

**COMMITTEE ON PUBLIC  
UNDERTAKINGS  
(1975-76)**

**(FIFTH LOK SABHA)**

**EIGHTY-NINTH REPORT**

**ON**

**FOREIGN COLLABORATION IN PUBLIC  
UNDERTAKINGS**



**LOK SABHA SECRETARIAT  
NEW DELHI**

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EIGHTY NINTH REPORT ON FOREIGN COLLABORATION  
IN PUBLIC UNDERTAKINGS

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(1975-76)

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Shri Nawal Kishore Sharma

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3. Shri Bhogendra Jha
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21. Shri Sultan Singh
- \*22. Pandit Bhawani Prasad Tiwary

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\*Ceased to be a Member of the Committee consequent on his retirement from Rajya Sabha on 2-4-1976.

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2. **Shri M. A. Soundararajan**—*Chief Financial Committee Officer.*
3. **Shri K. S. Bhalla**—*Senior Financial Committee Officer.*

## **COMPOSITION OF STUDY GROUP**

### **STUDY GROUP ON FOREIGN COLLABORATION**

1. Shri Harsh Deo Malaviya—*Convener*
2. Shri Bhogendra Jha—*Alternate Convener*
3. Shri Amarnath Vidyalkar
4. Shri Dinen Bhattacharya
5. Shri Surendra Mohanty
6. Shri Atal Bihari Vajpayee
7. Shri Veerendra Patil
8. Shri Vasant Sathe
9. Shri K. Narayana Rao
10. Shri C. K. Jaffer Sharief
11. Shri Sriman Profulla Goswami

## INTRODUCTION

I, the Chairman, Committee on Public Undertakings, having been authorised by the Committee to submit the Report on their behalf present this Eighty-Ninth Report on Foreign Collaboration in Public Undertakings.

2. The subject was examined by the Committee on Public Undertakings, 1974-75 and 1975-76. The Committee called for preliminary material from 121 public undertakings in 1974.

3. The Committee (1975-76) selected the following twenty leading undertakings for detailed examination and took evidence of their representatives on the 17th and 18th October, 1975 and 22nd and 23rd December, 1975:

- (1) Bharat Aluminium Co. Ltd.
- (2) Bharat Heavy Electricals Ltd.
- (3) Bharat Earth Movers Ltd.
- (4) Bharat Heavy Plates & Vessels Ltd.
- (5) Bharat Ophthalmic Glass Ltd.
- (6) Fertilizers & Chemicals Travancore Ltd.
- (7) Fertilizer Corporation of India
- (8) Heavy Engineering Corporation
- (9) Hindustan Machine Tools Ltd.
- (10) Hindustan Photo Films Manufacturing Co. Ltd.
- (11) Indian Drugs & Pharmaceuticals Ltd.
- (12) Indian Oil Corporation Ltd.
- (13) Indian Petrochemicals Corporation Ltd.
- (14) Indian Rare Earths Ltd.
- (15) Instrumentation Ltd.
- (16) Lubrizol India Ltd.
- (17) Mining and Allied Machinery Corporation Ltd.
- (18) Steel Authority of India Ltd.
- (19) Engineers India Ltd.
- (20) National Industrial Development Corporation Ltd.

4. This was followed by the evidence of the officials of the following Ministries/Departments of the Government of India on the 9th, 12th and 20th January, 1976:—

- (1) Ministry of Steel & Mines (Department of Steel).
- (2) Department of Industrial Development
- (3) Ministry of Petroleum
- (4) Ministry of Chemicals and Fertilizers
- (5) Ministry of Defence (Department of Defence Production)
- (6) Ministry of Steel and Mines (Department of Mines)
- (7) Department of Atomic Energy
- (8) Department of Heavy Industry
- (9) Department of Economic Affairs (Ministry of Finance)
- (10) Ministry of Finance (Department of Expenditure)
- (11) Directorate General of Technical Development
- (12) Bureau of Public Enterprises
- (13) Department of Science and Technology

5. The various aspects of the Horizontal subject were considered by the Study Group on Foreign Collaboration from time to time.

6. The Draft Report was considered by the Committee at their sittings held on 20th and 23rd April, 1976.

7. The Committee wish to express their thanks to the various Ministries/Departments and Public Undertakings for placing before them the material and information on the subject. They wish to thank in particular the representatives of public undertakings and officers of the Ministries/Departments who gave evidence and placed their considered views before the Committee.

NEW DELHI;

April 29, 1976.

Vaisakha 9, 1898 (Saka).

NAWAL KISHORE SHARMA,  
Chairman,  
Committee on Public Undertakings.

## PREFACE

Upon winning political independence our nation was faced with the problem of abolishing our economic backwardness which has the result of a prolonged policy of exploitation by foreign rulers. The economic backwardness was manifested in the preservation of out-moded forms of production relations and low level of development of the productive forces. The predominance of agriculture and lack of industries, both poorly developed, constituted an unsteady material basis for meeting the requirements of our rapidly growing population. Independent India was thus faced with the task of creating a material basis which could be capable of meeting the requirements of the population.

As early as 1931, at its Karachi Session, the Indian National Congress said in its Fundamental Rights Resolution: "The State shall own or control key industries and services, mineral resources, railways, waterways, shipping and other means of public transport."

While Mahatma Gandhi oriented the national movement towards the vast toiling masses of India, Jawaharlal Nehru gave it his scientific outlook and ideology.

Even before independence Prime Minister, Jawaharlal Nehru felt that development of basic sectors of the economy, namely steel and heavy industry, machine-making industry, petroleum and minerals etc. were the key to the emergence of a powerful industrial India on socialist lines.

He realised that economic dependence on other would obstruct the creation of a firm material base for the accomplishment of urgent tasks awaiting the nation, namely, building up national economy, eliminating economic backwardness and raising the living standards of the people.

To achieve these tasks, Jawaharlal Nehru placed before the nation the method of planned development. Nehru viewed planned economic development as an instrument in the hands of the State which may serve not only to mobilise resources and to ensure their balanced development, but also to solve national tasks on a broader plane.



The economic units established in India under the aegis of the alien power were by nature limited in their possibilities of growth.

Early modern industries were established in India as branches or subsidiaries of foreign industrial concerns. The technical expertise made available and their development in the day to day operations were entirely controlled by the parent companies. Association of Indian personnel with foreign experts and accumulation of experience by Indians in plant operations were dissipated because of lack of any sense of direction for their utilisation. In fact, the foreign companies did not encourage the acquired Indian expertise to be utilised except in so far as it was in their interest.

Scientific discovery and technical innovation are closely linked. It may be easy to effectively carry out transfer of technology but it requires indigenous development of the acquired technology through scientific knowledge and technical innovations in order to be able to build up the multi-generation plants which the country needs for its own use or for export.

Thus, for a newly-free developing economy like that of India, development of science and technology attained the highest importance and that is the reason why the late Prime Minister, Jawaharlal Nehru, had emphasised this tirelessly through all the years of his Prime Ministership, and even before. Practice has shown that those who produce and possess technology have, if they choose, enormous power to influence and in fact control development as well. The present strategy of India, as of other developing countries—to rely on acquired technology, which may not always be the latest and which may even be outmoded would not be in the interest of the country in the long run. If the country does not go ahead with its scientific and technological revolution, it is bound to lag behind. Needless to point out that if neo-colonialism is to be kept away India cannot afford to be second rate in scientific and technological advancement.

For India, as for other developing countries, development of science and technology has become primarily a social and economic issue today. In acquiring technology for our public enterprises, or for that matter, for any other purpose, we were obliged to acquire a technology, the development of which had been almost exclusively directed to the interest of the developed countries. It becomes therefore of great importance to absorb the technology and know-how which have been responsible for development and to adapt them to suit the needs of the country.

Access to and knowledge of contemporary technology thus constitutes a vital factor for the vast number of developing countries like India in their development. That is why the matter received the attention of the United Nations which considered as to what should be done in this regard and what steps should be taken to enable the developing countries to have easier and more favourable access to up-to-date technology and drew up an Action Programme to establish a new international order outlining the following tasks and measures:

1. Formulate an international code of conduct in the domain of technology transfer that accords with the needs and conditions prevailing in the developing countries.
2. Ensure access, under better terms, to contemporary technology adapted to the needs, specific economic, social and economical conditions and varying levels of development in the developing countries.
3. Expand the assistance of developed countries to the developing countries in their research and development programmes and in the generation of an appropriate national technology.
4. Promote international cooperation in the field of research and advance exploration, exploitation, conservation and rational use of natural resources and all energy sources.
5. Reconcile trade practices in technology transfer with the needs of the developing countries and preclude misuse by those selling technology.

The adoption by the world body of this Action Programme was a signal success for the developing countries.

It is significant that it was Prime Minister, Jawaharlal Nehru, the inspirer, initiator and builder of the non-aligned movement who placed before India and also before all the newly-free and developing countries, the path of independent development through planned methods in which the development of the public sector occupied the pride of place. The State sector, Nehru visualised, was above all a material level for exerting an effective influence on the national economy. This power of the public sector would also have the necessary strength and will to use foreign collaboration in the interests of the nation as a whole.

In the pattern developed in India, the economic power of the State and the funds mobilised by the State through budget for economic development helped the rapid growth of the State owned sector. The Industrial Policy Resolution of 1948 was the first major step taken under Prime Minister Nehru's guidance for a dynamic national policy. The 1948 Resolution stressed the need for the State to play a progressively active role in the development of industries. The Industrial Policy Resolution of 1948 was revised in 1956. The Resolution of 1956 stated:—

“The adoption of socialist pattern of society as the national objective, as well as the need for planned and rapid development, require that all industries of basic and strategic importance, or in the nature of public utility services, should be in the public sector. Other industries which are essential and require investment on a scale which only the State, in the present circumstances could provide, have also to be in the public sector. The State has, therefore, to assume direct responsibility for the future development of industries over a wider area.”

It would be thus clear that India has viewed the role of the public sector as a national effort initiated and backed by the State for the economic reconstruction of the nation for hastening the realisation of the socialist objective.

Accordingly the Public Sector in India has grown and the total investment has gone up from Rs. 29 crores as at the commencement of First Five Year Plan to Rs. 7261 crores at the end of 1974-75. The total investment of Rs. 7261 crores (March, 1975) was made up of Rs. 3839 crores of equity capital and Rs. 3422 crores of long term loans. The Centre's share was Rs. 6437 crores while investments by State Governments in the Central undertakings was Rs. 9 crores. Investments by private parties amounted to Rs. 362 crores (India) and Rs. 453 crores (foreign). The nearly 6 per cent participation by foreign capital in Indian public sector is not accidental but according to a thought-out policy. The Industrial Policy Resolution of 1948 recognised that participation of foreign capital and enterprise, particularly in regard to industrial techniques and knowledge, would be necessary for rapid industrialisation of the country. It was at the same time stipulated that conditions under which foreign capital could participate in Indian industry should be carefully regulated in our national interests. The object was that major interest in ownership and effective control should be in Indian hands. The policy of foreign investment was further amplified in 1949. Modern scienti-

fic, technical and industrial know-how was considered necessary for country's rapid industrialisation and to supplement domestic savings.

A powerful trend of world public opinion demanded that the developed countries should contribute to the development of the new countries.

In the strategy charted out for India's economic advancement and gradual progress towards a socialist pattern of society, India's quest for technical know-how for such vital sectors as heavy electricals, electronics, oil, energy and space etc. continued. India could enter into collaborations with a number of countries, including the Soviet Union and the Socialist countries. Such collaborations have helped India to build basic and vital industries and develop indigenous know-how. This is despite the fact that our expenditure on R & D is very low, when compared to, say, Japan, where for every one dollar spent on technology imported, 4 dollars were spent on R & D.

The experiences of foreign collaboration were however, not uniform. The terms of collaboration were in certain cases such that foreign collaborators assumed too many functions. In some cases the collaborators were responsible both for the specifications and supply of equipments which sometimes led to inflated pricing and over import of equipments. The technology supplied was at times out-moded. Restrictive clauses were introduced in the collaboration agreements. This hampered dissemination of technology and introduction of local changes in the process and restricted the exports. There have also been cases of repetitive import of same or similar technology in the country leading to the introduction of variety of standards of different countries in raw-materials, spare parts, designs, specifications etc.

It is obvious that we have ourselves to bear the main brunt of the responsibility for advancing our scientific technological development. The policy of self-reliance must be kept in the forefront in regard to our scientific and technological progress.

This becomes an all important matter for us in view of the present modalities of technology transfer. The modalities of technology transfer today built on the existing system of international protection and industrial ownership perpetuate and augment the dominant positions of the developed countries in international economic relations. Indeed, it is a question which affects all developing countries.

That is why the developing countries have united in efforts to institute a code of conduct for trans-national and multi-national corporation among whom are the world's major producers and exporters of technology. Possibly, in view of their activities the Fourth Non-aligned Summit at Algiers was led to conclude "that the monopolistic practice pursued by the trans-national companies of dividing up the market and fixing prices must be brought to an end, and the costs of technology transfer to the developing countries paved down."

On the specific question of transfer of technology it can be said that there is now plenty of technology already available in the world and so it is no longer necessary for the poorer countries to go through this whole process again. They can borrow and leap-frog into a modern age with one jump. It may sound very plausible, but then we have to realise that technology is not something given. It evolves and is adapted. Science is universal but not so technology. We have an abundance of coal but we went for oil based technology in fertilizer, in industry, in railways and when oil prices shot up we paid heavily for it. In other words, technology must conform to local conditions and local resources. In the West, labour is scarce. Consequently their technology is labour-displacing. But our problem is abundance of labour, surplus labour and unemployment. How then can a technology suitable for labour-scarce West suit us? We need a different technology and that we have ourselves to evolve, to invent.

We have ever to remember the great words of late Prime Minister, Jawaharlal Nehru "Future belongs to those who befriend science and technology". The theory of leap-frogging with borrowed technology without indigenising it is thus a myth. Development is a process of self-growth and not just a matter of getting some technology and starting some factories. What is essential is to realise the motivative urge and capacity of our people. For this it is essential that apart from what is done in our national and other laboratories, the training of scientific personnel should be in the enterprise itself. It is of the utmost importance to allot adequate funds for R & D. It is necessary to learn from Japan in this respect. The Public Sector enterprises should set the pace in this direction and should become the focal point for growth and generation of appropriate indigenous industrial technology.

