ministry added that "No comprehensive review of pooled prices has been carried out since the system was first introduced in July 1970 though in case of chloramphenicol the prices have been revised due to substantial changes in the import prices."

6.47. The Committee have been informed that State Governments mostly go by the price factor in the matter of purchases and give preference to units located in their States. The Director General of Supply and Disposal enters into parallel rate contracts with other companies because of its declared policy of having more than one

source of supply so that in the event of failure of supply of one source they can fall back on the second source of supply and also because of the fact that private firms quota rates lower than that of IDPL. The Committee feel that DGS&D should be directed to give preference to IDPL|HAL and only if IDPL|HAL fail to supply drugs of requisite quality that DGS&D should fall back upon other sources with whom DGS&D could, if necessary, enter into reserve rate contract. In the opinion of the Committee, this will ensure adequate business to the IDPL and at the same time provide a second source of supply to the DGS&D. The Committee apprehend that if DGS&D continues to go by the system of lowest tender, the possibility of private manufaturers securing the contract by tendering the lowest price and supplying sub-standard or spurious drugs cannot be ruled out. The Committee, therefore, recommend that Government should consider all aspects of the problem and see in what way the present system can be improve upon to ensure availability of genuine drugs to the people at reasonable prices.

6.48. The Committee note that in July, 1970 Government introduced a canalisation scheme under which the import of bulk drugs to make good the shortfall|supplement indigenous production was permitted. I.D.P.L. was designated as the canalising agency for 10 items which fell within its production range. The number of items canalised for imports through State Trading Corporation was 36 in 1973-74. A system of pooling prices was also evolved by Government under which pooled price was fixed by taking the weighted average of the prices allowed to indigenous manufacturers and the price of the imported material inclusive of CIF price, Customs and Clearance charges etc. The scheme envisaged that the difference between the price notified by Government for the indigenous production and the pooled price would be reimbursed by IDPL out of profits earned under the scheme. It has been claimed that with the introduction of system of canalising, it has been possible to ensure uniform prices for all sections of the industry and it has enabled the State Trading Corporation to procure such drugs in bulk quantities from sources which offer the lowest price. Another advantage was that the small-scale sector companies were able to undertake formulations of a large number of drugs which brought down the prices of such formulations. The benefit of canalisation thus passed on to the consumer. The Committee find that a comprehensive review of pooled prices had not been carried out by Government since the canalisation system was first introduced in July, 1970. The Committee, therefore, recommend that Government should keep the present system of canalisation under constant review and ensure

that the system of price, based on the principle of weighted average, is worked out in such a way that it is equitable to all concerned especially to companies in the small-scale sector.

D. Exports

(i) *Surgical Instruments*

6.49. Owing to lack of indigenous market, a major portion of the sales of surgical instruments referred to earlier is being exported to the Union of Soviet Republic.

6.50. In order to push up the Sales of Surgical instruments, the Company had appointed agents in Iraq, Jordan, Kenya, Tanzania, Uganda, Ceylon and Australia. There were no exports of Surgical instruments to the countries for which Agents were appointed and no remuneration was, therefore, paid to them.

6.51. The Table below indicates the exports and proportion to total sales of the Surgical instruments during the last 4 years:—

Year	Exports		Total sales	Percentage of exports to total sales
	No. of instruments	value (Rs. in lakhs)	value (Rs. in lakhs	
1968-69	8,115	1·01	17·83	5·7
1969-70	60,023	4·87	16·29	29·9
1970-71	3,47,806	29·13	38·48	75·7
1971-72	5,96,536	45·91	52·19	87·9
1972-73	6,11,289	56·72	58·21	87·1

As the export prices were much lower than the cost of production and local sale prices, the exports resulted in significant losses, as per particulars furnished below:—

(Rs. in lakhs)

	1968-69	1969-70	1970-71	1971-72	1972-73	Total
Value of Exports . . .	1·01	4·87	29·13	45·91	50·72	131·64
Cost of Production . . .	4·39	12·94	70·65	120·02	111·48	319·48
Local sale value of exported items	1·16	6·25	43·45	75·63	76·51	203·00
Loss on exports as compared with cost of production . . .	3·38	8·07	41·52	74·11	60·76	187·84
Loss on exports as compared with local sale value . . .	0·15	1·38	14·32	29·72	25·79	

6.52. The Committee pointed out that other countries gave subsidy of 25 to 40 per cent to their exporters and IDPL enquired why was not being given any subsidy to enable it to compete in the international markets. The Ministry stated as follows in a written note:—

"Ministry is not aware about the rate of subsidy being granted by other countries to their exporters of Surgical Instruments. According to policy Surgical Instruments are covered under the entry at Sl. No. 4.163 in the ITC policy (Vol. II) an omnibus classification covering a multitude of scientific, laboratory, medical optical, industrial, process control and other instruments. In this range, import content for individual types varies between 10 per cent to 70 per cent and in view of the enormous difficulty of establishing the import content individually for hundred of instruments, an average of 40 per cent import replacement was fixed for the group as a whole. Cash assistance at 10 per cent of the f.o.b. value is also allowed on exports of the products covered under entry at S. No. A 163. However, IDPL state that they are unable to exploit the above benefit as they are producing very few instruments made up of carbon steel."

6.53. The Committee were informed that the matter regarding subsidy was taken up with the Ministry of Commerce and in consultation with Ministry of Finance who have secured advice of the Cost Accounts Branch which is reproduced below:—

"If our understanding is correct, the capacity of the Plant at Madras could never be worked up to 100 per cent capacity and in view of the declining domestic market, the domestic sales also were lower. Normally in the past cases dealt with in this office, where a very small portion of the installed capacity is being utilised, we have always advocated cash assistance for export purposes on the marginal cost. However, in the present case, a decision has to be taken in principle whether for IDPL factory at Madras, which has primarily been set up for domestic requirements, the cash assistance, if at all payable, should be based on full or marginal cost. What is primarily important in the present case is not that 90 per cent of production alone is to be exported but whether the production itself is to the optimum installed capacity."

6.54. As the last meeting which took place in this Ministry on the representatives of Ministry of Commerce taking a sympathetic view, wanted IDPL to work out a paper as to degree of assistance which could be required by the company to become self-suporting over a period of years. It was contended that in the absence of such an exercise a subsidy would merely imply a transfer of losses which are being made by the Ministry of Petroleum and Chemicals to another head which would give a distorted picture of the performance of the SIP.

6.55. About the fixation of the export prices in the case of surgical instruments the Ministry stated as under:--

> "It has been reported by the Management that export prices are negotiated with the Soviet Authorities and are fixed on the basis of International prices prevailing for the Instruments and not upon the cost of production for these instruments. It has further been contended that while the prices of comparable instruments produced in West Germany are higher, the prices of such instruments produced from Pakistan are lower but in matters of negotiations, Soviet and other authorities generally take a view that Indian Instruments would be comparable in cost by the Management because Pakistan grants 50 per cent subsidy on such exports.
>
> The Committee enquired about the items which offered scope for export. It was stated by the Company that according to their market intelligence articles of Surgical Instruments like Heamostic Forceps, Scissors and Needle Hoders could be exported. Also items like the Commercial House-Hold scissors and Hand Tools like Silers etc. provides scope for exports. There are in all 96 types (with varying designs) for instruments within the range of SIP and the instruments mentioned earlier offer scope for exports according to information furnished by G.M., SIP."

6.56. About exploring the prospects of exports to other countires, it was stated that, 'IDPL have been exploring prospects of exports in USA based on information received from the Deputy Counsel General at New York, it is understood that the United States imported 15 million dollars in 1971. This may be compared with 12 million dollars of import in 1970. It is understood that this rate of growth in imports continues and as such, there is substantial scope for

export of surgical investments to USA. Apart from Surgical Instruments from the information received from the Surgical Engineering export Promotion Council Office, in Chicago and also the Consulate in New York, it is understood that there is substantial scope for export of commercial scissors in large bulks to the United States. Through the good offices of the Consulate in New York the Test Report submitted to the American firm (to whom the SIP had supplied instruments on experimental basis) by a hospital often use was obtained. The report mentioned as under:—

> 'The instruments were put into use in surgery at Swesish Hospital, Seattle."

The reporting authority had also added that:—

> "She was surprised at the way of the instruments held up and could not see any appreciable damage. Everything looked very good."

6.57. Very recently, a letter has been received by IDPL from another Instruments Corporation, whose President had been associated with the supply of their experimental orders for surgical instruments to another firm. The letter read as under:—

> "the tests I have initiated with your instrument at that time have found wide praise as to quality and I find myself now in a position, where old friends asked me whatever happened to those very fine instruments from India and where can we get them."

6.58. Hence the response from the American firm to the supply of instruments in 1971-72 has been very encouraging and considerable export orders to the United States could be organised but for the high cost of SIP's products.

(ii) *Antibiotics & Synthetic Drugs*

6.59. In addition to the export of Penicillin of the FOB value of Rs. 4.23 lakhs under the barter deal to Yogoslavia the only other export undertaken by the Company was the export of drug valued at Rs. 6.58 lakhs to Bangladesh in 1971-72. To push up exports of pharmaceutical products, the Company appointed agents in Malasia, Japan, Ceylon and Australia. No business was secured from these countries.

6.60 The main object of the Company being imported substitution and production of essential drugs for supply to the industry within the country and for supply of formulations to Government

Hospitals, and as the production was hardly sufficient to meet local demands, no serious efforts were made during 1972-73 for export of drugs.

6.61. About the prospects for the export of pharmaceuticals products it was stated the export of these products would be undertaken after meeting the demand within the country.

6.62. The exports of Pharmaceuticals which stood at a level of Rs. one crore in 1960, already increased to about Rs. 10 crores during 1972-73 for all pharmaceuticals produced in the country. As against our, IDPLs present level of import of bulk drugs and drug intermediates is about Rs. 35 crores. Since most of the production in the country was in the nature of import substitution, it would be difficult to envisage much larger export of pharmaceuticals in the near future.

6.63. In so far as pharmaceutical products within the range of IDPL were mostly bulk drugs meeting essential needs of the country. Their production is being supplemented through imports also. Under the circumstances, it was stated that the export of pharmaceutical would not be much but on the other hand the import substitution being effected by increasing the production of IDPL was an important step in reducing dependence on imports.

Incentive to Distributors

6.64. The Committee pointed out that though IDPL products pere priced low, similar private sector products found better markets because the private sector firms offered higher incentives to their distributors and desired to know whether IDPL had any such incentive schemes to boost up the sale of their products through their distributors.

6.65. The Committee note that a major portion of the surgical instruments produced at the Surgical Instruments Plants of IDPL are being exported, to the U.S.S.R. The value of export has arisen from Rs. 1.01 lakh in 1968-69 to Rs. 50.72 lakhs in 1972-73. The percentage of exports to total sales increased from 5.7 per cent in 1968-69 to 87.1 per cent in 1972-73. The Committee also note that the export prices at which these surgical instruments were exported were much lower than the cost of their production and local sale prices with the result that these exports have resulted in significant losses to the Company. Durnig the period 1968-69 to 1972-73. Surgical Instruments produced at a cost of Rs. 319.48 lakhs were exported at Rs. 131.64 lakhs thus resulting in a total loss of Rs. 187.84 lakhs to the Company. The Committee understand that while the prices

of comparable instruments produced in West Germany were higher, the prices of such instruments produced by Pakistan were lower because Pakistan gave about 50 per cent subsidy on such exports. The idea of giving subsidy to IDPL, however, has not found favour with the Ministry because "a subsidy would merely imply a transfer of loss", and would give "a distorted picture of the performance of Surgical Instruments Plant, Madras." The Committee were informed that the matter is, however, still under examination and the IDPL had been asked to work-out a paper as to the degree of assistance which would be required by it to become self-supporting over a period of year. The Committee are deeply concerned to note that the Plant will have to continue to incur heavy losses by exporting surgical instruments produced by it at unremunerative prices. The Committee are sure that a plant which exports its products at a price which is substantially less than the cost of production would continue to be a drain on the financial resources of the Company as a whole and may jeopardise the economic stability of the company. The Committee, therefore, feel that it is high time for Government to undertake a thorough probe of the economics of the Surgical Instruments Plant, Madras and scrutinise its product-mix de novo to increase the prospects of increasing sale of instruments in the domestic market and to explore the scope for exports to other countries at remunerative prices in order to avoid dependence for such exports on a single country.

Incentive to Distributors

6.66. The Committee pointed out that though IDPL products were priced low, similar private sector products found better markets because the private sector firms offered higher incentives to their distributors and desired to know whether IDPL had any such incentive scheme to boost up the sale of their products through their distributors. The Management stated in reply that "on the lines of the competitors, IDPL had also devised lucrative scheme for development of dealers. The incentive scheme for the dealers include:—

(i) A specific commission on the distribution of our products which is mostly at par with the commission offered by other pharmaceutical houses.

(ii) Periodic incentive to dealers|retailers through bonus scheme or quantity discount is given from time to time."

In this connection, the Ministry stated that:—

> "In ordinary commodities a manufacturer hopes to sell more by lowering the price. In case of drugs, the reverse often prevails because it is not usually the consumer who decided which drug to take but the physician. The consumer has to purchase the drug prescribed irrespective of its price. A higher price enable the manufacturer not only to give higher commission to the distributors etc. but also to mount a more intensive promotional effort emplying higher-paid medical representatives.

In view of the above situation it is true that IDPL suffers in ushing its products in the market in competition with other well-known brand names even though higher-priced. IDPL has, however, introduced an incentive scheme for dealers under which:—

> (i) A specific commission on distribution of IDPL products which is at par with that given by other drug companies is given and (ii) a periodic incentive through a bonus scheme or quantity discount is given from time to time.

6.67. The Committee note that in order to compete with private manufacturers, IDPL has introduced incentive scheme for development of dealers under which a specific commission on distribution of IDPL products is allowed and a periodic incentive through a company's scheme or quantity discount is given from time to time. The Committee recommend that IDPL should review the position from time to time and to see that other measures are necessary in order to push up its sales in the indigenous market and to offer fair competition to the private manufacturers in the field.

VII

FINANCIAL MATTERS

A. Capital Structure

7.1. The Company was registered with an authorised capital of Rs. 15 crores which was raised gradually on the basis of the demands of capital expenditure. The authorised and paid-up capital of the company as on 31st March, 1973 stood at Rs. 40 crores and Rs. 33.70 crores respectively (paid up Capital as on 31st December, 1973 being Rs. 34.05 crores).

7.2. Government advanced from time to time unsecured long term loans aggregating Rs. 3138.44 lakhs upto 31st March, 1973 and Rs. 3,203.44 lakhs upto 31st December, 1973 for meeting the capital expenditure on the projects. Of these loans a sum of Rs. 17.84 lakhs were repaid in 1967-68 and loans amounting to Rs. 430 lakhs were converted into equity capital in March, 1973. The balance loans after these repayments and conversion as on 31st March, 1973 and 31st December, 1973 were Rs. 269.60 lakhs and Rs. 2755.60 lakhs respectively.

7.3. Besides, the Company obtained unsecured short-term loans amounting to Rs. 1735.00 lakhs upto 31st March, 1973 for meeting the requirements of working capital. These were, however, mainly utilised to meet the cash losses which aggregated Rs. 2628.54 lakhs upto 31st March, 1972. No repayment of short term loans has been made.

7.4. Details of the short-term and long-term loans together with the terms and conditions and the amounts repaid so far as are given in Appendices XXVI and XXVII respectively.

7.5. The Company made cash credit arrangements with State Bank of India upto a total limit of Rs. 6.75 crores as on 31st March, 1973 (also 30th November, 1973). The actual utilisation of the cash credit as on 31st March, 1973 and 30th September, 1973 were Rs. 4.90 crores and Rs. 5.36 crores respectively.

7.6. The debit equity ratio of the Company as on 31st March, 1973 and 31st December, 1973 were 1.6:1.

7.7. *Re-structuring of Capital.*—According to the loan sanctions, long-term loans were repayable in ten equal instalments commencing from the end of the third year of drawal and working capital loans (except for a few exceptions) were repayable fully at the end of the three years or earlier if the Company's financial position permitted it to do so. Although the Company started drawing long-term loans from the year 1964-65 and working capital loans from 1966-67, only a sum of Rs. 17.84 lakhs (representing the first instalment of the first three long-term loans) had been repaid so far (March, 1972).

7.8. Considering the facts that the construction of the plants extended upto 1967-68, the commissioning of plants for production of the major products was done only in 1968-69 and a period of 3 years was required for the attainment of efficiencies and yields, it was not found possible by the Company to generate its own resources for repayment of principal and interest.

7.9. The Company, therefore, submitted the following proposals on 13th September, 1971 to the Government of India for reconstruction of the capital structure, waiver of interest, etc.:—

(a) Conversion of Rs. 4 crores out of loans into equity capital.

(b) Increase in the authorised capital from Rs. 30 crores to Rs. 40 crores to accommodate the financing of capital expenditure during the 4th Plan period.

(c) Waiver of interest charges on working capital loans from the date of drawal to 31st March, 1972.

(d) Moratorium on payment of interest charges on long-term loans upto 3 years after commissioning of the plants and working out of the cumulative interest charges payable after 3 years at a lower rate of interest *i.e.* borrowing rate to Government.

(e) Rescheduling of the repayment of loans from 1973-74, commencing with the working capital loans in the first instance and then taking up the capital loans in instalments.

7.10. On 22nd September, 1972 the Government of India granted moratorium for a period of 4 years w.e.f., 1st April, 1972 on the repayment of loans and loan instalments amounting to Rs. 24.85 crores

(long-term loans Rs. 1104.686 lakhs and short-terms loans Rs. 1380. 324 lakhs) which had fallen due for repayment upto July, 1972.

7.11. Besides, Government also agreed to treat the working capital loans to the extent of Rs. 24.85 crores drawn to Finance the cash losses sustained by the Company upto 31st March, 1972, as 'interest free for a period of five years from 1st April, 1972. The balance of the loan (i.e. Rs. 2.50 crores) was to carry normal rate of interest. The treatment of the working capital loans amounting to Rs. 24.85 crores as 'interest free' will give the Company an annual relief of Rs. 150.53 lakhs for five years.

7.12. In November, 1970 the Ministry of Finance had issued revised instructions for the financing of capital outlay on township according to which the township cost were to be met entirely out of the equity investment of the Government. The above instructions also provided for reorganisation of the capital structure of the existing undertakings on that basis.

7.13. The Company has constructed its townships at the Plant sites and a total expenditure of Rs. 5.21 crores was incurred upto 31st March, 1973 and Rs. 5.31 crores upto 30th September, 1973. It is, however, noticed that there was no restructuring of the capital of the Company on this account as on 31st March, 1972.

In this connection, the Ministry have stated (October, 1973) as follows:—

> ".....this re-structuring to bring up parity between equity and debt (excluding town-ship outlay) was actually effected in 1972-73 with the concurrence of the Ministry of Finance when loans to the extent of Rs. 430 lakhs were converted into equity."

7.14. *Waiver of penal and compound interest*:—As mentioned above, the Company failed to pay instalments of loans and insterest thereon in time and was, therefore, liable under the terms and conditions of the loans to pay additional interest for the period of default at 2-1/2 per cent above the normal rate. As on 31st March, 1972, penal and compound interest on delayed repayment of loan instalments and delayed payment of interest, amounted to Rs. 180.05 lakhs, which was waived by Government in August, 1973. Penal and compound interest due as on 31st March, 1973 after the waival is Rs. 14.55 lakhs.

7.15. About bringing down the existing debt equity ratio of 1.61:1 to the accepted norm of 1:1 and whether in view of the cumulative loss of Rs. 38.26 crores as on 31st March, 1973, which had already wiped off the entire paid-up capital, the management have any contemplations for restructuring capital and the annual incidence of repayment of principal and payment of interest during 1973-74 onwards the Committee were informed as under:—

"The amount of Rs. 40 crores represent the authorised capital, debt equity ratio is based upon the paid up capital and loans. In the review for purposes for working out the debt equity ratio, the working capital loans sanctioned by Government for meeting the working capital requirements have also been included in debt.

According to the norms adopted by the Government for capital project financing only long-term loans sanctioned for meeting the capital expenditure are to be considered for working out this ratio the outlay on township is to be treated as having been financed out of the equity capital and therefore, the ratio is to be based on the above assumption. Accordingly the ratio as on 31st March, 1973 works out to 0.94:1 as between debt and equity. At present the financing of the capital expenditure is done better by way of long-term loans as well as equity capital so that by the time the projects are completed the debt equity ratio of 1:1 after adjusting the expenditure on township will be achieved.

The amount of interest due and repayment of loans taken from the Government is given in the enclosed statement. (Appendix XXX)."

7.16. Asked whether the relief granted by the Government in September, 1972 in the form of granting moratorium for repayment of loans and treating the working capital loans as 'interest free' would place the finances of the Company on sound footing, the Management stated that:

"The delegation of powers to General Managers and other Officers, provided for prior financial consultation on various ing to Rs. 2485 lakhs has improved the ways and means position of the Company. This has also saved the Company from payment of Penal interest at the rate of 2-1|2

per cent on loans remaining unpaid on due dates. The interest holiday of 5 years effective from 1st April 1972 on working capital loans of Rs. 24.85 lakhs will give the company a yearly benefit of Rs. 150.53 lakhs for five years. This has helped in improving the operational results of the Company apart from improving the ways and means position as well. The Company is at present trying to achieve better operational results through improved production."

7.17. In this connection the Ministry expressed the following views:-

"The relief granted to IDPL in September, 1972 in the form of moratorum for repayment OF LOANS and treating the working capital loans as interest free would not place the finances of the company on a sound footing and must be considered in the nature of a temporary relief. Even in 1972-73 the Company incurred a loss of Rs. 370 lakhs.

Every time the company appeared to be poised for showing substantially better performance and profitability. It was in this light that short-term loans were granted to meet the requirements of working capital. The expectations of the company making profits have repeatedly got postponed."

7.18. About granting short-term loans for meeting the requirement of working capital, when it was known that the company was incurring heavy losses and in fact the short-term working capital loans were being utilised to meet the cash losses, the Committee were informed that short-term loans were granted to the Company to meet the cash losses so that the cash lost on operation by way of losses is replenished as otherwise the Company's operations would come to a standstill for lack of funds. In the normal course the cash losses should be wiped off by profits in susequent years. This has not been possible so far, as the Company has not yet started earning cash profits.

7.19. Asked what will be the annual incidence of repayment of principal and payment stated in a written note that "A statement of loans due for repayment during six years 1973-74 to 1978-79 is enclosed (Appendix XXVIII). The Company has already approached the Government to sanction fresh loans to enable the company to repay the loans falling due during the year 1973-74. The Company will have to approach the Government for re-scheduling

the debt repayment for the year 1974-75 onwards so that the huge burden during the years 1974-75 to 1976-77 (Rs. 48.9 crores is evenly spread over a period of years, and will be met out of the internal cash generations."

B. Financial Results

7.20. The table at Appendix XXIX summarises the financial position of the Company for the last four years.

7.21. The Surgical Instruments Plant went into production in 1965-66, whereas the Antibiotics Plant and Synthetic Drugs Plant commenced initial production of certain items in 1967-68. Upto 31st March, 1973 the Company had incurred a cumulative loss of Rs. 3825.90 lakhs, representing 113.5 per cent of the paid up capital of Rs. 3370.00 lakhs.

7.22. The loss incurred by each plant years-wise inclusive of the prior period (adjustments in the years in which they were accounted for) is given below:—

(Rupees in lakhs)

	Surgical Instruments Plant	Synthetic Drugs Plant	Antibiotics Plant	Marketing Division	Total
1	2	3	4	5	6
1965-66	56·45				56·45
1966-67	34·92	..	..		34·92
1967-68	85·50	90·82	55·71		232·03
1968-69	90·64	321·92	509·54		922·10
1969-70	88·32	344·88	491·05	..	924·25
1970-71	79·75	235·85	464·77	18·87	799·24
1971-72	84·47	85·09	250·83	66·57	486·96
1972-73	(—)82·31	(+) 30·	(—)332·01	(+)13·51	(—)369·94
	(—) 602·36	(—)1047·69	(—)2103·91	(—)71·93	(—)3825·88

7.23. The losses were stated to be mainly owing to poor production performance of the producing units. The Management have stated that the loss was also owing to sale, mostly to Government Departments, at un-remunerative rates due to competition from firms having stock of imported bulk.

7.24. The performance of the various units of the Company has been analysed in detail earlier.

7.25.About the contribution made by the sale of imported drugs in 1972-73, the Management stated in a written note as follows:

"Operational results relating to the three plants and Marketing Division during 1972-73 were:

	Rs. in crores (+) =profit (—) =loss
Antibiotics Plant.	(—) 3·32
Synthetic Drugs Plant	(+) 0·31
Surgical Instruments Plants . . .	(—) 0·82
Marketing Division	(+) 0·13
	(—) 3·70*

*includes credit of Rs. 0.06 crore relating to the previous year. Excluding this prior-period adjustment, the loss for the year 1972-73 was Rs. 3.76 crores. Sales of imported drugs during 1972-73 contributed a profit of Rs. 2.190 crores."

7.26. As regards keeking the accounts in such a manner that working results of the manufacturing activity undertaken by each of the three Plants and trading results on the purchase and sale of imported drugs can be worked out separately, the Committee were informed that "Separate accounts are maintained for each Plant. The Marketing Division is handling both imported drugs as well as the indigenous drugs produced by the manufacturing units. Separate accounts are not at present maintained by the Marketing Division for trading activities for imported drugs and indigenous drugs."

7.27. About the main reasons responsible for continuous losses in IDPL and increasing liabilities, the Management stated as under:—

"(i) Long construction and gestation period when the com-

pany borrowed heavily on which substantial interest charges are payable.

(ii) Operation at below capacity since starting commercial production due to lack of demands for the products as well as technical deficiencies of equipments and processes.

(iii) Low volume of sales necessitating thereby continued financing from some outside sources incurring heavy interest charges".

7.28. The year 1972-73 which was anticipated to be a profit year also turned towards the worst and showed heavy losses. The main reasons for incurring losses in 1972-73 are indicated below:—

(a) There was tool down strike followed by lock out in Antibiotics Plant in June, 72 resulting in loss of production during strike period and due to cleaning and overhauling before the Plant was restarted.

(b) There was a strike of engineers of UPSEB in January, 1973 resulting in stoppage of power supply to the Plant. There was also a technical problem in Antibiotics Plant like quality failure and non-sterility.

(c) Shrotfall in production in Synthetic Drugs Plant that anticipations due to shortage of critical raw materials, restricted power supply by Andhra Pradesh State Electricity Board and shortage of water supply.

(d) The production and sales were severely upset in surgical Instruments Plant due to power cut enforced by Tamil Nadu State Electricity Board which progressively increased it to 75 per cent of the company's demand.'

7.29. Regarding the measures taken or proposed to be taken to turing down the losses and the liabilities so as to make IDPL a self-supporting enterprise, the Committee were informed as under:—

(i) In order to reduce the losses, steps were taken to improve the technology by introducing new equipments and machinery and processes.

(ii) Certain items which were originally planned for manufacture were deleted, and new profitable products included in product-mix.

(iii) The scheme of expansion at Synthetic Drugs Plant when completed by increasing the capacity of 2000 tonnes is expected to improve the profitability of the plant and make itself-supporting.

(iv) In order to reduce the burden of interest charges, the company has been given relief by Government by granting moratorium on payment of interest on part of the working capital for a period of 5 years starting from 1st April, 1972.

(v) Conversion of some of the long-term loans to equity capital by the Government has reduce the interest burden as well as liabilities of the company that extent."

7.30. In regard to the reasons for unremunerative prices and whether this factor was brought to the notice of the Government, the Management stated that:—

"The company's prices were frozen at the time of Drug (Prices Control) Order, 1970 and although the other companies were allowed to increase the prices based on the recommendations of the Drug (Price Control) Order, 1970, our company was not allowed to do so. Since then we have brought this to the notice of Government many time. Bureau of Cost and industrial Prices has already completed the studies for the price fixation of nine of our bulk drugs and is understood to have submitted the report to the Government. The Government has still not taken decision on their recommendations."

C. Internal Audit

7.31. The Internal Audit Department was set up in August, 1967, under the Financial Adviser and Chief Accounts Officer with an Internal Audit Officer at Head Office and a skeleton staff at each of the units.

7.32. An Internal Audit Manual containing the rules and procedure for the internal audit of the accounts of the units of the Company was issued by the Financial Adviser and Chief Accounts Officer

---

At the time of factual verification the Ministry stated as under ;

"The report from the BICP has been received and Govt. have also taken decision on the report of the working group in so far as the revision of prices of bulk drugs and revision of norms for convesion cost and packing are concerned. These cover the specific terms of reference of the Working Group. Other recommendations which the working Group has made under residury term of reference are under consideration ".

in July, 1969. Items to be covered in the Internal Audit programme have also been laid down but the quantum of audit to be applied to such items has not been prescribed therein.

7.33. The Company Auditors in their Supplementary Reports on the accounts of 1971-72 of Antibiotics Plant and Synthetic Drugs Plant have also commented upon the inadequacy of the coverage by Internal Audit.

7.34. About the scope of internal audit to cover a critical review of the systems, procedures and the operations of the Company as a whole and recasting of the internal audit manual, the Committee were informed that:—

"Introductory Chapter of the Internal Audit Manual brings out the importance of review of accounting, financial and other operations by Internal Audit Critical review of policies and practices and procedures of the Organisation in terms of their adequacy, soundness and effectiveness forms part of functions of Internal Audit. Programme chalked out for Internal Audit covers all fields of activities and departments of the Plants/Units and Management Audit has been given adequate importance therein. Recasting of Internal Audit Manual is not considered necessary at present."

7.35. Asked about the steps taken to strengthen the internal audit set up in the Company so as to make it an effective tool of managerial control and prescribing the quantum of audit to be followed by internal audit for various items of the accounts, the Management stated as under—

"Internal Audit Section exists in all the three Plants with Asstt. Internal Audit Officers. IAO at the Central Office visits the Plants periodically to supervise the work and finalise the Internal Audit Reports. Internal Audit of Marketing Division Units Central Office is conducted by a field party headed by an Assistant Internal Audit Officer by visiting the same once every half year.

Financial Management Accounting System

7.36. No accounting Manual had upto October, 1972 been compiled by the Company although a period of more than ten years has elapsed since its incorporation. Accounting was being done only in terms of various orders, circulars and instructions issued from time to time. In a note furnished after evidence, the Management stated (January, 1974 as follows:—

"(i) SIP Accounts Manual has already been prepared and issued in 1970.

(ii) Accounts Manuals for synthetic Drugs and Antibiotics Plants as well as Central Office have been drafted and are under scrutiny. The same are likely to be issued shortly.

(iii) work relating to the marketing division manual is on hand."

7.37. The Committee note that the Authorised and paid-up Capital of the IDPL as on 31st March, 1973 stood at Rs. 40 crores and Rs. 33.70 crores respectively. The debt equity ratio of the Company on that date was 16:1. On 22nd September, 1972, the Government of India granted a moratorium for a period of four years with effect from the 1st April, 1972 on the repayment of loans and loan instalments amounting to Rs. 24.85 crores which had fallen due for repayment upto July, 1972. Besides, Government also agreed to treat the working capital loans to the extent of Rs. 24.85 crores drawn to finance the cash losses sustained by the Company upto 31st March, 1972 as "interest free" for a period of 5 years from 1st April, 1972. The treatment of the working capital loans amounting to Rs. 24.85 crores as interest free loan, it has been stated, would give company an annual relief of Rs. 150.53 lakhs for five years. In August, 1973, Government also waived an amount of Rs. 180.05 lakhs due from the Company on account of penal and compound interest on delayed repayment of loan instalments and delayed payment of interest.