A pointed reference to foreign aid was made by Prime Minister, Smt. Indira Gandhi, at the Lusaka Non-aligned Summit in September, 1970. Referring to "the malaise afflicting the development

process." and the "disappointments of the First Development Decade," the Prime Minister said, "We are painfully aware of the pitfalls of 'aid', in which the bulk of the credits are tied to purchases from the donor countries, and with the fact that a big portion of new credit goes to the repayment of old loans." She further observed: "Neo-colonialism has no sympathy with our efforts to achieve self-reliance. It seeks to perpetuate our position of disadvantage. International markets are manipulated in such a way that primary producing countries have a permanent handicap." The lever of technology are also operated against us through unequal collaboration and royalty agreements."

We are perforce faced with the question: how far dependence on foreign capital and technology is compatible with India's all-round development?

Inaugurating the Silver Jubilee celebrations of the Nation Chemical Laboratory at Poona on February 1, 1976 Prime Minister, Smt. Indira Gandhi asked the people not to be crazy for anything foreign—"foreign equipment, foreign process, foreign experts and not the least foreign brand names." The Prime Minister added: "There are many areas in which we need to import sophisticated technology but it seems to me that with all our arrangements for multi-level scrutiny, we permit in-essential foreign technology when equally good indigenous one exists."

This subject of foreign collaboration was also significantly touched upon by the President, Shri Fakhruddin Ali Ahmed in his broadcast to the Nation on the eve of the 27th Republic Day (1976). The President strongly deprecated the "Continuing craze in the country for foreign collaboration." He said: "The countries of Africa and Asia expect India to play a leading role in the supply of technical know-how and equipment. In the cooperation between the developing nations themselves, the financial resources of some can be matched with the raw material resources of others through the medium of countries like India which have the requisite scientific and technical manpower."

The President observed: "There is a general awareness now that the high sophistication in technology of the industrial nations is not suitable for conditions in the developing countries. This has placed on India an onerous but a very welcome responsibility. In this context, I cannot help deprecating the continuing craze in our country for foreign collaboration." He expressed the hope that

overcoming the weakness for foreign collaboration, "we shall devote greater attention to developing technologies suited to our own resources endowments".

Foreign collaboration in Public Undertakings has to be viewed as a transitory phase meant to enable us to attain our own scientific and technical capability to free us from the vicious circle of continued import of advanced technology. This demands that we increasingly take note of what is going on in our own institution and research and development.

These and several other aspects of foreign collaboration in Public Undertakings have been dealt with in this Report and recommendations made with a view to help public sector attain commanding heights and build a self-reliant and self-generating economy.

## CHAPTER I

### A. *Introductory*

1.1. The Industrial Policy Resolution of 1948 recognised that participation of foreign capital and enterprise particularly as regards industrial techniques and knowledge would be of value for the rapid Industrialisation of the country. The Government of India in the Industrial Policy Resolution of 1948 indicated its policy on collaborations as follows:

“The Government of India agree with the view of the Industries Conference that, while it should be recognised that participation of foreign capital and enterprise, particularly as regards industrial technique and knowledge, will be of value to the rapid industrialisation of the country, it is necessary that the conditions under which they may participate in Indian industry should be carefully regulated in the national interest. Suitable legislation will be introduced for this purpose. Such legislation will provide for the scrutiny and approval by the Central Government of every individual case of participation of foreign capital and management in industry. It will provide that, as a rule, the major interest in ownership, and effective control, should always be in Indian hands; but power will be taken to deal with exceptional cases in a manner calculated to serve national interest. In all cases, however, the training of suitable Indian personnel for the purpose of eventually replacing foreign experts will be insisted upon.”

1.2. This policy was subsequently amplified by the late Prime Minister, Pandit Jawaharlal Nehru in a statement in the Parliament on the 6th April, 1949. The statement recognised the role of foreign capital in supplementing national savings and also in making available to the country the scientific, technical and industrial knowledge, as also the capital, which foreign capital brings with it. It stressed the need to regulate the scope and mode of foreign capital in the national interest with the object of utilising it in a manner most advantageous to the country. The policy indi-



cated broadly the conditions under which foreign capital would be welcome. These were:

- (i) All undertakings—Indian or Foreign—had to conform to the general requirements of the Government's industrial policy.
- (ii) Foreign enterprises would be treated on par with Indian enterprises.
- (iii) Foreign enterprises would have freedom for remittance of profits and repatriation of capital, subject to foreign exchange considerations;
- (iv) If foreign enterprises were compulsorily acquired, compensation would be paid on a fair and equitable basis; and
- (v) As a rule the major interest, ownership and effective control of an undertaking should be in Indian hands.

1.3. Although according to the above conditions, the major ownership and effective control of undertakings was to be in Indian hands, it was recognised that there could not be a hard and fast rule in this matter. Government would not object to foreign capital having control of a concern for a limited period if it was found to be in the national interest and each individual case would be dealt with on its merits. The employment of foreign personnel to posts requiring technical expertise was permissible when nationals of the requisite experience were not available, subject to the requirement that local personnel should be trained to facilitate Indianisation within a reasonable period.

1.4. The First Five Year Plan elaborated the principle of joint enterprise between foreign and Indian capital as follows:—

“In view of the fact that investment of foreign capital necessitates the utilisation of indigenous resources and also that the best use of foreign capital is as a catalytic agent for drawing forth large resources for domestic investments, it is desirable that such investment should be channelled into fields of high priority. The broad principle to be followed is that foreign investment should be permitted in sphere where new lines of production are to be developed or where special types of experience and technical skill are required or where the volume of domestic production is small in relation to demand and there is no reasonable expectation that the indigenous industry can

expand at a sufficiently rapid pace. The system of joint enterprises under which a number of foreign concerns have established new industries in the country in collaboration with Indian industrialists appears to be suitable for securing the employment of equity capital. Agreements for such joint participation between foreign and Indian concerns should be subject to approval of Government. The share of national capital in joint enterprises, the facilities for the training of Indians, the disclosure of patented processes to Indian associates, etc., are matters which have to be decided with due regard to the facts of each particular case."

1.5. The Industrial Policy Resolution, 1956 divided industries into three categories. Industries in Schedule 'A' were those in which future development would be the exclusive responsibility of the State, industries in Schedule 'B' were those in which the State would generally take the initiative in establishing new undertakings, but in which private enterprise would also be expected to supplement the effort of the state. The third category in which all the remaining industries where future development would, generally, be left to the initiative and enterprise in the private sector. The division of industries into separate categories did not imply that they are being placed in water tight compartments. Incidentally there could not only be an area of overlapping but also a great deal of dovetailing between industries in public and private sector. There has however been no change in policy in regard to foreign investments.

1.6. With the launching of the Second Plan, there was a sizeable increase in technical collaboration agreements. During this phase India's sterling balances provided the necessary foreign exchange for the import of machinery and equipment. Later, towards the close of fifties with increasing foreign exchange stringency, minority foreign capital participation gained acceptance; foreign enterprise took to equity participation to provide the foreign exchange component for the import of machinery and equipment and some collaborators also accepted equity participation in lieu of royalties and technical fees. The Government extended a number of tax concessions favouring foreign enterprises and streamlined industrial licensing procedure to avoid delays in approval of foreign collaboration. The setting up of an Indian Investment Centre in 1961 also helped to give an impetus to foreign link-ups through systematic and sustained efforts to bring together Indian and foreign entrepreneurs.

1.7. In course of time the country made advancement in the field of technology both in the private and public sectors. Several chemical and engineering companies, for instance, undertook research programmes. In defence, railways, and electronics as well as nuclear energy, indigenous technology made notable strides. In the case of consumer goods—industries, the country had not, by and large, required any foreign technology even previously and this area further diminished steadily. Government's approach to foreign investment and collaboration, therefore, gradually became increasingly selective. It was being recognised that apart from economic growth, employment was a vital consideration in India's plan of economic development and that the country had to be circumspect in the import of technology which was based on the conditions and needs of Western countries where there was labour shortage and man was costlier than machine. Greater care had to be exercised in obtaining technology which was highly capital-intensive and labour saving and which would tend to accentuate, at least in the short-run, problems of unemployment.

#### B. Mudaliar Committee

1.8. In view of the above factors, the Government of India constituted a Committee on February 19 1966, headed by Dr. A Ramaswamy Mudaliar as Chairman. The terms of reference were as under:—

- (a) to examine the extent to which (the present) stage of India's economic development import of technical know-how from abroad can be dispensed with;
- (b) to examine the general conditions subject to which indigenous know-how can be deemed to be capable of commercial exploitation; and;
- (c) to suggest general guidelines regarding the type of cases in which foreign collaboration may be allowed.

1.9. The Committee submitted its report on May 4, 1967. The suggestions of the Committee regarding foreign collaboration were *inter alia* as under:—

- (i) A positive approach is needed to the problem of import of know-how, particularly of process know-how, or product design. A distinction may be made for this purpose between the well-established industries and the new and more sophisticated industries.

- (ii) Generally speaking, in industries where substantial import of capital goods is involved and where the Government's policy allows foreign capital participation, joint ventures involving foreign equity participation are more beneficial as compared to other forms of collaboration.
- (iii) There is need for prior discussion between the Directorate General of Technical Development and the Council of Scientific and Industrial Research regarding the need for foreign collaborations and terms thereof. Unresolved differences of opinion should be promptly brought up before the Foreign Agreements Committee.
- (iv) There is need for a central coordinating unit in the Ministry of Industrial Development and Company Affairs to watch the progress of the disposal of applications for foreign collaboration. Cases remaining undisposed of for three months should be promptly brought up for consideration by the Foreign Agreements Committee, even if they fall within the purview of the delegated powers of Ministries.
- (v) No rigid rule should be followed in the matter of duration of technical collaboration agreements; normally, the duration of the original agreements should be between 5 to 10 years from commencement of production.
- (vi) On the question of avoidance of repetitive import of technology, where a number of collaborations, say 5 or 6, had already been approved in a particular field of industry, it would be more appropriate to consider the likelihood of an existing unit giving the process know-how or product design to a consultancy firm on the basis of a negotiated agreement. Fiscal incentives should be given to existing units which pass on their know-how to others.
- (vii) A liberal approach would be worthwhile in regard to foreign collaborations in the case of substantially export-oriented industries."

1.10. The Government of India accepted in general the recommendations of the Mudaliar Committee in September, 1967, subject to the following main observations:—

- (i) In the case of processes which are long established and are unlikely to be overtaken in the near future by tech-

- logical obsolescence, outright purchase of design, know-how etc., would be more advantageous than capital participation.
- (ii) In the matter of extension of existing technical collaboration agreements, a stricter approach than has hitherto been followed should be adopted.
  - (iii) In respect of processes where the know-how payments are very high and particularly, in the chemical industries, the number of collaborations could be even more restricted than the five or six envisaged by the Committee. In respect of private consultancy organisations which are allowed to import the know-how for being passed on to others, suitable conditions will have to be imposed to ensure that other parties are able to receive the know-how on reasonable terms.
  - (iv) In the case of industries which are well-established in the country and where foreign collaboration is normally not allowed, the export should be of the order of about 75 per cent. In other cases, the quantum of exports to qualify for this special treatment may be left to be decided on the merits of each case.
  - (v) Government agree to the suggestions about liberal treatment in regard to the provisions for foreign exchange for import of essential instruments and equipments for research laboratories.

### *C. Foreign Investment Board*

1.11. Following the recommendations of the Mudaliar Committee Report and Government's decisions thereon, a Foreign Investment Board was established on December, 1 1968. The Board deals with all foreign collaboration cases except those in which the total investment exceeds Rs. 2 crores of equity capital and where the foreign investment exceeds 40 per cent of the issued equity capital.

1.12. Government accordingly issued on January 25, 1969 illustrative list of industries where:

- (a) foreign investment might be permitted;
- (b) only foreign technical collaboration might be permitted (but not foreign investment); and

(c) no foreign collaboration (financial or technical) was considered necessary.

These lists of industries were only illustrative and not exhaustive. They were subject to review from time to time. Foreign collaboration for industries not included in any of the three lists was to be considered on merits.

#### *D. Revision of Foreign Collaboration Policy*

1.13. Following the major changes in the industrial licensing policy announced in the first quarter of 1970, the collaboration policy was further liberalised in February 1970, with a view to bridge technological gaps that had existed in several sectors of economy and where there could be a scope for foreign collaboration. The Government considered that in order to enable entrepreneurs to take investment decisions and to plan their future activity, they should have information of the significant areas where technological gaps existed and for which foreign collaboration approvals might be obtained. The illustrative list of 121 items on which technological gaps existed and for which foreign collaboration would be permitted was drawn out and published under the two major headings Engineering industries and Chemical industries. Similarly illustrative list of 123 items where there is likelihood of sustained demand for the product and scope for investment was also published to enable entrepreneurs to avail of the opportunities afforded by the liberation. The list were grouped in 4 categories (a) consumer industries; (b) engineering industries; (c) Chemical industries; and (d) other industries. According to the guidelines for tie-ups then announced, it was decided that while each case would be considered on merits within the broad framework of the policy, the Government would show special favour and allow some relaxations to substantially export-oriented schemes and to small scale industrial units. Majority foreign participation and entry into low priority and non-essential fields of production was allowed under some specified circumstances particularly when the party agreed to undertake major share of production for exports. The earlier policy of not allowing foreign collaboration in trading activities was relaxed where such collaboration was exclusively aimed at augmenting exports. Similarly majority foreign participation in new enterprises was considered if the development of the particular industry was vital and essential in the national interest, if the field of technology was one where little or inadequate progress was made or where considerable additional development was considered necessary or if it was felt that

the project in question could not be set up without such foreign participation.

### *E. Present Policy*

1.14. Foreign collaboration is permitted only in fields of high priority and in areas where the import of foreign technology is considered necessary. Normally no foreign collaboration is permitted in areas where the requisite technology is indigenously available except where such collaboration is intended to promote exports. In other cases, import of technology is considered on merits if substantial exports are guaranteed over a period of 5 to 10 years and there are reasonable prospects for such exports.

Some of the important considerations in the approval of proposals for foreign collaboration (financial and/or technical) are indicated in the following paragraphs:—

#### *(i) Equity Participation*

1.15. Government's policy towards permitting foreign equity participation is selective in its approach. Such participation has to be justified having regard to factors such as the priority of the industry, the nature of the technology involved, whether it will enable or promote exports which may not otherwise take place and the alternative terms available for securing the same or similar technological transfer. The ceiling for foreign equity participation is 40 per cent although exceptions can be considered on merits, such as in the case of export oriented schemes or need for importing highly sophisticated technology not otherwise available.

1.16. The foreign share capital should be by way of cash without being linked to tied imports of machinery and equipment or to payments for know-how trade marks, brand names etc.

1.17. Government's policy regarding remittance of profits and dividends on foreign investment is to permit such remittances subject to payment of Indian taxes thereon.

#### *(ii) Technical Collaboration*

1.18. Technical collaborations are considered on the basis of annual royalty payments which are linked with the value of actual production. The percentage of royalty will depend on the nature of technology but should not ordinarily exceed 5 per cent. Royalty

payments are subject to Indian taxes. Wherever appropriate, payment of a fixed amount of royalty per unit of production will be preferred. Royalty payments are limited to a period of 5 years. Lumpsum payments may also be considered in appropriate cases for import of drawings, documentation and other forms of know-how. In deciding on the reasonableness of such payments, account will be taken of the value of production so that lumpsum and the recurring royalty, if any, is an acceptable proportion of the value of production. Such payments will be subject to applicable Indian taxes.

1.19. Collaboration agreements are approved normally for a period of 5 years from the date of agreement or 5 years from the date of commencement of production provided production is not delayed beyond a period of 3 years from the signing of the agreement (i.e. a maximum of 8 years from the date of signing of the agreement).

1.20. According to the Ministry of Industrial Development the policy indicated above is followed both in respect of the Public and private sector undertakings.

Foreign collaboration policy has again been elaborated in the context of the approach to the Fifth Five Year Plan and following the latest decisions on Industrial Licensing Policy as under:

#### *F. Foreign Collaboration Policy in Fifth Plan*

1.21. According to the draft Fifth Five Year Plan document "the role of the foreign collaboration, both in regard to technical collaboration and investment, must derive at all times from the necessities for the country's developmental requirements. Foreign collaboration must serve to supplement and accelerate the development and utilisation of indigenous technologies and production capabilities in a manner which advances the country's efforts to attain overall self-reliance as rapidly as possible. In other words, the objective has to be to move towards a position in which the country is not merely a recipient of foreign technology but is also capable of exporting know-how in certain fields to bring about a measure of balance.

##### *(a) Technical Collaboration*

1.22. The approach towards technical collaboration should be an integral part of the total technological strategy for the Plan. This strategy envisages fashioning a mix of imported and indigenous technologies in which the proportion of the latter must increase with



time. The generation of the indigenous components of this mix is one of the prime objectives of the Science & Technology Plan. Technologies so developed indigenously must be properly evaluated against competing technologies available abroad, and on being found suitable, must be utilised. Towards this end, if it becomes necessary to invest in pilot plants prototype equipment, the NRDC and the nationalised banks must play their full role.

1.23. At the same time, there will be cases requiring the import of technology, because of the non-availability of suitable indigenous technology, within an acceptable time frame. Once the need to import technology has been established as being of overall advantage to the country, a careful and systematic evaluation should be made both of alternative modes and terms of acquisition, e.g. the purchase of designs or purchase of know-how only for combination with domestically available engineering and manufacturing capabilities, purchase of technology on a one-shot basis, or a technical collaboration agreement covering a limited period of time. Some of the important considerations on the basis of which both the choice of technology and its mode of import should be made would be net foreign exchange outgo, export potential, characteristics of the technology and appropriateness to our conditions, the access of Indian engineers to the collaborators design and research activities, freedom to select equipment and raw materials and the decide on the pace of technological development. With the development of a good base for the manufacture of indigenous equipment it has now become possible to purchase technology without this being tied to the purchase of equipment. It is of great importance and urgency that institutional forms and personnel with the relevant skills are identified and employed on this task of selecting foreign technology as also their mode of import.

1.24 In important cases, every effort should be made to involve fully the relevant design engineering organisations consulting organisations and R&D laboratories in the import of technology. With adequate advance preparation, this procedure should not militate against the timely completion of projects, a matter of the highest importance. Every effort should be made to ensure that the collaboration agreement permits sub-licencing viz., the use of such technology by other entrepreneurs and units. Further, it would be necessary to ensure that simultaneously with its imports, a specific programme is formulated to not only assimilate and adapt the technology but undertake R & D for improving it. Such programme must then be closely monitored.

1.25. Import of repetitive technology should be avoided as far as possible. A number of different mechanisms could be used for this purpose. Where the import and assimilation has already taken place, all possible measures including appropriate incentives, should be taken to promote 'horizontal' transfer of that technology to other enterprises which wish to make the product concerned. As far as prospective import of technology, in cases involving large plants and major investments, detailed forward planning of productive capacity should be carried out, particularly where the Plan indicates the need to set up a number of plants in order to meet the demand. This should be followed by proper selection of the technology to be imported. Such selection should be done, to the maximum extent possible, with the full involvement of the relevant design engineering and R&D laboratories. The resulting advantages of standardisation of raw materials, plant and equipment and the economies which flow from it, merit adoption of this procedure at least in a few selected areas to begin with. In adopting the above approach, it would be necessary to take into account the desirability of allowing the requisite degree of competition between imported technologies so as to prevent a situation, which, in effect, gives a monopolistic position to a particular overseas technology and to safeguard against obsolescence.

1.26. All technology import agreements must allow full use of Indian equipment, design engineering and to other consultancy services and the application of Indian Industrial and other standards. What is necessary and what the technological capability we have already developed makes possible in many areas, is selective import of only some of the elements of technology e.g. process know-how and foreign experts in sharply defined areas and combining these with other elements e.g. engineering and equipment to form a total technological package. Only in this way can technologists suitable to our fabricating facilities, operating and maintenance conditions and raw/intermediate material be evolved. It is, therefore, not only unnecessary but is, in fact, undesirable to import technology in complete packages.

**(b) Foreign Investment**

1.27. The policy in respect of foreign capital participation is highly selective and participation is generally permitted in those areas where the technological gap cannot be filled by indigenous technology. Where such participation is permitted, it is normally not to exceed 40 per cent. Under the recent amendment to the

Foreign Exchange Regulation Act the activities of Foreign branches and existing companies in which foreign holdings are more than 40 per cent will come up for review, so as to bring them in line with our objectives and priorities. In balance of payment terms, foreign investment is an expensive form of transfer of technology nor is the quantum of foreign investment significant in relation to the country's total import bill. However, foreign investment may be necessary in certain cases.

1.28. Foreign investment will be justified when know-how needed in a particular field of high priority is available only through equity participation, or it is an area where continued access to essential technological improvements is necessary and cannot be secured by any other means. In certain cases foreign equity participation might also enable or promote exports which may not otherwise take place. However, each such case will need to be examined in terms of the net inflow of foreign exchange, assurances in regard to the continuity of such exports on a long-term basis, and the alternative choices available in terms of costs and benefits. The selective policy in regard to foreign investment should be continued and subjected to the foregoing criteria.

1.29. The Committee note that the basic policy in regard to foreign collaboration was enunciated in the Industrial Policy Resolution of 1948 which inter-alia recognised the need for participation of foreign capital and enterprise for rapid industrialisation of the country and emphasised the necessity for a careful regulation of the conditions for participation of foreign capital in Indian industry in national interest. This policy was further amplified in 1949 and it assured non-discriminatory treatment and clarified that though as a rule the effective ownership should be in Indian hands, there could be no hard and fast rule regarding ownership control. The Industrial Policy Resolution of 1956 classified the industries into three categories, and there was hardly any change in the policy regarding foreign collaboration or foreign capital.

1.30. The Committee further note that the first Five Year Plan also stressed the need for inflow of foreign capital and elaborated that share of national capital in joint enterprises, facilities for training of Indians, disclosures of patented processes to Indian associates, should be decided with due regard to the facts of each case. The Committee find that towards close of Fifties with increasing foreign exchange stringency, minority foreign capital participation gained acceptance and after 1961, Government's approach to foreign collaboration and investment became selective recognising the need for

greater employment in the Plan for economic development. Subsequently, Government modified its policy on foreign collaboration on the recommendations of the Mudaliar Committee of 1966 when they decided to prefer outright purchase of technology to capital participation and imposed restrictions on extensions to the then existing collaboration agreements and also in regard to collaboration for process industries which involved huge payments for know-how. They also imposed an export obligation to the extent of 75 per cent in well established industries where Foreign Collaboration was normally not allowed.

1.31. The Committee also note that with the changes in the Industrial Licensing Policy in the beginning of 1970, the Foreign Collaboration Policy was further liberalised with a view to bridge the technological gaps in the Engineering and Chemical industries, and majority foreign participation in new enterprises was to be considered if the development of particular industry was vital and essential in the national interest, and in other cases where huge amount of foreign exchange was involved.

1.32. The Committee are informed that the present policy of Government is to permit foreign collaboration only in fields of high priority and in areas where the import of foreign technology is considered necessary. In other areas, import of technology is considered on merits if substantial exports are guaranteed.

Technical collaboration is considered on the basis of royalty payments not exceeding 5 per cent of the value of production and subjected to Indian taxes and limited to a period of 5 years.

The Government's policy towards permitting equity participation is selective on the basis of priority of industries, nature of technology, possibilities of exports, the ceiling being 40 per cent although exceptions could be considered on merits.

1.33. The Committee also find that Foreign Collaboration policy has been elaborated in the context of the approach to the Fifth Five Year Plan wherein it is provided that the objective has to be to move towards a position in which the country is not merely a recipient of foreign technology but is also capable of exporting know-how in certain fields to bring about a measure of balance. The approach towards technical collaboration should be an integral part of the total technological strategy for the plan and envisages a mix of imported and indigenous technologies in which proportion of the latter must increase with time. Technologies developed indigenously must be properly evaluated against competing technologies available

abroad and on being found suitable must be utilised. Once the need to import technology is established a careful and systematic evaluation should be made both of alternative methods and terms of acquisition. Some of the important considerations on the basis of which both the choice of technology and its mode of import should be made, would be net foreign exchange outgo, export potential, characteristics of technology and appropriateness to our conditions, the access of Indian engineers to the Collaborators design and research activities, freedom to select equipment and raw materials and to decide on the pace of technological development. Suitable guidelines have also been indicated in the plan documents about the selection of technology, role of the research and development organisations in assimilation of technology, horizontal transfer of technology etc.

1.34. In regard to foreign investment such investments will be justified when know-how needed in a particular field of high priority is available only through equity participation or it is an area where continued access to essential technological improvements is necessary and cannot be secured by any other means. Each case is to be examined in terms of net inflow of foreign exchange, assurances for exports on a long term basis, and the alternative choices available in terms of costs and benefits.

1.35. The Committee find that there had not been any hard and fast rule in regard to permitting collaboration with equity participation in national interest, till 1966 when certain restrictions were imposed in regard to foreign collaboration both in capital participation and in technology import. Though the broad policies as such have been enunciated in the various Resolutions and Plan documents, no detailed guidelines were issued by Government from time to time in regard to foreign collaboration till 1969. The Fifth Five Year Plan document, however, has laid down the broad principles in regard to foreign collaboration and also certain guidelines therefor. The Committee have dealt with these aspects in the subsequent chapters of the Report. The Committee recommend that a careful and methodical watch should be kept on the actual working of the Guiding Principles so that these could be modified as necessary to subserve the best developmental interests of the country.

## CHAPTER II

### GUIDELINES

#### A. Guidelines

2.1. The Government of India after a careful and detailed examination of all aspects of the questions relating to foreign private investments and foreign collaboration decided in 1968 that since there was no significant change in the broad policy followed on these subjects, issue of a formal resolution on the subject was not necessary. The Government, however, considered that a number of practical steps could be taken to improve the position in order to secure two important objectives which they had then in view *viz.* (a) that there should be no undue delay in the disposal of applications for foreign collaboration, whether financial or technical, and that, as far as possible all applications should be finally disposed of within three months, and (b) that the intending collaborators should know clearly about facilities available for foreign investment.

2.2. Government also decided that there should be a single agency within Government to be called the Foreign Investment Board, which would be responsible for all matters relating to foreign private investments and collaborations. Matters relating to constitution functions etc. of the Foreign Investment Board have been dealt with in a separate section in this Chapter.

2.3. In addition, Government grouped industries into two lists, *viz.*, those in which no foreign collaboration was to be allowed, and those in which foreign collaboration was to be permitted. These lists were to be published and reviewed from time to time, and at least once a year. For the industries in which foreign collaboration was to be permitted, and where royalty rates were proposed, standardised rates of royalties would be indicated for the various industries to facilitate quick disposal of applications. Wherever Indian consultancy was available it should be utilised exclusively, and if foreign consultancy was also required, the Indian consultants should be the primary agency employed for consultancy. The main object of regulating foreign investments/collaborations was to continue to ensure that foreign capital/technical know-how was utilised in the

manner most advantageous to the country, having regard to the current and future needs and specially to strengthen effectively its balance of payment position without being detrimental to the growth of Indian and foreign enterprises already well established in India.

2.4. The above principles were issued in the form of a press note dated 20th July, 1968.

2.5. In January, 1969 Government had issued guidelines on the general policy and procedure for handling proposals for foreign collaboration for the guidance of administrative Ministries/Departments and various technical authorities. These guidelines were required to be followed by all the authorities while dealing with foreign collaboration applications. A copy of these guidelines as originally issued by the Ministry of Industrial Development together with subsequent amendments are at Appendix I.

2.6. Subsequently in June, 1971, the Ministry of Finance, Bureau of Public Enterprises issued instructions for the guidance of public enterprises indicating the factors/principles which were to be taken into account while entering into agreements with foreign collaborators (*Vide* Appendix II). These were in addition to the general guidelines issued by the Ministry in January, 1969.

2.7. In paragraph 2.23 of their First Report (5th Lok Sabha—1971-72) on Hindustan Steel Ltd., the Committee on Public Undertakings had recommended that Government/Bureau of Public Enterprises should undertake a review of all important agreements entered into with the Consultants/Collaborators by the Government/Public Undertakings and evolve guidelines in the light of experience gained. In pursuance of the recommendation of CPU, the Bureau of Public Enterprises made a review of the working of the guidelines and also obtained the opinion of the public sector enterprises regarding their experience and prepared a comprehensive check list in November, 1974, indicating the various points which were required to be taken care of by public Undertakings while entering into foreign collaboration and circulated it to the Public Undertakings (Appendix III).

2.8. Apart from these, the Ministry of Industrial Developments brings out a publication entitled "Guidelines for Industries" every year which contain guidelines on foreign collaboration applicable to both public and private sectors.

2.9. Recently, 'the Pugwash Conference on Science and World Affairs' held in January, 1976 at Madras, have finalised an outline of an international code of conduct on transfer of technology, covering *inter alia*:—

- (a) objectives and principles.
- (b) scope of application.
- (c) national regulation of transfer of technology.
- (d) Restricted business practices and transfer of technology transactions.
- (e) guarantees.
- (f) international collaboration; and
- (g) applicable law and settlement of.

2.10. Earlier, the UNCTAD inter-governmental group of experts on code of conduct on transfer of technology considered the draft outlines on these aspects (May, 1974, May 1975 and November 1975).