7.38. The Committee are deeply concerned to note that by 31st March, 1973 IDPL has incurred a cumulative loss of Rs. 38.25 crores and had thus eaten up its entire paid up capital of Rs. 33.7 crores. The Committee note that the loss has increased from Rs. 56.45 lakhs in 1965-66 to Rs. 369.95 lakhs in 1972-73. Considering the individual Plant, Division, the Committee find that Surgical Instruments Plant has suffered a loss of Rs. 602.36 lakhs, Synthetic Drugs Plan of Rs. 1047.70 lakhs, Antibiotics Plant Rs. 2103.91 lakhs and the Marketing Division Rs. 71.93 lakhs. The Committee feel that in order to judge the performance of the trading operations of these plants, it

is essential that the accounts are kept in such a manner that the working results of manufacturing activities of each plant and trading results on the purchases and sale of imported drugs can be prepared separately. The Committee have been informed that these losses were mainly due to long construction and gestation period, under utilisation of capacity due to lack of technical expertise, deficiencies of equipments and processes, shortage of critical raw materials, power cuts, losses due to export of surgical instruments. The plant is stated to be taking steps to improve the technology by introducing new equipment, machinery and processes. The Committee recommend that IDPL should take concerted measures designed to improve its profitability rather than depend on financial relief granted by the Government from time to time.

7.39. The Committee find that though the items to be covered in the Internal Audit Programme have been laid down, the question of Audit to be applied to such items has not been prescribed therein. As Internal Audit is an important aid to Management the Internal Audit Department should be strengthened to enable it to critically review policies, practices and procedures concerning all field of activities and Departments of the Plants/Units in terms of adequacy, soundness and effectiveness.

VIII

ORGANISATION

A. Organisational Set Up

The management of the affairs of the Company vests in the Board of Directors. However, for the conduct and management of the business of the Company in general, subject to the control and supervision of the Board of Directors, the President may empower the Chairman or appoint one of the Directors to be the Managing Director who shall be the chief executive of the company.

The office of the Chairman and the Managing Director was combined in March, 1962. The other Directors (except Government representative(s) are appointed by the President in consultation with the Chairman & Managing Director. Any vacancy (except that of Government representative) in the office of the Directors caused by removal, resignation, death or otherwise is also filled up by the President in consultation with the Chairman & Managing Director.

As on 31st March, 1974, the Board of Directors of the Company consisted of 13 Directors. Out of these, the Chairman & Managing Director was the only whole time member of the Board. The other Directors included officers of the Ministry of Petroleum and Chemicals, Director General, Technical Development, Drugs Controller, a Pharmaceutical Consultant, Director, Central Drug Research Institute, etc.

8.2. The Chairman & Managing Director is the Chief Executive of the Company. He is assisted by the functional groups like Finance, Technical and Personnel Departments, etc. in co-ordinating the activities of the plants and the Marketing Division.

8.3. At the Unit level the General Manager, who is appointed by the President on the recommendation of the Board, functions as the Chief Executive of the individual unit and is responsible for the efficient performance of the Unit, in accordance with the policies and plans approved by the Board. He is not, however, a member of the Board of Directors.

8.4. The General Manager is assisted by the various Technical officers. In financial matters, he is advised by the Finance Department headed by a Controller of Finance and Accounts.

8.5. The Company has three plants dealing with different products, which continue to be under one Management. The Ministry is currently examining the set up of the Public Sector Undertakings in this field in the context of the targets envisaged for the 5th Plan period.

8.6. In connection with the organisational set up of I.D.P.L. the Ministry informed the Committee in a written note as follows:—

> "The three units of I.D.P.L. are distinct entities each specialising in a special field of production and the elements common to surgical instruments, antibiotics and synthetic drugs in matters of technology, production, marketing, etc. are quite distinct. Moreover, the distance between the three units is considerable and participation of the General Managers in the deliberations of the affairs of the Board of Directors would necessitate absence of the Chief Executive of the Plant for considerable times which would not be in the overall interest of the undertaking. During 1972-73, the Board met 5 times."

8.7. On 13th October, 1972, the Bureau of Public Enterprises issued instructions to all the Ministries on the subject of composition of Boards of Directors, which *inter alia,* stipulated that:—

> "As regards the inclusion of General Managers of constituent units and executives in charge of different regions in the Boards of multi-unit or multi-regional enterprises, inclusion of a few General Managers and Directors by rotation could be considered. Even if all the General Managers are not made Directors, those left out, should also, in principle, be invited to attend and participate in all the Board meetings. It is, of course, understood that in certain situations they may not for good reasons, all be invited to a particular meeting."

8.8. At this juncture the future structure of Hindustan Anibiotics Ltd. and Indian Drugs and Pharmaceuticals Ltd. was already under consideration of this Ministry. A report on the marketing organisation of H.A.L. had been received and in the context of this Report the matter was being considered as to whether the marketing organisation of H.A.L. may be expanded or merged with I.D.P.L: or a separate organisation altogether created. Another point which was examined was as to whether considering the nature of functioning of the three units of IDPL and one unit of H.A.L. it would lead to a more rational management if the two units were combined into one

This examination took some time and in the meanwhile the Ministry was asked to prepare Plan Profiles for the 5th Five Year Plan. In the process of preparing these Plans it was proposed that the I.D.P.L. may be allowed to expand by increasing its investment by Rs. 40 crores and H.A.L. by Rs. 30 crores. This would be a sizeable increase and would necessarily involve a fresh look at the reorganisation of the two public sector undertakings. In this context a change in the present structure of the Board of Directors of I.D.P.L. was not considered. However, the matter will be examined and appropriate view taken thereupon. A reading of the Office Memorandum of B.P.E. also would indicate that though it has been suggested that General Manager of constituent units may be considered for inclusion on the Board of Directors, this is not "mandatory."

8.9. It has been stated that in view of the fluid situation obtaining with regard to the expansion of the undertakings a time had come only now when the organisation of the two public sector undertakings may have to be considered.

8.10. A view on the reorganisation could not be taken earlier as the Plan proposals for expansion of the two undertakings were still under consideration of the Planning Commission and it was not known as to what would be the size of the likely expansion. The three plants had been placed under one management for "historical reasons" as they had been established with the technical and financial assistance from the Government of U.S.S.R. and in matters of negotiations, transfer of technology etc. it was considered administratively convenient to do so. The re-examination of the future set up would be considered now in the light of Plan provisions provided for IDPL. and HAL.

8.11. No organisation in the field of drugs in India is stated to be comparable to IDPL either in the public and Private sector. As far as the IDPL was aware, there was no comparable organisation in other countries either.

8.12. There are several items which are common to Antibiotics Plant at Rishikesh under the IDPL and HAL at Pimpri. However, the problems of the two plants are dissimilar as the two units are based upon different technologies, different processes, different pay structures. These aspects have to be kept in mind while considering the question of merger of Rishikesh Plant with H.A.L. unit at Pimpri. However, coordination between the two units has been established by appointing the Managing Director of H.A.L. on the Board of Directors of I.D.P.L. and appointing Financial Advisor of I.D.P.L.

on the Board of Directors of H.A.L. (post is presently vacant, but expected to be filled shortly). In addition a Coordination Committee has also been formed by the Government with the Chairman of I.D.P.L. as the Chairman of the Committee to coordinate the activities of the two companies and it is expected that with this system it should be possible for the two companies to operate in close cooperation with each other.

B. Delegation of Powers

8.13. The Managing Director was delegated certain powers by the Board in April, 1961, which were approved by the President in May, 1961 as required under Article 80 of the Articles of Association of the Company.

8.14. Additional powers were delegated in March, 1962 after the combination of the Office of the Managing Director and that of the Chairman. The Chairman and Managing Director was authorised by the Board, with the approval of the President, to exercise the powers vested in the Board, for conducting the day-to-day affairs of the Company. He was also authorised at the instance of the Government to act in any emergency in his discretion without consulting the Board, such action being reported to the Board at the next meeting.

8.15. In order to ensure expeditious transaction of business in the day-to-day management of the Company, Article 80 of the Articles of Association was revised in December, 1962, dispensing with the requirement of prior approval of the President for delegation of powers by the Board to the Chairman and Managing Director. Besides this, the Chairman, and Managing Director was also authorised specifically to sub-delegate his powers to any officer or other employee of the Company subject to the condition that each such sub-delegation was reported to the Board.

8.16. In may, 1966 an attempt was made, at the instance of the Board, to bring about a measure of precision in regard to matters which would require the approval of the Board. The Chairman and Managing Director was allowed to exercise full powers for better management of the business of the Company except for certain listed items (e.g. sanction to the works, entering into contracts, appointment of personnel, write-off, etc.) which required the approval of the Board. The Chairman and Managing Director has thus been delegated adequate powers for the proper management of the affairs of the Company.

8.17. In order to ensure smooth and efficient working at the projects and to relieve the Chairman & Managing Director of matters of minor importance requiring his financial and administrative approval or sanction, powers were sub-delegated by the Chairman & Managing Director to the Project Administrators General Managers and other officers of the Company. These powers were also supplemented from time to time. After the commencement of the commercial production at the plants, the powers delegated to the Project Administrators/General Managers from time to time were consolidated and enhanced particularly in the field of Personnel and Material Management and got approved from the Board in April, 1967.

8.18. In March, 1968, the Board approved delegation of enhanced powers-both administrative and financial to the various Heads of Departments/Sections/Branches. The General Managers/Project Administrators were also empowered to vary/delegate powers (appropriate to the rank of the officers) to other officers, if considered necessary.

8.19. After accepting the recommendation of the Committee on Public Undertakings contained in their Fifteenth Report (Fourth Lok Sabha—April, 1968), the Government of India, Bureau of Public Enterprises issued in May, 1969 broad guidelines defining the main functions, responsibilities and powers of the Financial Adviser. It was also mentioned in the guidelines that the Board of Directors should lay down detailed powers and functions of the Financial Adviser particularly in regard to matters which should be reserved:

(i) for concurrence of the Financial Adviser;

(ii) for consultation with the Financial Adviser; and

(iii) those on which Financial Adviser need not be consulted.

8.20. No such demarcation has, however, been made by the Company so far (September, 1973). In this connection, the Management informed (September, 1973) Audit that the following position had been intimated to the Bureau of Public Enterprises in August, 1969 on this issue:—

"The delegation of powers to General Managers and other Officers, provided for prior financial consultation on various matters having financial implication. The powers dele-

gated to the Chairman & Managing Director by the Board of Directors do not specifically provide for prior financial concurrence, but in practice all proposals|cases involving financial implications are put upto Chairman & Managing Director after F.A. & C.A.O. has seen."

8.21. However, formal demarcation of areas for prior consultation| concurrence with the Financial Adviser as laid down by the Bureau of Public Enterprises is considered necessary, instead of leaving the matter to be decided by the practices which may vary from time to time.

8.22. The powers-both administrative and financial have been delegated by the Board to the Chairman and Managing Director and by the Chairman and Managing Director to the various officers. The powers delegated from time to time have, however, not been consolidated in the form of a booklet for ready reference so far (December, 1972).

8.23. The Committee desired to know whether the Management consider that formal demarcation of areas for prior consultation|concurrence with the Financial Adviser, as advised by the Bureau of Public Enterprises, is necessary instead of leaving the matter to be decided by practices which may vary from time to time. The Management informed the Committee in a written note as follows:—

'The pattern evolved since the inception of the Company is such that all cases, whether administrative, financial or technical, are invariably routed through the F.A. & C.A.O. before they are submitted to the Chief Executive for his orders|approval. Thus, it is ensured that the views of F.A. & C.A.O. are always available to the Chief in all matters of importance. No demarcation of areas is, therefore considered necessary as the system has worked through all these years. Handbook of Financial Powers is being compiled and is expected to be issued shortly."

C. Labour Management Relations

8.24. Excepting the Antibiotics Plant, Rishikesh, the overall Labour situation was stated to be satisfactory during the year. In Rishikesh the labour situation became strained after a change in the leadership of the recognised Union. A one-day token strike was organised by the Union on 28|29th May, 1972 followed by a wild cat stay-in-strike from 19th June, 1972 resulting in a lockout declared on

22nd June, 1972. The lockout was lifted on 29th June, 1972, after the Union tendered a written apology and signed an agreement for maintaining industrial peace for a period of 3 years. The production in the Rishikesh Plant was interrupted for a period of nearly 1½ months on account of this disturbance and could be resumed only in August. However, in December, 1972 a notice for strike was again served by the Union. The strike, however, did not materialise as the production in Plant was shut down in January, 1973 due to the U.P. State Electricity Board Engineers' Strike. After the resumption of the working of the Plant in February, 1973, the union precipitated yet another strike in April, 1973 as soon as the Plant's production was normalised in March, 1973.

8.25. In the case of Synthetic Drugs Plant, a strike notice was issued on 6th July, 1972 supported by a charter of 20 demands one of which related to reinstatement of 17 dismissed employees (who were dismissed after the illegal strike at Hyderabad in March|April, 1970). After negotiations with the Minister for Petroleum and Chemicals, the issue was referred to arbitration of a Judge of the Supreme Court. Subsequently, there have been no incidents and the labour management relations have remained normal in Hyderabad.

8.26. About the present Labour Management Relations in IDPL the Ministry informed the Committee in a written note as follows:—

> "The labour situation in the Synthetic Drugs Plant and Antibiotics plants is not at present coordial. A new Union called the Synthetic Drugs Plant (IDPL) Karmika Sangham has been formed as the existing recognised Union 'Synthetic Drugs Plant (IDPL) Employees Union affiliated to the INTUC has become now inactive. The new union has submitted various demands which include revision of the scale of pay much beyond what has been accepted by the Government on the basis of the recommendations of the Third Pay Commission with regard to Government servants. The IDPL are following Central Government scales of pay and allowances so far and revision beyond that level will no doubt throw a heavy financial burden on the company. This matter is under negotiation between the management and the Union.
>
> The recognised Unions at the Synthetic Drugs plant and the Antibiotics plant have been demanding bonus for the years 1971-72 and 1972-73 on the plea that the same has been

allowed to the workers of the Surgical Instruments Plant and the Central Office in New Delhi. The IDPL have been treating the different units as separate units and this issue is now under the consideration of Government in consultation with the Ministry of Law.

The labour union at the Antibiotics Plant are also agitating on the issue of reinstatement of some workers dismissed in 1969 and also for setting up of a wage board for the plant.

In the Surgical Instruments Plant, due to power cut the plant had to resort to lay off for a few months early in 1973. The relations between the management and labour are satisfactory."

8.27. Asked about the workers participation in Managements, the Ministry stated that:—

This Ministry are aware of the recommendations made by the Public Undertakings Committee in its 17th Report on 'Personnel policies and labour management relations in public undertakings' and 40th report Role and Achievements of Public Undertakings. So far as the appointment of workers in the Boards of Management of Public Enterprises is concerned, the Government have already decided to try the scheme on an experimental basis in a limited number of undertakings. A worker Director has been appointed in Hindustan Antibiotics Ltd. Pimpri since April, 1973. The question of inclusion of a representative of labour on the Board of IDPL has to be considered by the Government in the light of the fact that there are three different recognised Unions in the three plants affiliated to three different All India Labour bodies; besides there is now the Karmika Sangham also operating in the Synthetic Drugs Plant, Hyderabad.

In regard to workers' participation in management at other is now the Karmika Sangham also operating in the Synthelevels, reference is invited to reply of Government on Recommendation No. 10 of the 40th Report of the PUC on 'Role and Achievements of Public Undertakings' forwarded by the Ministry of Finance BPE in their O.M. No. 9(135)/73/BPE(GMI) dated 2nd March, 1974. The ques-

tion of introducing in IDPL the voluntary scheme of Joint Management Councils is being taken up with the management.

WELFARE AMENITIES

8.28. The following welfare amenities are provided to the worker in the different Plants of IDPL :

(i) TOWNSTIP

Townships have been constructed in each of the Plant where 1432 quarters of different types have been provided at Antibiotics Plant, Rishikesh, 771 at Synthetic Drugs Plant Hyderabad and 512 at Surgical Instruments Plant, Madras.

In addition shopping centers have been provided which have 31 shops at Antibiotics Plant, 12 shops each at Synthetic Drugs Plant and Surgical Instruments Plant Post Offices, Police stations, Banks have also been provided in the townships.

(ii) EDUCATIONAL FACILITIES :

In all the three Plants schools are being run by the Plants. In Antibiotics Plant, Rishikesh the present high school is likely to be upgraded as college in the near future. The brilliant results and securing of most of the top position by the students of Project school is an eloquent testimony of the high standard of instructions being imparted in the School. Besides, free transport is provided for the children of the employees who are residing in the colony to attend to various schools in the cities of Hyderabad and Madras.

In Synthetic Drugs Plant, Hyderabad, wives of officers are running a school (English Medium) in the township for which a quarter has been provided free of cost.

(iii) TRANSPORT FACILITIES :

Both in the ABP and SIP we are giving transport facility against a nominal subscription which goes back to the workmens' Welfare Fund. In Synthetic Drugs Plant, Hyderabad the workers appointed before 1st March, 1967 are provided with free transport facility. Even in the case of workers appointed after 1st March, 1967 though

according to the orders they are not entitled to the free transport facility as a matter of practice they are utilising the concession being extended by the Management as a gesture of goodwill. The local authorities are also being impressed to run bus and train service to augument the facilities.

(iv) *Medical facilities*:

Antibiotics Plant, Rishikesh, is located at Virbhadra about 3 miles away from Rishikesh. In Rishikesh itself, in the Government hospital all Medical facilities are not available. Right from the very beginning it was felt that in order to look after the health of the workers, the well equipped hospital should be established in the township. We are already running 9 bedded hospital half way between the Plant and Township. There are two qualified doctors and one dental Surgeon already in position, besides the staff to assist them. In the other two Plants E.S.I. Scheme is already introduced. However, dispensaries are functioning for such of the employees not covered under the E.S.I. Scheme.

In all the three Plants first Air Centres are functioning within the Plants and emergency wards are opened round the clock for emergent cases. In ABP and in the other two Plants one ambulance at each place is kept ready for rushing the emergent cases to the hospital|E.S.I. dispensaries. Qualified Compounder|Nurses are manning the First Aid Centres.

(v) *Canteens*:

In all the three Plants the Canteens are being looked after by the Canteen Committee comprising of workers and the Management's representatives. Special attention is paid to the cleanliness of the canteen premises and wholesomeness of the food served on nominal prices so much so the Canteen invarialily incur losses which are met by the Plants. Rest rooms and lunch rooms are provided.

(vi) *Recreation Centers*:

The Plants have provided free of rent accommodation for workers recreation centers. Such centers have been

provided with furniture, water coolers, equipment for indoor and outdoor games and grants for library. These centres also organise cultural and film shows often.

(vii) *Workers Education Scheme*

The workers of the company are being sponsored for workers Teacher Training conducted by the State Board of Workers Education and Unit level classes are also being conducted in the Plants.

(viii) *Staff Benefit Fund Scheme*:

In ABP and SIP there is an Employee Welfare Fund Scheme run by a Committee which deals with the situation regarding (i) monetary assistance at the time of prolonged sickness of the employee when he is not getting adequate leave salary to support his/her family (ii) relief to employees in acute distress (iii) money to meet emergent expenditure connected with funeral of the employee. In SDP also the introduction of such a scheme is under the active consideration of the Local Management.

(ix) *Encouragement to purchase Plot/Construct Houses*:

It may be mentioned in this connection that the C.P.F. Scheme applicable to the employees provides for the grant of non-refundable loan from their provident Fund for purchase of Plot/construction of house on certain conditions.

(x) *Handicraft Centers in the Workers Colonies*:

In both SDP and ABP experiment was made by starting Tailoring Centers in the Townships. In SDP even 4 sewing machines were purchased and classes were started to coach the ladies of the workers families in stitching by the ladies club. Unfortunately at both the places response from the residents of the colony was lacking and the scheme almost died out. However, the Plant has been advised to make another attempt and if necessary with the help of the State Authorities as advised.

(xi) *Leave travel concession schemes*:

All employees are entitled to leave—Travel Concession for going to their home town.

8.29. About the reservation of percentage of vacancies in I.D.P.L.

for the Scheduled Castes|Scheduled Tribes and disabled ex-servicemen and whether all such vacancies have been filled in different categories of posts, the Management stated as follows:—

"The Company initiated taking action in implementing the directive of the Government of India regarding reservation of vacancies for Scheduled Castes|Scheduled Tribes candidates received in August, 1971. The Memorandum & Articles of Association of the Company were accordingly amended. Prior to this also we were giving preference to Scheduled Caste & Scheduled Tribes candidates other things being equal.

A statement showing the representation of Scheduled Castes & Scheduled Tribes in total employment in each Class as on 1st January, 1972 and 1973 is enclosed (Appendix XXX).

However, it may be added that IDPL is a very sophisticated company where hazardous chemicals and raw materials are used in the production blocks. We need highly qualified and experienced technical personnel to supervise the handling of these materials as well as the production processes. Further Class I and Class II posts have been mostly, filled up by promotion and we have seldom resorted to direct recruitment for these cadres.

The reasons for shortfall are primarily due to the fact that the plants are now equipped with almost full manpowers. There is no scope of bulk recruitment in near future. Except some of the higher categories of posts, vacancies arising as a result of turn over due to resignation etc. are filled in by promotions and recruitment is usually restricted to regularisation of the work charged staff, working in the Plants for the last 6-7 years!

It may be further pointed out that in accordance with the directive of the President (*vide* Ministry of Petroleum & Chemicals letter No. 13(13)|69-Ch. III dated 13-7-71) the reservation to the following have been exempted.

(i) vacancies filled by transfer or by deputation.

(ii) Temporary appointment for less than 45 days duration.

(iii) Purely temporary establishment such as work charged staff including daily rated and the monthly rated staff (though we are giving preference to SC|ST candidates).

(iv) Posts for conducting research or for organising guiding and directing research.

Accordingly, the posts for Sr. Lab. Assistant, Jr. scientific Asstt., Sr. Scientific Asstt. etc. and also the post for which there is one vacancy, are exempted.

The vacancies of higher categories of posts, scientific, technical and high skilled nature having adequate experience in the line are advertised through the press on all-India basis but no encouraging response are received from the SC|ST candidates inspite of special relaxation. Some of the posts were notified twice to the Employment Exchanges as well as in the press due to non-availability of suitable candidates.

The directive of the Government regarding reservation in services for ex-servicemen and dependents of those killed in action was received during March, 1972. All the General Managers & Chief Marketing Manager were asked to implement the provisions of the directive in this rgard.

A statement showing the particulars of recruitment made and the number filled by disabled ex-servicemen, dependents of those killed in action is enclosed for the period ending 30-6-72, 31-12-72 and 1-6-1973 (Appendix—XXXI).

The reasons for shortfall in percentage is the same as stated above. The Plants are now equipped with almost full manpowers. Vacancies arising out as result of turn-over due to resignation etc. are filled in by the promotions and recruitment is usually restricted to regularisation of the work charged staff working in the Plants."

8.30. The Committee note that the Managing Director is the chief executive of the Company. At the Unit level the General Manager functions as chief executive of the individual Unit and is responsible for the efficient performance of the Unit in accordance with the policies and Plans approved by the Board. The IDPL has three Plants, one at Rishikesh, the second at Hyderabad and the third at Madras. Though these are distinct units each specialising in a special field of production these are under one Management. The General Managers are not invited to participate in the meetings of the Board although according to general directions issued by the Bureau of Public Enterprises such an arrangement might be considered in the interest of the working of the units and the Undertaking as a whole. The Committee are informed that the Minis-

try is already examining the future set up of the IDPL and HAL with a view to coordinate their activities and rationalise the management of the units in the context of the targets envisaged in the Fifth Plan and ensure that the plants manufacturing similar producs are under the same Management. The Committee desire that the Ministry should complete its examination soon and rationalise the Management so as to have a more broad based Board.

8.31. The Committee find that in pursuance of the recommendation of the Committee on Public Undertakings in their Fifteenth Report (Fourth Lok Sabha—April, 68) the B.P.E. Government of India issued broad guidelines defining the main functions, responsibilities and powers of Financial Adviser. It was also mentioned in the guidelines that the Board of Directors should lay down detailed powers and functions of Financial Adviser particularly in regard to matters which should be reserved for concurrence or consultation with Financial Adviser etc. In spite of these directions no such demarcation has been made so far. The Committee were informed that the existing practice has been working smoothly during all these years and therefore, it was not considered necessary to modify them. The Committee however feel that financial demarcation of areas for prior consultation/concurrence with the Financial Advisor as laid down by the Bureau of Public Enterprises, would be advantageous, instead of being the matter to be devided by the practices which may vary from time to time. The Committee also find that no Hand Book of Financial Powers delegated from time to time has been compiled. The Committee need hardly stress the importance of compiling early a suitable Guide Book containing in detail the duties and powers of the Financial Adviser, in the interest of expeditious disposal of business.

NEW DELHI:
April 29, 1974/*Vaisakha* 9, 1896 (*s*)

SUBHADRA JOSHI,
Chairman
Committee on Public Undertakings

APPENDIX I

(*Vide* Para 2·1 of Mc Report)

Statement showing original and revised Project Estimates and actual Expenditure upto, 30-11-1973.

Sl. No.	Main components of the project estimates.	Project Estimates as approved by the Govt. : (Oct. 1966)	Revised estimated cost (Aug. 1968)	Revised estimated cost (Dec. 1970) as approved by the Govt. in August, 1971.	Actual expenditure upto 31-3-72	Further expenditure to be incurred to complete the project.	Actual Exp. upto 31-3-73	Actual exp. upto 30-11-73
1	2	3	4	5	6	7	8	9
I.	*Civil Works.*							
	(a) Factory	525·69	522·20	522·20	504·26	17·94	504·85	504·87
	(b) Township :	274·51	180·00	180·00	180·42*	41·58*	180·77	180·77
II.	Plant & Machinery.	1405·04	1343·61	1383·61	1333·43	50·18	1333·43	1333·43
III	Administrative and General expenses .	117·94	194·34	280·61	188·72	(—)8·11	—288·72	288·72
IV.	Other items	81·00	86·27					
V	*New Works.*							
	(a) Factory	..	51·23	69·37	33·96	35·41	—46·59	47·25
	(b) Township	..	..	42·00	*	*	—28·05	37·48
VI.	Commissioning expenses . . .	..	70·00	70·00	101·37	(—)31·37	101·37	101·37
VII.	Interest on Govt. loans	..	144·76	144·76	155·72	(—)10·96	155·72	155·72

1	2	3	4	5	6	7	8	9
VIII	Other works including priority (Protocol works)	..		50·99	20·14	30·85	27·51	27·51
	Total :	2404·18	2632·41	2743·54	2618·02	125·527	2627·01	2677·12

*Includes expenditure on new works (Township).

NOTES:—The other items "comprise cost of Detailed Project Report furnished by M/s. Technoexport, cost of detailed working drawings expenditure towards deputation of Soviet Experts in India, expenditure on Indian Trainees in USSR., expenditure on Trainees in India and other miscellaneous items."

NOTE 2:— Govt. of India in their letter No. 8(65)/68 Ch. III dated 26-8-1971 have conveyed sanction under the following three broad heads :—

	Rs. in lakhs
Factory	2361·04
Township	237·74
Interest.	144·76
	2743·54

The total expenditure incurred so far is to be analysed reclassified to compare with the broad heads under which sanction has been conveyed. Govt. will be approached for revised sanction if necessary on the completion of Project including new work, Priority works and a essential facilites,

APPENDIX II

(*Vide* Para 2·205)

Statement indicating gross production and incidence of rejects on cost.

Year	Approved production (mlrds.)	Rejects (mlrds.)	%age of approved production.	%age of rejects to total production.	Total increase in cost (Rs.)	Incidence of rejects on cost per mlrd. (Rs.)	Reason for rejection.
1	2	3	4	5	6	7	8
			Sodium Pencillin				
1968-69	2200·448	2966·500	42·58	47·42	39,19,944	17,81,43	1. Clarity.
1969-70	8067·744	7930·600	50·43	49·57	95,07,998	1178·50	2. Non-sterility
1970-71	19418·434	5422·416	78·17	21·33	32,54,724	167·61	3. Low potency PH and other tests.
1971-72	35276·550	4286·610	89·17	10·83	14,43,633	40·98	
1972-73	18315·27	5237·38	77·76	22·24	24,99,302	186·46	
					206,27,601		
			Procaine Pencillin				
1968-69	1096·937	695·400	61·20	38·80	4,41,726	402·96	1. Clarity
1969-70	9994·074	4898·704	67·11	32·89	45,98,478	460·12	2. Non-sterility
1970-71	18087·580	6583·013	78·32	26·68	24,79,988	137·11	3. Colour

1	2	3	4	5	6	7	8	9
1971-72	. . . . .	19751·450	86·72250	69·49	30·51	25,61,565	129·69	4. Low potency, pH constistency and other tests.
1972-73	. . . . .	6817·48	2657·37	71·96	28·05	15,31,525	225·09	
				Total :				
			Streptomycin Suplhate(IP)					
1968-69	. . . . .	1666·106	1282·714	56·50	43·50	6761,625	4058·34	1. Clarity
1969-70	. . . . .	10655·093	1723·860	86·07	13·93	3298,497	309·57	2. Non-sterility.
1970-71	. . . . .	13819·660	9994·990	58·03	41·97	7006,982	507·03	3. Low potency and other tests.
1971-72	. . . . .	21704·920	12164·550	64·08	35·92	6516,468	300·23	
1972-73	. . . . .	14886·72	3367·80	81·55	18·45	31,40949	210·99	
			Total :					

APPENDIX III

(*Vide* para 2·208)

Statement showing details of sales return and loss due to their reprocessing

Year	Name of the product	Qty.	Value (Rs.)	Loss due to reprocessing, of the sales returning (Rs.)
	A—Bulk			
1969-70 . .	Streptomycin Sulphate (Non-sterile)	1000 Kgs.	2,75,000	1,28,000
1970-71 . .	Sodium Penicillin IP	116·54963 BU	58,274	27,039
1971-72 . .	Sodium Penicillin IP	290·181 BU	1,45,090	[38,393
	Procaine Penicillin IP	404·918 BU	2,02,459	92,321
	Procaine Penicillin (Non-sterile)	324·257 BU	1,64,331	71,237
	Tetracycline HCL IP	55·15 Kgs.	35,847	12,849
	Chlorotetracycline	0·988 Kgs.	642	Not assessed
1972-73 . .	Sodium Penicillin	274·975 BU	[1,37,488	86,878
	Procaine Penicillin	32·791 BU	16,395	8,767
	Streptomycin Sulp.	197·731 Kg.	58,331	13,248
	Oxy-teracycline Hel.	220·00 Kg.	1,87,000	46,640
1973-74 . . April'Sep' 73	Sodiumpenicillin	514·396 BU	2,57,193	1,62,520
	B—Formulationas			
1969-79 . .	Oxyteracycline Caps	26,675	13,339	9,917
1970-71 . .	Oxytracycline Caps	16,412	8,110	6,005
	Tetracycline Caps	5,690	2,201	1,615
	Sodium Penicillin 5 lakh units	880	496	400
	Fortified Procaine Penicillin 4 lakhs units.	74,989	36,571	30,726
	Strepto-Penicillin ½gm.	2,390	1,706	1,706
	Strepto-Pencillin 1 gm.	350	331	331
	Streptomycin 1 gm.	7,430	4,605	3,513

1	2	3	4	5
1971-72 . .	Oxytt[illegible]racycline Caps	55,762	25,879	18,728
	Tetracycline Caps	6,470	2,478	1,804
	Fortified Procaine Penicillin 4 lakhs units	11,002	5,105	4,220
	Sodium Penicilin 4 lakhs units	9,497	5,318	3,794
	Streptomycin 1gm.	212	131	79
	Strepto-Pencillin 1gm.	101	91	91
1972-73 . .	Fortified Procaine Pencillin 4 lakhs. Viale	7,71,925	3,51,226 ..	2,69,689 ..

APPENDIX IV

(*Vide* Para 2·221)

Statement showing the analysis of consumption of raw material in terms of precentages.

Raw material consumption

Co-efficient (Kg.%/mldrs)

Raw material	Standard (as per Protoco)	Average (1/70 to 12/70)	Average (1/71 3/71)	Average (4/71 to 3/72)	Average (4/72 to 3/73)	Excess (3-2)	Excess (4-2)	Excess (5-2)	Excess (10)
1 2	3	4	5	6	7	8	9	10	11
Penicillin (Formentation)									
1. Ammonium Nitrate	100	196·2	130·00	146·2	190	96·2	30·0	46·2	90
2. Corn Steep Liquor	100	179·1	130·7	131·3	129·76	79·1	30·7	31·3	29·77
Pencillin (R and P)									
3. Butyl Acetate	100	180.5	134·8	142·9	155·86	80·5	34·80	42·9	55·36
Streptomycine Sulphate (Formentation)									
4. Ammonium Sulphate. . . .	100	196·2	248·8	236·2	231·12	96·2	148·8	136·2	131·12
5. Corn Steep Liquor	100	214·6	226·5	246·9	195·77	114·6	126·5	146·9	95·77
6. Calcium Carbonate	100	177·0	208·1	192·3	186·51	77·0	193·1	92·3	88·51
7. Glucose	100	168·9	187·7	186·1	153·36	68·9	87·7	86·1	53·38
8. Hydrol (42%)	100	141·2	187·3	157·7	146·10	41·2	87·3	57·7	46·10
9. Oxalic Acid	100	155·4	175·2	164·8	144·65	55·4	75·2	64·8	44·65
10. Soyabean Flour	100	160·9	190·4	183·3	136·19	60·9	90·4	83·8	36·19

1	2	3	4	5	6	7	8	9	10	11
11.	Sold. Tripoly Phos. . . .	100	147·7	185·1	183·8	131·12	47·7	85·1	83·6	31·12
12.	Sold. Hydroxide (40%) . .	100	125·9	152·0	150·0	150·61	25·9	52·0	50·0	50·61
					Strepotomycin Sulphate (R and P)					
13.	Hydophloride Acid (40% Tech.) . .	100	268·6	164·6	218·6	234·30	168·6	64·6	118·6	134·30
					Tetracycline (Formentation)					
14.	Corn Steep Liquor . . .	100	273·2	130·6	259·8	228·71	173·2	80·6	159·8	128·71
15.	Maize Flour	100	239·7	157·9	201·6	153·66	139·7	56·9	101·6	53·66
					Tetracycline (R and P)					
16.	Hyd. Acid (Pure)	100	152·4	145·6	168·8	164·00	52·4	45·6	68·8	64·00
17.	Sod. Tripolyphos.	100	159·5	125·0	173·4	170·48	59·5	25·0	73·4	70·48
					Oxy tetracycline (Formentation)					
18.	Corm Steep Liquor	100	180·4	122·7	157·5	142·27	80·4	22·7	57·5	42·27
19.	Maize Starch	100	141·7	100·5	132·7	139·89	41·7	..	32·7	39·89
20.	Soyabean Flour	100	168.0	109.6	144.5	133.15	68.0	10 0	43.5	33.1
					Oxytetracycline (R and P)					
21.	Hyd, Acid (Pure)	100	149·1	121·5	126·2	149·89	49·1	21·5	26·2	40·8 9
22.	Sold. Hydroxide (40%) . . .	100	416·2	276·8	410·1	395·45	316·2	176·3	301·1	295·45
23.	Tripoly Phosphate	100	174·5	135·0	150·2	130·25	74·5	35·0	50·2	30·25
					Oxytetracycline Hyd.					

APPENDIX V

(*Vide* Para 2·286)

Statement indicating details of rejections arising after formulating and filling into vial (Product-wise)

Name of the product	1969-70			1970-71			1971-72		
	Approved production	Rejection	%age of rejection	Approved production	Rejection	%age of rejection	Approved production	Rejection	%age of rejection
1	3	3	4	5	6	7	8	9	10
1. Sod. Penicillin									
2 lakhs units	2,91,447	48,129	14·2	14,19,603	2,35,912	14·2	No. production		
5 lakhs units	13,20,966	12,27,005	40·2	65,64,326	13,70,307	17·3	1,64,10,071	29,73,320	15·3
10 lakhs units	3,00,797	3,97,600	56·9	13,11,014	8,86,176	40·3	36,11,490	8,92,586	19·8
2. Fortified Procain Penicillin									
4 lakhs units	58,59,041	8,53,370	12·7	1,11,76,823	7,29,393	6·1	1,76,67,515	26,70,619	13·2
3. Streptomycin Sul. 1 gm.	21,20,283	6,57,996	23·7	46,69,009	10,15,205	17·8	94,23,129	11,25,702	10·7
4. Penicillin Streptomycin									
1 grm.	4,41,249	64,650	12·6	10,93,545	53,122	4·6	7,90,711	5,414	0·7
5 gm.	27,57,828	4,39,572	13·7	83,94,767	5,94,615	6·5	56,25,400	1,17,309	6·9

Name of the product	1972-73			1973-74 (April-Sept. 73)		
	Approved production	Rejection	% age of rejection	Approved production	Rejection	% age of rejection
1. Sod. Penicilin						
2 lakh units	47,80,367	49,14,53	50·69			
5 lakh units	51,36,634	21,80,422	29·80	15,96,671	6,77,492	29·75
10 lakh units	1,31,272	4,68,146	17·13			
2. Fortfied Procaine Penicillin 4 lakh units	95,68,101	20,78,867	17·85	20,13,975	8,21,045	28·96
3. Streptomycin Sulp. 1gm.	1,16,07668	10,16,048	8·05	42,73573	2,23,382	4·97
4. Pencillin Streptomycine						
1 gm.	4,56,450	99,218	17·86	2,66,999	41,472	13·44
1/2 gm.	83,95,824	5,73,917	6·40	41,17,080	3,43,273	7·70
0·75 gm.	8,35,625	26,142	2·95			
OTCIM .10ml.				2,80,053	12,794	4·37

APPENDIX VI

(*Vide* para 2.290)

Statement showing the number of capsules filled and the quantity of bulk utilised in filling

CAPSULATION

Year	No. of capsules filled	Bulk used	Bulk as per theoretical norm	5% (over theoritical norm)	Total bulk ought to have been consumed (theoritical norm) 5%	Excess bulk used			Credit for machine salvage collected			Net value of excess bulk consumed
						Quantity	Rate	Value	Quantity	Rate	Value	
	(No.)	(Kgs.)	(Kgs.)	(Kgs.)	(Kgs.)	(Kgs.)	(Rs.)	Rs.				Rs.
1	2	3	4	5	6	7	9	9	10	11	12	13
Tetracyline Capsules												
1969-70	1,29,37,706	3,664·67	3,234·43	161·72	3,895·15	268·52	1,000/-	2,68,520·00	60·30	—	24,844	2,43,676·00
1970-71	1,20,95,080	3,484·75	3,023·77	151·19	3,174·96	309·70	850/-	2,63,321·50	234·22	412/-	96,499	1,66,822·50
1971-72	5,96,80,100	15,479·69	14,290·03	746·00	15,666·03	—	—	—	331·20	..	1,39,100	—
1972-73	2,60,72,200	2,981·35	6,158·05	425·90	6,843·95	137·40	850/-	1,16,790	141·00	399/-	26,259	60,521·00
193-74 Apr—Sept-74	3,17,95,000	8,124·60	7,948·75	397·44	8,346·19	—	—	—	80·50	399/-	31,120	
Oxytetracycline Capsules												
				(8%)	(8%)							
1969-70	51,58,106	1,533·05	1,292·03	103·36	1,395·39	137·66	1,000/-	1,87,660·00	30·55	295·51	15,672	1,21,998·00
1970-71	1,27,99,490	3,690·10	3,199·07	255·99	3,455·86	234·24	850/-	1,99,104·00	98·61	—	50,787	1,48,317·00
1971-72	1,78,87,860	5,104·52	4,471·97	357·76	4,892·73	274·69	850/-	2,33,486·50	115·59	—	59,298	1,74,188·50
1972-73	5,97,25,100	1,676·42	1,493·13	119·45	1,612·58	63·84	850/-	54,264	28·13	638·00	17,947	36,317
1973-74	33,25,000	923·95	831·25	66·50	897·75	26·60	850/-	22,270	—	—	—	22,270

APPENDIX VII

(*Vide* para 2·325)

Statement showing indices of standard cost vis-a-vis actual cost of production

Name of the product	Standard cost		Actual Cost		
	1969-70	1970-71	1970-1971	1971-72	1972-73
1	2	3	4	5	6
A BULK					
1. Sodium Penicillin .	100	609	247	166	121
2. Procaine Penicillin .	100	339	198	163	210
3. Streptomycin Sulphate	100	380	292	224	162
4. Tetracycline Hydro chloride	100	279	189	177	176
5. Oxytetryyeline Hydrochloride . . .		100	473	200	157
6. Nystatin	100		..		..
B. VIALS					
7. Sodium Penicillin 2 lakh units . . .	100	431	217		295
8. Sodium Penicillin lakh unit	100	717	267	187	227
9. Sodium Penicillin 1 lakh unit	100	1188	379	192	209
10. Fortified Procaine Penicillin 4 lakh unit .	100	360	244	198	228
11. Streptomycin Sulphate 1 qm.	100	524	343	202	124
12. Penicillin Streptomycin 1 qm.	100	464	311	242	212
13. Penicillin Streptomycin 1 qm.	100	481	357	238	180
14. Procaine Penicillin 15 lakha unit . . .	100	336	..	..	..

1	2	3	4	5	6
C. CAPSULES					
15. Tetracyctine Hydrochloride 10x10 strips .	100	258	209	100	72
100's pack . .	100	289	225	100	72
16's pack . .	100				
16's pack . .	100	..	..	..	..
16. Oxytetracycline Hydrochloride . . .					
10x10 strips .	100	71	168	162	149
10n's pack . .	100	74	175	..	..
16's pack . .	100	74	..	..	..

APPENDIX

(*Vide* para

(*Statement showing manpower*

Staff requirement	Detailed Project Report	Industrial Engg. Deptt.						
		Original	Revised	31-3-170				
				Regular	M/C	M/R	Total	Regular
1	2	3	4	5	6	7	8	9
Dpartment								
1. Fermentation Block and Block for preparation of culture media . .	416	374	385	354	6	89	449	376
2. Recovery & Puriation Block .	395	336	336	391	2	67	460	418
3. Sterile & Finishing Block .	400	425	412	390	—	—	390	445
4. Laboratory, Quality Control, Pilot Plant & Animal House	265	*256	**266	**226	—	5	271	287
5. Maintenance and Auxiliary Service Block	507	750	998	781	—	—	781	80
6. Administration Block (Technical)	197	33	@	45	—	—	45	44
Total	2,180	2,184		2,227	8	161	2,396	2,372

*Includes 40 for pilot Plant and 111 for Quality Control.

**Includes 62 for Pilot Plant and 182 for quality control

@Revised assessment has yet to be indicated by the Industrial Engineering Department

W/C—Work Charged

M/R—Muster Roll

VIII

2.356)

requirement and employment)

In position as on

31-3-71			31-3-72				30-6-1973			
W/C	N/R	Total	Regular	W/C	W/R	Total	Regular	W/C	M/R	Total
10	11	12	13	14	15	16	17	18	19	20
21	68	465	390	18	68	476	383	16	47	446
16	46	480	428	28	47	503	416	34	37	487
4	8	457	430	48	40	518	418	50	35	503
6	7	300	282	14	11	307	274	24	25	343
—	—	802	826	95	273	1,194	808	129	300	1237
—	—	44	48	—	—	48	47	—	—	47
47	129	2,548	2,404	203	439	3,046	2,346	253	444	3,043

APPENDIX IX

(*Vide* para 3·1)

Statement comparing the estimates of costs, sanctioned by Government in October, 1966 as revised by Company in 1968 and approved by Government in August, 1971 and the actual expenditure incurred upto 31st March, 1972.

Particulars	Estimates sanctioned by Government in October 1972	Estimates as revised by the Company in 1968 and approved by Government in August, 1971	Actual expenditure upto 31st March 1972	Further expenditure to be incurred to complete the Project
1	2	3	4	5
1. Civil Works :				
(a) Factory .	598·14	555·58	556·07	1·20
(b) Township .	187·60	120·78	129·36	
2. Plant & machinery (including erection)	1,157·37	1,136·08	1,073·03	109·93
3. Administration and general expenses .	104·57	150·96	151·46	..
4. Apprentice training and other items .	87·00	90·00	102·75	..
5. Interest on capital	..	126·97	103·65	23·32
6. Commissioning expenses . .	..	64·00	41·01	22·99
TOTAL	2,134·78	2,244·37	2,157·33	157·44
7. Net works .	..	48·57	37·49	..
TOTAL .	2,134·78	2,292·94	2,194·82	157·44

NOTES : 1. The new Works sanctioned in the revised approved estimates of August, 1971 were meant for stabilising and improving the production of the Plant.

2. The actual expenditure indicated in Column 4 of the table is provisional.

APPENDIX X

(Referred to in para 3·29)

Statement showing item-wise capacity of the bulk drugs as provided in the Detailed Project Report and as worked out by the Management

(Figures in tonnes)

Product	Commission date	Capacity as per DPR(300 working days)	Installed capacity (330 working days)					Remarks.
			1967-68	1968-69	1969-70	1970-71	1971-72	
1	2	3	4	5	6	7	8	9
1. Phenacetin	December 1966	100	110	110	110	215	250	Expanded to 250 tonnes in July, 1970
2. Sulphanilamide	May, 1967	50	55	55	82·50	132	132	Expanded to 132 tonnes in September, 1969
3. Sulphaguinadine	August 1967	130	143	153	143	143	143	
4. Sulphadimidine	February 1968	280	154	154	180	308	308	Initially only 1/2 of the capacity was commissioned. The capacity was restored to 308 tonnes in June, 1970.
5. Vitamin B1	May, 1968	30	33	33	33	33	33	
6. Vitamin B2	May, 1968	5	5·5	5·5	5·5	5·5	5·4	
7. Sodium Sulphacy	November 1967	50	55	55	55	55	55	The production had to be restricted because of the limited demand which was

1	2	3	4	5	6	7	8	9
								hardly 30 to 50 per cent. of the rated capacity. The Management stated(September, 1972) that the equipment was being utilised for the production of Para cetamol (a new drug not provided in the Detailed Project Report) for which the Company had a licence for 85 tonnes capacity.
8. Folic Acid	September 1968	1	1·1	1·1	1·1	1·1	1·1	
9. Onalgin	Decembr 1967	40	44	44	44	44	105	(i) The capacity of Analgin and Amidrcyine as mentioned in Detailed Project Report were reversed (*i.e.* from 10 to 40 tonnes to 40 & 10 tonnes respectively) to cater to a market which had a larger and growing demand for Analgin. (ii) Expanded to 105 tonned in last quarter of 1971.
10. Amidopyrine	December 1967	10	11	11	11	11	11	
11. Piperazine salts (a) Hydrate (b) Adipate (c) Phosphate (d) Citrate.	March, 1968	50	55	55	55	55	55	Owing to the availability of imported stocks in the market the Sales Department was not in a position to sell Piperazine. Adipate was partially utilised for the production of Piperazine Phosphate, Citrate and Hydrates durirg 1969-70, 1970-71 and 1971-72.

								The Management stated (September, 1972) that the imported materials were getting exhausted and the demand for these products had increased.
12. Diethyl Carbamazine Citrate	June, 1968	30	33	33	33	33	33	As the Plant had to produce the drugs from the basic stages it could not compete with the manufacturers who were producing drug by importing the Penultimate intermediates. The total quantity of Diethyl Carbamazine Citrate produced by the Plant from 1968-69 to 1971-72 was 17·407 tonnes out of which a quantity of 10·621 tonnes was lying in stock as on 31st March, 1972. The Plant has, therefore, decided to utilise the idle equipment of the value of Rs. 16·40 lakhs (depreciated value as on 31-3-72) for producing other drugs like Thiacetazone, Sulphamethizole and Acetazolamide by making minor modifications.
13. Nictotinamide	April, 1968	20	22	22	22	22	22	Deferred due to high cost of manufacture based on 'Picolines' on which the technology was based. An alternative method of manufacture using cynophyridinfae is stated to be under consideration. The value of Plant and Machinery rendered idle amounted to Rs. 22·61 lakhs.
14. I. N. H.	..	20	..	..	..	..	..	

1	2	3	4	5	6	7	8	9
								(deprecated value as on 31-3-1972)
15. Pheaobarbitone	March, 1968	10	11	11	11	11	11	
16. Acetazolamide		25	..	..	..			Deleted from the production programme in September 1965 as the product had become obsolete and difficulties regarding its marketability were anticipated. The value of the equipment that became surplus on this account was estimated at Rs. 60 lakhs.
								The Management stated (September, 1972) that after taking into account (a) the utilisation of the idle equipment in Diethylacarbamazine Citrate section (b) better technology developed by our scientists and (c) the small demand of 3 tonnes growing up, its production had commenced in 1971-72.
Additional Items								
17. Sodium P.A.S.	April, 1971	Not provided for	..	..	..	..	150·0	Regular production started from August 1971.
18. Paracetamol	January, 1972	Do	..	..	..	..	85·0	
	TOTAL	851·0	732·6	732·6	786·1	1,068·6	1,399·6	

APPENDIX XI

(*Vide* para 3·32 & 3·37)

(*Statement showing Rated capacity as fixed by Management, Targets of Production and Actual Production*)

Items provided in	1968-69			
	Rated capacity	Targets Original	Revised	Actuals
1	2	3	4	5
As provided in Detailed Project Report :				
1. Phanacetin	110	80	66·133	58·511
2. Sulphanilamide	55	40	56·668	54·910
3. Sulphadimidine	154	224	92·952	89·642
4. Sodium Sulphacyl	55	40	19·724	18·246
5. Vitamin B1	33	24	1·337	0·582
6. Vitamin B2	5·5	4	1·065	0·943
7. Folic Acid	1·1	0·8	0·045	0·009
8. Analgin	44	8	6·068	3·441
9. Amidopyrine	11	32	3·586	2·775
10. Piperazine Salts				
(a) Adipate	55	40	8·904	9·389
(b) Phosphate		..	..	..
(c) Citrate		..	..	..
(d) Hydrate		..	..	..
11. DC Citrate	33	24	2·921	1·775
12. Phenobarbitone	11	8	2·450	2·067
13. Nicotinamide (Vit PP)	22	16		0·155
New Items				
14. Paracetamol	..	..	..	..
15. Sodium PAS	..	..	..	..
TOTAL :	589·6	540·8	261·853	242·445

Reasons for Shortfall

(i) Modification works being in progress in respect of Phenacetin, Sulphadimidine, Vitamin B1, Folic Acid, Analgin and D.C. Citrate.

(ii) Non-stabilisation of technology in respect of Phenacetin, Vitamin B1, B2, Analgin, Amidopyrin, D.C. Citrate and Sodium Sulphacyl.

(iii) Changes in technological process; in the case of Vitamin B1.

(iv) Frequent failure in power and water supply.

(v) Difficulties in obtaining supply of materials like Chloro-sulphonic Acid, Benzene Sulphonic Acid, Mehylester and Para-nitrochloro-beneze.

(vi) Limitation in the Production of Sulphas due to availability of low price dated imports in the Market.

Items provided in	1969-70			
	Rated capacity	Targets		Actuals
		Original	Revised	
1	2	3	4	5
As provided in Detail Project Report				
1. Phenacetin	110	110	123·350	97·965
2. Sulphanilamide	82·5	55	94·160	75·670
3. Sulphadimidine	180	100	173·733	92·943
4. Sodium Sulphacyl	55	—	0·034	3·450
5. Vitamin B1	33	15	1·040	2·319
6. Vitamin B2	5·5	4	1·506	2·286
7. Folic Acid :	1·1	1·2	0·202	0·060
8. Analgin	44	25	23·760	16·277
9. Amidopyrine	11	10	8·049	1·875
10. Piperazine Salts				
(a) Adipate				
(b) Phosphate	55	—	10·000	9·450
(c) Citrate		—	2·500	3·173
(d) Hydrate		—	1000	14·461
11. D.C. Citrate	33	10	5·000	3·287
12. Phenobarbitone	11	10	8·000	4·801
13 Nicotinamide (vit. PP)	22	—	—	0·920
New Items				
14. Paracetamol	—	—	10·000	—
15. Sodium PAS	—	—	20·00	—
TOTAL	643·1	340·2	482·334	328·937

Reasons for Shortfall

(i) Modification works being in progress in respect of Sulphadimidine, D.C. Citrate and Phenobarbitone.

(ii) Non-stabilisation of technology in respect of Analgin. Amidopyrin and Piperazine Adipate.

(iii) Frequent failure of power and water supply.

(iv) Large scale absenteeism of workers in the waske of Telengana agitation and strike of workmen in March/Arpril, 1970.

(v) Deliberate curtailment of D.C. Citrate and Phenobarbitone to avoid heavy accumulation of stock.

(vi) Corrosion of equipment and non-availability of imported separes in Sodium Sulphacyl and Piperazine Adipate, Phosphate, Citrate and Hydrate sections.

(vii) Strike by the employees in March/April, 1970.

(viii) Non-commissioning of plants in respect of Peracetamol and Soduim PAS.

Items provided in	1969-70			
	Rated capacity	Targets		Actuals
		Original	Revised	
1	2	3	4	5
As provided in Detaield Project Report.				
1. Phenacetin	215	250	178·900	152·080
2. Sulphanilamide	132	150	109·950	95·680
3. Sulphadimidine	308	300	198·850	159·337
4. Sodium Sulphacyl	55	10	16·000	11·022
5. Vitamin B1	33	3	14·260	7·904
6. Vitamin B2	5·5	2	2·135	1·703
7. Folic Acid	1·1	0·2	0·804	0·556
8. Analgin	44	90	32·950	34·060
9. Amidopyrine	11	30	8·620	3·385
10. Piperazine Salts				
(a) Adipate	55	10	17·800	12·900
(b) Phosphate		4	—	5·600
(c) Citrate		5	—	2·600
(d) Hydrate		—	3·726	8·916
11. D.C. Citrate	33	10	17·930	5·395
12. Phenobarbitone	11	15	6·500	4·628
13. Nicotinamide (Vit. PP)	22	—	0·240	0·265
New Items				
14. Paracetamol	—	40	10·000	—
15. Sodium PAS	—	150	22·000	—
TOTAL	925·6	1,069·2	640·665	506·03,

REASONS FOR SHORTFALL

(i) Modification works being in progress in respect of Phenacetin, Amidopyrine and D.C. Citrate

(ii) Non-stabilisation of processes in the case of Analgin and Piperazine citrate.

(iii) Frequent disruption of water supply.

(iv) Short supply of absolute alchol and ammonia.

(v) Corrosion of equipment and non-availability of imported spares in Sodium Sulphacyl and Piperazine Adipate, Phsophate, Citrate and Hydrate sections.

(vi) Strike by the employees in March/April, 1970.

(vii) Non-commissioning of plants in respect of Paracetamol and Sodium PAS.

Items provided in	1971-72			
	Rated capacity	Targets		Actuals
		Original	Revised	
1	2	3	4	5
As provided in Detailed Project Report				
1. Phenacetin . . .	250	250	223·205	193·793
2. Sulphani amide . . .	132	135	129·910	183·690
3. Sulphadimidine . . .	308	290	244·125	218·141
4. Sodium Sulphacy. .	55	18	16·750	26·779
5. Vitamin B1 . . .	33	30	22·645	14·920
6. Vitamin B2 . .	5·5	5	2·275	1·830
7. Folic Acid . .	1·1	1·1	1·137	1·171
8. Analgin	105	100	82·075	77·725
9. Amidopyrine . . .	11	30	9·503	7·004
10. Piperazine Salts				
(a) Adipate	55	3	4·99	3·603
(b) Phosphate		3	9·580	10·280
(c) Citrate		4	11·711	10·915
(d) Hydrate		40	4·100	1·299
11. D. C. Citrate . . .	33	12	6·475	6·950
12. Phenobarbitone . . .	11	10	9·669	10·569
13. Nicotinamide (Vit. PP) .	22	..	4·457	2·343
New Items				
14. Paracetamol	85	25	10·420	1·030
15. Sodium PAS . . .	150	50	55·670	72·830
Total	1,256·6	1,006·1	848·706	854·893

NOTE.—The actual production in 1971-72 does not include the small quantities of the following products taken up for production in 1971-72 for which no rated capacity and targets had been fixed.

Item	*Quantity produced (tonnes)*
Sulphamothizole . . .	0·978
N [illegible] ide .	0·048
Thiacetazone . . .	0·955
Pthalyl Sulphacyl . . .	0·378
Acetazolamide . . .	0·115
Total .	2·474

Reasons for shortfall

(i) Frequent interruption in the water supply.

(ii) Non-availability of raw materials (rectified spirit, absolute alcohol, caustic sode, iye, sodium sulphide flakes, ammonia, metaamino-phenol and hydrogen) in time and in required quantity.

(iii) Closure of Sulphadimidine Section for over a month on account of interruption in the supply of imported Dicyandiamide on account of Indo-Pakistan conflict.

(iv) Restricted production of D.C. Citrate, Phenacetin and Piperazine salts on account of market consideration.

(v) Modification works and non-stabilisation of processes and production problems.

(vi) Rejections of production batches by quality control.

(vii) Repairs and shut down.

(viii) Absenteeism and operational personnel.

(ix) Low yields.

A—BULK DRUGS

Sl. No.	Product	1972-73			
		Rated/ installed capacity	Targets		
			Original	Revised	Actuals
1	2	3	4	5	6
1	Phenacetin	250·00	250·00	100·00	108·16
2	Sulphanilamide	132·00	150·00	105·20	86·82
3	Sulphadimidine	308·00	275·00	390·00	365·03
4	Sod. Sulphadimine	..	2·00	..	0·50
5	Sulphacyl	55·00	10·00	10·00	3·83
6	Sod. Sulphacyl	..	..	..	15·98
7*	Paracetamol	85·00	25·00	7·00	10·66
8	Vitamin B1 HCL	33·00	30·00	27·84	22·72
9	Vitamin B1 (Ampoule Grade)	..	..	..	..
10*	Vitamine B1 (Mononitrate)	..	..	..	3·38
11	Vitamine B2	5·50	5·00	2·85	1·38
12*	Vitamin B25 Phosphate	..	..	..	..
13	Folic Acid	1·10	1·10	1·98	1·59
14*	Sod. PAS	150·00	100·00	106·98	105·04
15	Analgin	105·00	100·00	108·03	79·47
16	Amidopyrin	11·00	10·00	5·46	2·42
17	Pip. Hydrate (cryst)	..	7·50	18·33	21·02
18	Pip. Ayipate	55·00	7·50	8·95	7·01
19	Pip. Phosphate	..	7·50	13·07	10·26

1	2	3	4	5	6
20	Pip. Citrate . . .	..	7·50	10·41	6·76
21	Pip. Anhydrous . .	..	..	..	0·12
22	Citrazine citrate . .	33·00	6·00	0·61	0·61
23*	Thiacetazone . . .	..	..	5·00	2·83
24	Nictanamide . . .	22·00	4·00	10·00	13·73
25	Acetazolamide . . .	..	..	0·50	..
26	Sulphamethizole . .	..	..	3·10	0·11
27	Pthalyl Sulphacyl . .	..	..	5·44	3·26
28	Phenobarbitone . .	11·00	5·00	10·56	10·07
29*	So. Phenobarbitone .	..	5·00	..	1·37
	Total .	1256·60	1008·10	1051·31	885·64

*New products introduced in the Product mix of the Plant in 1972-73.

Sl. No.	Product	1973-74			
		Rated/ installed capacity	Targets		
			Original	Revised	Actuals
1	2	3	4	5	6
1	Phenacetin . . .	Same as in 1971-72	126·00	159·53	109·26
2	Sulphanilamide . .	Do.	100·00	101·33	54·88
3	Sulphadimidine . .	Do.	500·00	345·57	268·11
4	Sod. Sulphadimine . .	Do.	..	..	
5	Sulphacyl . . .	Do.	10·00	10·00	..
6	Sod. Sulphacyl . .	Do.	..	..	0·80
7*	Paracetamol . . .	Do.	12·00	..	..
8	Vitamin B1 HCL . .	Do.	30·00	24·33	20·47
9	Vitamit B1 (Ampoule grade)	Do.	..	0·39	0·59
10*	Vitamin B1 (Monomitrate)	Do.	5·00	..	..
11	Vitamin B2 . . .	Do.	5·00	0·07	2·02
12*	Vitamit B2 5 Phosphate .	Do.	0·50	..	..
13	Folic Acid . . .	Do.	2·20	2·15	1·74
14*	Sod. PAS . . .	Do.	150·00	133·58	92·95
15	Analgin	Do.	160·00	128·81	111·79

1	2	3	4	5	6
16	Amidooyrin . . .	Do.	12·00	3·28	1·89
17	Pip. Hydrate (cryst) .	Do.	30·00		9·39
18	Pip. Adipate . . .	Do.	10·00	..	6·81
19	Pip. Phosphate . .	Do.	20·00	..	16·58
20	Pip. Citrate . . .	Do.	10·20	39·21	19·06
21	Pip. Anhydrous . .	Do.	..	..	
22	Citrazine citrate . .	Do.	..	..	..
23*	Thiacetazone . . .	Do.	10·00	10·06	6·97
24	Nictanamide . . .	Do.	30·00	26·42	8·67
25	Acetazolamide . . .	Do.	3·00	..	..
26*	Sulphamethizole . .	Do.	5·00	2·96	1·26
27*	Pthalyl Sulphacyl . .	Do.	..	..	..
28	Phenobarbitone . .	Do.	11·00	10·17	7·44
29*	So. Phenobarbitone . .	Do.	..	0·12	0·32
	Total .	Do.	1241·90	997·98	740·84

APPENDIX XII

(*Vide* para 3.45)

The statement showing drugs falling within the production profile of S.D.P. and imported during 1969-70 to 1972-73.