2.11. The following are stated to be the objectives underlying the Code of Conduct:—

- (i) to establish general equitable rules for the international transfer of technology taking into consideration particularly the needs of developing countries and legitimate interests of technology suppliers and technology recipients.
- (ii) to facilitate and increase the international flow of proprietary and non-proprietary technology under fair and reasonable terms and conditions to all countries particularly to and from the developing countries.
- (iii) to increase the contributions of technology to the identification and solution of specific problems of all countries, particularly the specified problems of developing countries.
- (iv) to strengthen the national technological and scientific capabilities of all countries, in particular of developing countries for selecting imported technologies assimilating them into their natural economies and adopting them creatively to domestic conditions, etc.

2.12. Pursuant to these objectives, the following are principles to be observed in the Code of Conduct:—

- (i) improving access to technology at fair and reasonable prices and costs both direct and indirect and regulating



business practices particularly those arising from transfer pricing and transfer accounting;

- (ii) eliminating restrictive practices arising out of or affecting technology transactions.
- (iii) promoting in packaging of transactions involving transfer of technology with regard to choice of various elements of technology, evaluation of costs organisational forms and institutional channels for transfer.
- (iv) establishing an appropriate set of guarantee to suppliers and recipients of technology taking fully into account the weaker position of recipient enterprises of developing countries.
- (v) facilitating an orderly implementation of National laws and policies on transfer of technology through the establishment of minimum international standards.
- (vi) promoting and development of indigenous technologies particularly in developing countries.

2.13. The Code of Conduct has given in detail the areas where guarantees are necessary and has emphasised, *inter alia*, that—

- (i) the technology acquired is suitable for the manufacture of products covered by the arrangement.
- (ii) the content of technology transferred is full and complete for the purpose of the arrangement.
- (iii) the technology obtained will be capable of achieving a predetermined level of production under the conditions specified in the agreement.
- (iv) National personnel shall be adequately trained for service in the recipient country in the knowledge of the technology to be acquired including operation and management techniques of the enterprises.
- (v) the recipient shall have access to all improvements upon the techniques in question during the life time of the arrangement.

2.14. The Code of Conduct has also suggested that Governments of developed countries shall grant or by every means ensure that

their technology supplying firms grant special treatment to enterprises of developing countries in their technology transfer arrangements. The measures shall include *inter alia*—

- (a) Preferential tax treatment in the country of technology supplier to income arising from technology transfer.
- (b) Preferential arrangements ensuring that the industrial property rights granted to a patent holder in technology of supplying countries should not be used by him to restrict imports of products from developing countries.
- (c) fiscal and other incentives to the technology exporting enterprises in developed countries for encouraging (i) the adaptation of their R&D activities to conditions and factors prevailing in developing countries (ii) development of technological capabilities of enterprises in developing countries including special training (iii) establishment of national, regional or international institutions including technology transfer centres to help the developing countries to obtain their technological requirements for establishment. Construction and operation of plants under the most favourable terms and conditions.
- (d) facilitating access of enterprises to technology covered by industrial property rights held by Governments of developed countries.
- (e) Release and grant of credits on terms more favourable than usual commercial terms for acquisition of capital and intermediate goods in connection with technology transactions.

2.15. It has been stated that the appropriate organs of UNCTAD shall gather and disseminate information on technological alternatives and on terms and conditions of transfer of technology arrangements and also on laws, regulations and policies pursued at the national, regional and international levels concerning technology transfer arrangement. One important proviso included in the Code of Conduct is that the States shall *inter alia* take action through international arrangements to avoid as far as possible imposition of double taxation on earnings and payments arising out of technology transfer arrangements.

2.16. In regard to the laws applicable in the case of technology transfer and for settlement of disputes, it has been stated that the

technology transfer arrangements shall be governed with regard to their validity, performance and interpretation by the laws of the technology receiving country. The technology receiving countries shall exercise legal jurisdiction over the settlement of disputes pertaining to parties concerned. In case of arbitration, the disputes will be settled according to the procedures agreed upon by the parties concerned.

2.17. Asked whether any difficulties were experienced by the Public Undertakings in the practical working of the guidelines issued by Government the representatives of Public Undertakings stated during evidence that they have not experienced any major difficulty in the practical working of the guidelines. The representative of a Public Undertaking, expressed that the guidelines have done immense good in directing and guiding negotiations with foreign collaborators. The representatives of some other undertakings have felt that since guidelines were in general terms common to a variety of agreements they would always require some deviation or other depending on whether the arrangement is for an engineering product or a process industry or for a sophisticated technology where collaborators were few. Some public undertakings stated that the guidelines should only be guidelines and not rigid rules

2.18. The representatives of some public undertakings indicated that difficulties were, however, faced in the practical working of the guidelines in regard to certain specific clauses like payment of Indian engineering product or a process industry or for a sophisticated technology where collaborators were few. Some public undertakings stated approval and royalty.

2.19. In regard to provision for taxes, the Chairman, of one public undertaking stated as under:—

“Confining (myself) purely to the licence arrangement for engineering goods, the payment is generally in two significant parts. One is the disclosure fee which is a lump sum payment made. The other is royalty. The fact that royalty is taxable is clearly understood by all foreign licensors. As regards the initial disclosure fee, for initial information, training etc., now-a-days the Government of India insist that it is subject to applicable taxes. There is no definition of this tax. This leaves the foreign collaborator guessing as to what would

be the level of tax. This has resulted in endless negotiations. Today of course, any services rendered by a collaborator outside the country is not taxable, but at the same time, Government insist that it should be regarded as taxable as applicable. This leaves enormous room for discretion to the Income Tax authorities to decide each case in their own way. So the general tendency for the foreign collaborators when they agree to these terms is to make their own guess and boost up the figure; to that extent, I feel our interests are affected. The best course would be to determine first what is the net tax liability. This will help determine the viability of a proposal an undertaking makes rather than leave it to the foreign collaborator to do guesswork in this respect and also leave a lot of discretion at a later stage."

2.20. Yet another undertaking suggested that it should be possible to specify as to what would be the tax for the next three years or five years.

2.21. A representative of a third undertaking stated:

"There are two types of taxation. One is on the royalty for the know-how where there is no problem. But the problem arises in respect of foreign people who are working in India while the collaboration agreement is going on. Our experience is that they do not agree to pay the Indian tax. This is the problem that we are facing with every contract. I have to absolve them of the taxes which are levied by the Income-tax authorities in India. Every time we have to go against the guidelines, we take the Government's approval."

2.22. Yet another undertaking expressed that:

"There is another problem with regard to the tax on disclosure fees. The tax authorities are raising up the issue for the year 1960. I have got only to add that if the Direct Taxes Board do not give a ruling, then we do not know what we ourselves are committing."

2.23. As regards sub-licensing, the representative of a Public Undertaking stated that "Government would expect that once know-how is purchased the licensee in India should have a right to sub-licence it to other people. But Foreign Collaborators would not agree.

2.24. In regard to 'Exports' it was mentioned by a Public Undertaking that though this had not been a major difficulty in many cases, it has not been possible to get total export rights all over the world.

2.25. As for the period of the agreement it was stated by one of the undertakings that it depended upon the types of product or process for which a licence was taken. So to restrict the period of a licence agreement to five or seven years would not be practicable, nor desirable.

2.26. Another undertaking pointed out during evidence that once an agreement is drafted and initialled, Government should give a speedy decision whether it accepts the agreement or not as otherwise the conditions may change affecting the undertakings or the Government.

2.27. Further if the maximum royalty is 5 per cent it would not be possible to get the best that is available in the world.

2.28. Another problem faced by undertakings was stated to be with regard to providing the penalty clause in the agreements for delays in the supply of documents and equipment. It was stated that the undertaking (IOC) is not in a position to implement this clause particularly when there is a Government to Government agreement.

2.29. In regard to arbitration, the representatives of Public Undertakings during evidence expressed the view that the collaboration agreements should be subject to Indian Laws. The collaborators do not have any objection to have arbitration in India provided the arbitration is in accordance with the rules and regulations of the International Chamber of Commerce.

2.30. The Committee enquired whether these difficulties experienced by the Public Undertakings were brought to the notice of Government and if so, their reactions.

2.31. In this connection, some of the Ministries in their notes have stated as under:—

2.32. The Bureau of Public Enterprises have stated that they have not received any communication indicating that the guidelines created a problem or difficulty in finalisation of collaboration agreements. Any specific difficulties by particular undertakings are dealt

with by the administrative Ministries. There is considerable flexibility in the guidelines and they themselves are not being treated as rules. It is not necessary to have separate guidelines for separate industries since a large number of general points would be common to all. The Ministry of Defence has stated that deviations in regard to some of the matters have had to be permitted in the case of Defence public undertakings. As far as Department of Atomic Energy is concerned, no special difficulties have been brought to the notice of the Department except in the case of payment of Indian taxes by collaborators who insist on payment of taxes in respect of works like design engineering service to be performed outside the country.

2.33. Since the guidelines reflect Government's basic policies on the various aspects of foreign collaboration it does not appear to be feasible to lay down separate guidelines for foreign collaborations pertaining to process industries and others. However, when considering Government's approval for foreign collaboration agreements negotiated by units in the different industries, all relevant aspects are taken into account by Government.

2.34. The Department of Industrial Development has stated that any modification of the terms approved by the FIB in specific areas is considered and decisions are taken by the FIB within the framework of the existing policies. The guidelines are flexible enough to permit processing of foreign collaboration cases taking into account the special features of different cases. Whenever in an individual case it is brought to the notice of the Government that deviation from standard form is necessary that is agreed to if justified e.g. in case of sophisticated industry where the gestation period is long, foreign collaboration is allowed for more than 5 years though the normal duration for such agreement is 5 years.

2.35. The Ministry of Petroleum & Chemicals have in their reply stated that the IPCL has entered into 23 foreign collaboration agreements for provision of technical know-how, preparation of process engineering design and supply of equipment in respect of its Aromatics Project, Olefins Project and its own stream units. There have been deviations in regard to (a) provision for taxes, (b) sub-licensing (c), restriction on exports, (d) duration of agreement, (e) arbitratoin laws.

2.36. In the course of examination of the working of IPCL, the Secretary of the Ministry of Petroleum & Chemicals gave the follow-

ing reason for agreeing to the deviations from the guidelines to IPCL's foreign collaboration agreements (Para 2.12 of the 64th Report of IPCL).

"The guidelines, as the name itself shows, are indicative and Ministries or public undertakings negotiating projects are expected to observe the guidelines to the extent feasible and was possible to do so. However, the process licensors for each project do stipulate certain conditions which cross the guidelines, it was not always possible for the IPCL to adhere strictly to the guidelines. When such a thing happens, Government comes into it. The Foreign Investment Board which clears every foreign collaboration project does go into this and then allows relaxation of the guidelines. This procedure was fully followed in the case of IPCL's contracts."

2.37. The Committee on Public Undertakings had recommended in the 64th Report (5th Lok Sabha) that the working of IPCL's foreign collaboration agreements may be reviewed with a view to finding out whether the agreements were in the best interest of the country and also whether deviations in agreements from the guidelines were unavoidable. The Ministry have stated that, accordingly, the working of IPCL's foreign collaboration agreements in respect of aromatics project which alone has so far gone into production has been reviewed. Nothing prejudicial to the interest of the country has come to the notice in the actual working of these agreements.

2.38. The Committee note that since there was no significant change in the broad policy followed in regard to foreign private investments and foreign collaboration, Government considered a number of practical steps to ensure disposal of applications for foreign collaboration without any undue delay i.e., within a maximum period of 3 months and also to enable the intending collaborators to know about the facilities available for investment.

2.39. The Government also decided to set up a Foreign Investment Board which would be responsible for all matters relating to foreign private investment and collaboration. The Government grouped the industries into two categories, those in which foreign collaboration was to be permitted and those for which no foreign collaboration was to be allowed. It was clarified that the main object of regulating foreign investment/collaboration was to continue to ensure that foreign capital/technical know-how was utilised

in the manner most advantageous to the country having regard to the current and future needs and specially to strengthen effectively its balance of payment position without adversely affecting the growth of Indian and foreign enterprises already well established in India. The Committee have dealt with the functioning of the Foreign Investment Board in the ensuing section of this chapter.

2.40. The Committee also note that Government issued comprehensive guidelines in January, 1969 on the general policy and procedure for handling proposals for foreign collaboration for the guidance of Ministries and technical authorities.

2.41. Subsequently in June, 1971 the Bureau of Public Enterprises issued instructions for the guidance of the Public Undertakings which were in addition to the general guidelines issued earlier.

2.42. On the recommendations of the Committee on Public Undertakings in their First Report (5th Lok Sabha—1971-72) the Bureau of Public Enterprises issued a comprehensive check list in November, 1974 indicating the various points to be taken care of by Public Undertakings while entering into foreign collaborations.

2.43. The Committee also note that the Department of Industrial Development have issued general guidelines again in 1974-75 indicating the principles to be followed in negotiating foreign collaboration agreements to ensure that the proposals followed the policy of Government.

2.44. The Committee are informed that though the Public Undertakings have not experienced any major difficulty in the practical working of the guidelines some public undertakings have come across problems in regard to payment of Indian taxes by the collaborators, sub-licensing, exports of products, arbitration, period of agreement, provision of penalty clause, and payment of royalty. The Committee have dealt with these specific problems in separate sections of this report.

2.45. The Committee are also informed that any specific difficulties brought to the notice of the administrative Ministries by the public undertakings have been dealt with and resolved and there is considerable flexibility in the guidelines which are treated only as "guidelines" and not as rules.

2.46. The Committee further note that the Pugwash Conference held in Madras in January, 1976 has finalised an outline of inter-



national code of conduct for transfer of technology which takes largely into account the discussions held on the subject earlier under the auspices of the UNCTAD.

2.47. It is understood that UNCTAD are arranging to bring up the draft code of conduct for transfer of technology, particularly to developing countries, at a conference scheduled to meet at Nairobi in May, 1976.

2.48. The Committee would like Government to review the guidelines in the light of these latest developments so as to incorporate features which would subserve the national interest of accelerating development and absorption of most suited technology on acceptable terms and ultimately enable the country to stand up its own indigenous know-how.