Item	1969-70		1970-71		1971-72		1972-73	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
1	2	3	4	5	6	7	8	9
1. Vitamin B 1 (Thaimine hydrochloride/Nitrate) . . .	43·187	36·39	66·843	91·50	35·718	56·99	1000	2·45
2. Vitamin B2 (Ribofiavin) .	11·015	17·62	32·187	55·37	2·169	4·70	5000	19·42
3. Folic acid	2·476	6·82	2·803	12·40	1·613	9·37		..
4. Amidopyrine .	106·043	35·33	91·332	30·68	1·833	0·62	..	..
5. Analgin . .	253·854	89·51	201·895	86·68	130·966	56·66	13400	74·88
6. Phenacetin .	70·367	7·96	92·800	11·27	13·650	1·71		
7. Phenobarbitone . .	17·696	7·04	13·818	9·00	0·236	0·16		
8. Piperazine and its salts .	310·325	24·62	104·039	12·27	29·116	3·74		
9. Sulphadimidine .	173·038	44·54	100·341	57·64	148·500	86·03	12400	40·50
10. Sulpheguamidine . .	..	..	..	..	..	..	900,000	21·97
TOTAL . . .	988·001	269·83	706·058	366·81	363.795	219·98	375·500	182·46

APPENDIX XIII

(*Vide para* 3·46)

Statement showing the extent to which the imports would have been obviated by production conforming to anticipations made in the budget of the Plant for 1972-73 *has been stated by the Management as follows:—*

"The actual imports during the year 1972-73 are given:—

IMPORTS 1972-73

(Value in Rs. Lakhs

Qty. in tonnes

Sl. No.	Name of Product	Planned Qty.	Actual arrivals Qty.	Valued at landed cost	REMARKS
1	Vit. B1Hcl/Ampl/Mono .	12·5	12·5	25·69	
2	Vitamin B2	5·0	5·00	19·42	
3	Folic Acid . .	..		..	
4	Amidopyrine .	..	..	..	
5	Analgin .	135	129	74·88	In addition to this 129 tonnes, a quantity of 5 tonnes was received in replacement of rejected phenacetin returned to supplies through STC.
6	Phenacetin . .			..	
7	Phenobarbitone/Sod	..			
8	Pip. Salts .	30	..	..	
9	Sulphadimidine . .	185	124	4050	

However, the shortfall in production as Compared to original and revised targets for the year 1972-73 is indicated below:—

(Figures in Kgs.)

DRUG	1972-73				
	Original	Revised	Actual	Shortfall	
				Original	Revised
1	2	3	4	5	6
1. Vitamin B1 (HCL) amp. and Mono	30,000	27,836	27,623	2,377	213
2. Vitamin B2	5,000	2,848	1,389	3,611	1,459
3. Folic Acid	1,100	1,902	1,597	..	385
4. Amidopyrine	10,000	5,455	2,428	7,572	2,027
5. Analgin	100,000	108,028	79,473	20,527	28,555
6. Phenacetin	250,000	100,000	108,165	149,835	..
7. Phenobarbitone/Sod.	10,000	10,556	10,605	..	..
8. Pip. Salts	30,000	50,757	44,347	..	6,410
9. Suphadimidine/Sod.	277,000	390,000	364,833	..	35,117

APPENDIX XIV

(Referred to in para 3·53—3·54)

Statement showing the details of rejections and losses in process, re-process and drainage

Item	Total quantity produced (M.T.)			Total quantity rejected (M.T.)		
	1969-70	1970-71	1971-72	1969-70	1970-71	1971-72
1 2	3	4	5	6	7	8
1. Vitamin B1	2·319	7·914	14·920	Figures not	0·360	0·205
2. Vitamin B2	..	1·703		indicated	0·113	
3. Riboflavin	2·286			in the monthly cost sheet		
4. Folic Acid	0·060	0·556	1·171		0·027	0·075
5. Aceto Acetic Ester	29·060					
6. Phenobarbitone	4·801		10·569			0·572
7. Aceto Butyro Lactone	3·860	20·273				
8. Analgin	16·277		77·725			2·187
9. Pyrazalone	29·782					
10. Piperazine Adipate	9·450					
11. Di-Sodium Salt	17·169					
12. Nicotinamide	0·920					
13. Ethyl Formate (pure)	13·221		108·565			0·720

1	2	3	4	5	6	7	8
14.	Amidopyrine	1·875	3·385			1·350	
15.	Barbituric Acid	2·231					
16.	D.C. Citrate	3·287					
17.	Mathyl Ester of Benzene Sulphuric Acid	35·319	73·345			0·520	
18.	Piperazine Hydrate	14·461	37·859			0·600	
19.	Sulphadimidine (T)	117·596					
20.	Phenacetin	97·965		193·793			2·388
21.	Sulphanilamide	75·670	567·414	183·690		N.A.	N.A.
22.	Sod. Sulphacetamide	3·450					
23.	Sulphadimidine (P)	92·943					
24.	P.A. Sulphamide	628·945					
25.	Thiazole (Intermediate stage)	1·881		15·738			4·458
26.	Xylidine		3·127			0·189	
27.	Formamide	..		24·548			N.A.
28.	Ethyl Phenyl Malonic Ester (Inter stage)	8·576		13·789			N.A.
29.	Antipyrine Benzene-Sulphuric Acid (Inter Stage)	24·392					
30.	Hydrazine Hydrate (100%)		66·295			5·070	
31.	Sulphadimidine			218·141			0·760
32.	Piperazine Phosphate			10·280			4·718

33. Sulphacetamide			26·779			N.A.
34. Thiamine Mono Nitrate			1·670			0·36
35. Sodium P.A.S.			72·850			0·45
36. Sulphamethizole			0·977			0·135
37. Diethylamine			41·358			10·126
38. Sod. Sulphadimidine			2·601			N.A.
TOTAL	1,238·156	781·871	1,019·162	..	8·229	27·159

Item	Expenditure on re-processing (Rs.)			Process Loss (Rs.)			Loss due to drainage (Rs.)		
	1969-70	1970-71	1971-72	1969-70	1970-71	1971-72	1969-70	1970-71	1971-72
1 2	3	4	5	6	7	8	9	10	11
1. VitaminB1		0·18	0·03	0·47	2·51	0·28			
2. Vitamin B2		0·04			0.62				
3. Riboflavin				0·58					
4. Folic Acid		0·01		1·17	1·03	0·01			
5. Aceto Acetic Ester				0·35					
6. Phenobarbitone			0·09	0·06		0·33			
7. Aceto Butyro Lactone				0·02					
8. Analgin	0·04		0·05	0·23		0·41	0·06	0·30	
9. Pyrazalone							0·03		

1	2	3	4	5	6	7	8	9	10	11
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
10.	Piprazine Adipate				0·09			0·19		
11.	Di-Sodium Salt									
12.	Nicotinamide				0·07					
13.	Ethyl Formate (Pure)			0·24	0·46		0·07			
14.	Amidopyrine		0·21		0·14	1·95		1·28		
15.	Barbituric Acid				0·11					
16.	D.C. Citrate				0·34					
17.	Mathyl Ester of Benzene Sulphuric Acid		0·01		0·52	0·06				
18.	Piperazine Hydrate			—	0·21					
19.	Sulphadimidine (T)					0·02				
20.	Phenacetin				0·02					
21.	Sulphanilamide			0·45	0·38		0·12			
22.	Sod. Sulphacetamide		0·01	0·09	0·01	N.A.				
23.	Sulphadimidine (P)				0·43					
24.	P.A. Sulphamide				11·86					
25.	Thiazole (Intermediate Stage)				0·03					
26.	Xylidine	0·06	0·08				0·50			

27.	Formamide			0·17					
28.	Ethyl Phenyl Malonic Ester (Inter Stage)	0·15		0·02					
29.	Antipyrine Benezene-Sulphoric Acid (Inter Stage)	0·10							
30.	Hydrazine Hydrate (100%)		0·12				0·26		
31.	Sulphadimidine			0·12			0·13		
32.	Piperazine Phosphate			0·03			0·02		
33.	Sulphacetamide			0·05			N·A.		
34.	Thiamine Mono Nitrate			0·02			0·24		
35.	Sodium P.A.S.			0·01			0·18		
36.	Sulphamethizole			0·02			0·06		
37.	Diethylamine			0·38			0·74		
38.	Sod. Sulphadimidine			0·01			N.A.		
	Total	0·35	0·66	1·86	17·37	7·14	2·82	1·95	0·30

APPENDIX XV

(*Vide* para 3·56)

Statement showing the details of the drugs where capaacities were to be expanded/created

(Figures in tonnes)

Sl. No.	Name of the product	Existing capacity	Proposed increase	Final Capacity
1	2	3	4	5
I. DRUGS				
(a) Existing tems				
1.	Phenacetin	100	250	350
2.	Sulphanil amide	50	100	150
3.	Sulphaguanidine	130	120	250
4.	Sulphadimidine	280	220	300
5.	Vitamin B1	30	30	60
6.	Vitamin B2	3	10	15
7.	Folic Acid	1	2·5	3·5
8.	Analgin	10	150	160
9.	Phenobarbitone	10	5	15
	TOTAL	616	887·5	1503·5
(b) New Items				
1.	Sodium PAS	..	150	150
2.	Paracetamol	..	85	85
3.	Phthlyal Sulphacyl	..	25	25
4.	Sodium Sulphadimidine	..	50	50
5.	Sodium Phenobarbitone	..	5	5
	TOTAL	..	315	315

II. SALEABLE INTERMEDIATES . . .			
(a) Existing items			
1. Hyderazine Hydrate	70	140	20
2. Malonic Ester. . . .	7·2	117·8	125
3. Cyno Acetic Ester .	5·7	24·3	30
TOTAL	82·9	282·1	365
(b) New Items			
1. Mono Ethalamine .	..	500	500
2. Tri Ethylamine	..	30	30
TOTAL		530	530

APPENDIX XV.

(Vide para 3-13)

List of items not verified during the year 1969-70 to 1972-73 of raw materials and stores and spares

(Rupees in lakhs)

Cr. No.	Description	1969-70		1970-71		1971-72		1972-73	
		Items	Value	Items	Value	Items	Value	Items	Value
1	2	3	4	5	6	7	8	9	10
1	Raw materials (Imp)	4	20·35	1	0·63	1	3·20	1	15·10
2	Raw Materials (Indigenous) . . .	4	5·11	—	—	8	39·02	6	40·10
3	Lab. chemicals	96	0·27	5	0·01	—	..	..	—
5	Gux. Materials	47	0·43	42	0·31	—	..	6	0·15
6	Packing materials	50	5·19	1	0·17	15	0·37	—	..
9	Air Conditioning Spares	4	0·45	..	—	—	..	7	0·03
10	Electrical Spares	13	0·16	—	—	..	..	—	..
11	Mechanical Spares	26	0·15	..	—	—	—	22	0·20
12	Capital Assets	14	0·10	8	0·02	—	—	—	..
13	Eng'g Hardware & misc. . . .	512	3·59	5	0·04	7	3·37	43	0·47
14	P. F. O. L.	—	0·18	..	—	—	—	..	—
15	Electrial Stores & Calles . .	183	4·60	50	1·07	61	6·19	140	9·16
16	Loose Tools	—	..	30	0·1		—	—	

17	Auto Spares	278	0·35	..	..	..	..	..	..
18	Public Health	447	5·78	..	..	..		16	1·28
	Total	1686	46·71	142	2·36	92	52·15	241	66·45
	Spares for imported machinery	..	..	740	47·39	116	4·97	61	0·96
		1686	46·71	882	49·75	208	57·12	302	67·41

APPENDIX XIX

(*Vide* para 4·1)

Statement showing the Project estimates of Surgical Instruments Plant approved by the Government for the first time in Oct. 1966, the revised estimates and actual expenditure in curred.

(Rupees in lakhs)

Particulars	Project estimates approved by Govt. in Oct. 1966	Revised estimated cost of Aug. 1968 (approved by Govt. in Aug. 1971)	Actual expenditure incurred upto March, 1972	Expenditure incurred and commitments made upto Mar. 1972 for completing the project	Actual expenditure incurred upto 31-3-73	Expenditure and commitments made upto Mar. 1973 for completing the project	30-9-1973	
1	2	3	4	5	6	7	8	9
1. Civil Works								
(a) Factory (in cluding tools and furniture) .	106·66	101·56	101·35	101·43	101·64	101·64	101·64	0·05
(b) Township (including tools and furniture)	124·13	94·92	95·26	95·26	95·35	95·35	95·35	0·48
2. Plant and equipment	187	185·04	179·74	185·02	183·99	184·04	187·33	1·29
3. Administrative and general expenditure and other items (working drawings, interest, etc.)	58·49	83·19	85·34	85·34	85·34	85·34	85·34	2·15
	476·69	464·71	461·69	467·05	466·32	467·37	469·37	469·66

APPENDIX XVIII

(*Vide* para 4·2)

Statement showing planned and actual production of acceptable and non acceptable items not included in the Detailed Project Report

Year	Particulars	Planned Production			Actual Production			Percentage of actual production to planned production
		No. of types	Nos.	Qty. Value (Rs. in lakhs)	No of types	Nos.	Qty. Value	
1	2	3	4	5	6	7	8	9
1968-69	Acceptable	21	43,602	2	25	42,048		
	items	18	57,611	2	24	44,168		
	*other items Diversified items not included in Detailed Project Report	24	1,07,624		26	94,497		
	TOTAL	63	2,08,837	20	75	1,80,713	18·84	86·6
1969-70	Acceptable:	30	33,673		31	24,184		
	items	27	1,14,542		29	71,505		
	*Other items Diversified items not idcluded in Detailed Project Report	36	1,55,206		41	97,293		
	TOTAL	93	3,03,421	26·00	101	1,92,982	13·82	63·6

1	2	3	4	5	6	7	8	9
1970-71	Acceptable	22	1,50,791		31	1,34,219		
	items	20	1,97,754		29	1,75,830		
	Other items Diversified items not included in Detailed Project Report	24	1,73,964		24	1,17,866		
	TOTAL . .	66	5,22,509	62·78	84	4,27,915	37·19	1·80
1971-72	Acceptable . .	21	2,37,299		34	1,62,356		
	Items	24	2,42,941		26	1,45,098		
	Other items Diversified items and included in Detail Project Report	55	4,99,107		64	2,57,670		
	TOTAL . .	100	9,79,347	67·00	124	5,65,118	45·79	57·7
1972-73	TOTAL .	..	8,50,841	76·27		6,69,247	59·26	..

*Intended for export.

NOTES: 1. The planned production for 1969-70 and 1970-71 and the actual production for 1968-69, 1969-70 and 1970-71 includes production of knies, and razors.

2. The planned production for 1971-72 was reduced from 9, 79, 347 to 7, 52,947 pieces on account of deletion of 2,26,400 instruments by V/O Medexport from that years' other and inclusion thereof in the next years' plan.

3. Figures in

APPENDIX XIX

(Para 4·34)

Statement of the stocks of the original 166 types of instruments as on 31-3-1968 and the current status of these instruments as on 31-1-1973

	31-3-1968			31-3-1973		
	No.	quantity	Rs.	No.	Quantity	Rs.
(a) Inventory of types having 11000 & over numbers as on 31-3-68	61	2,37,472	17,09,415	59	65,779	4,37,085
(b) Item less than 1900 on 31-3-1968 .	64	20,052	5,06,309	55	13,107	2,25,089
(c) Item which had nil balance	41	Nil	Nil	46	Nil	Nil
(d) Remaining Item as on 31-3-1973	—	—	—	6	3,924	24,158
	166	2,57,524	22,15,724	166	82,810	6,86,332

APPENDIX XX

(*vide* para 4·36)

Statement showing shortfall in production against plan

	1968-69				1969-70				1970-71				1971-72				1972-73			
	Plan	Actual	(+)	(—)	Plan	Actual	(+)	(—)	Plan	Actual	(+)	(—)	Plan	Actual	(+)	(—)	Plan	Actual	(+)	(—)
Box	0·05	0·03		0·02	0·08	0·03		0·05	1·43	1·05		0·38	3·84	1·78		2·06	2·96	1·93		1
Joint	(2·5)				(3)				(2)				(4·0)			(38)	(38)			
Scissors	0·01	0·02	0·01		0·21	0·19		0·02	0·70	0·56		0·14	1·36	0·82		0·54	0·82	0·32		•
	(0·5)				(8)				(14)				(14)							
Other	1·97	1·71		0·26	1·34	0·93		0·41	0·35	0·17		0·18	0·32	0·24		0·08	—	0·76		0.76
(PH.C, Bnt. Btc.)	(94)				(52)				(7)				(3)							
Miscellaneous	0·06	0·05		0·01	0·97	0·55		0·42	2·67	2·45		0·32	4·27	2·81		1·46	4·00	3·68		0
	(3)				(37)				(52)				(43)				(51)			
Total	2·09	1·81	0·01	0·29	2·60	1·70		0·90	5·15	4·23		0·92	9·79	5·65		4·14	7·78	6·69	0·76	1

(Fig res () as ! of qrod ot miy qlad.

APPENDIX XXI

(*Vide* para 4.52)

Statement showing details of cost of production of job Orders

Sl. No.	Elements	Performance during 1969-70	1970-71	1971-72	1972-73	REMARKS
1.	Raw Material	39,847	64,916	1,01,123	83,749	
2.	Direct labour	1,48,512	1,42,121	2,26,012	2,79,648	
3.	Stores & Spares (50% of total percentage)	20,792	19,897	29,382	41,947	
4.	Power (50% of total percentage)	17,82	17,055	22,601	27,965	
5.	Direct Chargeable expenses	2,000	2,000	7,000	2,000	
6.	Direct Cost	2,28,972	2,45,989	3,86,118	4,35,309	
7.	Sales Value	4,94,000	8,06,000	12,78,000	9,61,000	
8.	Contribution towards fixed cost (col. 7-col. 6)	65,028 or 65,000	5,00,011 or 5,00,000	8,89,882 or 8,90,000	5,25,691 or 5,26,000	

APPENDIX XXII

(*Vide* para 4.58)

List of new types of Instruments developed in the Surgical Instruments Plant Madras upto 1970-71

Sl. No.	IDPL Code No.	Description of Instruments
1	2	3
	General Surgery	
1	02—13	Forceps, dissecting, fine, narrow serrated type 12 cm. long of s.s. (Adson Type).
2	02—10	Forceps, dissecting, fine, 1x2 teeth, with serrations, 12 cm. long of s.s. (Adson Type).
3	02—12	Forceps, dissecting, fine 1x2 teeth (without serrations) 12 cm. long of s.s. (Adson Type).
4	02—38	Forceps, dissecting, narrow serrated types, 14·5 cm. long of s.s (American Pattern)
5	02—41	Forceps, tissue, regular type, 1x2 teeth, 14·5 cm. long of s.s. (American pattern)
6	03—21	Forceps, sponge holding, with serrated jaws, screw joint, 22·5 cm long of s.s.
7	03—22	Forceps, sterlizer, bowls, 31 cm. long of carbon steel chromium plated (Harrison Type)
8	03—23	Forceps, sterlizer, instruments, 26·5 cm. long of s.s. (Cheatle Type)
9	03—28	Forceps, tissue, 4x5 teeth, screw joint, 20 cm.
10	03—29	Forceps, dressing, straight, box joint, 26·0 cm. long of s.s.
11	03—30	Forceps, dressing, curved on flat, box joint, 25·6 cm. long of s.s.
12	03—50	Forceps, intestinal (Tissue) box joint, 20 cm. long of s.s. (Badcock Type).
13	03—55	Forceps, sponge holding, box joint, 24.2 cm. long of s.s. (Feerester Type-American Pattern).
14	03-67	Forceps, tissue, 5x6 teeth, box joint, 16 cm. long of s.s. (Allis Type.)
15	04-11	Scissors, straight, 18cm. long of s.s. (Maye Type).
16	04-12	Scissors, curved on flat, 18 cm. long of s.s. (Maye Type).
17	04-13	Scissors, excision, straight, blunt/blunt points, 10 cm. long of s.s.
18	04-14	Scissors, excision, blunt/blunt points, curved on flat, 10·0 cm. long of s.s.
19	04-19	Scissors, dressing straight, blunt/blunt points, 14 cm. long of s.s.
20	04-20	Scissors, dressing, curved on flat, blunt/blunt points, 14cm. of s.s.
21	04—32	Scissors, dressing, straight, sharp/sharp points, 14 cm. long s.s.
22	04—33	Scissors, dressing, straight, sharp/sharp points, 17 cm. long s.s.

1	2	3
23. 04—35		Scissors, dressing, curved on flat, sharp/blunt points, 14 cm. long of s.s.
24. 04—36		Scissors, dressing, curved on flat, sharp/sharp points, 14 cm. long of s.s.
25. 04—37		Scissors, dressing, straight, sharp/blunt points 17 cm. long of s.s.
26. 04—38		Scissors, dressing, curved on flat, sharp/blunt points, 17 cm. long of s.s.
27. 04—39		Scissors, dressing, curved on flat, sharp/sharp points, 17 cm. long of s.s.
28.—		Scissors, bandage, 18·5 cm. long of s.s. (Lister Type).
29. 04—71		Scissors, bandage, 14·5 cm. long of s.s. (American Pattern).
30. 04—72		Scissors, bandage, 14·5 cm. long of carbon steel chromium plated (American Pattern)
31. 04—73		Scissors, operating, straight, sharp/blunt points, 14·5 cm. long of s.s. (American Pattern)
32. 04—74		Scissors, operating, straight, blunt/blunt points, 14·5 cm. long of stainless steel (American Pattern).
33. 04—77		Scissors, operating, curved on flat, sharp/blunt points, 14·5 cm long of s.s. (American Pattern).
34. 04—78		Scissors, operating, straight, sharp/sharp points 14·5 cm. long of s.s. (American pattern).
35. 04—79		Scissors, straight, 16·5 cm. long of s.s.
36. 04—80		Scissors, curved on flat, 16·5 cm. long of s.s.
37. 04—82		Scissors, curved on flat, 14·5 cm. long of s.s.
38. 04—83		Scissors, operating, curved on flat, sharp/sharp points, 14·5 cm. long of s.s. (American pattern.)
39. 06—11		Forceps, haemostatic, mosquito, straight, box 12·5 cm. long of s.s (Halstead Type).
40. 06—12		Forceps, haemostatic, mosquito, curved on flat, box joint, 12·5 long of s.s. (Halstead Type)
41. 06—14		Forceps, haemostatic, curved on flat, screw joint, 14·8 cm. long of s.s.
42. 06—18		Forceps, tissue 3x4 teeth, screw joint 15·5 cm. long of s.s. (Allis Type).
43. 06—24		Forceps, haemostatic, straight, box joint, 13·0 cm. long of s.s. (Spencerwells' Type)
44. 06—30		Forceps, haemostatic, straight, box joint 20·5 cm. long of stainless steel (Spencerwells' Type.)

1	2	3
45.	06—31	Forceps, haemostatic, curved on flat, box joint, 20·5 cm. long of s.s. (Spencerwells' Type)
46.	06·34	Forceps, haemostatic, mosquito, straight, box joint 15 cm. long of stainless steel (Russian Type).
47.	06—46	Forceps, haemostatic, straight, box joint, 16 cm. long of stain less steel.
48.	06—47	Forceps, haemostatic, curved on flat, box joint, 16 cm. long of s.s.
49.	06—51	Forceps, haemostatic, curved on flat box joint, 1x2 the 16cm long of s.s. (Kocher Type).
50.	06—52	Forceps, haemostatic, straight, box joint, 1x2 teeth, 16 cm long of s.s. (Kocher Type).
51.	06—55	Clip, towel screw joint, 10 cm. long of s.s. (Backaus Type).
52.	06—61	Forceps, haemostatic, straight, box joint, 14·0 cm. long of s.s. (Crile Type-American Pattern)
53.	06—62	Forceps, haemostatic, curved on flat, box joint 14·0 cm. long of s.s. (Crile Type-American)
54.	06—63	Forceps, haemostatic, curved on flat, box joint, 14 cm. long of s.s (Crile Type-American pattern)
55.	06—65	Forceps, haemostatic, curved on flat, box joint, 16·3 cm. long of s.s. (Maye Pean Type-American pattern).
56.	06—64	Forceps, haemostatic straight, box joint, 14 cm, long of s.s. (Crile Type-American Pattern).
57.	06—66	Forceps, haemostatic, straight, box joint, 16·3 long of s.s. mayo Pean Type-American Pattern)
58.	06—67	Forceps, haemostatic, mosquito, straight, box joint, 12·5 cm. long of s.s. (Halstead Type-American Pattern).
59.	06—68	Forceps, haemostatic, mosquito, curved on flat, Box Joint, 12·5 cm. long of s.s. (Halstead Type-American Pattern)
60.	07—16	Retractor, small, 6mmx22mm blade, of s.s. (Langehbeck Type).
61.	07—17	Retractor, medium 13 mmx45 mm blade of s.s. (Langehbeck Type).
62.	07—18	Retractor, large, 19mm x 52 mm blade of s.s. (Langehbeck Type.
63.	10—09	Dissector, fin, with probe, 19 cm. long of s.s. (watson Cheyne Type).
64.	01—10	Applicator, both ends threaded, 19 cm. long of s.s.
65.	1109	Needle, aneurism, curved laterally, 5·5 cm long of s.s.

1	2	3
EYE SURGERY :		
1.	04—75	Scissors, Iris, straight, sharp/sharp points, 11·5 cm. long of s.s. (American Pattern)
2.	04—76	Scissors, Iris, curved on flat, sharp/sharp points, 11·5 cm. long of s.s. (American Pattern).
DENTAL SURGERY :		
1.	10—24	Probe, dental, curved at an angle, of s.s.
2.	16—34	Elevator, dental, right of s.s.
3.	16—35	Elevator, dental left, of s.s.
4.	16—36	Elevator, dental, straight of s.s.
5.	16—51	Filling instrument No.1 of s.s.
6.	16—52	Filling instrument No.3 of s.s.
7.	16—53	Filling instrument No.4 of s.s.
8.	16—54	Filling instrument No.5 of s.s.
9.	16—55	Filling instrument No.6 of s.s.
10.	16—58	Excavator, double ended No.1 of s.s.
11.	16—59	Excavator, double ended No.2 of s.s.
12.	16—60	Excavator, double ended No. 3 of s.s.
13.	16—61	Scaler, small beak shaped, No.1 of s.s.
14.	16—62	Scaler, large beak shaped No.2 of s.s.
	—63	Knife, enamel, curved No. 3 of s.s.
ENT SURGERY :		
1.	72—09	Set of middle ear micre surgery instruments for Stapedectomy (12 instruments in a sterilizable stainless steel rack enclosed in an attractive plastic case). The instruments are given a special back finish to avoid reflection of light.
OBSTENICS & GYNAESCOLOGY		
1.	03—25	Forceps, cervical 4x5 teeth screw joint, 2170 cm. long of s.s. (Ali Type)
2.	03—28	Forceps, vulsellum, uterine, 1x1 teeth, box joint, 25 cm. long of s.s (Schroeder Type).
3.	03—66	Forceps, vulsellum uterine, curved on side, 3x4 teeth, box joint 25.5 cm. long of s.s. (Teales Type).
4.	03—71	Forceps, ovum, straight, with fine serrations, box joint, 24·2 cm long of s.s.
5.	03—72	Forceps, ovum straight, plain, without serrations, box joint, 24·2 cm. long of s.s.
6.	07—09	Hook, I.U.C.D. 31 cm. long of s.s. (Dr. Shirodkar's)
7.	09—10	Speculum, vaginal, large, blades without fenestration, and folding handles, of carbon steel chromium plated (Cusce Type).

1	2	3
8.	09—12	Speculum vaginal duckbill, doublended blade sizes 3·5 cm. x 10·5cm and 2·8 cm. x 10·5 cm. of carbon steel chromium plated (Sims Type).
9.	09—11	Speculum, vaginal small, with folding handles of carbon steel chromium plated (Gusco Type).
10.	09—13	Depressor, vaginal, fenestrated working ends, 1·8 cm x 2.8 cm. and 2.40 cm. x 3·1 cm. 27 cm long of s.s. (Sims Type).
11.	10—07	Sound uterine, with bulbous and 28 cm. long of s.s. (Graduated from 1 cm. to 20 cm.)
12.	10—11	Sound, uterine, 28 cm. long of s.s. (Graduated from 4 to 20 cm.)
13.	17—11	Forceps, vulsellum, uterine, powerful 2x2 teeth, box joint, 24 cm long of s.s. (Musseum Type).

Types of Instruments

1.	GENERAL SURGERY	65
2.	EYE SURGERY	2
3.	DENTAL SURGERY	15
4.	E.N.T. SURGERY	1
5.	OBSTERICS & GYNAESCOLOGY	13
		96

General Surgery

1.	02-13	Forceps, dissecting, fine, narrow serrated type 12 cm. long of s.s. (Adson Type).
2.	02-10	Forceps, dissecting, fine, 1x2 teeth, with serrations, 12 cm. long of s.s. (Adson Type).
3.	02-12	Forceps, dissecting, fine 1x2 teeth (without serrations) 12 cm. long of s.s. (Adson Type).
4.	02-38	Forceps, dissecting, narrow serrated tips, 14·5 cm. long of s.s. (American Pattern)
5.	02-41	Forceps, tissue, regular tipe, 1x2 teeth, 14·5 cm. long of s.s. (American pattern)
6.	03-21	Forceps, sponge holding, with serrated jaws, screw joint, 22·5 cm. long of s.s.
7.	03-22	Forceps, sterilizer, bowls, 31 cm. long of carbon steel chromium plated (Harrison Type)
8.	03-23	Forceps, sterilizer, instruments, 26·5 cm. long of s.s. (Cheatle Type).
9.	03-24	Forceps, tissue 4x5 teeth, screw joint, 20 cm.
10.	03-29	Forceps, dressing straight, box joint, 26.0 cm. long of s.s.
11.	03-30	Forceps, dressing, curved on flat, box joint, 25·6 cm. long of s.s.
12.	03-50	Forceps, intestinal (Tissue), box Joint, 20cm. long of s.s (Badaeel Type).
13.	03-65	Forceps, sponge holding, box joint, 24·2 cm. long of s.s. (Feerster Type-American Pattern).

APPENDIX XXIIA

(*Vide* para 4.57)

Statement showing performance Against perspective plan

1972-73 1973-74 (31-12-73) (Rs. in lakhs, Qty. in lakhs)

		1972-73 Plan Qty.	1972-73 Plan Value	1972-73 Production Qty.	1972-73 Production Value	1973-74 Plan Qty.	1973-74 Plan value	1973-74 Production Qty.	1973-74 Production Value
1. Box Joint Instrument .	India	1·14	20·92	0·13	2·36	1·45	26·69	0·03	0·55
	Export	1·82	21·52	1·80	21·28	2·20	28·84	0·44	5·54
2. Scissors . . .	India	0·56	8·82	0·06	0·76	0·76	12·20	0·07	1·08
	Export	0·26	2·32	0·25	2·28	0·30	3·90	0·23	1·78
3 F.P. Instrument (Ind. P.R.C. Dental ENT, Eye inst. and now inst. for Development)	India		..	0·22	3·63	0·65	12·50	0·06	1·15
	Export		..	0·54	0·64	..	..	..	..
4. Miscellaneous (Ind. Knives, spot welded, follow handles and inst. covered in 166 types)	India	0·34	2·70	0·18	1·88	0 50	3·98	0.07	0 60
	Export	3·66	23·91	3·50	26·42	2·50	17·44	1·52	11.04
TOTAL . .	India	0·24	32·44	0·59	8·63	3·36	55·53	0·23	3·38
	Export	5·78	47·75	6·10	50·63	5·00	50·18	2·19	18.36
GRAND TOTAL .		7·78	80·19	6·69	50·26	8·36	105·71	2·42	21·74

APPENDIX XXII-B

(*Vide* para 4.77)

Statement showing the extent to which the plant was able to achieve the perspective plan during 1972-73 *and* 1973-74 *and Catagory wise summary of production performance against perspective plan*

Performance against perspective plan

(in lakh nos.)