#### **Foreign Investment Board**

2.49. With a view to minimising procedural delays in the disposal of applications relating to foreign investment and collaboration, Government have, in January 1969, laid down a procedure for disposal of such applications. A Foreign Investment Board (FIB) has been set up and charged with the responsibility "for expeditious disposal" of such cases. The composition of the F.I.B. is as under:

Secretary, Ministry of Finance—*Chairman*

#### MEMBERS

1. Secretary, Department of Industrial Development
2. Secretary, Ministry of Petroleum and Chemicals
3. Secretary, Department of Company Affairs
4. Secretary, Department of Commerce
5. Secretary, Planning Commission
6. Secretary of the Administrative Ministry concerned
7. Director General, Council of Scientific and Industrial Research
8. Director General, Technical Development.
9. Secretary, Department of Science and Technology

10. Member-Secretary to be provided by the Department of Industrial Development.

2.50. The FIB has been assigned the following jurisdiction:

“All the cases of foreign investment and collaboration will fall within the jurisdiction of the Board. Even where the primary responsibility rests with the administrative Ministry concerned under powers delegated to the Ministry, the Board will have supervisory function in respect of the disposal of all applications and may call for the deal with any individual application in the Board itself”.

2.51. There is a Sub-Committee of the FIB comprising representatives (at the Joint Secretary level) of the following Departments:

Department of Industrial Development—*Chairman*

**MEMBERS**

1. Department of Economic Affairs
2. Department of Company Affairs
3. Ministry of Commerce
4. Ministry of Petroleum and Chemicals
5. Department of Administrative Ministry concerned.
6. A representative of the Planning Commission
7. A representative of the Directorate General of Technical Development
8. A representative of the Council of Scientific and Industrial Research.
9. Secretary, Department of Science and Technology
10. Secretary to be provided by the Department of Industrial Development.

*Procedure in foreign collaboration cases*

2.52. The proposals for foreign collaboration have to be applied for in the prescribed form and 10 copies of the applications are required to be submitted to the Secretariat of the F.I.B., that is, the Ministry of Industrial Development. After registration and an initial and preliminary examination, copies are transmitted to the

administrative Ministry Department, CSIR, DGTD or other technical authority concerned and the Development Commissioner, Small Scale Industries.

2.53. Government have delegated authority to the administrative Ministries|Departments and they are supposed to be "primarily responsible for the prompt disposal of applications falling within their particular fields in accordance with GUIDELINES laid down. In cases where the matter is within the delegated powers of the administrative Ministries, it is stated, that those ministries dispose of the application finally within a period of two months of the date of application and inform the Secretariat of the Board. All cases of foreign technical collaboration involving payment in cash of royalties not exceeding the prescribed ceiling and all cases of technical know-how fees payable in cash not exceeding 10 per cent of the issued equity capital, provided that aggregated gross payment does not exceed Rs. 5 lakhs per annum in any one case, can be disposed of by the administrative Ministry concerned without reference to the Foreign Investment Board or its Sub-Committee. Even where the primary responsibility rests with the administrative Ministry concerned under powers delegated above, the Foreign Investment Board has supervisory functions in respect of disposal of all applications and may call for and deal with any individual application in the Board itself. It is stated that the Secretariat of the Board maintain close liaison with the various Ministries.

2.54. Where the case is within the jurisdiction of the FIB or its Sub-Committee, after obtaining the comments of the authorities concerned, the administrative Ministries are require to forward a note to the Secretary of the Foreign Investment Board|Sub-Committee within 1½ months from the date of receipt of the applications. If, in any particular instance, the note is not received within 1½ months, the Secretary of the Sub-Committee of Foreign Investment Board contacts the administrative Ministry to expedite submission of the Note. It is stated that, in any case, an application for foreign investment|collaboration must be brought up to the Foreign Investment Board|Sub-Committee at the expiry of the period of 2 months from the date of its receipt, irrespective of the stage of the processing of the case and even without waiting for the comments of the technical authorities. On receipt of the Note from the administrative Ministry, the Secretariat of the Foreign Investment Board ensures that it is including in the agenda of the next meeting of the Sub-Committee or the FIB, as the case may be. Where, under the delegated powers, the Sub-Committee is competent to deal with subject, it considers the proposal and informs the FIB of its decision. Where the subject is within the competence of the Board

or of the Cabinet Committee, it is included in the agenda for the next meeting of the FIB. The FIB and its Sub-Committee meet normally once a fortnight. Where the subject falls within the jurisdiction of the Cabinet Committee, the Board considers the Note and records its recommendations on the proposals made by the Administrative Ministry.

2.55. The Secretary of the Foreign Investment Board|Sub-Committee drafts the minutes which are immediately sent to the Chairman of the Foreign Investment Board for approval. After approval by the Chairman, the minutes are put up to the Minister of Industrial Development in respect of cases relating to the Ministry of Industrial Development, whereas the minutes in respect of cases relating to other departments|Ministries are submitted to him for information. Thereafter, the minutes are circulated to the Members of the Board and the administrative Ministries for further necessary action. The administrative Ministries|Department concerned are required to issue final orders in the matter between 4 to 7 days from the date of receipt of the minutes.

2.56. All papers meant to be included in the agenda of any meeting of the Board or its Sub-Committee should be sent well in time so as to be received by the Secretary of the Board|Sub-Committee at least 7 days before the date of the meeting and they should be promptly circulated by the Secretariat of the Board so that members may have at least 5 days' time to study the agenda notes.

2.57. At each meeting of the Board, apart from the specific cases to be considered by the Board, the Secretariat of the Board will also bring up,

- (i) lists of cases which have to be dealt with by the Board or its Sub-Committee but which, for reasons to be indicated, have not yet been considered within the period of six weeks prescribed above; and
- (ii) lists of applications to be dealt with by the administrative Ministries and which have been pending for over two months with the administrative Ministries.

so that, wherever considered necessary, the Board may give directions for their prompt disposal.

2.58. While considering proposals relating to an industry for which there is capacity in the public sector, the Ministry concerned will keep in view the desirability of consulting the Public Sector Undertakings concerned.

2.50. The Board will also review the decisions taken by the various Ministries from time to time within their delegated powers on cases relating to foreign technical collaboration.

260. The Government have subsequently issued a Press Note on 31st October, 1973 (Appendix IV) to streamline the Industrial Approval procedures which became effective from 1st November, 1973. After streamlining of the industrial approval procedures w.e.f. 1st November, 1973, final approvals are also centrally being issued from the Secretariat of Industrial Approvals in the Department of Industrial Development.

### B. Working of Foreign Investment Board

2.61. In regard to the working of Foreign Investment Board, the representatives of Ministries stated as under:—

The Secretary, Department of Petroleum stated:—

“The general effort in the FIB is to secure co-ordinated disposal so that you do not have to approach different parties at different forums. Therefore, to that extent, FIB certainly serves to expedite the process of disposal.”

2.62. To an enquiry of the Committee whether Department of Petroleum were satisfied with the working, the Secretary Department of Petroleum replied as under:—

“We did point out the delays that resulted in insistence on Indian taxes being payable. There could again be a discussion on royalty. If FIB is to control the foreign collaboration, there will always be an argument about the proposal. An administrative ministry will like to go very fast, the FIB on the other hand, will look at it more objectively and in that process, some delay is inherent in that system. But the delay which is in the national interest should not be considered as avoidable delay.”

2.63. The witness further added:

“In fact, we have had cases where the last date for finalising an agreement was coming and the Chairman, of the FIB was good enough to clear the cases on the file itself without waiting for the FIB meeting. There have been inordinate delays, also generally speaking because of taxation problem.”

2.64. The Secretary Department of Heavy Industry in this connection stated as under:—

“Even in regard to taxation problems now these are referred to FIB. As far as FIB is concerned, it was a step in the right direction and they have been able to reduce delays to a very great extent. They have been able to clear cases in less than 120 days which I personally feel is a great achievement.” . . . . .

“Because, in any import of technology, some qualitative variations are absolutely inevitable, depending on the industry and on the type of technology. If we have to refer to different agencies on all these variations, it will take a long time. Therefore, FIB, I think, has been able to avoid a lot of delays. It has been my experience also. And I have also got clearances on the file.”

2.65. The Secretary, Department of Fertilizers and Chemicals stated as under:—

“I go to the FIB as far as drugs and pharmaceuticals are concerned; not for fertilizers. In the case of the former, there is a particular problem, because a number of cases concern multinationals or firms coming under the MRTP Act. It raises a new dimension to the problem. So far as multinationals are concerned, particularly in the drug industry of late, as you are aware, there has been a lot of talk in Parliament. . . we have been naturally a little more cautious in the examination of cases involving those companies. There is a particular flavour in regard to cases relating to pharmaceuticals.”

2.66. The representatives of the Department of Economic Affairs and FIB stated:

“Some of the delays might be perfectly reasonable. In the absence of FIB, the delays would have been greater. The cases would have had to be taken to different Ministries. It would have taken more time.”

2.67. The Secretary, Department of Industrial Development added:—

“Before the FIB had been constituted, there was a Foreign Collaboration Committee which was working in much the same way as the FIB does. Before that we had the practice of deciding cases on files, there were long delays and there were differences of opinion. Finally, in such compli-

cated cases, a joint meeting was held to resolve the differences. That is why it was thought better to have a standing committee with a standard form of summary; and it could meet once a fortnight and decide these cases. In regard to the problem of delay, it is not always related to the FIB or to the merits of the case, etc. Summaries have to be prepared and comments circulated. They may not be received in time. This is why, in 1973, a special procedural system had been worked out and I would say that since then, delays have been reduced very substantially, as it was pointed out. And I think that as a body, it is able to bring together the different agencies into one forum. This includes Science and Technology, DGTD and the administrative Ministry concerned. By and large it has been possible to arrive at an agreed decision within a reasonable time. As they have also pointed out, there are some cases where there is some urgency and where the case has been examined and we are able to decide it even without calling for a meeting. On the whole, in respect of all these cases, from the point of view of consideration to be given as well as the time—frame—the system has been quite successful.”

2.68. The Ministry of Industry & Civil Supplies, Department of Industrial Development (Secretariat for Industrial Approvals Foreign Collaboration Unit) in a written note furnished to the Committee after evidence have stated that they have started maintaining time-taken analysis of delayed foreign collaboration applications since the formation of the unified Secretariat for Industrial Approvals i.e. from 1-11-1973. Prior to this, there was no time schedule fixed for disposal of F.C. applications at various levels of consideration by the concerned authorities. Statistical date has, therefore, been incorporated in the statement since 1974 onwards *vide* Appendix V. The main reasons for delay in the timely disposal of F.C. applications are:—

- (i) The comments of technical authority like DGTD, Textile Comm. etc. were delayed.
- (ii) The comments of the Administrative Ministry were delayed.
- (iii) Summaries of the proposals were ready but had to wait for F.I.B. meetings.
- (iv) The FC proposals had to be deferred by the F.I.B. for further examination.

- (v) The FC application submitted by the Indian Companies were sometimes incomplete and lacked necessary technical details. These details had to be obtained from the concerned companies resulting in delay in the disposal of applications.
- (vi) Final orders could not be issued for want of Deptt. of Company Affairs advice after statutory hearing under MRTP Act.
- (vii) Certain FC applications had to be submitted for approval of the OCEPC after consideration of the F.I.B. and thus could not be disposed of within the time schedule of 120 days.

2.69. The Committee note that with a view to minimising procedural delays in disposal of applications relating to foreign investment and foreign collaboration, the FIB was set up in 1969 and charged with the responsibility of expeditious disposal of cases. The Committee are informed that before the FIB was constituted, there was a Foreign Collaboration Committee which was working in much the same way as the FIB and before that, the practice was to decide cases on files and there were heavy delays and/or differences of opinion and joint meetings used to be held to resolve such differences. It was with a view to overcome such delays, that Government considered it better to have a standing committee of the type of the Board under the Chairmanship of the Secretary, Ministry of Finance (Department of Economic Affairs) in which different agencies including the Department of Science and Technology, DGTD, the administrative Ministries, CSIR are represented so that agreed decisions can be arrived at within a reasonable time. Time schedules and procedures have been laid down by which applications must be brought before the FIB at the expiry of period of 2 months from the date of its receipt and every effort has to be made to give a final decision on the application within 3 months from the date of its receipt. It has been stated that although some powers have been delegated to the administrative Ministries/Departments in regard to disposal of applications for foreign collaboration in accordance with the guidelines laid down by Government, the Board has supervisory functions in respect of disposal of all applications and may call for and deal with any individual application in the Board itself. The Committee are also informed that a special procedural system has been introduced w.e.f. 1st November, 1973 for processing of applications for industrial licence and foreign collaboration. According to the new procedure, foreign collaboration approvals are to be issued within 90 days of the application and cases of composite appli-



cations for industrial licences and for foreign collaboration and capital goods clearance would be disposed of within 120 days. If such cases also involve MRTP clearance, the time schedule has been fixed as 150 days. Although it has been claimed that since the introduction of the new procedure, delays have been reduced, substantially, the Committee regret to observe that during 1974 out of 16 cases of public undertakings which were referred to FIB 10 were cleared within 120 days and in 1975 out of 12 cases referred to 8 were cleared within 120 days. The Committee are not convinced of the reasons for the delay in the disposal of the remaining applications and feel that with a more determined effort it should have been possible to dispose them of within the prescribed time schedule. The Committee feel that in the case of public undertakings there should be no difficulty in obtaining the necessary clarifications or holding discussions with the Chief Executives of the public undertakings and/or the senior officers of the administrative Ministries concerned so as to resolve all matters and issue final orders on the application for foreign collaboration well within the prescribed period of 120 days. The Committee need hardly point out that speedy processing of applications for foreign collaboration would help to clinch the foreign collaboration terms and remove one major uncertainty in the time schedule for implementation of planned projects.

## **CHAPTER III**

### **SELECTION OF TECHNOLOGY**

#### **A. Basis for Foreign Collaboration**

3.1. According to the Ministry of Industrial Development, Indian parties desiring foreign collaboration negotiate source and terms of collaboration with the suitable foreign parties within the general framework of policy guidelines. While making an application, they are required to give an account of the attempts made to explore alternative sources for the import of technology and the techno-economic consideration for preferring the particular collaboration which has been applied for. It is not necessary to invite global tenders before submitting proposals for foreign collaboration.

3.2. Government's policy is not to allow foreign collaboration where indigenous know-how capable of commercial exploitation is either readily available or is likely to be made available within a short period. Technical authorities such as the Director General of Technical Development, the Textile Commissioner, the Council of Science and Technology, Council of Scientific and Industrial Research and Technology are required to scrutinise the collaboration proposals and are expected to specifically advise the Foreign Investment Board or other authority disposing of collaboration applications on the availability of talent, technical know-how and material.

3.3. An inter-departmental Technical Committee has been set up in July 1974 under the Chairmanship of Director General, Technical Development. Various technical authorities such as Department of Science and Technology, Council of Scientific and Industrial Research and National Research and Development Corporation are represented on this Committee. The Committee is intended for making coordinated recommendation on technical aspects of proposals for import of technology to the Foreign Investment Board.