Instruments	1972-73				1973-74			
	Numbers in lacs		Value		Numbers in lacs		Value	
	Plan	actual	Plan	actual	Plan	actual	Plan	Actual upto 31-1-74
1	2	3	4	5	6	7	8	9
			(Rs. in lacs.)				(Rs. in lacs.)	
Indigenous :								
1. Surgical Instruments :								
Box Joint . .	1·14	0·13	20·92	2·36	1·45	0·07	26·69	1·36
Scissors. .	0·56	0·06	8·82	0·76	0·76	0·07	12·20	1·14
Spring Ist. .	0·34	0·10	2·70	0·84	0·50	0·06	3·98	0·43
New Items .	..	..	..	..	0·65	..	12·66	..
TOTAL . .	2·04	0·29	32·44	3·96	3·36	0·20	55·53	2·93
2. Decachable Blades and handles .					10·05		7·35	
3. Consumer Items and Scissors. .	0·30	0·39	2·00	4·67	0·73	0·07	5·00	1·37
4. Job Orders. .	..	..	18·00	9·60	..	..	20·0	3·28
Grand Total .	2·34	0·58	52·44	18·23	14·14	0·27	87·88	7·53

1	2	3	4	5	6	7	8	9
Export :								
1. Box Joint .	1·82	1·80	21·52	21·29p	2·20	0·48	28·84	5·99
2. Hollow Handle	0·83	1·37	9·13	14·63	0·50	0·35	6·11	3·94
3. Knives .	1·07	1·19	5·65	7·31	1·00	1·08	6·55	6·99
4. Scissors . .	0·26	0·26	2·32	2·28	0·30	0·30	3·90	2·31
5. Sprint Inst. .	0·74	0·84	3·21	4·14	1·00	0·28	4·78	1·21
6. .	0·50	0·54	0·59	0·54			..	
7. Others .	0·52	0·10	5·33	0·33	..	..	..	..
TOTAL .	5·74	6·10	47·75	50·62	5·00	2·49	50·18	20·44

APPENDIX XXIII

(*Vide* para 5·21)

Ministry of Petroleum and Chemicals Resolution dated 8-2-1974

SUBJECT:—Constitution of Committee on the drugs and Pharmaceuticals industry.

S.O. 98(*E*):—In the context of the large-scale expansion of the drugs and pharmaceuticals industry envisaged during the Fifth Five Year Plan, with a view to ensuring the regulated and rapid growth of drug manufacture, and further with a view to ensuring that all essential drugs are made available to the consumers at reasonable prices. Government have decided to constitute a Committee with the following memberships:—

Chairman

1. Shri Jaisukhlal Hathi, M.P.

Members

2. Shri Yashpal Kapur, M.P.
3. Shri Vasant Sathe, M.P.
4. Shri Ranen Sen, M.P.
5. Shri K. S. Chavda, M.P.
6. Shri C. M. Stephen, M.P.
7. Dr. M. L. Dhar, Director, Central Drugs Research Institute, Lucknow.
8. Dr. B. D. Tilak, Director, National Chemicals Laboratory, Poona.
9. Shri S. S. Marathe, Chairman, Bureau of Industrial Costs of Prices.
10. Shri Vinod Kumar, Joint Secretary, Ministry of Petroleum and Chemicals.
11. Shri P. S. Ramchandran, Drug Control, DGHS.

12. Dr. B. Shah, Dy. Director General, DGTD.

13. Dr. B. V. Ranga Rao, Centre for Studies in Science Policy, Jawaharlal Nehru University.

14. Shri M. K. Rangnekar, Commissioner, Food and Drugs Administration Government of Maharashtra, Bombay.

Member-Secretary

15. Dr. P. R. Gupta, Adviser (Drugs) Ministry of Petroleum and Chemicals.

2. The Committee will examine and report upon the following matters:—

(i) To enquire into the progress made by the industry and the status achieved by it.

(ii) To recommend measures necessary for ensuring that the public sector attains a leadership role in the manufacture of basic drugs and formulations, and in research and development.

(iii) To make recommendations for promoting the rapid growth of the drugs industry and, particularly, of the Indian and small scale industries sectors. In making its recommendations the Committee will keep in view the need for a balanced regional dispersal of the industry.

(iv) To examine the present arrangements for the flow of new technology into the industry, and make recommendations therefor.

(v) To recommend measures for effective quality control of drugs and for rendering assistance to small scale units in this regard.

(vi) To examine the measures taken so far to reduce the prices of drugs for the consumer, and to recommend such further measures as may be necessary to rationalise the prices of basic drugs and formulations.

(vii) To recommend measures for providing essential drugs and common house-hold remedies to the general public, especially in the rural areas.

(viii) To recommend institutional and other arrangements to ensure equitable distribution of basic drugs and raw materials especially to the Small Scale Sector.

3. The Committee will ascertain and take into consideration the views of the State Governments and other interests concerned, as may be found necessary.

4. The Committee's headquarters will be at New Delhi.

5. All Secretariat assistance required by the Committee will be provided by the Ministry of Petroleum and Chemicals.

6. The Committee will meet as often as may be considered necessary by the Chairman and shall submit its final report to Government within six months. The Committee may also, at its discretion, submit interim reports on specific matters from time to time.

ORDER

Ordered that this Resolution be communicated to all the Ministries of Government of India, all State Governments, the Comptroller & Auditor General of India. Accountant General, Commerce, Works & Miscellaneous, and Accountant General Central Revenues.

Ordered also that the Resolution be published in the Gazette of India for general information.

[No. 3(26)/73-CH. III]

Sd/- P. K. Dave,

Secretary.

APPENDIX XXIV

(*Vide* Para 6·12)

Statement showing the original as well as revised targets of Sales of IDPL's own products and the actuals there against during 1968-69 *to* 1972-73 *and* 1973-74 (*upto November*, 1973

(Rupees in Lakhs)

	1968-69			1969-70		
	Original Budget	Revised Budget	Actuals	Original Budget	Revised Budget	Actuals
1	2	3	4	5	6	7
1. Antibiotics Plant:						
Bulk . .	..	10,51	8,39	100·00	109·87	49·93
Formulations .	1,436·37	61·05	11·76	428·85	259·82	86·88
TOTAL	1,436·37	71·56	20·15	528.85	369·69	136·81
2. Synthetic Drugs Plant:						
Bulk .	186·10	32·98	Break up	173·09	191·88	Break up
Intermediates	43·28	19·30	N.A.	37·60	57·50	N.A.
Formulations .	483·28	81·23	able	395·29	233·82	able
TOTAL :	712·66	133·51	60·96	605·98	483·20	326·17
3. Surgical Instruments Plant.						
Surg. Inst. . .	30·00	30·00	17·83	40·00	39·00	16·29
Engineering jbs. & Others . .	10·00	1·50	2·26	20·00	4·00	1·84
Spl. Blades.			..	..	..	1·75
Handles . .	..	..	..	..	..	0·35
TOTAL . .	40·00	31·50	20·09	60·00	43·00	18·13
GRAND TOTAL .	2189·03	236·57	101·20	1,194·83	795·89	481·11

N.B. 1. The above sales exclude the sales of imported bulk drugs amou nting 310·14 lakhs during 1970-71 and Rs. 717·27 lakhs during 1971-72.

	1970-71			1971-72		
1	2	3	4	5	6	7
1. Antibiotics Plant						
Bulk	299·97	208·28	208·57	467·26	343·96	253·21
Formulations .	870·84	329·63	280·91	691·97	671·83	482·17
Total .	1,170·81	537·91	489·48	1,159·23	1,015·79	735·44
2. Synthetic Drugs Pnant						
Bulk . .	385·65	385·86	250·32	683·95	285·32	261·28
Intermediates .	107 00	51·58	**	67·50	58.70	**
Formulations .	477·88	161·08	285·07	252·38	538·53	547·96
Total . .	940·53	598·52	535·39	1,003·83	882·55	819·24
3. Srugical Instruments Plant :						
Surg. Ins. . .	44·90	48·46	38·48	85·50	67·00	52·19
Eng. Job & Others	25·00	10·54	5·93	14·50	13.00	11.65
Spl. Blades. .	1.75	..	..	..	..	..
Handles . .	0·35	..	..	..	..	..
	72·00	59·00	44·41	100·42	80·00*	63·84
	481·11	21,183·34	1,195·43	1,069·28	2,263·48	1,618·5

2. *Excludes cash subsidy of Rs. 2·00 lakhs on exports.

3. **The sale of "Intermediate" have been included under 'Bulk'

APPENDIX XXV

(*Vide* Para 6·38)

Statement showing quantity imported, alloted and lifted by allottees

Sl. No.	Name of the Product	Qty. imported for distribution	Qty. allocated by SDCs	Qty. lifted by the allotees	Closing Stock		Qty. imported for distribution	Qty. allocated by SDCs	Qty. lifted by the allottees	Closing Stock	
					Qty.	Value				Qty.	Value
		1970-71					1971-72				
1	Tetracycline . .	38·87	72·9	25·1	21·36	70·65	41·00	72·4	44·2	5·653	18·54
2.	Sulphadimidine . .	90·00	370·0	96·1	14·500	10·98	148·50	390·0	99·6	..	0·50
3.	Phenacetin . . .	50·00	280·0	101·1	20·550	4·09	..	294·7	76·8	2·400	0·48
4.	Vitamin B1 . .	2·00	40·2	9·3	30·000	0·11	16·5	43·2	27·8	0·916	1·32
5.	Vitamin B2 . . .	5·00	13·0	4·7	4·225	9·62	..	25·0	4·4	1·953	4·47
6.	Analgin	78·00	187·0	100·7	..	..	76·0	271·3	92·2	7·200	3·84
7.	Amidopyrine . . .	20·00	29·0	..	20·000	11·90	..	34·0	8·5	9·150	5·46
8.	Streptomycin Sulphate .	11·29	38·5	17·8	2·629	7·41	45·63	67·4	56·1	0·350	0·97
9.	Folic Acid . . .	1·66	3·1	0·7	1·660	13·06	..	3·5	2·0	0·778	5·42
10.	Phenobarbitone . .	11·00	15·0	6·3	10·300	9·59	..	15·0	10·2	3·772	3·47
						137·40					44·4

NOTES: 1. The closing stock during 1971-72 excludes stock of Pot Penicillinc Rs. 12·46 lakhs) and Sulphanigusidine (Rs. 8·14 lakhs).

2. Figures given in 'Qty. lifted by the allottees' are from indigenous as well as imported stocks.

3. Out of imported stocks, transfers were also made to the Plants for captive use and in lieu Plants supplied indigenous material for distribution.

APPENDIX XXVI

(Para 74)

Statement showing long-term loans drawn from Government since inception to 1972-73.

(Rupees in lakhs)

Sl. No.	No. & date of Govt. sanction	Amount Sanctioned	Rate of interest	Date of drawal	Amount of drawal	Amount refundable	Date of repayment	Conversion into equity 72-73	Balance as on 31-3-73
1	2	3	4	5	6	7	8	9	10
1	8(35)/66-Cl. III	18-4-66	50·00	7% 21-4-66	50.00	..	..	5·00	45·000
2	8(16)/67-Cl. III	24-4-67	144·00	7% 25-4-67	144·00	..	..	14·400	129·600
3	8(35)/66-Cl. III	5-5-66	80·00	7% 16-5-66	80·00	..	..	8·000	72·000
4	8(21)/65-Cl. III	11-5-65	100·00	7% 17·5·65	100·00	..	..	10·000	90·000
5	8(16)/67-Cl. III	31-5-67	89·00	7% 7-6-67	89·00	..	..	8·900	80·100
6	8(35)/66-Cl. III	3-6-66	100·00	7% 10-6-66	100·00	..	..	10·000	90·000
7	8(21)/65-Cl. III	17-6-65	100·00	7% 25-6-65	100·00	..	..	10·000	90·000
8	8(16)/67-Cl. III	26-6-67	100·00	7% 28-6-67	100·00	..	..	10·000	90·000
9	8(35)/66-Cl. III	12-7-66	100.00	7% 21-7-66	100·00	..	..	10·000	90·000
10	8(16)/67-Cl. III	12-7-67	100·00	7% 24-7-67	100·00	..	..	10·000	90·000
11	8(16)/67-Cl. III	30-8-67	75·00	7% 6-9-67	75·00	..	..	15·000	60·000
12	8(21)/66-Cl. III	2-9-65	100·00	7% 13-9-65	100·00	..	..	20·000	80·000

13	8(35)/66-Ch. II	6-9-66	100·00	7%	16-9-66	100·00	..	..	20·000	80·000
14	8(16)/67-Cl.II	25-9-67	100·00	7%	29-9-67	100·00	..	..	20·000	80·000
15	8(21)/65-Cl. III	18-10-65	100·00	7%	21-10-65	100·00	..	..	20·000	80·000
16	8(35)/66-Cl. III	27-10-66	100·00	7%	28·10-66	100·00	..	..	20·000	80·00
17	8(21)/65-Cl. III	29-10-65	150·00	7%	4-11-65	150·00	..	..	30·000	120·000
18	8(16)/67-Cl. III	27-10-67	100·00	7%	4-11-67	100·000		..	20·000	80·000
19	8(35)/66-Cl. III	1-12-66	100·00	7%	5-12-66	100·00	..	..	20·000	80·000
20	8(16)/67-Cl. III	29-11-67	52·00	7%	5-12-67	52·00	..	..	6·856	45·144
21	8(21)65-Cl. III	6-12-65	150·00	7%	10-12-65	150·00	..	..	30·000	120·000
22	8(35)/66-Cl. III	28-12-66	70·00	7%	30-12-66	70·00	..	..	14·000	56·000
23	8(12)/65-Cl. III	7-1-66	150·00	7%	19-1-66	150·00	..	..	15·000	135·000
24	8(35)/66-Cl. III	21-1-67	150·00	7%	24-1-67	150·00	..	..	15·000	135·000
25	8(35)/66-Cl. III	22-2-67	150·00	7%	1 -3-67	150·00	..	..	15·000	135·000
26	8(21)/65-Cl. III	28-2-66	200·00	7%	14-3-66	150·00	..	..	15·000	135·000
27	8(21)/65-Cl. III	28-2-66	200·00	7%	22-3-66	150·00	..	..	15·000	135·000
28	8(35)/66-Cl. III	18-3-67	50.00	7%	25-3-67	50.00	..	..	5·000	45·000
29	8(21)/65-Cl.III	15-4-65	100·00	6%	20·4·65	100·00	..	..	10·000	90·000
30	8(16)/64-Cl. III	19-2-65	100·00	6%	27-2-65	50·00	5·00	27-3-68	5·000	40·000
31	8(16)/64-Cl. III	19-2-65	100·00	6%	5-3-65	50·00	5·00	27-3-68	5·000	40·000
32	8(16)/64-Cl. III	12-3-65	78·44	6%	23-3-65	78·44	7·84	27--68	7·844	62·752
						3,138·44	17·84		430·000	2690·596

APPENDIX XXVII

(Referred to in praa 7·4)

Statement showing short-term loans drawn from Government since inception to 1972-73

(Rs. in lakhs.)

Serial No.	No.& date of Govt. sanction.	Amount sanctioned	Rate of interest	Date of drawal	Amount of drawal and also outstanding as on.....		Remarks
					31-3-72	31-3-73	
1	2	3	4	5	6	7	8
1	8 (20)/69-Ch. III	19-4-69 33·00	6%	28-4-69	33·00	33·00	
2	8 (20)/69-Ch. III	30-5-69 100·00	6%	6-6-69	100·00	100·00	
3	8 (38)/68-Ch. III	5-6-68 100·00	6%	10-6-68	100·00	100·00	
4	8 (20)/69-Ch. III	10-7-69 67·00	6%	17-7-69	67·00	48·324	
5	8 (35)/66-Ch. III	27-7-66 100.00	6%	27-8-66	100·00	100·00	
6	8(20)/69-Ch. III	17-9-69 60·00	6%	20-9-69	60·00	..	Raepaid.
7	8(7)/68-Ch. III	11-10-68 150·00	6%	18-10-68	150·00	150·00	
8	8 (20)/69-Ch. III	29-10-69 150·00	6%	31-10-69	150·00	..	Repaid.
9	8 (3)/66-Ch. III	27-12-67 100·00	6%	27-12-67	50·00	50·00	
10	8 (38)/68-Ch. III	24-12-68 90·00	6%	30-12-68	90·00	90·00	
11	8 (3)/66-Ch. III	27-12-67 100·00	6%	12-1-68	50·00	50·00	
12	8 (20)/69-Ch. III	1-1-70 100·00	6%	14-1-70	100·00	..	Repaid.
13	8 (38)/68-Ch. III	24-1-69 70·00	6%	30-1-69	70·00	70·00	

14	8 (3)/66-Ch. III	27-1-68	100·00	6%	2-2-68	25·00	25·00	
15	8 (3)/66-Ch. III	27-1-68	100·00	6%	1-3-68	75·00	75·00	
16	8 (3)/66-Ch. III	23-2-68	100·00	6%	13-3-68	100·00	100·00	
17	8 (38)/68-Ch. III	6-3-69	205·00	6%	14-3-69	205·00	205·00	
18	8 (7)/68-Ch. III	21-3-68	74·00	6%	26-3-68	74·00	74·00	
19	8 (38)/69-Ch. III	24-3-69	110·00	6%	26-3-69	110·00	110·00	
20	8 (20)/69-Ch. III	30-3-70	240·00	6%	31-3-70	240·00	..	Repaid.
21	8 (25)/70-Ch. III	30-7-70	100·00	6%	31-7-70	100·00	100·00	
22	8 (25)/70-Ch. III	27-10-70	100·00	6%	28-10-70	100·00	100·00	
23	8 (25)/70-Ch. III	8-2-71	100·00	6%	9-2-71	100·00	100·00	
24	8 (13)/71-Ch. III	24-3-71	150·00	6%	25-3-71	150·00	150·00	
25	8 (13)/71-Ch. III	29-5-71	50·00	6%	31-5-71	50·00	50·00	
26	8 (13)/71-Ch. III	23-7-71	50·00	6½%	26-7-71	50·00	50·00	
27	8 (13)/71-Ch. III	22-10-71	50·00	6½%	26-10-71	50·00	50·00	
28	8 (13)/71-Ch. III	7-2-72	50·00	6½%	9-2-72	50·00	50·00	
29	8(13)/71-Ch. III	9-3-72	40·00	6½%	14-3-72	40·00	40·00	
30	8(13)/71-Ch. III	22-3-72	96·00	6½%	28-3-72	96·00	96·00	
31	10(8)/72-Ch. III	27-3-73	568·676	6½%	27-3-73	.	568·676	By conversion of old loans.
	TOTAL . . .					2735·000	2735·000	

APPENDIX XXVII

(*Vide paras* 7·15—7·19)

Statement showing Loans due for repayment during the six year 1973-74 *to* 1978-79

Year	Amount (Rupees in Lakhs)
1973-74	655·113
1974-75	789·054
1975-76	3308·054
1976-77	793·747
1977-78	450·244
1978-79	232·497
	6228·709

105,Per
IDPL&PER
50Min.

Interest due for payment on existing loans for six years 1973-74 *to* 1978-79

1973-74	251·54
1974-75	267·23
1975-76	271·70
1976-77	271·70
1977-78	420·70
1978-79	420·70
	1903·57

Note :— Arrear of interest due and remaining unpaid :

1970-71	182·52
1971-72	202·58
1972-73	14·43
	399·53

APPENDIX—XXIX

(Para 7.20)

Statement showing the financial Position for four years :—

(Ruppes in Lakhs)

I	1969-70	1970-71	1971-72	1972-73
Liabilities				
(a) Paid up capital including share application money pending allotment shares)	2425·00	2595·00	2750·00	3,370·00
(b) Borrowings				
(i) From the Government of India	5069·60	5519·60	5855·60	5,425·60
(ii) From the State Bank of India	127·00	230·16	399·11	489·91
(iii) Deferred payment liability to foreign suppliers	48·11	36·59	24·59	12·48
(c) Trade dues and other current liabilities (including provisions and interest on loans)	417·24	774·65	1056·32	1,009·29
	8086·95	9156·00	10085·62	10,307·28
Asset				
(d) Gross block	4667·62	4797·10	4941·08	5,046.61
(e) Less Depreciation	552·59	776·67	1006·89	1,248·87
(f) Net fixed assets	4115·03	4020·43	3920·43	3,798·74
(g) Capital work-in-progeess (including plant & machinety in-transit and awaiting erection)	298·12	276·76	208·61	226·11
(h) Expenditure during construction period pending allocation	31·92	..	..	1·63
(i) Investrents (including those lodged by outside parties)	7·31	6·43	7·09	2,403·39
(j) Miscellaneous expenditure	69·94	70·32	60·17	51·52
(k) Current assets, loans and advances	1394·88	1813·08	2419·61	2403·39
(I) Cumulative loss	2169·75	2968·98	3455·95	37·25·89
Total	8086·95	9156·00	10085·62	10,307·28
(m) Capital employed	5092·67	5058·86	5297·48	5192·84
(n) Net worth	185·31	(—)444 30	(—)766·12	507·41

Note : 1. Capital employed represents net fixed assets plus working capital

Note : 2. Net worth represents paid-up capital less intangible assets.

APPENDIX—XXX

(*Vide* Para 8·29)

Statement showing the Total No. of Posts and Number held by Scheduled Castes/Scheduled Tribes in Each—class as on 1st January of 1972 and 73

Class of posts	1-1-1972 Total employees	No. of Scheduled Castes	% of S.C.	No. of Scheduled Tribes	% of a S.T.	Class of Posts	1-1-1973 Total employees	No. of S. C.	%of S. C.	No. of S. T.	% of S. T.
Class I .	421	1	0·23%		..	Class I .	455	1	0·25%	..	..
Class II .	406	..	..	..	..	Class II .	483	..	..	..	..
Class III .	4423	169	3·82%	3	0·067%	Class III .	4306	180	4·10%	5	0·11%
Class IV . (including Sweepers)	2518	267	10·6%	12	0·47%	Class IV . (including Sweepers)	2512	283	11·26%	14	0·56%

APPENDIX—XXII

(*Vide* Para No. 8·29)

Statement showing the particulars of recruitments made and the number filled by disabled ex-servicemen, dependents of servicemen killed in action and other ex-servicemen during the six months ending on 30-6-72, 31-12-72 *and* 1-6-73.

Classification of posts/service	Total No. of posts filled up during the half year ending on 30-6-72	Number of						Remarks
		Disabled ex-serviceman	% age of Col. 1.2	Dependents of servicemen killed in action	%age to Col. 2	Other ex-servicemen	% age to Col. 2	
Class III	76	..		..		..	..	
Class IV	90	..	..	..	..	15	16·7%	
		31-12-1972						
Class III	61	..	..	..	..	2	3·27%	
Class IV	..	...	..	..	..	15	22·38%	
		1-6-1973						
Class III	58	..	..	..	..	1	1·7%	
Class IV	58	..	..	..	..	..	..	

APPENDIX—XXXII

Summary of Conclusions/Recommendations

S. No.	Reference to Para No. In the Report	Summary of conlusions/ Recommen dations
1	2	3
1	1.18 to 1.20	The Committee regret to find that even though the Bureau of Public Enterprises had asked, as far back as in November, 1970, all the Government companies to formulate a statement of their objectives/obligations clearly and communicate the same to Government, the Indian Drugs and Pharmaceuticals Ltd., has not done so till now. The Committee were informed that it is only recently that the statement of omjectives/obligations has been prepared and is still awaiting consideration of the Board of Directors. There has thus been a delay of more than three years even in formulating their objectives. The Committee are unhappy that even the Ministry's representative on the Board of Directors failed to impress on the company the need to formulate its objectives early. The Committee trust that IDPL would finalise the statement of objectives without any further delay in the absence of which critical evaluation of the performance of a Government Company becomes difficult. The Committee are not sure as to how many more such undertakings are yet to finalise their statements of Objectives/Obligations as required by the Bureau of Public Enterprises in their circular of 1970. The Committee recommend that the Bureau of Public Enterprises should immediately take stock of the position and finalise the matter without further delay.

1	2	3
		The Committee also reiterate their recommendation in paragraph 1.44 of their 40th Report (1973-74) on Role and Achievements of Public Undertakings and trust that Government before long would bring a comprehensive White Paper setting out, *inter alia,* the financial, economic and social objectives of each of the Public Undertakings.
2	2.24	In para 5.3 of their 46th Report (1968-69) the Committee had pointed out that the project estimates of the Antibiotics Plant, Rishikesh were revised five times during the period 1961-68. As against the original estimate of Rs. 15.75 crores the estimate prepared in 1968 was for Rs. 26.32 crores. Thereafter revised estimates were prepared in December, 1970 and approved by Government in August, 1971. As against the revised estimates of Rs. 27.43 crores approved by Government in August, 1971 the actual expenditure upto 30th November, 1973 was stated to be Rs. 26.77 crores. The Committee find that though the average actual expenditure has not exceeded the estimate of Rs. 27.43 crores approved by Government, there has been an excess of more than 20 per cent in the case of Commissioning Expenses. The increase in the estimates revised in December, 1970 and approved by Government in August, 1971 over the estimates of August, 1968 was stated to be mainly because of increase (18.14 lakhs) in estimated outlay on new works, and provision made for outlay on protocol works (Rs. 50.99 lakhs) which was jointly agreed upon between the Russians and the Indian Technological Team in 1969 to set right certain imbalances and deficiencies in the plant, provision for 360 residential quarters (Rs. 42 lakhs). The Committee find that while October, 1966 estimates did not take into account the commissioning expenses and interest on Government loans the estimates of August, 1971 did not

1	2	3
		include an amount of Rs. 108.77 lakhs representing the capital outlay on a number of works. It was admitted by the Undertaking as well as by Government that non-inclusion of the project estimates approved in 1968 of the expenditure on commissioning and interest on Government loan was an ommission. The Committee were assured that Government do not expect any further rise in the estimates beyond what was sanctioned in August, 1971. The Committee are concerned to note that the project estimates in the case of Antibiotics Plant, Rishikesh had to be revised a number of times and each time one or the other provision was found to be lacking. The Committee recommend that project estimates should be drawn up realistically and provision made for all essential items so that these estimates have not to be revised so frequently. The Committee also recommend that Government should view with concern any cases wherever the actual expenditure on sub-heads of estimates exceeds the approved estimates by more than 10 per cent so that remedial and other action could be taken in time.
3	2.25	The Committee also find that owing to delay in the completion of the Project the stay of Soviet Experts had to be prolonged. As against the provision of Rs. 30.20 lakhs in August, 1968 towards the cost of Soviet Experts, the actual expenditure upto 31st March, 1972 had been Rs. 62.66 lakhs. The Committee find that the contract did not envisage sharing of the expenditure by the collaborators in cases where the extension was owing to limitations in the plant and equipment. The contract was also silent as to the Collaborators responsibility for loss of production due to mal-functioning of plant and equipment. Government have agreed that "contracts with collaborators should make clear provisions for sharing an expenditure on experts in

1	2	3
		such circumstances." The Commitee recommend that suitable guidelines may be issued in the matter so that such lapses do not occur in any of the public undertakings. The Committee need hardly stress that agreements with collaborators should be drawn up most carefully so as to safeguard public interest.
4	2.30	In para 4.02 and 4.03 of their 46th Report (1968-69) the Committee had pointed out that the Detailed Project Reports did not contain any time schedules for completion of the plants. The Committee find that according to the schedule time for commissioning fixed in September, 1966, Tetracycline, Oxytetracycline and Nystatin Sections were scheduled to be commissioned in December, 1967, February, 1968 and May, 1968 respectively. In April, 1967 the scheduled dates of commissioning were revised to March, 1968, September, 1968 and July, 1968 respectively. Tetracycline Section could be commissioned only in January, 1969 resulting in a delay of 12 months with reference to the 1966 schedule and 9 months with reference to the revised schedule of 1967. Oxytetracycline Section was actually commissioned in December, 1969, the delay being 22 months with reference to the original dates and 15 months with reference to the revised schedule. In the case of Nystatin Section which was commissioned in January, 1971 the delay has been the maximum, that is, 32 months with reference to the original schedule and 30 months with reference to the revised schedule of April, 1967. The Management had attributed these delays to the late receipt of drawings and change in the lay out introduced after the arrival of the Soviet Experts; changes in technology; difficulties regarding sterility conditions, and difficulties in the air-conditioning system. The Committee were informed that the management were taking remedial measures for modification

1	2	3
		in the air supply system, reduction in the sterility areas, change in technology etc. The Committee are distressed to find the long delays in the actual commissioning of important product sections like Tetracycline, Oxytetracycline and Nystatin Sections. The Committee recommend that every effort should be made to minimise such delays so as to avoid any loss in production.
5	2.39 2.40	The Committee note that the operational experience of Antibiotics Plant, Rishikesh gained during production from May, 1968 onwards had revealed a number of deficiencies in the equipment and systems which were subsequently studied by the Soviet Experts who visited the plant from 2nd September, 1969 to 5th October, 1969 with the help of Indian Tehnologists. As against the original design capacity of the Plant of 290 tonnes or 3,70,250 ml.rds. per annum, the Maximum attainable capacity was put by the Soviet side at 3,15,800 ml.rds.. and by the Indian side at 2,55,000 ml.rds. which is 19 per cent less than the capacity assessed by the Soviet Team.. The Committee were informed that the Russian assessment was based on the efficiency and time cycles which had already been achieved in similar plants in the Soviet Union and which were also capable of achievement in India once the technology was mastered. According to the plant however, the capaity as assessed by the Soviet Team could not be attained unless certain essential facilities were provided. The outlay for such facilities was estimated at Rs. 108.77 lakhs. The Committee are unhappy at the derating of the plant's capacity. The Committee hope that with the additional facilities proposed to be provided it would be possible for the plant to achieve the capacity

1	2	3
		as assessed by the Russian Team. The Committee recommend that a close watch may be kept by Government to see that expenditure on such additional facilities does result in higher utilisation of capacity and stabilisation of production.
6	2.41	The Committee note that it has not been possible for the company to persuade the medical profession to use Chlorotetracycline Hydro-Chloride for human treatment nor it has been possible to use it as animal feed supplement. Subsequently, the Company has deleted Chlorotetracycline from the plant's product-mix and have diverted equipment of the value of Rs. 36.72 lakhs (out of Rs. 65.55 lakhs) for meeting the deficiencies in other Sections and equipment valuing Rs. 9.11 lakhs is likely to be used for the production of Griseofulvin. The Committee find that even after such decision, plant and equipment of the value of Rs. 19.17 lakhs will still be lying unutilised. The Management claim that the major portion of the equipment will be utilised in the Expansion programme to be finalised. The Committee are sorry to observe that determination of product-mix without adequate demand survey had resulted in equipment value about Rs. 19 lakhs remaining idle. The Committee expect that the expansion programme would be finalised after a detailed market survey of the products and the surplus plant and machinery would be put to best use.
7	2.50 to 2.52	Analysis of production performance of Antibiotics Plant, Rishikesh indicates that except for Streptomycin Sulphate and Oxytetracycline in 1969-70 (where the original targets were revised upwards by 20.1 per cent and 73 per cent respectively), the production targets of rest of

1	2	3

the antibiotics during all the years were curtailed drastically in the revised estimates. The Committee find that even these revised targets could not be achieved in all the cases except for Sodium Penicillin, Streptomycine Sulphate and Nystatin in 1971-72 and Tetracycline Hcl. in 1968-69 and 1971-72.