Wherever necessary, the administrative Ministries are asked to consult the concerned Indian Diplomatic Missions abroad to ascertain the standing and reputation of the collaborator. In the applications for foreign collaboration the Indian parties have to specify the services to be rendered by the collaborator.

3.4. Out of 53 Undertakings which gave information on the basis of collaboration agreements entered into by them, it has been stated by as many as 29 public undertakings that proposals for foreign collaborations were examined by DGTD/CSIR or other technical experts in the field and Indian Consultancy Organisations. 18 Public Undertakings however stated that technical know-how was not available in India.

3.5. H.M.T. stated that the collaboration is selected in any one of the following ways:—

- (i) Government directs the Company to implement the agreement already entered into with a foreign firm by the Government.
- (ii) Government will conduct initial survey for collaboration for certain products and then directs the company to follow up.
- (iii) Government directs the company to follow up a project report of foreign company prepared for a State Government.
- (iv) With the approval of the Government of India, the Company sometimes signs agreement with an existing foreign collaborator for additional product.
- (v) The company sends out global enquiries seeking collaboration for the new product.
- (vi) By conducting negotiations with prospective suppliers for obtaining technical know-how against placement of orders for machines without payment of know-how fee or royalty. Before signing the agreement, the Company ensures that the prospective collaborator has necessary expertise and proven experience during the visits to the collaborator's works.

The services of Indian embassies/missions abroad are utilised for ascertaining the credit worthiness of the collaborators.

3.6. In the case of BHEL it has been stated that BHEL contacts all leading firms in the field before entering into collaboration for any product. The performance of these organisations, the technical standing of the equipment both in the domestic market and the performance, the technical leadership of the organisation, the R&D base are some of the factors considered.

In case where design philosophies in the world originate from a small group of 2 or 3 companies in the entire world the approach is restricted to one or other of the parties. In certain other cases, it is advantageous to approach a single organisation whose leadership is well established in the world.

In case where it is proposed to cover an allied product it is decidedly advantageous to continue with the existing collaborator rather than proliferate collaboration with many organisations.

3.7. BEML and IRE were also of the same view. Undertakings like GRW, HAL and Hindustan Cables stated that selection was made on the world-wide reputation of the collaborators, in the field of manufacture, and the necessary expertise and experience in completion of work in time their willingness and terms offered. An expert team was also deputed some times to see the technology of the countries willing to offer and the best technology is selected.

3.8. BHPV stated that collaboration in their case was based on agreement with Czechoslovakia on economic cooperation. Other collaborations were on the basis of well known firms in the field or firms of international repute. Comparative terms were evaluated with reference to the standing of the firms in the field, past experience, terms relating to payments, etc. before final selection is made.

3.9. Bharat Ophthalmic Glass Co. Ltd. stated that all efforts to get this technology from countries like U.K., U.S.A., Japan, Germany, etc. failed and only USSR agreed to give this and hence there was no choice of selection.

3.10. In the case of Fertilizers it has been stated that so far as urea and ammonia based plants were concerned quotations were invited from pre-selected process licensors and selection made from amongst the quotations received, the main consideration being reliability and well established position of the process, the economic viability of the process both capital investment and operating cost-wise and previous experience with plants operating on the process.

In the coal-based plants, the collaborators were selected on the basis of the recommendations of a Committee which studied the two processes available and also saw plants operating on this process abroad.

3.11. Hindustan Photofilms Mfg. Co. Ltd. stated that the basis of collaboration depends mainly on the type of product and the level of technology indigenously available. For turn-key projects it

might be possible to obtain global tenders from more than one source. However, where it involved scarce know-how and technology, development of new skills etc., the choice would be limited, in which a case, it had to be negotiated with such interested parties on the best possible terms.

3.12. IDPL stated that the choice for collaboration in drug field is limited as latest and improved drugs are patented. Based on information available the reputed parties in the lines are contacted and proposals scrutinised by experts in the field.

3.13. In the case of Indian Oil Corporation, it was stated that for Petroleum refineries generally the foreign collaboration for various processes and know-how is made only with those parties who are well-known in the field by way of proven commercial references—information regarding commercial references is published in various international technical journals. Similar views were expressed by Lubrizol Intia Ltd.

3.14. I.P.C.L. have stated that for the purpose of foreign collaboration relating to the process know-how, detailed technical and commercial quotations are invited from the overseas firms well-known in the particular field.

The information received from the overseas firms is then evaluated technically and commercially. Based on the techno-economic evaluation the number of licensors is reduced to a short list for which a more rigorous evaluation is done and at the final stages visits are made to the operating plants of the licensor.

The experience of the party selected for collaboration is assessed from the number of plants built on the technology offered, the length of the period these plants have been in operation, the improvement made in the process offered, the reputation enjoyed by the process with the earlier licensors, etc.

Other things being more or less equal the availability of a particular credit becomes an important factor.

IPCL further stated that the international standing and reputation of the engineering design and consultancy firms play a predominant role in determining the collaboration.

Normally the terms and conditions of foreign collaboration for design and consultancy services are evaluated on the basis of their experience of the companies offering their services in the field,

experience of the personnel, prices quoted and scope of services offered and the proposed manner of implementation.

3.15. EIL have stated that in sophisticated industries, the number of technologies that are available is limited and it is normally known to the persons in the field, through scientific journals, seminar, conferences, international gatherings, etc. It is likely that some of the foreign collaborators might not like to part with the latest technology for indigenous development, in such cases, they may have to agree for the best amongst the technologies that are offered.

The soundness and capability of the collaborator is judged with reference to the works carried out, working of the equipment/plants at various places, visits to plants etc.

Engineers India Ltd. have further stated that the initiative for technical collaboration is generally taken by the undertakings and they generally satisfy themselves that no indigenous technology is available and that the collaboration sought is the best that could be negotiated. They have further stated that very few of the Indian Design & Consultancy Service Organisations have got either proprietary or non-proprietary process know-how, or basic engineering.

EIL have suggested that if the Government, before approving such total packages as turn-keys, insist on making use of the Indian indigenous services to the extent available, as is said to be done in Brazil, it is likely that the engineering and consultancy services to be brought from outside, would be the minimum.

3.16. While evaluating foreign collaborations, the terms offered and the technical expertise and standing of each, will have to be compared and the acceptable terms arrived at. It is likely that a firm with better technology may demand stiffer fees or a higher lumpsum. It is left to the Indian Party to evaluate the terms and conditions and choose that technology which offers the maximum cost benefit.

3.17. In regard to the basis of Collaboration the Secretary, Department of Heavy Industry during evidence stated that:

“First of all, BHEL and the Ministry evolved the strategy and as a result of that, we selected 8|9 leading manufacturers of this equipment in the world. The intention was that we should find out whether they are interested to give that collaboration and what their experience was. After

knowing this, we sent out technical teams to the works of these people to find out their capabilities in the actual design and development of such equipment and also their experience in the transfer of technology. We also wanted to find out what was the actual number of sets produced by them for their domestic requirements and also for exports. We also wanted to know about the number of licensing arrangements that they have already entered into. One of the important considerations was whether they would accept the principle of 'pay-back' by components which is important from the point of view of out-flow of foreign exchange as also by way of establishing our credibility in third countries. If we can export our components for sophisticated items to the collaborator, that proves our technical competence. We were also keen to find out whether they were prepared to give us detailed drawings and basic design data as a package of this imported know-how. What was even more important was that we would like to know the design philosophy and the calculations leading upto that design, so that in future we can develop from this power generation equipment of higher rating. What is the position from which they have come to the design stage. Ultimately the intention is that we should not import this technology again. Later on, we may require 800 and 1200 megawatt sets. Once we get their thinking and design data, it will be possible to go ahead with the development of future sets.

We got proposals from all these leading manufacturers. BHEL had detailed discussions with them and as a result, we have now come to a short list of three and to finalise that we have decided to form an inter-ministerial committee on which Finance, Economic Affairs, Science and Technology, Power Ministry etc. would be represented and we intend to have discussions towards the early part of next month.

The intention is to have discussions almost at the same time with all the three to be in a bargaining position. I think the best way in my opinion is to go in for technology in such critical sectors."

3.18. In this connection the Secretary, Technical Development and DGTD stated that "the guidelines published by Government

expect Indian parties to explore alternative sources of technology, evaluate them from the techno-economic point of view and furnish reasons for preferring a particular technology and their sources of input."

3.19. In the written notes furnished after evidence regarding basis for foreign collaboration the Selected Ministries have stated as under:

Department of Industrial Development have stated that:

"The foreign collaborator is identified by the Indian company, in some cases on the basis of global tenders and in other through direct negotiations. The Technical Departments| agencies while scrutinising the proposals make an independent assessment regarding the standing of the collaborator and the nature of the technology proposed to be imported. Wherever necessary a Technical Committee of Experts is set up on *ad-hoc* basis by Foreign Investment Board to scrutinise the proposals. The entrepreneur has to indicate the steps taken to explore the alternative sources of technology and evidence has to be furnished that the best available technology is being obtained at most reasonable terms. Further it has been decided that a Technology Cell and Data Bank should be established in the office of the Directorate General of Technical Development for the Techno-economic Evaluation of the competitive bids and advising entrepreneurs on the availability and the correct cost of technology. It has also been decided that a few important areas should be identified and efforts should be made to obtain technology through a central source for multiple utilisation in such areas."

3.20. The Bureau of Public Enterprises, Ministry of Finance have stated that "foreign collaboration should be in the field of high priority and in areas where the import of foreign technology is necessary the same should be a proven process."

3.21. The Ministry of Defence (Department of Defence Production) have stated that "foreign collaboration agreements are considered only with firms having international repute in their respective fields. The products manufactured under licences are also generally those using the latest technology suited to Indian Conditions. The terms are evaluated on the basis of competitive offers



where available, or in the light of the terms approved by Government in the case of other foreign collaborations in the same or allied fields.”

3.22. The Ministry of Petroleum & Chemicals have stated that “foreign collaboration is sought for in cases where the technical know-how, materials and talents are not available indigenously. Global tenders are not always invited and in cases involving sophisticated technology, the invitation is generally confined to a few reputed firms in that line. The evaluation of the offer from the point of technical, economical and commercial angles is generally made by the undertakings, whose experts sometimes even visit the plants set up with the collaborators licence|know-how.

The cases which come within the purview of FIB, the proposals are examined from the indigenous angles by the different expert agencies like the department of Science and Tchnology, DGTD, etc.”

3.23. The Department of Atomic Energy have stated that the Foreign Collaboration is determined on the basis of proven process technology. If the proven technology is available with more than one party, attempts are made to assess the relative terms and conditions of the offer after taking into account all techno-economic considerations.

### B. Selection of Technology

3.24. To a question as to how the Government ensure that the parties selected for collaboration have the necessary expertise, proven experience and ability to complete the work in time, the Ministry of Industrial Development have stated that the—

“Collaborator is selected by the Indian entrepreneur through mutual negotiations. The applicant has to give in his application an account of attempts made by him to explore alternative sources for the import of technology and techno-economic considerations for preferring the particular collaboration which has been applied for. The technical authorities like the Technical Committee (consisting of the representatives of Department of Science and Technology, Director General, Technical Development, Council of Scientific and Industrial Research and National Research and Development Corporation, Textile Commissioner etc.) not only evaluate the quality of

technology but also the standing of the foreign collaborator. Wherever necessary, the administrative Ministries are asked to consult the concerned Indian Diplomatic Missions abroad to ascertain the standing and reputation of the collaborator. In the applications for foreign collaboration, the Indian parties have to specify the services to be rendered by the Collaborator.

3.25. In regard to selection of technology the Ministry of Industrial Development stated:—

“It is primarily for the technical authorities advising the Government on specific foreign collaboration proposals to ensure that know-how offered by the foreign collaborator is suitable and not out-moded in the Indian conditions. Indian embassies/missions abroad are normally not consulted on this aspect.

3.26. While some undertakings have stated that Indian Missions abroad are associated/consulted to judge the standing and soundness and credit worthiness of the foreign collaborators the Missions cannot be expected to have technical expertise to judge the know-how offered, two undertakings have stated that they do not consult the Indian Missions and one undertakings stated that it consults Indian Missions in rare occasions. Hindustan Photo Films Mfg. Co. have stated that they obtain the opinion of reputed international consultancy agencies. FACT, HFF, IOC, Durgapur Steel Plant, Alloy Steels Plant, Rourkela Steel Plant, IPCL, Instrumentation Ltd. have stated that Indian Consultancy Organisations like NIDC, Dastur & Co., MECON, FEDO, EIL are also consulted. ONGC have stated that no Indian Consultancy is not available and EIL is associated where feasible. Hindustan Zinc Ltd. have stated that there was no Indian Consultancy firm in India.

3.27. Richardson & Cruddas and Jessop & Co. have stated that opinion of consultants is not taken as a matter of course but in certain cases opinion of NIDC is also taken. Heavy Engineering Corporation has stated that for setting up new plants, Government's or public Undertakings' knowledge of technology or its availability in respect of existing plants is utilised to ensure that the best technology is obtained.

3.28. According to FACT, the intrinsic value of know-how consists of simplicity of processing steps in regard to investment being

less, better recovery of inputs better quality of products and by products, cheaper conversion cost, less maintenance cost, higher stream efficiency, suitability to treat locally available raw material, less foreign exchange for plant and spare parts, less labour requirements, less pollution problems.

FACT has further stated that—that process for which profitability is highest is economically the best.

Other aspects for consideration are the extent upto which the technology has been tried and proven in commercial production and any previous association that the purchaser has with any of the licensors.

Value of expertise and experience is judged by studying performance of various plants in operation by visits to operating units.

The technologists of FACT keep abreast of the technology by studying the latest publications on the subject. Processes which are adaptable to Indian raw material are selected to ensure exploitation of indigenous resources. Economic viability and process efficiencies are also compared before deciding on the know-how to be selected.

3.29. The Chairman and Managing Director, Fertilizer Corporation of India stated in this connection that:—

“When I mentioned that you have to go in for foreign collaboration in technology if you want to have the latest techniques, what I meant was that we must go in for the best and latest technology and most sophisticated that is available. That is clear, because, in developing countries whatever technology is existing or is being developed constantly will be somewhat out of date when compared with the technology being developed in Western countries or Japan or other such countries. It is not my thesis that we must go to foreign countries for getting the latest technology existing.”

The witness added that:

“By and large, there are competing technologies available. It is not that one is the latest and the other is not the latest. There would be a number of competing technologies, available. In the case of fertiliser industry and petrochemical industry, the general practice has been to get

the offers from the competing firms for the supply of know-how and basic designs in order to compare their prices and what the plant costs are going to be. In many cases we even visit the plants which have been built based on the technology and we also get the comments from the owners of the plants which have been built based on the technology. There is thus the possibility of comparing the competing technologies before we select the one which is suitable to our requirement. This is the way in which at least in the fertiliser industry, we have gone about selecting the technology which we have to adopt."

3.30. The Chairman and Managing Director, IPCL stated—

"We are not really talking about controlling the import of technology. We are talking about the manner in which this technology is obtained and whether it needed a great deal of investigation. I think you will agree that we are now well known and it is not like ten years ago. When we write to a few people, they all begin to send us offers and the kind of parameters they have. You can analyse those technically, purely technically without going into the economics of it in detail.

What is the advantage, what is the disadvantage, how is it reliable, what is proven already, how will it fit in with ours and is it possible to narrow it down? There are only three or four people involved in it. The cost of developing this technology is very high. Very few people develop it. We can have a Committee a small committee of experts; not only of people within the Corporation but also from the people outside the Corporation. The persons who use it are the most important people for the purpose."

3.31. Planning and Development Organisation of the Fertilizer Corporation of India Limited have stated that:—

"We select a number of process licensors on the basis of their technology which is judged from the reports obtained from places where their technology is being used and/or visit to such plants using their technology. Quotations are obtained from these pre-selected licensors and selection made from amongst the quotations received, the main

consideration being reliability and well established position of the process, the economic viability of the process in both capital investment and operation cost-wise and the previous experience if any, with the Plant operating on the process."

They have further stated that the design engineering consultancy services from foreign collaborators should be determined on the basis of the reliability of their process. Normally, the basic design is furnished by a process holder and once a reliable, competitive and economical process is accepted, then the basic design and other consultancy services can be usefully furnished only by the collaborator extending the process.

3.32. In regard to the method of verifying that the technology available is the latest in the field, the P&D of FCI have stated that "After having selected a number of technologies which are considered to be the latest, quotations are obtained from all the process licensors. It might be slightly difficult to say as to which of the technologies is latest since various technologies offer different benefits. If one technology claims lesser capital investment, the other technology could claim lesser operating cost and the third technology may claim better and easier maintenance. In view of this a fair judgement in regard to the best and most suitable technology has to be made."

3.33. The Chairman and Managing Director, Bharat Heavy Electricals, stated that:—

"The thing is that they (Petrochemicals, Fertilizers, drugs and Pharmaceuticals) buy the process technology; they go in for the most modern or the upto date or the latest technology. There is another group of people like MAMCO or HEC. Bharat Heavy Plates and Vessels Ltd. who should provide the necessary help for building up these process plants. In making these equipments, I may use different technologies or go in for different processes which are instead of being manually operated may be automatically operated for which the machine tools are provided by the HMT. Unless these three groups at different stages are going to move in a coordinated manner, we are going to end up in a sort of a very confused state of importing of the know-how."

**3.34. The Chairman and Managing Director, Hindustan Machine Tools Ltd. stated that:—**

“There are most conflicting ideas as to what should be the technology suitable to our country and what should be the gap in technology between the leading countries in the world and ourselves so that we can process it through way of our own existing efficiency or by increased efficiency.

All these questions are questions which will have to be gone into in greater detail. If you take the technology which is well established outside our country, it is quite good and it is patriotic, but it may set in motion delays and costs may be increased. Since you cannot ignore the customer, you may have to spend more money and time. So, in a developing country it is rather wasteful not to go in for established technology and sometimes it is thought by the Government to be in the interests of the country that we have to go in for modern established technology.”

The witness further added:

“Government will not import a technology if it is already established here. Each individual case is examined at the Governmental level and a suitable decision in the interest of the country is taken. In my field, we make quite sure that we do not go in for imported technology unless it is absolutely new as we did in the case of lamp making industry. There is no technology available in the country to produce the whole chain for making of bulbs. In the world there are only three or four firms who have this like Westing House, General Electric and Philips.”

In this connection, the Chairman, HMT stated “we are now mature. I do not think there is necessity to go round the world to select technology. Now it is easy for us to know about the world’s quotation. We have learnt as to what is good and what is best that we could assimilate. If required, we select the people who are really going to matter and we send them abroad to see the operation. All this investigation taken two to three months.”

**3.35. The Chairman and Managing Director of Indian Petrochemicals Corporation Limited stated that—**

“I would agree that compared to 10—15 years ago, our ability to choose not only the latest but appropriate technology

suitable to our economy and requirements is quite good. We have now a very large number of people trained in just not scientific matters but also technological matters."

The witness further added that in the matter of selection of Technology. "We do not use professional bodies for any views/consultations in large areas. I am sure we can use professionals in the scientific and top engineering bodies. At the moment, they are not heard; we never consult them. We consult them while signing some agreement with some country. We have got the National Committee on Science and Technology. I believe it would be better to have a very small body which has a large number of consultants appropriate to a particular situation rather than a one-time body.

3.36. The Managing Director, NIDC stated that—

"While deciding whether the technology should be imported or not in preference to the Indian technology, one criterion should be that a techno-economic evaluation of the existing Indian technology and its relevance to the new circumstances should be done. When technologies are permitted to be imported some of the restrictions which were placed in the past should be avoided in future, because a lot of technology imported in the past had conditions imposed that horizontal transfer would not be permitted."

The Managing Director, National Industrial Development Corporation Limited further stated that—

"I think there are enough very competent engineering organisations in this country, particularly in the public sector who I feel, could be nominated by Government as technology transfer evaluation agencies to whom a person who is looking for a technology should now refer his problem. And that agency can then look for the technology, first in India before looking for it abroad, and then evaluate the technology and see whether it is appropriate to the circumstances in which it is required to work. And for that purpose, that agency has to arrive at a judgement whether such a technology is available in India and whether it is appropriate to the circumstances or whether it should go abroad, and if so, where."

The witness further added that—

"Before we allow a technology to be imported, the intending importers should be asked to produce evidence that every

attempt was made to try to locate it within the country; when it was available, to produce evidence that it was not appropriate to their circumstances, or or that the party did not want to give it to him, or, even when he was willing to give, it was only at a price that would not make that technology totally economic to the importer. These are all issues which the suggested organisations, which I had referred to earlier as the technology transfer evaluation agencies, would then be enjoined to go into. If they, as agencies nominated by Government, come to the conclusion that it is not possible to have the technology in India, there would be no option but to look for it abroad; but we should make sure that a very serious attempt was made and that the Indian technology was not brushed aside merely because it was Indian."

3.37. The Chairman, MECON stated in this connection:—

"Dealing with the point whether there should be screening agency, I agree that the screening agency should be the public sector consultants or the R&D people who are working in the field. The consultancy organisations of the public sector who have developed expertise in their particular fields could be utilised as agencies to evaluate technologies for use by other people."

3.38. In regard to the Selection of Technology the representatives of certain selected Ministries during evidence stated as under:—

Secretary, Department of Heavy Industry has stated that—

"I agree that a high degree of selectivity is necessary in the import of technology. In the case of engineering industries earlier they were perhaps a little liberal with it and that has helped our exports to pick up. Now that we have developed a technological base and also expertise for manufacture of sophisticated equipment the stage has come when we should exercise great deal of selectivity in the import of technology. It is also necessary for us to synchronise our own development of skills and expertise with the import of technology so that we do not import it for all time."

The witness further added that—

"Sometimes collaboration arrangement is necessary to enter into export market because we have to establish our credibility in certain areas."



3.39. In reply to a question by the Committee whether foreign collaboration has been allowed in the name of export, the Secretary, Department of Heavy Industry added that—

“As far as we are concerned, we are now very selective on the import of technology. The purpose of it is that, first of all, in the agreement on foreign collaborations, the out-go of foreign exchange should be reduced to the maximum extent possible. If we export equipment to our foreign collaborators, our credibility in the third country also goes up. In all our recent negotiations in respect of such collaboration agreements, we have always tried to incorporate a clause to ensure that they buy a certain quantity of components from us. I am glad to inform you that in most of the cases, we have been able to incorporate such a clause.”

3.40. In reply to a question by the Committee whether the World Bank insists on a particular type of technology to be selected for a particular project the witness stated that—

“I do not think it is entirely correct to say that the World Bank insists that specifications should be tailor-made to a particular technology. A lot depends upon us also and we should see that the specifications are updated and take care of our indigenous capability. We are in most of the cases competitive.”

3.41. The representative of Department of Economic Affairs and Foreign Investment Board in this connection stated that—

“When they (the World Bank or any other agency) lend money for a particular project, I think it is a legitimate point to make that they are interested in the best use of the money which we borrow from them..... The point I am making is, any lending agency which has a project appraisal department which does develop expertise would ultimately be expected to see that the use of the money which we borrow from them is put to the best and economic use. But it is certainly not incumbent on us to accept it. If we are insistent in availing of indigenous technology, expertise or have choice of some different technology, it is not that we have to accept the technology suggested by them.

**3.42. The Secretary Department of Fertilizers stated that—**

“In the case of World Bank loans there is no question of being tied to any particular country or any particular technology. That is to say, you must take the best available technology for the particular scheme which you have in mind from any part of the world.

Take complicated chemical engineering processes like ammonia plants. There are recognised technologies all over the world. Depending upon the feedstock and the kind of project required, there are six or seven proven technologies to be considered. We know from our experience of these countries about their technology. There are arguments as to which would be the best and so on. I do not think that one would like to concede that world bank dictates which technology we should take. What they do is, they would like to be sure that the final technology selected is a proven one. That is to say, they should have put up some similar plant like that in some other part of the world. This is not the case in suppliers' credit. The country concerned or rather, the business firm of the country provides us the credit. They do so, because their intention is to sell their goods and their technology.”

The witness further added that—

“The world Bank does not preclude us from making our own choice.”

**3.43. The representative of the Department of Economic Affairs and Foreign Investment Board in this connection stated that—**

“The general rule is that we do not encourage the suppliers' credit.”

“We are hoping to have certain credits from governments of certain countries. For example take France and some of the OECD countries who have their tied credits from the sources of procurement. Ultimately there the choice with us is to go in for a particular technology from the source of procurement from a particular country and that is our own. That explains why untied credit does not get used up. The untied credit still remain<sub>3</sub> unutilised. Take the French credit which we receive. To use that we take our own decision. We see to it whether it could be used to the best economic use possible.”

**3.44. The Secretary, Department of Petroleum in this connection stated that—**

“As regards government to government aid, the practice is this. The public sector undertaking, through its Ministry, has to inform the Department of Economic Affairs that a suitable technology is available from three or four countries. And then the Department of Economic Affairs informs the Ministry that aid is available from one or two of these countries and therefore it may proceed. So, it is not that the Department of Economic Affairs or the administrative ministry tells the public sector undertaking that for a processing technology it can go in because aid is available. There it is completely the other way round. First, the undertaking indicates that a suitable technology is available from Japan, Italy, France and Holland. Then the Department of Economic Affairs says that aid is available from Japan and Holland but that we should choose between these two only.”

**3.45. The representative of Department of Economic Affairs and Foreign Investment Board added that—**

“When the Economic Affairs Department indicates that these are the credits available, the attempt is to match the availability of credits with the choice of the public sector undertakings.”

**3.46. The Committee note that according to the Ministry of Industrial Development, Indian parties desirous of foreign collaboration negotiate source and terms of collaboration with suitable foreign parties within the general framework of guidelines after making all efforts to find alternate sources for import of technology and taking into account the techno-economic considerations. According to the Ministry it is not necessary to invite global tenders for foreign collaboration.**

**3.47. The Committee find from the material placed before them that generally public undertakings contact all leading firms in the field, assess the performance of the organisations, the technical standing of the equipments both in domestic market and their performance, the technical leadership of the organisation, and the R&D base etc., before a collaborator is selected. For cases where the design philosophies originate from a small group of 2 or 3 companies only in the entire world, the approach is restricted to those parties only. Sometimes expert teams are also deputed to see the technology of the countries willing to offer the collaboration and best**

**technology selected.** In the case of process industries quotations are generally invited from pre-selected process licensors and selection made taking into account the reliability, well established position of the process, the economic viability, previous experience of operation of plants etc. Where it involved scarce know-how and technology, development of new skills, negotiations are carried on with interested parties on best possible terms. Sometimes as in the field of oil technology or other sophisticated industries, information regarding commercial references published in various inter-national technical journals, seminars, conferences, international gatherings etc., are taken. Sometimes global tenders are also invited for the purpose. Other considerations being more or less equal, the availability of a particular credit becomes an important factor. In the case of engineering and design firms the international standing and reputation of the engineering design and consultancy firms play a prominent role in determining the collaboration. Normally the terms and conditions of foreign collaboration for design and consultancy services are evaluated on the basis of the experience in the field, experience of personnel, prices quoted, scope of services offered and manner of implementation.

3.48. The Committee are informed that wherever necessary, a Technical Committee of Experts is set up on an ad hoc basis by the FIB to scrutinise the proposals. The Committee thus find that the selection of collaborator is done by various methods depending on the nature of the industry and the type of technology required for the industry, namely, engineering, process or design and consultancy etc., and the number of collaborators available in the field.

3.49. The Committee agree with the Ministry of Finance (Bureau of Public Enterprises) that foreign collaboration should be in the field of high priority and areas where technical know-how materials and talents are not available indigenously and where the import of technology is absolutely necessary and the same should be a proven process.

The Committee feel that it is important that Government/Undertaking should be clear about the exact nature and type of technology required, the sources of availability of such technology and the resources available for the purpose and should have knowledge about the technology and the collaborator, in order to secure the best terms in public interest.

3.50. The Committee are also informed that it has been decided that a technology cell and a technical data bank should be established in the office of DGTD for the technical examination and evaluation of the competitive technologies and advising the entrepre-

nour of the correct cost of technology. It has also been decided that in some cases to be carefully selected technology may be obtained through a central source for multiple utilisation.

3.51. The Committee recommend that the proposed Data Bank should be brought into action at a very early date and stress that the Data Bank should not only have information about the latest advancements in technology and the collaborators in foreign countries, but also maintain liaison with the CSIR, the Department of Science and Technology and other leading Research and Development institutions in the country etc., so as to incorporate at one place, upto date information about technology/collaborators available within the country and outside.