The main factors responsible for non-attainment of the planned production were stated to be non-attainment of efficiency compared to reglement norms, technological problems, lack of sterility, clarity and colour; lower potency of streptomycine resulting in heavy rejections; failure of the water supply system in 1970-71 on account of Alaknanda floods and power fluctuations and non-availability of materials of requisite specifications in desired quantities.

The Borker Committee instituted by Government to study the working of the Antibiotics Plant, Rishikesh has concluded that the major problems of the plant are two-fold *viz.*; serious shortfalls in all the products and uncommon degree of process and product failure in all stages of production. The Commitee also pointed out that the main causes which have operated to the deteriment of the plant in varying degrees have been inadequacy of the equipment or plant design process, assimilation of process technology, lack of proper rapport between management and the workers. Government have assured that once corrective action is taken by the Plant in the light of the recommendation made by the Borker Committee it would be possible to attain the envisaged capacities. The Committee also recommended that as the production in the plant has continued to be far below installed capacity, thereby affecting not only the economics of the plant but also reducing the indigenous availability of essential antibiotics, Government|Management should

1	2	3
		bend all their energies and see that the plant reaches the installed capacity soon and all impediments in the way of production are removed. The Committee were informed that the Ministry had accepted all the recommendations made by the Boarker Committee except recommendations at Serial No. 9, 12 and 17, which have been modified. The Committee urge that the recommendations made by the Borker Committee may be implemented and corrective action taken without any further delay in the light of those recommendations.
8	2.65	The Committee note that in 1972 Antibiotics Plant accounted for 44.5 per cent, 34..4 per cent and 80.8 per cent of the country's licenced capacity for Penicillin, Streptomycin and Tetracycline and its derivatives respectively. The actual production of these drugs in the Antibiotics Plant, however, represented 19.8 per cent, 12.8 per cent and 27.1 per cent respectively of the total production in the country during 1972. The comparative study of the performance of public and private sector for production of these drugs indicates that the share of the Antibiotics Plant in the overall production of these drugs in the country was commensurate with its share in the overall production capacity. On the other hand the production of producers in the private sector was generally more than their licenced capacity. In this connection the Committee understand that action to be taken on firms for exceeding the permissible capacity was under consideration keeping in view the ountry's demand for these drugs. The Committee find that had Antibiotics Plant achieved the production according to its capacity, in respect of Oxytetracycline, imports in 1969-70 and 1970-71 would not have been necessary and even in 1971-72 the import of this drug

1	2	3
		could have been reduced by one-third. The Committee find that during 1972-73 import of products in the production range of IDPL amounted to Rs. 54 lakhs. The Committee recommend that Antibiotics plant should take concerted measures to achieve installed capacities of its various products in order to avoid dependence on imports to that extent.
9	2.72	The Committee find that according to Fifth Plan proposals the capacity of the Plant is proposed to be increased by the end of 1978-79, in the case of Penicillin from 105 MMU to 137.2 MMU, in the case of Streptomycine from 85 tonnes to 120 tonnes, and in the case of Tetracycline from 22.8 to 95 tonnes. An autlay of Rs. 40 crores has been proposed for inclusion in the 5th Plan. The Committee also find that Government are actually having discussions with the drug manufacturers to examine the possibilities as well as the means as to how the projected requirements of the various antibiotics for the Fifth Plan period could be achieved by the industry. The Committee desire that early decision should be taken by Government in this regard and the target to be achieved by IDPL and other Units in the public sector clearly laid down so that concerted measures could be taken to achieve it. The Committee need hardly stress that the progress achieved should be closely monitored to resolve in time difficulties which may be experienced in achieving the targets and to take other timely remedial measures.
		The Committee recommend that the target fixed for the 5th Plan for raising the availability of Antibiotics in the country during the plan period should be achieved in full and no efforts should be spared in that direction.

1	2	3
10	2.86	The Committee note that as far as Pencillin is concerned, the ratio of batches harvested to inoculators charged has gone up from 0.43 in 1969-70 to 0.61 in 1972-73 and to seed vessels charged from 0.74 to 0.86. In this connection the Committee have, however, found that the Management have not laid down any norms with regard to the number of batches harvested to the inoculators|seed vessels charged. The Management also do not appear to have assessed the loss on account of the drained inoculators|seed vessels. It has been stated that the norms could not be laid down "on account of non-stabilisation of the technological regime and power feed to the plant." The Committee note that the percentage of batches contiminated to batches harvested has come down from 19.29 in 1969-70 to 15.11 in 1972-73. The Committee recommend that a careful watch should be kept to see that batches which become unfit for harvesting due to contamination are not processed, as harvesting of such contaminated batches affects the recovery efficiency. The Committee were informed that Indian Statistical Institute has carried out some studies for controlling the bio-chemical fermentors and has suggested some rules for harvesting the batches on the basis of activity at definite intervals. The Committee recommend that the rules suggested by the Indian Statistical Institute should be considered after carefully weighing the advantages of the adoption of these rules vis-a-vis use of standard curves for conducting the biosynthetic activity in fermentation. The Committee further find that average activity and the yield of filtered broth per batch has varied widely from month to month and year to year. Although the activity per u|ml was much higher than Protocol norm on a number of occasions (highest activity achieved in February, 1972 being 11,800 u|ml) the Committee find that the

1	2	3
		average activity was only 6321 u|ml in 1969-70, 6830 u|ml in 1970-71, 7292 u|ml in 1971-72 and 7687 u/ml in 1972-73 respectively which was less than the protocol norm of 8000. Similarly, as against the protocol norm of 258.4 mlrds of filtered broth per batch, the highest achieved was 245.23 mlrds in February, 1972. The Committee fail to understand as to why the higher rate of activity attained in February, 1972 could not be sustained continously. The Committee recommend that a careful analysis of the constraints in this regard should be made with a view to taking suitable measures. The Committee also find that the fermentation cycle (except in August, 1969) and the total time cycle were also much above the protocol norm. The Plant did not achieve the protocol level of harvesting 830 batches per annum in any of the years, notwithstanding, the fact that three additional fermentors had been utilised in 1971-72.
11	2.87	The Committee also find that the total time cycle during 1969-70, 1970-71 and 1971-72 was 59712 hours, 94162 hours, 122636 hours respectively as against the product norm of 109200 hours thus indicating that the fermentators were not utilised to the full extent in 1969-70 and 1970-71. The Committee note that in 1971-72, the plant pressed into service these additional fermentors involving a total utilisation of 17742 hours. The Committee would like that the Management should go into the causes of non-attainment of protocol norms and take suitable measures to remove the constraints.
12	2.93	The Committee find that the recovery efficiency from native solution to potassium penicillin as indicated in the protocol is 72.4 per cent. But during 1969-70 to 1973-74 (September, 1973) the recovery efficiency achieved by the plant has

1	2	3
		ranged between 56.82 per cent to 62.77 per cent. The result of this low yield has been that shortfall in production in terms of value with reference to selling price was Rs. 32.86 lakhs in 1969-70, Rs. 45.44 lakhs in 1970-71, Rs. 54.90 lakhs in 1971-72, Rs. 76.59 lakhs in 1972-73 and Rs. 31.49 lakhs in 1973-74 (upto September, 1973). The Committee have been informed that in order to rectify this situation, the Management have taken certain steps which include rectification of the design defects, installation of two more centrifuges and one vaccum shelf dryer, installation of stainless steel column for the distillation of spent butanol, replacement of Rossia Extractors by Luvesta Extractors. The installation of Luvesta Extractor is likely to improve the efficiency by about 10 per cent. The Committee recommend that efficiency of these measures may be kept under constant review so that the requisite protocol efficiency can be achieved. The Committee would also like to be informed about the utilisation Rossia Extractors.
13	2.110 and 2.111	The Committee find that the conversion efficiency from potassium penicillin to sodium and Procaine penicillin as indicated in the protocol was 83 per cent and 86.5 per cent respectively. But during the years 1969-70 to 1973-74 (upto September, 1973) it was possible for the plant to achieve conversion efficiency between 53.36 per cent to 66.38 per cent only. For production of procaine penicillin, efficiency ranged between 67.38 per cent to 81.21 per cent. The value of shortfall with reference to selling price in the case of sodium penicillin has been estimated at Rs. 34.67 lakhs in 1969-70, Rs. 45.64 lakhs in 1970-71, Rs. 52.68 lakhs in 1971-72, Rs. 29.48 lakhs in 1972-73 and Rs. 1.72 lakhs in 1973-74 (upto September, 1973). In the case of Procaine Penicillin lower conversion efficiency as compared with pro-

1	2	3
		tocol norm has resulted in shortfall in production to the extent of Rs. 22.03 lakhs in 1969-70, Rs. 22.36 lakhs in 1970-71, Rs. 9.26 lakhs in 1971-72, Rs. 13.44 lakhs in 1972-73 and Rs. 0.40 lakhs in 1973-74 (upto September, 1973). The Committee find that shortfall was more pronounced in the case of Sodium Penicillin. In this connection, the Borker Committee observed that "sterility areas where both Sodium Penicillin and Potassium Penicillin were made earlier were too vast and equipment used was rather cumbersome for sterile operations. The new areas and the new processes were commissioned in August-September, 1973. The Committee note that although substantial loss of production was taking place right from the beginning on account of low conversion efficiency, the Management did not take prompt action to locate the reasons and remedy them. The Committee recommend that Government should find out the reasons for not taking prompt action. The Committee would like to be informed about the effect of new areas and new processes on the recovery efficiency of Potasium, Sodium and Procaine Penicillin.
14	2.137	The Committee find that in the case of streptomycin sulphate the ratio of batches harvested to the inoculators charged ranged between 0.34 to 0.41 during the period 1969-70 to 1973-74 (upto September, 1973) and to seed vessels charged 0.75 to 0.78. The management have not laid down any norm as to the number of batches harvested to the inoculators/seed vessels charged nor have they assessed the losses on account of the draining of inoculators/seed vessels. The Committee also find that the percentage of contaminated batches to batches harvested ranged between 35.67 to 51.97 during 1969-70 to 1973-74 (upto September, 1973). According to the Mana-

1	2	3
		gement the probable reasons for contamination of batches were, drawbacks during charging defective charging or undetected contamination passed from seed vessels, defective oil system, not holding of valves in the running cycle. It would thus appear that the contamination of batches was due to operational factors and was thus largely controllable. In view of this it is not clear to the Committee as to why concerted and determined measures could not be taken by the Plant management earlier to set right the deficiencies which continued to affect adversely the operations year after year. The Committee recommend that necessary corrective measures should be taken without further delay so as to minimise, if not eliminate, the percentage of contiminated batches.
15	2.138 to 2.140	The overall yield of filtration per batch was, 115.70 mlrds in 1969-70, 140.13 mlrds in 1970-71 and 118.53 mlrds in 1971-72 and 116 mlrds in 1972-73. The Committee also find that as against the protocol norms of 162 mlrds of filtered broth per batch, the highest achieved was 191.42 mlrds in June, 1970. The Committee have been informed that "low yield is mainly due to unstable power feed to the plant and wide variation in the quality of raw material." The Committee also note that the total time cycle was much higher than the protocol norm. In this connection, the Committee were informed by the Government that "low utilisation of production fermentator has been due to charging of less number of batches to avoid the problems of bunching which cause conjunction in filtration. Judged from the available data the Committee find that as against the protocol norm of 85 per cent, the filtration efficiency achieved was only 78.19 per cent in 1969-70, 80.91 per cent in 1970-71 and 77.49 per cent in 1971-72.

1	2	3
		The Committee note that a new strain No. 773 introduced in February, 1970 to improve the yield in fermentation was discontinued from August|September, 1970 as it was suspected to be leading to low potency. It was again introduced in January-February 1972 as no correlation could be established between the fall of potency and use of this strain. The Committee are not sure whether the huge rejections were not as a result of the use of the new strain. The Committee would like Government/IDPL to go into this aspect in consultation with HAL, Pimpri, so as to take suitable measures to ensure that the biological potency of the finished product is maintained and the rejections are reduced to the minimum.
16	2.184	In the case of Tetracyciline, the ration of batches harvested to seed vessels charged has ranged between 0.33 to 0.72 during 1969-70 and 1973-74 (upto September, 1973). In the case of Oxytetracycline, the ratio of batches harvested to seed vessels charged ranged from 0.50 to 0.84 during the same period. The Management have neither fixed any norms nor assessed the loss on account of the harvesting of inoculator seeds vessels. Percentage of batches contiminated to batches harvested in the case of Tetracycline ranged between 6.90 per cent in 1973-74 (upto September, 1973) to 23.18 in 1971-72. The percentage of batches contaminated to batches harvested in respect of Oxytetracycline ranged between 17.65 in 1973-74 to 43.27 in 1971-72. The Committee also find that as against protocol norm of 128.5 mlrds of native solution per batch, the higher achieved in November, 1970 in case of Tetracycline was 135.44 mlrds. The average yield of native solution per batch was however only 81.72 mlrds in 1969-70, 105.49 mlrds in 1970-71, 101.67 mlrds in 1971-72 and 102.3 mlrds in 1972-73. As against

1	2	3
		the protocol norm of 95 per cent filteration efficiency for Tetracycline was 84.60 in 1969-70, 85.61 in 1970-71 and 86.88 per cent in 1971-72 and 84.5 in 1972-73. In the case of Oxytetracycline the conversion efficiency from base Hydrochloride as indicated in the protocol is 83 per cent. But the conversion efficiency actually achieved ranged between 50.84 per cent to 90.63 per cent in 1969-70 to 1973-74 (September, 1973). The plant has been able to achieve conversion efficiency of 93 per cent. The Committee were informed that the Russians had provided some balancing and additional equipment free of charge to overcome the shortcomings. The Committee would like to know the results achieved after installation of this balancing equipment.
17	2.201	The Committee find that in the case of Nystatin, antifungal antibiotic, produced by Antibiotics Plant, the ratio of batches harvested to inoculators charged was 0.29 in 1971-72. The percentage of batches contaminated to the batches harvested was 23.2 in 1971-72. The Management have neither laid down any norms nor have assessed the loss on account of drainage of inoculators. The Committee note that in the case of Nystatin, the average activity was better than even the protocol norm in 1971-72, though the total time cycle was much more than the protocol norm or that planned by the Management. The recovery efficiency, however, was only 23.36 per cent as against efficiency of 45 per cent indicated in the protocol resulting in shortfall in production to the extent of 3310 mlrds valued at Rs. 18.2 lakhs. The Committee note that production of Nystatin has not been maintained on a continuous basis on account of lack of adequate market. As a result, the technology of manufacture has not yet stabilised, resulting in poor offi-

1	2	3
		ciencies. The Committee would like to be informed about the sales prospects of Nystatin.
18	2.226	The Committee were informed that on account of excess consupmtion of raw material during 1972-73 over the reglement norms there have been loss of Rs. 54.67 lakhs, the Committee would like that the Recommendaotions made by the Technical Committee in this regard may be taken into account and suitable remedial measures introduced to ensure strict adherence to the prescribed norms as any excess consumption would only affect the profitability.
19	2.233	The Committee note that for meeting the requirements of compressed air, the collaborators had supplied three Turbo Compressors (including one as stand-by) each having a compressing capacity of 970M^3 per minute. In April, 1972, the Management, however, assessed that the total demand of compressed air would be 1200 M^3 per minute only. As the second compressor was required to be operated to meet the requirement of compressed air as and when needed, it resulted in venting of surplus quantity of compressed air which was about 75 per cent of the production of the second compressor. The plant therefore, contemplated the procurement of a compressor of smaller capacity. Meanwhile venting of compressed air has continued. The Committee find that percentage of air vented to compressed air produced was to the tune of 40.97 per cent in 1972-73. The venting of air in 1972-73 costs the plant Rs. 27.84 lakhs. (excluding depreciation and interest). The Committee have been informed that the original proposal of installing a compressor of smaller capacity is being studied by the Management afresh because it is now expected that the expansion plans of the plant specially for tetracycline and streptomycin would enable utilisation of substantial percent-

1	2	3
		age of air vented. The Committee recommend that a decision to install a compressor of smaller capacity should be taken soon considering the requirements of the expansion plans so that venting of compressed air at a considerable cost may be avoided.
20	2.238	The Committee find that there was excessive consumption of electricity in the production of compressed air over and above the norm fixed by the Management. In all the years from 1970-71 onwards as against the norm of 62.3 KWH fixed by the Management per 10^3 M^3 (KWH), the actual consumption of electricity per 10^3 M^3 of compressed air has been of the order of 64.98, KWH, 70.63 KWH, 63.1 KWH and 68.6 KWH during the years 1970-71, 1971-72, 1972-73 and 1973-74 (upto September, 1973) respectively. The cost of excessive consumption of electricity ranged between Rs. 0.68 lakhs in 1972-73 to Rs. 6.50 lakhs in 1971-72. The Committee were informed that the main reasons for excessive consumption of electricity have been variation of the power factor of the load, different load conditions, variations in supply voltage which varies the current and power losses; running of the motor at the maximum excitation. It has been stated that losses due to the running of the compressor below its full load rating according to the requirement of the production department cannot be avoided. In order to meet this situation the plant, it was stated, was considering installation of smaller compressor to run on diesel generators with the twin objective of maintaining positive pressure during power failures and avoiding venting of excess air during the normal operation. As recommended earlier, the Committee desire the Management to take an early decision in the matter for installation of Compressor of smaller capacity in the best interest of the smooth and economic running of the plant.

1	2	3
21	2.245	The Commitee find that the plant management had with the approval of the Uttar Pradesh State Electricity Board fixed in December, 1966 their maximum contract demand on 6.6 KVA supply. Owing to non-attainment of capacity the actual demand was, however, much less and varied between 2,033 KVA and 13,600 KVA during the period from March, 1967 and 31st March, 1972. As the actual consumption was less than 60 per cent of the contracted demand (on the basis of which payment had to be made to the Electricity Board) the Company had to incur an extra expenditure of Rs. 22.12 lakhs upto 31st March 1973. No extra expenditure was, however, incurred during 1973-74 (upto September, 1973) as the plant was subject to a continued power cut of 40 per cent. The Committee have been informed that the present demand of 20,000 KVA does not need any downward revision and would be sufficient to take care of the plant expansion programme. It has been stated that the problem of ensuring adequate power supply to the plant cannot be resolved by going in for a small captive power plant because of the huge cost involved and in view of the steep increase in the price of crude oil. The Committee recommend that plant authorities may examine the matter in depth in consultation with the Ministry of Irrigation and Power U.P. State Electricity Board so that the production in the plant is not affected due to shortage of power supply.
22	2.253 & 2.254	The Committee note that according to the design, 30 per cent of the steam condensate should return to the boilers, However, the Condensate return was found to be not more than 5 to 6 per cent resulting in the increased use of steam for internal cosumption to the extent of about 20 per cent of internal load. The Committee find that the excessive consumption of steam cost Rs. 11.91 lakhs during the period of 1968-69 to 1973-74

1	2	3
		(upto September, 1973). The Committee understand that the question of low condensate return was studied by the Chief Soviet Expert in October, 1969 but no success was stated to have been achieved. The Committee recommend that best expert advice in the field should be taken so as to improve the condensate return thereby avoiding the extra cost.
23	2.255	The Committee find that it has not been found feasible by the Company to install individual meters for each product and in the absence of these meters the allocation of consumption of services is being made, at present, on the basis of running hours of each equipment consuming the service and as such the comparison of the actual consumption of these services with the norms laid down in the Detailed Project Report has not been possible. The Committee feel that the present procedure is neither scientific nor accurate for the allocation of consumption of services and therefore, recommend that this aspect may again be reviewed with a view to ensure control on consumption of services and effecting economy wherever feasible.
24	2,269 & 2.270	The Committee find that out of total rated production of 290 tonnes of Antibiotics Plant, Rishikesh, a quantity of 165 tonnes was to be in the form of readymade drugs and the remaining 125 tonnes in the bulk form. In October-November, 1970 the Committee were informed by the Ministry that as against the rated capacity of 218 tonnes based on the efficiency levels indicated by the Soviet Team in 1969, existing formulation capacity was only 115 tonnes. (80 tonnes for vialling, 25 tonnes for capsulation and 10 tonnes for tabletting). The Committee find that the quantity formulated by IDPL has been

1	2	3
		less than even the reduced capacity of 115 tonnes, the quantity actually formulated being only 19.23 metric tonnes in 1969-70, 40.03 metric tonnes in 1970-71, 71.20 metric tonnes in 1971-72, 55.29 metric tonnes in 1972-73, 22.02 metric tonnes in 1973-74 (upto September, 1973). The main reasons for the set back to the formulation programme of IDPL have been the non-availability of packing material like glass vials, stoppers and empty gelatine capsules, non-utilisation of machine capacity because of inadequacy of spare parts. In order to raise the utilisation of formulation capacity the plant is stated to have taken measures to have a glass vials factory as an ancillary industry at Rishikesh. The Plant has also developed some indigenous sources of supply of packing materials and spare parts. The Committee fail to understand why preventive measures were not taken well in advance to develop the manufacture of glass vials and gelatine capsules to match the manufacturing capacity of the Plant. The Committee would like to be informed within six months the concrete action taken by the Government| ILPL to make good this deficiency.
25	2.271 & 2.272	The Committee find that the demand for various formulations which was of the order of Rs. 300 crores by the end of 1973-74 is likely to go up to Rs. 500 crores by the end of Fifth Plan i.e. 1978-79. The present formulation share of public sector is stated to be about 5.6 per cent (IDPL accounting for a production of Rs. 11.5 crores and Hindustan Antibiotics Ltd. approximately Rs. 5 crores). By the end of 1978-79 the formulation capacity of the public sector is likely to be raised to Rs. 31.5 crores (Rs. 22 crores for IDPL and Rs. 9.5 crores for Hindustan Antibiotics Ltd.). As a result the share of Public

1	2	3
		Sector would increase to 6.4 per cent by 1978-79. Government have denied that the capacity in public sector was being deliberately kept low to enable the private sector formulators to utilise their formulated capacity. They have however admitted that idle formulation capacity in Antibiotics Plant is largely due to the market constraint except in the case of Penicillin and streptomycine where capacity to a large extent could have been utilised had more bulk drug been available. It has been stated by Government that 'IDPL has also to play its role in developing the drug industry as a whole in the country and particularly in the small scale sectors." This, it has been stated, "is a social objective, for which the price has to be paid by way of lesser formulations by IDPL". The Committee have been assured by Government that since formulations is a profitable activity the idea is that IDPL should increase the quantity of its formulation so as to utilise 50 per cent or more of the bulk drugs produced by it. As a matter of fact, since the last few years, Government are stated to be insisting on all drug companies in the organised sector to make available portion of the bulk drug produced to non-associated formulators. It has also been stated that IDPL is now being permitted not only to import the concerned bulk drug for its formulations but is also being allowed to take up formulations not based on bulk drugs produced by it, for example, chloramphenicol. The Government have claimed that these measures would gradually lead to full utilisation of formulation capacity by IDPL.
		The Committee would like Government/ Undertaking to remove the various constraints and draw up a time bound programme to put to full use its formulation capacity in the interest of meeting the demand of public for drugs in

1	2	3
		common use and to improving its financial position. The Committee would like to be informed of the action taken by Government in pursuance of this recommendation.
26	2.298	The Committee find that the Profitability Report drawn up in March, 1970 had provided for handling losses of packing materials to the extent of 15 per cent in glass vials and 5 per cent for capsules. While in the case of vials the handling losses were within the norms, in the case of capsules, however, these were quite high in 1970-71, and 1971-72. The excess over norm of 5 per cent being 15,48,701 numbers in 1970-71 and 49,94,642 numbers in 1971-72. The Committee recommend that the abnormal high handling losses incurred in the case of capsules may be investigated and concrete measures taken to bring such losses within the norm fixed by the Management themselves.
27	2.299	The Committee note that the rejections in the case of Sodium Penicillin, Procaine Penicillin and streptomycin were much higher than the norms and ranged between 10 per cent to 57 per cent of the total production and the total increase in cost due to rejections pertaining to these three drugs amounted to Rs. 5.18 crores from 1968-69 to 1971-72. The Committee have also gone through the reasons put forward by the Management for such high rejections and feel that these reasons are not such as cannot be remedied. The Committee urge that remedial measures must be taken without delay to reduce if not eliminate the rejections and thus avoid waste. The Committee would like to draw pointed attention to the reported poor quality of raw materials. The Committee stress that steps should be taken to see that raw materials of requisite quality become available.

1	2	3
28	2.300	The Committee deprecate that apart from rejections of antibiotics in the course of production detected by the Quality Control, bulk antiboitics and formulations worth Rs. 8.82 lakhs and Rs. 1.06 lakhs respectively passed by the Quality Control were returned by the customers. The Committee would like this matter to be investigated thoroughly and all the requisite measures taken to strengthen quality control so that such flaws do not reoccur.
29	2.301	The Committee note that rejections not only arise in bulk production stage but also occur in the course of formulating and filling into vials. The Committee find that total increase in the cost of rejections during 1969-70 to 1971-72 after taking into account salvaged value of rejections viz. Rs. 4.52 lakhs in 1969-70, Rs. 5.59 lakhs in 1970-71 and Rs. 12.69 lakhs in 1971-72 amounted to Rs. 87.27 lakhs Rs. 69.43 lakhs and Rs. 60.85 lakhs respectively. The Management have attributed these rejections to high bacterial count in sterile area, improper sterilisation temperature in the tunnel, non-availability of suitable spare parts for the automatic filling machines, shredding of rubber particles by rubber stoppers. It has been claimed that the steps taken by the Management like modification of airconditioned system and strict check at the intermediate stages of the processing Streptomycin has significantly, reduced the rejections of filled vials. The Committee would like the progress to be maintained in this regard and the position intimated to the Committee in due course, based on the results of operation for the full year i.e. 1973-74.
30	2.302	The Committee note that the Management had fixed parametres for filling up the capsules in April, 1969 and January, 1971, at 5 per cent for "over age and moisture" in the case of tetracycline and 7.8 per cent. in the case

1	2	3
		of Oxtyetracycline. The Committee find that the excess consumption of bulk over the norms ranged from 4 per cent to 15 per cent in the case of Tetracycline and between 14 per cent and 19 per cent in 1972-73, in the case of Oxtyetracycline. In 1972-73 the excess consumption over the norms however came down to 2.01 per cent in the case of Tetracycline and 3.96 per cent in the case of Oxtyetracycline. Although the excess consumption has come down in 1972-73 as compared to the previous years, it is still more than the norms and that of the private firm to whom the contract was given by the Company for capsulation. The Committee therefore, recommend that vigilance should continue to be exercised to see that consumption of bulk in filling of capsules does not go beyond the norm. The Committee further recommend that the norm itself should be reviewed in the light of experience gained so as to bring the level of rejection even lower.
31	2.320	The Committee find that the economics/profitability of the Antibiotics Plant, Rishikesh was not indicated in the Detailed Project Report. In the Report prepared by the Soviet Expert, however, in October, 1958 it was indicated that the gain on Chlorotetracycline, Penicillin and Streptomycine would be Rs. 154.3 million (per annum) on the total production of Rs. 218.6 million per annum of these three products. It was also indicated in the Report that based on the then existing prices of imported drugs and allowing the profit of 10 per cent thereon, the Antibiotics Project would have a payback period of 4 years. The estimates and cost of profitability were prepared in November, 1961. These estimates were revised on a number of occasions. The Committee find that the main reasons for the reduction in the project profits from 16.59 crores in January, 1968 to 8.38 crores in March, 1970 was the reduction in the capacity

1	2	3
		of the plant on the basis of protocol discussion. The reduction in the anticipated profit from Rs. 8.38 crores in March, 1970 to Rs. 2.10 crores in October, 1970 was mainly the result of drastic reduction in the selling prices due to the introduction of the Drug Prices Control Order, 1970. These proffiections of profits did not materialise. On the contrary the plant incurred losses to the extent of Rs. 0.56 crores in 1967-68, Rs. 5.10 crores in 1968-69, Rs 4.91 crores in 1969-70, Rs. 4.65 crores in 1970-71 and Rs. 2.51 crores in 1971-72. The Committee note that the plant achieved the break-even level in respect of Sodium Penicillin and Tetracycline Hc. in 1971-72. In respect of other items the production in 1971-72 was much below the break-even level. It has been stated by Government that even the projections of profitability drawn up in October-November, 1970 are not likely to be materialised because of continued problem of regular and steady power supply, and the rise in the cost of raw materials and services. The Committee have been informed by Government that "it does not appear possible to indicate any date by which the plant can be predicted to break even." Now that decision on recommendation of Borkar Committee Report have since been taken by Government and the revised selling prices of bulk drugs announced by Government on 19th April, 1974, fresh estimates of profitability may be drawn up as the last estimates were prepared more than 3 years ago.
32	2.326	The Committee find that it has been possible for the Management to reduce the cost of production considerably in 1971-72 as compared with the cost of production in 1969-70, 1970-71 except in respect of one item (oxyteracycline Hel capsules) where the decline was marginal. The actual cost was, however, still much higher than the standard costs (except for Tetracycline Hel Capsules in 1971-72 and Oxytetracycline Hel

1	2	3
		capsules in 1969-70). It has been stated that production was less than the projections assumed for the calculation of standard cost and the variable cost was higher on account of consumption co-efficient being higher than the reglement norms and higher percentage of rejection. The Committee have been informed that a critical review of the cost of each item vis-a-vis its standard cost is conducted every month at the top management level. The Committee recommend that the system of preparation of cost of each product on the basis of actual monthly cost of production may be introduced early and cost of production of each of the items which are affected by the higher percentage of rejections may be worked out, critical analysis of cost on the basis of actual cost sheets may also be prepared. The Committee would like to be informed of the result.
33	2.340	The Committee have been informed that as a result of various studies undertaken in the Research and Development Section of the Plant, manufacturing process have been improved and new Antibiotics found. The antibiotics are however, still under investigation and further work is needed for their identification. The Plant has been able to substitute fully 11 out of 30 items of raw materials. Expenditure on Research and Development ranged between one percent to 1.97 per cent of the total expenditure during the period of 1968-69 to 1973-74. (up to September, 1973). It has been stated that the present scope of activity of Research and Development is mainly for solution of various technological problems faced by the plant in addition to suggesting improvements in the processes and import substitution. The Plant is equipped with a library to keep its technologists and scientists abreast with

1	2	3
		the latest developments in the fields of specialisation. The Borkar Committee which had the occasion to study the working of the plant has however observed "even key technical personnel on the plant are hopelessly out of touch with developing trends in technological and concepts in the management of technology." The Committee recommend that Government should undertake a critical evaluation of the research and development activities of the Plant so that emphasis is laid to wards development research aimed at identifying new and more effective antibiotics. Government should also ensure that the technical personnel in the plant keep themselves fully abreast of the latest technological developments in the field of manufacture of antibiotics, so that in course of time they are in a better position to attain higher operational efficiencies in the interest of optimum production. The Committee were also informed that though the Ministry of Petroleum and Chamicals has constituted a coordination Committee comprising representatives of HAL and IDPL to pool their experience in production, marketing and research activities, there has not been any appreciable liaison between IDPL & HAL in the matter of R & D of antibiotics. The Committee desire that there should be greater coordination in the R & D activities nor only between the two Public Sector Undertakings but with the Private Sector as well.
34	2.348	The Committee find that though the stock of raw materials with the Antibiotics Plant in terms of month's consumption has come down year after year, it is still more than the prescribed limit of the buffer stock, that is two months for indigenous and six months for imported material in certain cases. The management have stated that the build up of the inventory in these cases has been due to frequent changes in the production plans, low off take, transportation in bigger

1	2	3
		lots, failure of the supplier to strictly adhere to delivery schedule, changes due to technological requirements etc. The Committee also find that according to the review conducted by the Management in 1971-72 stores of the value of 22.10 lakhs were declared surplus. Out of these stores and spare of the value of Rs. 10.59 lakhs are awaiting disposal for more than one year. The Management have also fixed minimum, maximum and re-ordering levels for 546 items in February, 1973 out of 10,484 store items. The norms of the maximum and minimum limits were reviewed by the Management in 1972-73. The Committee have been assured that this work will be over within a period of next two years in respect of all items except some spare parts which are basically stocked as insurance items. The Committee recommend that the Management should expedite this work and ensure that in no case, the stock of raw materials in terms of months' consumption exceeds the prescribed limit.
35	2.355	The Committee note that in December, 1962 the private firm of Bombay was appointed as the Company's clearing agent for clearing and forwarding all machinery and equipment imported from USSR and other countries. According to the terms and conditions of the Contract, the Clearing Agents were to pay landing and all other Port Trust charges in the first instance and to claim reimbursment of the amount so paid in bills, duly supported with relevent receipts. However, the Company opened two personal deposit accounts (December, 1962 and March, 1966) with Port Trust Authorities. Opening of these accounts was a material deviation from the conditions attached to the notice inviting tender. Specific reasons for opening these accounts by the plant are not on record. Out of the amounts deposited by the Project Authorities a sum of

1	2	3
		Rs. 29.13 lakhs was adjusted by the Port Trust Authorities on account of ground rent wharfage and demurrage. The incident of demurrage included in that amount demurrage worked out to Rs. 27.37 lakhs (Approx.) Out of this, a sum of Rs. 3.95 lakhs only was refunded by the Port Trust Authorities and an amount of Rs. 0.24 lakhs was written off by the Company. According to the Company, the payment of demurrage of the order of Rs. 23.16 lakhs was mainly due to the negligence on the part of the clearing agents in obtaining wagons, expeditious customs clearance. The Committee feel that IDPL should have recovered the amount of demurrage from the clearing charges. As the matter is now stated to be pending in a Court of Law, the Committee would refrain from offering any comments at this stage. The Committee however recommend that the whole position may be reviewed by the Management after the case has been decided by the Court. The Committee would like to be informed of the final position.
36	2.361	The Committee note that the Detailed Project Report had indicated the manpower norm on the basis of optimum production. But as the operational practices and labour efficiencies in the USSR were different from those in India, the Board of Directors appointed a Committee in November, 1966 to assess the requirements of manpower. The Committee, however, did not do any investigation. In August, 1967, the Industrial Engineering Department was set up by the Company for the assessment of the manpower requirement of the Plant. The Department assessed the requirement at 2174 within the per meter wall of the plant. In September, 1972 a revised assessment was made by the Industrial Engineering Department. The revised strength fixed for the plant was 2297 for

1	2	3
		five out of the six blocks. The present strength of staff on 30th June, 1973 is 3043 which includes the staff employed on work charge and muster roll basis. The regular strength is 2346 including 47 personnel for the 6th Block for which study is still to be completed, and it does not exceed the overall strength recommended by the Industrial Engineering Department. The Committee recommend Government IDPL should ensure that unless the requirements of higher production demand, staff strength of the plant may be kept within the assessed level. The Committee would also like to be informed in due course of the staff for the sixth block, *i.e.* Administrative Block--Technical and Research & Development Department.
37	2.373 & 2.374	The Committee note that Antibotics Plant, Rishikesh is having a small training cell which essentially caters to the needs of operatives supervisory staff. Apart from imparting industrial training, the Department is engaged in arranging refresher courses designed to upgrade the skill of the existing workers. In organising the training programmes help is also taken of the specialised agencies the National Productivity Council. The Committee find the expenditure incurred by the plant on training programmes has increased from Rs. 46,000 in 1970-71 to Rs. 55,000 in 1972-73. The Committee find that as between 21st December, 1966 and 10th May, 1971 as many as 78 trainees had left the Company either before or after the completion of their training. Out of these 50 trainees, however, did not draw any stipend during the period of their training. The amount recoverable from the 63 trainees was assessed at Rs. 71,814. Out of these 13 trainees resigned mainly due to family circumstances.

1	2	3
		Amount recoverable from the remaining 15 trainees who discontinued attending duties without any information or notices works out to Rs. 42,190. It has not been possible for the Plant to recover the amount so far despite repeated reminders. To avoid such situations the plant introduced in June, 1969 a clause in the draft bond where, besides personal undertaking, such trainees were required to give a surety for the fulfilment of the conditions of the bond. The Committee are surprised that such a surety was not insisted upon by the Management prior to June, 1969.
38	3.22 to 3.25	The Committee note that the estimates of Synthetic Drugs Plant were revised on a number of occasions prior to the sanction, by the Government in 1966 for Rs. 2135 lakhs. As admitted by the Government no provision was made in the estimates towards interest on capital and commissioning expenses. The estimates were again revised by the undertaking in 1968 for Rs. 2293 lakhs and approved by the Government in 1971. The actual expenditure upto 31st March, 1972 is of the order of Rs. 2,195 lakhs. The Committee find that an expenditure of Rs. 157 lakhs was further to be incurred on the Project, bulk of which related to Plant and Machinery (Rs. 110 lakhs).
		The Committee also note that the actual expenditure up to 31st March, 1972 included an amount of Rs. 83.14 lakhs incurred upto September, 1968 and during the period April, 1969 to March, 1972 on carrying out a number of modifications in the course of the erection and also with a view to assessing installed capacity and production practices.
		The Committee regret to note that no details were, however, available about the expenditure

1	2	3
		incurred on the modifications during the period of October, 1968 to March, 1969 with the result that the responsibility of the collaborators, if any, could not be assessed and the expenditure got automatically charged to the Project estimates. Although, a procedure for estimating the effect of modifications was prescribed in October, 1967, the Committee note that this procedure was not implemented with the result that the effect of this modification could not be evaluated.
		The Committee also note that the estimates of 1971 included new works costing Rs. 48.57 lakhs. The Committee regret that even though these new items constituted material modification of the original estimate of the Project, these were not got approved by the Government nor were these brought to the notice of the Parliament as recommended by the Committee in paragraph 2.20 of their 39th Report (1972-73—5th Lok Sabha). The Committee expect that Management|Government will bring these facts to the notice of the Parliament without delay.
39	3.26	The Committee also note that actual expenditure on the Project included a sum of Rs. 78 lakhs on the execution of effluent disposal scheme. According to the arrangements entered into with the State Government, the latter would bear the cost of effluent disposal scheme upto Rs. 32 to 40 lakhs. In 1961 the Ministry informed that a simpler and economical scheme for effluent disposal was suggested by the collaborators involving an expenditure of Rs. 15 lakhs. When this scheme was communicated to the State Government they agreed in August, 1961, to bear the full cost of the effluent scheme. The Committee note that this simpler scheme could not be implemented after considering various proposals for effluent disposal and ultimately a scheme

1	2	3
		prepared by the Central Public Health Engineering Institute Nagpur for Rs. 58 lakhs, was adopted by the undertaking, in February, 1966. When the State Government was approached in 1969 for reimbursement of the expenditure incurred on the scheme the State Government repudiated any liability in excess of Rs. 15 lakhs on the ground that the State Government had to incur extra expenditure to the extent of Rs. 25 lakhs for payment of enhanced compensation for the land acquired by it and gifted to the Undertaking. The result was that the expenditure on the scheme had to be borne by the Undertaking itself. Subsequently, efforts to get reimbursement of money from the State Government were not fruitful. The Committee were informed that the matter is now being pursued at Government level. The Committee would like to be informed of the development in the case.
40	3.47 & 3.48	The Commitee note that according to DPR the plant was designed to produce 851 tonnes of bulk drugs on the basis of 300 working days. Since it was found that the plant was capable of working for 330 days, the capacity on the basis of actual production pattern was increased to 1,399 tonnes as on 31-3-1972. The Committee note that out of 16 items of bulk drugs originally provided for in DPR one item Aectazolamide was dropped on account of obsolescence and marketing difficulties, second (INH) was deferred due to high cost of manufacture, third (D.C. Citrate) had to be stopped as the production of plant could not compete with other manufacturers, fourth (Sodium Sulphacetamide) was restricted because of its limited demand in the market and the capacity of fifth (Piperazine Adipate) became idle because the imported variety was easily available. Excluding these and including some new items the overall capacity on the basis

1	2	3
		of actual product-mix was of the order of 1399 tonnes as on 31-3-1972. The Committee also note that though the rated capacity has been increased the target of production has been less than the rated capacity. Even the revised target has shown downward trend. Considering the overall performance the actual production has been less than the revised target from 1968-69 to 1971-72 the shortfall ranging from 4 per cent to 32 per cent. However, in the case of Piperazine Adipate in 1968-69, Analgin in 1970-71, Sulphanilamide Sodium Sulphacyl, Piperazine Phosphate, Piperazine Hyderate, Phenobrabitone and Sodium PAS in 1971-72 and Phenacetin Paracetamol and Phenebarbi tone 1972-73, the actual production was in excess of the revised targets. The major reasons for shortfall in production were stated to be non-stabilisation of technology, frequent failure in power and water supply and non-availability of raw-materials. The Committee find that the actual time taken by the plant for stabilisation in the production of certain items was much higher than the reglement of the foreign collaborators or even those fixed by the Management. The Committee were informed that the delay in these cases were mostly due to market constraints and the technology of the collaborators not being acceptable to Indian market with the result that certain modifications had to be carried out in the plant. The Committee have given recommendations about market constraints in a separate Chapter. The Committee also hope that it should be possible for IDPL to develop drugs, acceptable to Indian market with the assistance of the Research and Development facilities available with it so that the existing capacity could be utilised to the fullest extent.
41	3.49	The Committee also note that Synthetic Drugs Plant Hyderabad was based on assured

1	2	3
		supply of water to the plant by the State Government. As it was felt that due to frequent break-downs on account of operational reasons production would be affected, a decision was taken to augment the storage capacity. The Committee hope the work in this regard has been completed and continuous water supply assured.
		The Committee recommend that in the interest of continuous production and making available essential drugs to the consumers, Government should render all possible assistance to the undertaking in the procurement of raw materials.
42	3.50 & 3.51	The Committee also note that there had been shortfall in production in Vitamin B1, Vitamin B2, Folic Acid, Amidopyrine, piperozinc salts and D.C. citrate etc. on account of which the country had to import these drugs to the extent of Rs. 269.83, Rs. 366.81 and Rs. 219.98 lakhs in 1969-70, 1970-71, and 1971-72 respectively. The Committee need hardly stress that any shortfall in production and non-utilisation of the capacity will only increase the import of the drugs with greater out go of foreign exchange.
		The Committee recommend that IDPL should ensure the full utilisation of the capacity in all products and thus avoid the necessity of importing them to save valuable foreign exchange.
43	3.55	The Committee find that overall loss incurred by IDPL on account of process losses and loss due to drainage have been of the order of Rs. 19 lakhs in 1969-70, Rs. 8 lakhs in 1970-71 and about Rs. 5 lakhs in 1971-72. The Committee also find that the process loss has shown a declining trend from 1969-70 to 1971-72, although the value of such process losses in individual products like Vitamin B1, Amidopyrine, Folic acid exceeded

1	2	3
		Rs. 1 lakh during 1970-71. In regard to loss due to drainage the Committee note that the loss has come down from Rs. 1.95 lakh in 1969-70 to nil in 1970-71. The Committee recommend that since the production in a number of items has been stabilised it should be possible for the Management to fix norms for process losses/rejections and thus have an effective control over such losses.
44	3.76	The Committee find that IDPL has gone in for expansion of the plant at Hyderabad to be executed in two phases. The first phase of expansion to 2000 tonnes is stated to be based on the Market Survey and the demand for the products as known to the undertaking as it is the sole distributing agency for these products, while the 2nd phase of expansion is stated to be based on the target fixed by the Task Force of Planning Commission and Ministry of Petroleum and Chemicals. The Committee find that the estimated cost of Rs. 525 lakhs for the expansion scheme has been reduced to Rs. 478 lakhs because of over-lapping of some items included both in the expansion scheme and the revised project estimates of the first phase. The actual expenditure upto 31st March, 1973 was Rs. 162 lakhs. Although the scheme was scheduled to be completed by 1972-73, according to present anticipation, it is expected to be completed only by 1974-75. The Committee are of the opinion that IDPL instead of going in for expansion on a large range of product-mix should make a selective approach consistent with the demand of products in the market in order to utilise its available capacity to the maximum.
45	3.77 & 3.78	The Committee are surprised to find that when the Hyderabad plant is licensed for production of DC Citrate and a stock of 9.734 tonnes of DC Citrate is lying with the plant for disposal as on 31st March, 1973 other manufacturers were

1	2	3
		being allowed to import a later intermediate for manufacture of DC Citrate. It is only after the IDPL has taken up the matter with Government that this item was placed on banned list in the import policy for 1972-73. The capacity thus rendered idle is being utilised for producing other drugs. The Committee would like to be informed about the disposal of the stock of DC—Citrate. The Committee recommend that Government should look into the capacity available with IDPL and the range of products manufactured by it, before private manufacturers are allowed imports of the same products.
46	3.104 to 3.106	The Committee find that though according to the process for production of Ribose, almost the whole quantity of mercury used should be salvaged with insignificant loss at the end of the process cycle, the loss of mercury in the plant was quite abnormal. The Committee note that during test trials of the plant in July, 1968, mercury was splasing through the insulation of the pipes. After the damaged pipe was repaired the loss was assessed in July, 1968. An investigation into the matter revealed that location of the mercury trap was discovered only after the loss of mercury was known, the trap was not fully completed and was found covered with mud and certain shortcomings in design and procedures were not discovered at the time of construction and measurement of work and during test trials. Certain remedial measures proposed by the Deputy Superintendent of the Block were implemented in August, 1968 to avoid similar losses. The Management after taking into account the relevant facts and circumstances under which the loss took place, decided in July, 1970 to write off the loss of Rs. 1.19 lakhs. They did not also find it possible to pin point the responsibility for the loss.

1	2	3
		In February, 1970 the Management, however, felt doubt about the possibility of mercury being pilferred from the process stream in the block. The situation was reviewed by the Management and measures taken to transfer persons of doubtful integrity and also to tighten the security measures. An operator who was caught in the process was placed under suspension pending investigation. On the basis of certain norms decided by the Management the loss of mercury was estimated at Rs. 2.2 lakhs during the period April, 1968 to March, 1970. In view of the frequent complaints of loss and theft of mercury a departmental committee was constituted in January, 1971 to examine the procedure for receipt of storage, security and issue of mercury and also to make a proper scientific assessment of consumption of mercury in the process of production of Ribose. The departmental Committee found that (a) the weighment of mercury was not done as soon as the material was received through the transport agencies, (b) the transport agencies did not take any responsibility whenever shortages were detected on open delivery; (c) there were always some delays between the time of receipt of mercury and the accounting of the same; (d) in some cases consignments were not accompanied by documents; (e) mercury was, for a long time kept alongwith the general items; (f) security arrangements for mercury in the Ribose Section were found defective and the workers were allowed to go in and come out of the Ribose Section freely.
		The Committee find it hard to accept the plea of the Management that it was not possible to pinpoint the responsibility for the loss of mercury. The Committee would like Government to review the matter and take action to fix responsibility in this regard. The Committee were assured that since adequate precautions have

1	2	3
		been taken to trap the mercury and the electrolytic process implemented the possibility of pilferage of mercury would no longer be there. The Committee cannot but observe that because of certain shortcomings in designs and procedures not being discovered at the time IDPL was put to a loss of Rs. 1.19 lakhs which had to be written off. The Committee recommend that a careful watch of the consumption of mercury against norms should be kept so that the Management may analyse any abnormal variations from the norms with a view to ensuring that such variations are not on account of any pilferages or wasteful practices etc. The Committee would also recommend that the security arrangements for the mercury in the Ribose Section should be tightened to guard against the possibilities of such pilferages. The Committee would like to be informed of the action taken in the matter, within six months.
47	3.107	The Commiittee find that the Project Report had indicated a loss of 0.0064 tonnes of mercury per tonne of Vitamin B2 but in order to arrive at the extent of loss due to pilferage alone, an exercise was made by the Management by assuming an operational loss of mercury at 0.185 Kg. per Kg. of Ribose produced. Subsequently the Committee which was constituted in January, 1971 recommended that the normal consumption of mercury should be 0.2 Kg. of mercury per 1 Kg. of Ribose. The Committee feel that in order to inspire confidence refixation of norm should have been done by an independent agency after taking into account norms followed in similar plants in the Callaborators country, lest upward revision of norm by the Management themselves should be construed as an indirect regularisation of a loss.

1	2	3
48	3.123	The Committee find that the DPR did not give any indication either about the cost of production or the profitability of products. The Plant prepared product-wise estimates of cost first in March, 1967 and these were revised in November, 1967, October, 1969 and July, 1970 after taking into account the changes in the raw materials input as a result of modification, process changes, revision in the prices of raw materials etc. The Committee find that even in 1971-72 and 1972-73, the actual cost of production was significantly higher than the estimated cost in all the items except two. The Committee note that excess consumption of raw materials alone over the standards laid down in July, 1970 accounted for Rs. 29.73 lakhs during 1970-71 and 1971-72. The Committee recommend that IDPL should analyse the cost of production to examine as to how far these norms are adhered to. The Committee understand that a departmental committee is examining the question of fixation of norms of consumption of raw materials on scientific basis. The Committee hope that departmental committee would finalise its work soon so that reliable data may be available to enable the management to review the cost of products. The Committee need hardly stress that the aim should be to achieve an economic and competitive cost of production. The Committee find that the plant will continue to incur losses even on attaining the rated production unless selling prices are revised. The Committee have no doubt that the Departmental Committee would look into this aspect as well and suggest concrete measures for improving the profitability of the project. The Committee recommend that the plant should endeavour to bring down its cost of production so that it may be possible to reduce the selling prices and make available drugs to the common man at reasonable prices.

1	2	3
49	3.136 & 3.137	The Committee note that inventory holding of Synthetic Drugs Plant have increased from Rs. 421 lakhs in 1968-69 to Rs. 700 lakhs in 1971-72. These come down to Rs. 642 lakhs in 1972-73. The stocks of raw-materials increased from Rs. 140 lakhs representing eighth months consumption in 1968-69 to Rs. 195 lakhs in 1972-73 representing 3.16 months consumption. Similarly stores and spares increased from Rs. 73.87 lakhs representing 22.8 months consumption in 1968-69 to 252.7 lakhs in 1972-73 representing 31 months consumption. The Committee also note that stocks of stores and spares have generally been much in excess of the annual consumption of stores, while consumption of stores and spares ranged from Rs. 36 lakhs in 1968-69 to Rs. 93 lakhs in 1972-73. The actual stocks ranged from Rs. 74 lakhs in 1968-69 to Rs. 250 lakhs in 1972-73. The Committee also note that the Management have fixed the maximum and minimum levels of stocks and raw-materials both for imported raw-materials and indigenous raw-materials, and these stocks levels were subsequently reviewed in August, 1969 and stock margin was added. The Committee are surprised that inspite of the fixation of stock level, the production performance of the unit, is claimed to have been affected, due to shortage of raw material. The Committee would like that this matter should be gone into to find out the critical items of raw material in respect of which the management have been experiencing difficulties so that advance action may be taken to procure them for purpose of stock. The Committee also recommend that the Management should take immediate action to fix up the maximum and minimum levels in respect of other items of stores after completing A.B.C. analysis. The Committee find that the slow moving and non moving items of stores and spares constitut-

1	2	3
		ed a significant proportion of the inventory holdings of these items as on 31st March, 1972. The Committee recommend that a careful review of these holdings should be made and the items no longer required should be disposed of.
50	3.141	The Committee note that physical verification of all stores, raw materials, spares, tools etc. is conducted on the basis of perpetual inventory system. The Committee also note that stores and spare parts to the extent of 24, 21 and 15 per cent have not been verified during 1969-70 1970-71 and 1971-72 respectively. During 1972-73, however, the percentage has come down to 4.6 per cent. The Committee note that the result of stock verification of raw materials, stores and spares including finished goods for the last 7 years (1966-67 to 1972-73) revealed that Rs. 24.6 lakhs of raw material and spares were in excess and Rs. 34.75 lakhs were found to be short. Similarly more than Rs. 3 lakhs, worth of finished stocks were found to be in excess and more than Rs. 7.7 lakhs worth of finished stocks were found to be short. The Committee were informed that as decided by the Board of Directors in September, 1970. investigation of shortages etc. was undertaken and shortages to the tune of about Rs. 12 lakhs have already been written off. The Committee recommend that responsibility for all cases of losses and shortages should be fixed after a thorough investigation of the remaining cases.
51	3.147	The Committee note that on the basis of the provision in the Project Estimate and contemplated production programme of 1967-68. the undertaking procured from March, 1967 to April, 1968, bottles costing Rs. 4.16 lakhs for packing of finished products. In addition it procured 11.31 lakhs pilferacaps of the value of Rs. 80000 for use in the bottles. The Committee regret to note

1	2	3
		that because of indenting packing materials prior to commencement of production bottles worth Rs. 3.75 lakhs and caps woth Rs. 50000 approximately are lying in stock. The Committee were informed that since most of the pharmaceutical suppliers have switched over to other modes of packing, response for the purchase of the bottles and pilfer caps is poor, but efforts are being made for their disposal. The Committee would like to be informed of the developments. In the opinion of the Committee the transaction is likely to result in a loss.
52	3.149	The Committee note that as on 31st March, 1973 the company was carrying a stock of 33 tonnes of value over Rs. 10 lakhs of Hydrazine Hyderate as against stock of 1.3 tonnes of value Rs. 43 thousands as on 31st March, 1972. It has been reported by the General Manager of the Plant that the sale of this item had been adversely affected on account of imported material being offered by a Bombay firm at price lower than that of plant. It was also stated that import of this item was banned in 1971-72. The Committee would like to be informed about the disposal of the huge stocks of Hydrazine Hyderate. The Committee have made their recommendation about the expansion of the capacity of this intermediate elsewhere in this Chapter.
53	3.159 & 3.160	The Committee note that the undertaking decided in August, 1966 to set up an Ammonia receiving and storage station with a capacity of 100 tonnes for ensuring uninterrupted supply of liquid Ammonia and to avoid extra expenditure involved in its procurement in cylinders. The Fertilizer Corporation of India agreed to provide the design technical assistance in the procurement, inspection, erection and commissioning of the equipment for a remuneration of

1	2	3
		Rs. 96750. After invitation of tender, the Undertaking accepted the tender of M/s. ISGEC at the cost of Rs. 2.8 lakhs. The tender was subsequently increased to Rs. 3.14 lakhs due to some additional items of work allotted. The firm was to complete delivery within nine months from the date of the receipt of the order, clearance of technical details and receipt of approved drawings etc. Because of frequent revision of drawings by the Fertilizer Corporation of India at the instance of the firm there was a delay in completing the supplies and the supplies were actually received by the Undertaking on 31st May, 1973. As a consequence of this delay, the undertaking had to bear an extra expenditure of nearly about Rs. 5 lakhs during 1969-70 to 1971-72 by way of price differential between supply of cylinders and tank wagons. The Committee note that one of the considerations for the selection of this firm was its past experience and standing in the fabrication of pressure vessels. It is surprising that the Fertilizer Corporation which recommended the award of work to this firm stated that their experience with the firm was in no way unique and they had similar problems with them. The Committee fail to understand as to how, in spite of their experience with the firm they had recommended the firm to the Undertaking.
		The Committee were informed that the storage tank had since been erected and trials were in progress. A sum of Rs. 30489 was held back and the question of levying penalty for delay in delivery was under consideration. The Committee recommend that the matter should be fully investigated and the Committee apprised of the results.

1	2	3
54	3.165 to 3.167	The Committee on Public Undertakings in their 46th Report (4th Lok Sabha) had mentioned that staff requirement as estimated by the Unit was 5522 and recommended that the staff requirement should be carefully considered and reduction brought about wherever essential. In response to this recommendation a study of the man-power requirement was undertaken by the Industrial Engineering Department of the Unit. According to their recommendation the total manpower was fixed at 3275 in 1970, and 3309 in 1971 and 4053 for the expanded capacity. It has been stated that the strength at the end of November, 1973 is 3143. The Committee find that though a total strength was recommended by the Industrial Engineering Department, no details are available category-wise with the result that excesses under any category cannot be ascertained. The Committee also find that the percentage of total establishment expenditure to the total product cost was of the order of 14.5 per cent in 1970-71, 11.15 per cent in 1971-72 and 12.41 per cent in 1972-73. The Committee recommend that Undertaking would make realistic assessment of the staff requirements and regulate the staff strength with reference to production levels obtained from year to year and deploy staff found surplus for other useful and productive purposes.
55	3.171 to 3.173	The Committee note that capacity for production of intermediates has been increased from 4932 tonnes to 5346 tonnes per annum on the basis of 330 working days. The Committee find that the production of intermediates fell short of the targets in all the years from 1968-69 to 1971-72. The Committee also note that the targets were generally less than the capacities

1	2	3
		except in three cases in 1971-72. The Committee were informed that to a great extent the capacity of the intermediates was increased to meet the captive consumption. The Committee also find that a decision was taken to expand the capacity of intermediates like Hyderazine Hyderate taking into account the market demand for the product. The Committee, regret to note that, as indicated in the Chapter on Inventory Control, there was a heavy accumulation of stock of this material to the extent of 33 tonnes of the value exceeding Rs. 10 lakhs as on 31st of March, 1973 The Committee also find that the sale of this item has been adversely affected on account of the imported material being offered by a private firm of Bombay at a price lower than the price of the IDPL. The Committee do not see any justification for the expansion of the capacity of this intermediate in the face of the existing conditions. The Committee find that import of this item has since been banned. The Committee, therefore, recommend that the Undertaking should ensure that the cost of this product is competitive compared to the imported item, already available in the market. The Committee also recommend that the management should take action for the clearance of the huge stock of this material to avoid unnecessary locking up of capital to the extent of Rs. 10 lakhs.
56	3.186 to 3.188	The Committee note that the plant had 5,000 million tabletting capacity per annum. In reply to an earlier reommendation of the Committee (para 3.39 of their 46th Report 1968-69 4th Lok Sabha), the Ministry of Petroleum and Chemicals had informed the Committee in November, 1970 that after taking into account

1	2	3

stand by capacity and time required for change-over from one product to another, effective capacity of the tableting would be 3051 million tablets per year based on two shifts machines working. The Committee find that in September, 1973 the achieveable capacity was reduced to 2,000 million tablets per annum keeping in view the change in the product mix, size of the tablets, physical characteristics, capacities at various stages like mixing, granualation and drying. The Committee find that as against these capacities, the product mix indicated in the Project Report for formulation was only 666 million tablets per annum. It will thus be seen that the management has been revising the formulation capacity downwards from time to time.

The Committee also note that actual production fell short of even the reduced capacity. The percentage of actual formulation to capacity (3000 million tablets) ranged from 9 per cent in 1968-69 to 60 per cent in 1972-73. The Committee were informed that the plant is now working at a capacity of 2,000 million tablets per annum and production of formulation during the year 1972-73 is of the order of 1731 million tablets.

The Committee regret to note that the economics of formulation section on the basis of reduced capacity of 2,000 million tablets per annum has not been worked out, as it is stated it would vary greatly with the product mix. The Committee were also informed that plant is being allowed imports or releases of bulk drugs imported through STC to enable them to take up formulations based on new products. As the main margin of profit is in formulations, the Committee stress that Undertaking should carefully assess demand of drug and medicines commonly in demand and on which foreign firms are making sizeable margins so as to undertake

1	2	3
		their manufacture/marketing at the earliest and thus bring about more competitiveness in drugs and bring down the rates.
57	4.6	The Committee in paragraph 5.3 of their 46th Report (1968-69) on IDPL had printed out that the estimates of the Surgical Instruments Plant had been revised 5 times during a period of 8 years from 1961- to 1968. The Committee note that estimates revised in August, 1968 were approved by Government in August, 1971 for Rs. 464.71 lakhs as against the estimate for Rs. 476.69 lakhs approved by Government in October, 1966 for the first time. The Committee find that the actual expenditure upto 30th September, 1973 was Rs. 469.66 lakhs which is more than even the final estimate approve by Government. Apart from the increase of over Rs. 2 lakhs in administrative and general expenses, the Committee find that there has also been an excess of over Rs. 2 lakhs on Plant and equipment. The Committee are surprised that estimates revised and approved in 1966, *i.e.*, after the plant had been commissioned had again to be revised in August, 1968 and approved by Government in August, 1971 and the actual expenditure had however exceeded the approved estimates of 1971. The Committee are not sure whether even now the liabilities to be adjusted against the project had been taken into account and there would be no further revision of project estimates. The Committee would like to be informed of the position.
58	4.22 to 4.25	The Committee regret to note that SIP was commissioned in September, 1965 to produce 2.5 million instruments for stock without a proper market survey with the result that the instruments did not command a ready indigenous market because of high prices, restricted number of varities and pattern of instruments not carry-

1	2	3

ing conviction with Indian Surgeons. Consequently, the Plant was faced with an accumulated stock of Rs. 2.57 lakhs at the end of March, 1968. The Committee find that in April, 1966 a market survey was conducted by the NCAER. Subsequently, in 1967-68, the Marketing Division of IDPL conducted a "Quick Demand Survey". According to both these surveys, the original product mix in the DPR needed to be modified. In 1967-68, a Committee of Surgeons recommended that only about 25 per cent of the original product mix could be acceptable in the Indian market and the remaining had either to be modified or given up and instead new types of instruments were to be developed. No exercise was done by the Company to determine the rated capacity of the Plant in the light of the changes in product-mix based on this survey till May, 1972 when the rated capacity was brought down from 2.5 million instruments to 1 million instruments and Rs. 30 lakhs of job orders.

The Committee were informed that the reduction in the rated capacity was not placed before Government for approval.

It has been admitted by the Management that "the market demand for surgical instruments in the country is not expected to meet fully the break even requirements of the plant." The Committee are of the opinion that all the problems of the Plant are due to the absence of a market survey before deciding upon the product-mix for this plant. The Committee feel that even now it is not too late to ascertain the types of surgical instruments which would be suited to the Indian market and re-determine the existing product-mix suitably so as to make the plant economically viable.

1	2	3
		The Committee would like Government to go carefully into the question of export possibilities from this Plant to East European and other countries and have a long term arrangement so that the built in capacity which is surplus to requirements can be put to profitable use. The Committee would like to be informed within six months of the concrete steps taken in pursuance of this recommendation.
59	4.38	The Committee note that the Surgical Instruments Plant was commissioned in September, 1965 and was designed to produce 2.5 million surgical instruments of 166 types according to the Detailed Project Report. As only 46 types were acceptable to the Indian Market, the Plant was faced with the problem of unsold stock worth Rs. 25 lakhs. In July, 1967 the Board of Directors decided that no further production should be undertaken unless there were definite orders for the same. The Committee find that since the Plant was essentially designed for bulk production of small number of instruments and the orders received by the Plant were only in small lots, with the result there was diversion of customers to other sources. Since 1970-71 the Plant had been mainly dependent on export orders. The Committee recommend that as the Plant is designed to produce large bulk of a restricted number of varieties of instruments, the Government|IDPL should pool in coordination with the State Governments, the requirements of Surgical Instruments for the Government Hospitals all over India so that the Plant can take up the production of such instruments in economic lots. This may be of some help in finding orders for the utilisation of the existing capacity of the Plant.
60	4.39	The Committee also find that actual production of the SIP fell short of the planned production in all the years and under all the cate-

1	2	3
		gories despite the fact that the planned production itself was much lower than the reassessed capacity of one million pieces of instruments. Apart from the disturbed labour situation the shortfall in production particularly during 1971-72 has been attributed to production deficiencies especially in the Grinding and Assembly Shops. The Committee also find that though no production was planned for a numer of items yet the actual production thereof was undertaken. Similarly production of a number of items was also more than the planned targets. In this connection it has been admitted by the Management that "this incidentally will continue to be a feature so long as a fairly stable production is not achieved". The Committee recommend that in the interest of stabilising production, existing system of planning and control of production should be placed on a more rational footing so that the Plant is in a position to plan its production keeping in view the pattern of demand in the country.
61	4.46	The Committee note that the percentage of rejections in SIP to the total production ranged from 18.95 per cent in 1971-72 to 27.37 per cent in 1970-71. The Committee also find that the percentage of rejections was the highest in the Grinding and Assembly Shops where the rejection showed an increase from 27,538 number of instruments in 1968-69 to 1,06,160 in 1972-73. The Committee were informed that the Management had taken a number of steps to reduce the rejections by more rigid check on the raw materials, stricter inspection of forging tools, improvement in tooling and machinery, promoting facilities for cleaning of stainless steel instruments etc. The Committee were also informed that the rejections in the Grinding and Assembly Shops were high due to inexperienced

1	2	3
		workmen being frequently put on more and more skilled operations. The Committee are surprised that in spite of the Plant having been in operation for more than eight years the necessary skill for operating the plant could not be developed. The Committee would like that in the interest of attaining high standards in production and minimising the rejections, the Undertaking should consider feasibility of introducing a time bound programme for training the workers in specified skills and deploy them suitably with a view to achieving quality production.
		The Committee recommend that norms for rejections may be finalised without any further delay.
62	4.69	The Committee note that the SIP has not been able to use all the machines in the Plant. The Committee regret to note that no machine utilisation statements were prepared by the Plant till 1970-71. It has been reported that, at the end of August, 1972, the plant had 15 surplus machines valued at Rs. 9.35 lakhs awaiting disposal. The Committee understand that the Management had already circulated the list of surplus machines to all the public sector undertakings and also given necessary publicity in "LOK UDYOG". The Committee hope that the plant would be able to dispose off the surplus machinery soon in the best interest of the unit.
63	4.70	The Committee note that in order to utilise idle capacity available with the plant, the plant had been accepting job orders. The sale value of Job Orders accepted ranged between Rs. 1.55 lakhs and Rs. 12.76 lakhs during 1968-69 to 1971-72 as against the capacity of Rs. 30 lakhs. The Committee find that the costing of the job orders had been defective in that the value of the jobs executed did not include the direct labour cost

1	2	3
		which was being treated as part of the fixed cost with the result that total cost of orders had not been correctly worked out. The Committee recommend that the procedure of job costing which is being followed so far should be reviewed and put on more scientific line so that the true cost of the job is available for effecting recoveries.
64	4.71	The Committee find that as a part of diversification programme the Surgical Instruments Plant had taken up the manufacture of family planning instruments. An analysis of production perfomance indicates the production of Family Planning instruments has declined from 1.60 lakhs in 1968-69 to 30,000 in 1972-73. The percentage of these instruments with reference to total instruments produced came down sharply from 88 per cent in 1968-69 to 4.4 per cent in 1972-73. The Committee were informed that based on past experience Management assessed the requirement for Family Planning instruments not exceeding Rs. 15.20 lakhs per annum, out of which share of Surgical Instruments Plant would be around Rs. 10.12 lakhs per annum. This would work out to 10 to 12 per cent of the total production of instruments (1 million capacity). The Committee recommend that Government should pool their requirements for Family Planning instruments in advance so that there is steady flow of orders and the plant is able to utilise its spare capacity to the maximum extent possible. The Committee would like Government to take up the matter with the State Governments in the interest of securing firm orders for Family Planning Instruments.
65	4.88 & 4.89	The Committee note that, in order to avoid complete dependence on exports and to build up image of the plant in the home market as a sup-

1	2	3

plier of quality instruments, the Surgical Instruments Plant had formulated a three years perspective plan beginning 1972-73 to 1974-75, both for marketing and production. The Plan envisaged raising of the production of surgical instruments, detachable scalpable blades, some items like scissors and forceps and job orders amounting to Rs. 52.44 lakhs in 1972-73 to Rs. 125.68 lakhs in 1974-75. The value of the export orders is expected to increase from Rs. 47.75 lakhs in 1972-73 to Rs. 39.80 lakhs in 1974-75. The strategy adopted by the plant to achieve the targets included, sustained drive to increase productivity, judicious planning for off-loading of instruments, rationalisation of equipements and facilities in the tool room, improvement in the planning and control set up of the plant, and appointment of dealers to consolidate the requirements of individual consumers, etc.

The overall performance against the perspective Plan for 1972-73 and 1973-74 was as follows:

	1972-73			1973-74		
	Plan	Actual	%age	Plan	Actual	%age
No. of Instalments (No in Lakhs)	8.08	6.59	82%	9 01	2.76	2?%
Value including Job orders (Rs.in Lakhs)	100.19	68.85	68.7%	138 06	27 97	20%

It was explained that but for the serious power cut in Tamil Nadu, the plant would have been able to achieve the targets in full.

The Committee find that it was not lack of orders which were responsible for non-fulfilment of the perspective plan.

66 4.90 & 4.91 The Committee are surprised to find that as on 31st December, 1973 indigenous orders to the extent of Rs. 24.57 lakhs, export orders to the extent of Rs. 47.40 lakhs and job orders for

1	2	3
		Rs. 10.50 lakhs were stated to be pending with the plant. It was admitted by Government "that the position of execution of orders in Surgical Instruments Plant is far from satisfactory." The Management sought to justify nonexecution of these orders on the ground that there was power cut by the State Government to the extent of 40 per cent from September, 1972 and 75 per cent from February, 1973. The Committee are not impressed by this plea as they find that orders were pending in each of the earlier years starting from 1968 to 1972. The Management have also attributed the shortfall to non-development of requisite skills and sectional imbalances between grinding and forging sections and other mechanised sections. The Committee were informed that the Management of IDPL are already conducting an investigation into the affairs of the Surgical Instruments Plant and that after this investigation was completed Government would decide about the future steps to be taken in this regard. The Committee recommend that this investigation may be conducted with expedition so that the working of the plant can be put out on sound footing. The Committee hope that with the steps proposed to be taken to improve the working of the plant in the light of the investigations currently being conducted by the management, it will be possible to see that the plant is able to execute whatever orders are received by the plant either to meet the internal demand or the export commitments. Committee would like to be informed of the result of investigations.
67	4.101	The Committee note that so far no standard cost has been worked out in respect of the products of Surgical Instruments Plant and only a system of job costing is in vogue by which the cost of production of each type of instrument is

1	2	3
		worked out. The Committee find that even under the system of job costing, the cost of production of all instruments in 1970-71 was higher than the selling prices both in respect of local sales and also for external market. The Committee were informed that during 1971-72 the sale value covered the direct cost although in 1972-73 there were as many as 20 items whose selling prices did not cover even the prime cost of production. The main reasons for such a situation were stated to be that fixed overheads of the Plant were of the order of 42 per cent of the break-even expenditure of Rs. 160 lakhs; the selling prices have been following a uniform pattern for the indigenous as well as for exports inspite of abnormal increase in the cost of materials and wages. Lower productivity in Grinding and Assembly Shop is also stated to be one of the reasons for high costs. The Committee find that there is a wide variation as between the total cost of production and the selling prices of various instruments. The Committee recommend that the Plant should take concerted measures to bring down the cost of production and raise the level of productivity, particularly in the Grinding and Assembly Shop.
68	4.102	The Committee find that the prices of Surgical Instruments were fixed in 1966 on the basis of estimated cost for 1966-67 when only a fraction of the capacity of the Plant could be utilised. The prices were consequently very high compared to the corresponding instruments manufactured in the private sector. It has been claimed by the Company that Instruments of this plant were superior in quality. The Committee regret to note that inspite of the revision of the prices of instruments substantially in July, 1967, taking into account changes in product mix, current cost of market prices, the selling prices continue to be lower than the cost of production

1	2	3
		in all items except one and the extent of difference in the case of individual instruments varied from Rs. 2.24 to Rs. 206.20. The Committee are not however convinced that cost of production was high due to lack of orders the Committee have already printed out elsewhere in this Report that the plant had pending orders worth lakhs of rupees which could not be executed. The Committee fail to understand as to why inspite of existence of such orders, there had been shortfall in production leading to under-utilization of capacities with consequential higher cost of production. The Committee also find that during 1972-73 the plant produced 2892 instruments (code No. 05-01) at a total cost of 55.60 rupees per instrument and sold the same at only Rs. 11 per instrument. The prime cost of this instrument was stated to be Rs. 12.93. There are number of other instruments where the selling price was not only far below the overall cost of instruments but did not cover even the prime cost of the instrument. The Committee feel that if selling prices continue at the present level without any reduction in cost of production the working of the plant cannot be expected to become economically viable in the near future. The Committee, therefore, recommend that a high power Committee should be appointed to go into the entire working of the Surgical Instrument Plant to identify the areas where the cost of production can be reduced and to suggest viable selling prices for each type of instruments, including scope for diversification.
69	4.107	The Committee find that the prices of Surgical Instruments were fixed in 1966 on the basis of estimated cost for 1966-67 when only a fraction of the capacity of the Plant could be utilised. The prices were consequently very high compared to the corresponding instruments manu-

1	2	3
		factured in the private sector. It has been claimed by the Company that Instruments of this plant were superior in quality. The Committee regret to note that inspite of the revision of the prices of instruments substantially in July, 1967, taking into account changes in product-mix, current cost of market prices, the selling prices continue to be lower than the cost of production in all items except one and the extent of difference in the case of individual instruments varied from Rs. 2.24 to 206.20. The Committee recommend that the management should critically go into the cost aspects and fix the selling prices at realistic level.
70	4.113 & 4.114	The Committee find that the plant is holding huge stocks of raw-materials, stores and spares, compared to the average annual rate of consumption. The stock of indigenous raw materials as on 31st March, 1973 represented 150 months consumption while the indigenous stores and spares 144 months consumption. The stock of imported raw materials represented 5 months consumption while the stock of imported stores and spares represented 100 months consumption. An analysis of some of the individual items indicated that stainless steel and alloy steel valued at Rs. 40 lakhs imported from U.S.S.R. during 1965-66 to 1967-68 had been lying unused. It was stated that this had been ordered even before the plant went into production taking into account the product-mix and capacity envisaged in the project report. The Committee regret to note that even though the unit came into existence in September, 1965 no maximum and minimum limits have been fixed for the items. It has been indicated that the original stocking of spares was based on the advice of the collaborators and because of less utilisation of the equipment there has not been much out-go or replacement of the spares.

1	2	3
		The Committee were informed that a Technical Committee had been appointed early in 1973 to go into the requirements of the spares and assess the inventory holdings under three categories (a) insurance items (b) stores which may be possibly required during the next five years; and (c) spares which could be straightway declared as surplus and disposed of. The Committee were also informed that this Technical Committee have now recommended declaration of stores worth Rs. 50,000/- as surplus and the management is now taking action for their disposal and also maximum and minimum limits have been fixed in respect of certain items. The Committee recommend that the Technical Committee should complete its work soon and identify stores which are really surplus to the requirements so that the undertaking can take immediate action to divert the surplus to more profitable use to other undertakings or dispose them of to the best interest of the undertaking. The Committee would like that Management should take action to fix maximum and minimum limits for all the stores without further delay so that the risk of high inventory holding is avoided. The Committee find that stainless steel and alloy steel valued at Rs. 40 lakhs imported from USSR during 1965-66 to 1967-68 had been lying unused. The Committee are not sure whether the stainless steel and alloy steel has been used or disposed of. The Committee would like to be informed of the latest position.
71	4.126	The Committee note that the percentage of labour efficiency has increased from 21.85 per cent in 1968-69 to 69.27, in 1971-72, correspondingly the value of production per employee has

1	2	3
		also increased from Rs. 1292 in 1968-69 to 6328 in 1971-72. The increase in productivity was however accompanied by an increase in salaries and wages, per employee. The Committee, find that the percentage of labour efficiency has decreased to 68.49 in 1972-73 and the idle time has also increased to 66.45 hours in 1972-73 as against 3797 hours in 1971-72. The Committee regret to note that though the overall man-honrs available were more than the standard hours and production was less than the Plan targets, heavy expenditure on honorariam was incurred during 1970-71, 1971-72 and 1972-73. The Committee were informed that increased payment of honorariam was due to the need to diversify the production in Surgical Instruments Plant and job orders which pose an urgent problem to man more equipment days with the existing staff.
		The Committee need hardly stress that with the increase in labour efficiency and in the level of technical skill developed during the course of years, it should be possible for the Undertaking to keep the expense on honorariam to the minimum. The Committee recommend that the staff already available should be usefully deployed for productive purposes so as to improve the labour efficiency and obviate the necessity for payment of honorariam.
72	4.127	It has been admitted by the Management that the real problem at the S.I.P. is low productivity of workers which does not enable the Plant to achieve production of even the reduced capacity. The Committee recommend that concerted efforts may be made to raise the level of productivity and achieve the capacity targets.
73	4.136 and 4.137	The Committee find that although the Surgical Instrument Plant should have come within the purview of the employees State Insurance

1	2	3
		Act, 1948 as early as September, 1965 and should have atleast registered itself under the Act with effect from June, 1966 when it was asked by the Employees State Insurance Corporation to do so, it actually decided to implement provisions of the Act only in April, 1967. The result was that the Unit had to pay an amount of Rs. 1.16 lakhs as arrears of contributions from September, 1965 to October, 1967. The Committee need hardly point out that had the Company brought the Surgical Instruments Plant within the scope of the Act right from the beginning, it would have avoided an expenditure of Rs. 77,331 incurred by it on reimbursement of medical expenses under the company's rules. The Committee were informed that delay in the registration of the Unit under the act was on account of the medical facilities provided by the Unit being more favourable to its employees than would be available under the Act. The Committee feel that because of the delay in the implementation of the statute payment of medical expenses to the extent of Rs. 77,331 has become avoidable.
74	5.22 to 5.25	The Committee note that the prices of products of the Antibiotics Plant and the Synthetic Drugs Plant were fixed for drugs likely to be on sale in 1968 on the basis of the then ruling maximum prices in the market, even though the cost of production at that time warranted higher prices. The undertaking had, however, to reduce the prices to lower levels and to sell the products at reduced prices to secure fair span of the market. With the tapering of imports, the Company was able to progressively increase its prices of Sulphas and pencilin when the Drugs (Prices Control) order came into effect from the 16th May, 1970 and certain drugs were defined as "essential bulk drugs". The prices of bulk drugs were, however, frozen at the rates ruling on 15th May, 1970. The Committee were informed that

1	2	3

the prices fixed did not take into account the actual cost of production in the Antibiotics Plan. With the result that the recommendations of the Drugs (Prices Control) Order proved uneconomical to I.D.P.L. A similar difficulty was also felt in the case of Synthetic Drugs Plant since the process of rationalisation of the prices had not been completed. There had also been a number of escalations in the prices of raw materials, wages, services etc. As bulk drugs are sold mostly to the private sector for formulation purposes the Committee feel that as a result of transfer of bulk drugs to formulators in the private sector, they were allowed to earn a greater margin of profit.

The Committee also note that the Company approached Government for fixing the selling prices after taking into account its ultimate cost of production including return on capital. The Committee understand that on the 11th September, 1970, Government constituted a Working Group of Bureau of Industrial Costs and Prices for settling the cost structure on 25 bulk drugs and to recommend fair selling prices therefor. The Committee regret to note that though the recommendations of the Bureau were received by Government as far back as October, 1972. Government took an unduly long time in taking a decision on these recommendations.

In one of the Inter-Ministerial meetings held on 7th December, 1973, it was decided by the Government that the Bureau should advise on the revised selling prices, keeping in view the current costs of raw materials and other pharmaceuticals aids and services.

The Committee need hardly emphasize that IDPL should improve efficiency and effect economies to take their priducts most competitive.

1	2	3
75	5.26 to 5.28	The Committee note, that in regard to formulations, Drugs (Prices Control) Order, 1970 had envisaged the fixation of retail prices of formulations by Government of India should be on the basis of formula contained therein. In June, 1970, Government decided that wherever the application of the formula for fixation of prices of formulations in the case of Antibiotics Plants and Synthetic Drugs Plant allowed a higher price than the existing selling price, the latter should be retained but if there were any cases where the formula resulted in reduction of the price, the lower price should be allowed. Consequently IDPL was unable to raise the prices of its formulations instead, it had to effect reduction in some cases. Consequent upon the continuation of the existing prices of formulations, the Committee are informed that IDPL was put to an estimated loss of 1.98 crores during 1970-71 alone. The Committee also note that Government have in February, 1974 constituted a Committee to enquire into various aspects of the Drugs and Pharmaceuticals Industry with a view to ensuring that all essential drugs are made available to the consumers at reasonable prices. The terms of reference *inter alia* stipulate an examination of the measures taken so far to reduce the prices of drugs for the consumers and to recommend such further measures as may be necessary to rationalise the prices of drugs and formulations. They hope that the Hathi Committee would give their recommendations by the scheduled date and that Government would take expeditious decision on these recommendations in the interest of making available medicines to the public at most competitive rates.
76	6.11	The Committee note that the marketing organisation of IDPL was set up in March, 1967 for

1	2	3
		the purpose of carrying out market surveys and undertaking distribution of the products of the three plants. As a result of Government's decision to entrust to the Company distribution of imported drugs within the production range of the Company, the activities of the Marketing Division were expanded in 1970-71 to include the sale and purchase of imported drugs as well. With effect from 1st January, 1971 marketing activities of surgical instruments were transferred back to the Surgical Instruments Plant, Madras. The bulk products and intermediate chemicals are generally sold by the plants to the pharmaceuticals|chemicals companies. In the case of imported bulk, however, the sales are centralised at Bombay Depot of the Company. The sale of pharmaceuticals formulations to Government institutions is mainly through rate contracts entered into with DGS&D| State Governments etc. The sales to trade are, however, executed by the regional offices through distributors. The total staff strength of the Marketing Division as on 31st March, 1973 was 364 (including 49 officers). The Committee recommend that organisational set up and arrangements for the sale of IDPL products may be kept under-review and improvements effected from time to time so as to push up the sales of IDPL products in the best interest of the Company and at the same time keep the selling costs to the minimum.
77	6.14	The Committee find that the turn-over of drugs and pharmaceuticals by IDPL amounted to Rs. 10.2 crores in 1970-71, Rs. 15.55 crores in 1971-72 and Rs. 19.90 crores in 1972-73. This constituted 4.1 per cent, 5.2 per cent and 6.6 per cent of the country's turn-over for these three years. The Committee also note that though the sales of the Company increased from Rs. 101.22 lakhs in 1968-69 to Rs. 2058 lakhs in 1972-73, the Company failed to attain even the

1	2	3

revised targets of sales in any of the years. The main reasons for non-achievemnt of sales targets were stated to be lower production in all the years and availability of cheaper imported drugs in the market (for 1968-69 only). The Committee recommend that IDPL should evolve better sales strategies to push up the sales.

The Committee note that as a result of the recommendations made by the Committee in their 46th Report, Government had issued instructions in June, 1971|May, 1972 that Government Departments and Public Sector enterprises should obtain their requirements of drugs from the IDPL|Hindustan Antibiotics Limited to the maximum extent possible and a price preference upto 10 per cent be allowed to them. The Committee have been informed that these instructions are not being followed by some of the State Governments and Director General of Supplies and Disposal who also enter into parallel rate contracts with private firms.

The Committee also understand that Government medical stores depots under the Ministry of Health and Family Planning have not given effect to the Government instructions issued in June, 1971 and May, 1972, to accord 10 per cent preference to IDPL. State Governments contend that they do not come within the perview of the circular issued by the Government of India since health is a state subject. The Committee recommend that Government should once again draw attention of the Government Departments|Public sector enterprises to the instructions issued in June 1971|May, 1972 and impress upon them the need to meet their requirements from the IDPL|Hindustan Antibiotics Limited to the maximum extent possible. Government should also ensure that DGS&D places all orders for the products within the range of

1	2	3
		production of IDPL|HAL on these undertakings within the ceiling of price preference indicated above.
78	6.16	The Committee find that during 1972-73, IDPL's sales were 62.4 per cent of bulk and 37.6 per cent of formulations. Out of its total sales of formulations, the percentage sale to Government Departments was 80.6 per cent and to trade 19.4 per cent during that year. The Committee further find that during 1973-74 (Upto November, 1973) the percentage sales to Government Departments was 72.3 per cent and to trade 27.7 per cent. The Committee recommend that IDPL should strive to change its sales pattern so as to increase the percentage of its sales to the trade and reduce its dependence on the purchases by Government Departments.
79	6.17 and 6.18	The Committee find that with a view to exploit the vast trade market, IDPL has introduced some branded products like Apidin, Cemizol and Hexavite, Sulphadimidine, Sulphaguanidine and Choromphenicol the Company has also introduced its first liquid injectable product under the brand name 'Otcim' for sale to the trade. The Committee have been informed that a number of new drugs are under development and are likely to be introduced by the end of 1973-74 or in the early of 1974-75. While the Committee appreciate the efforts being made by IDPL to make available medicines to the people at reasonable prices, the Committee feel that in order to improve its profitability IDPL should also introduce some more sophisticated formulation in order to increase its share of trade in the market.
80	6.47	The Committee have been informed that State Governments mostly go by the price factor in the matter of purchases and give preference to units located in their States. The Director General of Supply and Disposal enters into parallel rate contracts with other companies because of its declared policy of having more than

1	2	3
		one source of supply so that in the event of failure of supply of one source, they can fall back on the second source of supply and also because of the fact that private firms quote rates lower than that of IDPL. The Committee feel that DGS&D should be directed to give preference to IDPL/HAL and only if IDPL/HAL fail to supply drugs of requisite quality that DGS&D should fall back upon other sources with whom DGS&D could, if necessary, enter into reserve rate contract. In the opinion of the Committee, this will ensure adequate business to the IDPL and at the same time provide a second source of supply to the DGS&D. The Committee apprehend that if DGS&D continues to go by the system of lowest tender the possibility of private manufacturers securing the contract by tendering the lowest price and supplying substandard or spurious drugs cannot be ruled out. The Committee, therefore, recommend that Government should consider all aspects of the problem and see in what way the present system can be improved upon to ensure availability of genuine drugs to the people at reasonable prices.
81	6.48	The Committee note that in July, 1970, Government introduced a canalisation scheme under which the import of bulk drugs to make good the shortfall/supplement indigenous production was permitted. IDPL was designated as the canalising agency for 10 items which fell within its production range. The number of items canalised for imports through State Trading Corporation was 36 in 1973-74. A system of pooling prices was also evolved by Government under which pooled price was fixed by taking the weighted average of the prices allowed to indigenous manufacturers and the price of the imported material inclusive of CIF price, Customs and Clearance charges, etc. The scheme envi-

1	2	3
		saged that the difference between the price notified by Government for the indigenous production and the pooled price would be reimbursed by IDPL out of profits earned under the scheme. It has been claimed that with the introduction of system of canalising, it has been possible to ensure uniform prices for all sections of the industry and it has enabled the State Trading Corporation to procure such drugs in bulk quantities from sources which offer the lowest price. Another advantage was that the small-scale sector companies were able to undertake formulations of a larger number of drugs which brought down the prices of such formulations. The benefit of canalisation thus passed on to the consumer. The Committee find that a comprehensive review of pooled prices had not been carried out by Government since the canalisation system was first introduced in July, 1970. The Committee, therefore, recommend that Government should keep the present system of canalisation under constant review and ensure that the system of price, based on the principle of weighted average, is worked out in such a way that it is equitable to all concerned especially to companies in the small-scale sector.
82	6.65	The Committee note that a major portion of the surgical instruments produced at the Surgical Instruments Plant of IDPL are being exported, to the U.S.S.R. The value of export has arisen from Rs. 1.01 lakh 1968-69 to Rs. 50.72 lakhs in 1972-73. The percentage of exports to total sales increased from 5.7 per cent in 1968-69 to 87.1 per cent in 1972-73. The Committee also note that the export prices at which these surgical instruments were exported were much lower than the cast of their production and local sale prices with the result that these exports have resulted in significant losses to the Company.

1	2	3
		During the period 1968-69 to 1972-73, Surgical Instruments produced at a cost of Rs. 319.48 lakhs were exported at Rs. 131.64 lakhs thus resulting in a total loss of Rs. 187.84 lakhs to the Company. The Committee understand that while the prices of comparable instruments produced in West Germany were higher the prices of such instruments produced by Pakistan were lower because Pakistan gave about 50 per cent subsidy on such exports. The idea of giving subsidy to IDPL, however, has not found favour with the Ministry because "a subsidy would merely imply a transfer of loss", and would give "a distorted picture of the performance of Surgical Instruments, Plant, Madras." The Committee were informed that the matter is, however, still under examination and the IDPL had been asked to work-out a paper as to the degree of assistance which would be required by it to become self-supporting over a period of year. The Committee are deeply concerned to note that the Plant will have to continue to incur heavy losses by exporting surgical instruments produced by it at unremunerative prices. The Committee are sure that a plant which exports its products at a price which is substantially less than the cost of production would continue to be a drain on the financial resources of the Company as a whole and may jeopardise the economic stability of the company. The Committee, therefore, feel that it is high time for Government to undertake a thorough probe of the economics of the Surgical Instruments Plant. Madras and scrutinise its product-mix *de novo* to increase the prospects of increasing sale of instruments in the domestic market and to explore the scope for exports to other countries at remunerative prices in order to avoid dependence for such exports on a single country.
83	6.67	The Committee note that in order to compete with private manufacturers. IDPL has intro-

1	2	3
		duced incentive scheme for development of dealers under which a specific commission on distribution of IDPL products is allowed and a periodic incentive through a company's scheme or quantity discount is given from time to time. The Committee recommend that IDPL should review the position from time to time and to see that other measures are necessary in order to push up its sales in the indigenous market and to offer fair competition to the private manufacturers in the field.
84	7.37 & 7.38	The Committee note that the Authorised and paid-up Capital of the IDPL as on 31st March, 1973 stood at Rs. 40 crores and Rs. 33.70 crores respectively. The debt equity ratio of the Company on that date was 1.6 : 1. On 22nd September, 1972, the Government of India granted a moratorium for a period of four years with effect from the 1st April, 1972 on the repayment of loans and loan instalments amounting to Rs. 24.85 crores which had fallen due for repayment upto July, 1972. Besides, Government also agreed to treat the working capital loans to the extent of Rs. 24.85 crores drawn to finance the cash losses sustained by the Company upto 31st March, 1972 as "interest free" for a period of 5 years from 1st April, 1972. The treatment of the working capital loans amounting to Rs. 24.85 crores as interest free loan, it has been stated, would give company an annual relief of Rs. 150.53 lakhs for five years. In August, 1973, Government also waived an amount of Rs. 180.05 lakhs due from the Company on account of penal and compound interest on delayed repayment of loan instalments and delayed payment of interest.
		The Committee are deeply concerned to note that by 31st March, 1973 IDPL has incurred a cumulative loss of Rs. 38.25 crores and had

1	2	3
		thus eaten up its entire paid up capital of Rs. 33.7 crores. The Committee note that the loss has increased from Rs. 56.45 lakhs in 1965-66 to Rs. 369.95 lakhs in 1972-73. Considering the individual Plant, Division, the Committee find that Surgical Instruments Plant has suffered a loss of Rs. 602.36 lakhs, Synthetic Drugs Plan of Rs. 1047.70 lakhs, Antibiotics Plant Rs. 2103.91 lakhs and the Marketing Division Rs. 71.93 lakhs. The Committee feel that in order to judge the performance of the trading operations of these plants, it is essential that the accounts are kept in such a manner that the working results of manufacturing activities of each plant and trading results on the purchases and sale of imported drugs can be prepared operately.
		The Committee have been informed that these losses were mainly due to long construction and gestation period, under utilisation of capacity due to lack of technical expertise, deficiencies of equipments and processes shortage of critical raw materials, power cuts, losses due to export of surgical instruments. The plant is stated to be taking steps to improve the technology by introducing new equipment, machinery and processes. The Committee recommend that IDPL should take concerted measures designed to improve its profitability rather than depend on financial relief granted by the Government from time to time.
85	7.39	The Committee find that though the items to be covered in the Internal Audit Programme have been laid down, the quantum of Audit to be applied to such items has not been prescribed therein. As Internal Audit is an important aid to Management, the Internal Audit Department should be strengthened to enable it to critically

2	3

review policies, practices and procedures concerning all fields of activities and Departments of the Plants/Units in terms of adequacy, soundness and effectiveness.

8.30 The Committee note that the Managing Director is the chief executive of the Company. At the Unit level the General Manager functions as chief executive of the individual Unit and is responsible for the efficient performance of the Unit in accordance with the policies and Plans approved by the Board. The IDPL has three Plants, one at Rishikesh, the second at Hyderabad and the third at Madras. Though these are distinct units each specialising in a special field of production these are under one Management. The General Managers are not invited to participate in the meetings of the Board although according to general directions issued by the Bureau of Public Enterprises such an arrangement might be considered in the interest of the working of the units and the Undertaking as a whole. The Committee are informed that the Ministry is already examining the future set up of the IDPL and HAL with a view to coordinate their activities and rationalise the management of the units in the context of the targets envisaged in the Fifth Plan and ensure that the plants manufacturing similar products are under the same Management. The Committee desire that the Ministry should complete its examination soon and rationalise the Management so as to have a more broad based Board.

8.31 The Committee find that in pursuance of the recommendation of the Committee on Public Undertakings in their Fifteenth Report (Fourth Lok Sabha—April, 68) the B.P.E./Government of India issued broad guidelines defining the main functions, responsibilities and powers of

1	2	3
		Financial Adviser. It was also mentioned in the guidelines that the Board of Directors should lay down detailed powers and functions of Financial Adviser particularly in regard to matters which should be reserved for concurrence or consultation with Financial Adviser, etc. In spite of these directions no such demarcation has been made so far. The Committee were informed that the existing practice has been working smoothly during all these years and therefore, it was not considered necessary to modify them. The Committee, however, feel that financial demarcation of areas for prior consultation/concurrence with the Financial Adviser as laid down by the Bureau of Public Enterprises, would be advantageous, instead of being the matter to be decided by the practices which may vary from time to time. The Committee also find that no Hand Book of Financial Powers delegated from time to time has been compiled. The Committee need hardly stress the importance of compiling early a suitable Guide Book containing in detail the duties and powers of the Financial Adviser, in the interest of expeditious disposal of business.

MGIPND—LS II—625 LS—10-8-74—1425.