3.52. The Committee note that according to the Ministry of Industrial Development the quality of technology and the standing of the collaborator are evaluated by a technical Committee consisting of the representatives of Department of Science and Technology, DGTD, CSIR, NRDC, Textile Commissioner etc. The technical authorities only ensure that the know-how offered by the foreign collaborator is suitable and not outmoded in the Indian conditions. While the concerned Indian diplomatic missions are consulted to ascertain the standing and reputation of collaborators they are not normally consulted about the choice of technology. Some undertakings have stated that they obtain the opinion of reputed international consultancy agencies and in some cases the Indian consultancy organisations like the NIDC, MECON, FEDO, EIL, etc. are consulted. In some cases the undertaking's own knowledge and the technology already available in respect of existing plants is utilised to ensure that the best technology is obtained. It has been stated that in some cases like ONGC and HPF there are no consultancy organisations available for consultation. The extent to which technology has been verified and proven in commercial production and previous association that the purchaser has with any of processes is also taken into consideration. FACT has stated that process of which profitability is highest is economically viable. It keeps itself abreast of technology through information available in the latest publications. Processes adaptable to Indian material are selected to ensure exploitation of indigenous resources. Economic viability and process efficiencies are compared before deciding on the know-how to be selected.

3.53. The Committee are informed by FCI that in the case of petrochemical and fertilizer industry the general practice has been to get the offers from the competing firms for supply of know-how

and basic designs in order to compare the prices and plant cost. In many cases even visits are made to the plants built based on the technology. According to FCI this makes it possible to select the technology which is suitable to requirements. It has been stated that the design engineering consultancy services from foreign collaborators are determined on the basis of reliability of the processes so selected. The BHEL has stated that in selecting the technology both the process industries like IDPL, Petrochemicals, Fertilizers etc. who go in for the most modern or upto date technology and the engineering industries like MAMC, HEC, BHPV etc. who built the process plants should move in a coordinated manner. NIDC has stated that while importing technology the criterion should be that a techno-economic evaluation of the existing Indian technology and its relevance to the Indian conditions should be done. It has been stated that there are enough public sector engineering organisations in the country who could be nominated as technology transfer evaluation agencies and who have to arrive at a judgement whether such a technology is available in India and whether it is appropriate in the circumstances.

3.54. The Committee note that, according to Government, undertakings/administrative Ministries have evolved elaborate methodology to make sure that the technology which is best suited to requirements and is upto date and proven in the field is chosen. The Committee, however, find that in the recent past there have been instances where the technology chosen e.g., in the case of manufacture of photo films and cross-bar telephone exchanges, was later on found to suffer from several deficiencies which basically arose from the fact that the standing of the collaborator and his capability in the field had not been critically evaluated nor the suitability of the technology for Indian conditions critically adjudged.

3.55. The Committee feel that in making the choice of technology care should be taken to safeguard against obsolescence and incompatibility to ensure that the technology selected is not only most modern but appropriate to the Indian conditions. The technology should be correlated with the locally available inputs and with the present projected demands as co-relation with the demand projection is important in determining the scale of production. The Committee agree that there should be high degree of selectivity in the case of engineering industry, where the country is reported to have developed a technological base and expertise for manufacture of sophisticated equipment and stress that Government should scrutinise in greater depth the need for any foreign collaboration in this sector

after carefully assessing the existing capacity for developing second generation plants.

3.56. The Committee have elsewhere in this Chapter recommended that a public sector undertaking should be nominated by Government in each sector of the industry to act as the leader in the matter of processing and crystallising proposals for selection of best foreign technology. Where a unit is coming up in an area where no public sector undertaking exists, the Government may consider the question of nominating a suitable consulting agency, such as Engineers India, NIDC, etc., to act as a "Nodal" agency for processing such proposals. The idea underlying this recommendation is that the proposals should, *abinitio*, be drawn up with the association of the most knowledgeable unit in the public sector so as to facilitate the task of Foreign Investment Board to scrutinise and approve the application for foreign collaboration.

3.57. The Committee recall that in the public sector, large capacity for manufacturing processing units has already been built up as for example, the Heavy Engineering Corporation, MAMCO, BHPV who have the capacity to manufacture steel plants, large-scale coal mines machinery and port handling equipment, machinery and equipment for petrochemical and fertilizer industries etc. There are, however, certain areas where we are dependent on imported machinery and equipment which could be manufactured by the large manufacturing undertakings in the public sector. The Committee suggest that there should be meaningful coordination between these large machines manufacturing units and the processing undertakings so that indigenous manufacture of machinery and equipment undertaken with the aid of foreign technology and know-how where absolutely essential, could be taken up in an integrated manner so as to meet satisfactorily the requirements of the processing industry as well as the objectives of indigenisation.

### C—Screening and Evaluation of proposed Technology

3.58. All foreign collaboration proposals are scrutinised by Technical Departments|Agencies *viz.* Department of Science and Technology, Directorate General of Technical Development, Council of Scientific and Industrial Research, National Research Development Corporation etc. and their comments are obtained from the point of the suitability of the proposal. The Administrative Ministry

concerned with the industry also examine these proposals with reference to the norms laid down under the guidelines and place their views to the Foreign Investment Board. While considering the proposal, the Foreign Investment Board takes into account the views of the Technical Department/Agencies, administrative Ministries and decides cases keeping in view the guidelines.

3.59. It has been suggested that the following methods may be followed for screening and evaluating proposed technology before it is selected and permitted by Government.

- (i) Formation of *Ad-hoc* Committee of Experts;
- (ii) by the Undertaking itself in consultation with DGTD, Ministry and other Coordinating agencies;
- (iii) to have Technical Evaluation Cells in each Administrative Ministry;
- (iv) NCST through Working Groups;
- (v) FIB;
- (vi) Public Sector Agency which has experience.

Asked as to which of the methods would be most suited for screening and evaluating the proposed technology and how coordination between DGTD and FIB be ensured, the representatives of the designs and consultancy organisations of selected public undertakings have stated as under:—

3.60. BHEL have stated that “the selection of method for screening and evaluating the different technologies would depend on a number of factors, *e.g.*, nature of technology, dispersal of the industry in Public and Private Sector, the pre-eminent position taken by any single agency in the field, etc. Depending on the cases, all the suggested methods can be adopted.”

3.61. EIL have stated that ‘a Lead Company or organisation would be most suited for selection of technologies in any particular field. The lead organisation should keep the DGTD and the Foreign Investment Board in close touch before negotiating the selected technology; as long as the negotiations are carried out in close coordination with these parties, there would be no difficulty in processing and importing the required technology.’

Fertilizer Corporation of India have stated that a Public Sector agency which has the experience would be most suited.



FCI have further stated that the coordination between the public sector lead agency on the one hand and the DGTD and Foreign Investment Board on the other should be through the controlling Administrative Ministry and its associate finance.

3.62. IPCL have stated that in the evaluation of technical know-how, the lead organisation may associate the officer concerned in the DGTD. The recommendation can then be submitted to the Foreign Investment Board through the Administrative Ministry.

3.63. MECON have stated that a Public Agency which has experience should be utilised for screening and evaluating the proposed technology and DGTD need not come into the picture.

3.64. NIDC have stated that Technology transfer evaluation is not really an *ad-hoc* exercise. The agency concerned with such work for the fields allotted to it—must keep itself abreast of the developments taking place in related technologies, the extent of their application elsewhere in the world, the parties who are using such technologies etc. Furthermore, the agency must continuously collect information on the terms and conditions on which such technology is being transferred elsewhere. Then again, detailed and continuous studies are necessary to examine the appropriateness to the Indian environment of each development in a given technology.

For the foregoing reasons, such evaluation work through *Ad-hoc* Committees, Working Groups etc., would not be the appropriate answer. As such, it is desirable to nominate consultancy Organisations to handle such work in respect of specified technologies. The report of nominated Consultancy Agencies for technology transfer evaluation should form an essential part of the application for foreign collaboration and this report would also be available to DGTD and FIB during the processing of the application. Representatives of the concerned Consultancy Agency should be available to DGTD and FIB for clarifications, when needed.

3.65. To a question whether it not be fair enough to have one central agency for both public and private sector for import of technology in particular field, the representative of FACT stated as under:—

“The Government should nominate the agency for a particular field and that a agency should deal with that particular item. The agency should be uptodate with the modern technology also.”

3.66. The Ministry of Industries and Supplies (Department of Industrial Development) have stated that—

In the evaluation of the proposed technology technical agencies such as Department of Science and Technology, Directorate General of Technical Development, National Research Development Corporation, Council of Scientific and Industrial Research assist the Foreign Investment Board and to that extent their role in the evaluation of technology is complementary to that of Foreign Investment Board. Other agencies such as Technical Evaluation Committee are sometimes set up on *ad hoc* basis for evaluation of specific proposals which have come up before the FIB. Thus, there is no over-lapping of functions between the various agencies mentioned.

The Directorate General of Technical Development who is also ex-officio Secretary (Technical Development) is a member of the Foreign Investment Board. In all cases where Directorate General of Technical Development is the technical authority, their comments are inevitably obtained and considered by the Foreign Investment Board while considering the Foreign Collaboration application. Therefore, effective coordination between Directorate General of Technical Development and the Foreign Investment Board already exists.

3.67. The Department of Heavy Industry have stated that the methods which are indicated in the question are not mutually exclusive. As a matter of fact, the FIB which approves technological imports, does it after the coordinated advice of all the involved technical and production agencies has been made available to it. The Foreign Investment Board, therefore, does not denote a single agency but a system of evaluation at different levels, moving upto a point of decision. It is open under the present system to adopt a particular methodology or take the assistance of a particular agency for evaluation. According to the Department of Heavy Industry the present system which allows a wide-base selection procedure but concentrates the decision at a focal point after the proposals have gone through a gamut of evaluation and selection is best suited for the country's needs. Any alternative framework for evaluation and selection is unlikely to have either the comprehensiveness or the authority of the FIB. The present system has also now been geared to avoid dispensable wastage of time at different stages of consideration."

3.68. The Ministry of Petroleum and Chemicals have stated that "the evaluation of the technology may be made by the Undertaking itself in consultation with the D.G.T.D., the Technical Advisers of the Government as well as the experts available with the Public Sector and the consultants in India wherever necessary.

It has also been stated that the existing arrangements for co-ordination between D.G.T.D. and Foreign Investment Board appear to be adequate.

The system as it operates for clearance of technologies to be imported is already geared to avoid delays. Matters concerning technology imports have to be handled by senior persons who are experts in their fields so that evaluation and thereafter negotiations are conducted in a speedy and efficacious manner. It would not be possible for any central design, research and development organisation to have the detailed knowledge of technologies to meet specific requirements of different public sector undertakings engaged in different facets of economic activities."

3.69. The Ministry of Defence has stated that in the first instance, screening and evaluation of the proposed technology has to be carried out by the Public Undertaking concerned itself. In this process it may seek the assistance/guidance of DGTD and other expert bodies such as CSIR. At Government level, such evaluation is being done by a specially constituted inter-ministerial Technical Committee of experts drawn from DGTD, CSIR, NRDC, the Department of Science and Technology etc. The other alternative would be to set up suitably staffed Technical cells in each Administrative Ministry which would maintain liaison with Technical Organisations like DGTD, CSIR, NRDC and the Department of Science and Technology.

3.70. The Department of Atomic Energy has suggested that a composite group representing the technical interests, representatives of the Economic Affairs Department to assist from foreign exchange angle, and a member of the DGTD/NCST should be organised. Experts in the field in which foreign collaboration is chosen could also be co-opted in this group.

#### D—Selection of Technology—Centralised Agency

3.71. A suggestion has been made that Government should set up institutional arrangements for screening and evaluation of technology before it is purchased to actively participate in negotiations—and where necessary re-negotiation of transfer contracts and to ensure that technology import is in conformity with national products and obligations. There should be a national Technical Corporation which should function as the main agency for screening, evaluation and recommending appropriate technology for import.

3.72. According to the replies furnished after evidence by selected undertakings it may not be feasible to have a Centralised Agency for recommending an appropriate technology for import as such an agency may not have technical competence and expertise to clear all types of collaborations comprising of various disciplines and technologies and may add to the already cumbersome procedure and hence will only lead to bottlenecks and delays.

3.73. BHEL has stated that Institutions like NCST can study the past performance in selected areas. A working group had also been set up by NCST to consider these aspects. It has also suggested that each Administrative Ministry should have a technical wing that should develop a strategy in its field for development of technology.

3.74. Lubrizol (India) Ltd. has stated that at present collaboration proposals are screened by DGTD, NRDC and the respective Ministries. It has been suggested that it may be worthwhile setting up an independent agency which would be manned by technical personnel from various fields.

3.75. HEC has suggested that it would be appropriate to have technical evaluation cells in each Ministry managing a number of industrial units for the purpose of evaluating collaboration offers and to assist the Public Sector Undertakings in selecting the appropriate collaboration.

3.76. Indian Rare Earths have stated that in view of the Specialised nature of most of the technical collaborations, it may seem more appropriate for Government to set up *ad hoc* Committees of experts in these specialised areas in each case to evaluate the choice of technology.

3.77. BEML has opined that if the idea is to co-opt the particular technological experts in the field from outside these institutions, then the screening and evaluating of technology may be left to the major users of this technology preferably to the public sector who may submit their recommendations to a Central Authority or Government.

3.78. BHPV have stated that as per the existing arrangements, collaboration proposals are scrutinised by the Ministries concerned, the Director General of Technical Development and the Foreign Investment Board. Based on experience and expertise built up in particular fields, the individual enterprises, preferably, public-

sector should be nominated as the Lead Agencies. All proposals for collaboration in particular fields should be channelised through such Lead Agencies.

3.79. BOGL has stated that proposals are examined by a "Technical Expert Committee."

3.80. HMT have stated that they "have developed its own expertise and its decisions are approved by Government in consultation with DGTD, Planning Commission and other coordinating agencies."

3.81. MAMCO have stated that technical scrutiny is conducted at the level of DGTD, CSIR, NCST, etc.

3.82. IPCL have stated that their proposals are considered by administrative Ministry, DGTD, Planning Commission, CSIR and FIB.

3.83. The Fertilizer Corporation have stated that the present arrangements; i.e. examination by Technology Cell which is administered by the DGTD on which national bodies like CSIR, NRDC, NCST etc. are represented and after their approval the import of technology is approved by the Foreign Investment Board, are satisfactory.

3.84. In regard to the question whether a National Technical Corporation should be formed which should function as the main agency for screening, evaluating and recommending appropriate technology, the Managing Director, National Industrial Corporation replied that "A single body would become an impossibility, because each technology is becoming so highly specialised and that was why I had submitted that different organisations now exist in our country who have themselves developed/specialised in different technologies."

3.85. In this connection the Chairman and Managing Director of BHEL, stated that "No single agency however competent it may be, can claim entire expertise to screen, evaluate and recommend the appropriate technology...for each type of industry there should be a "Lead Organisation," one for petro-chemicals, one for fertilisers, one for electrical industry and so on. A Central agency or body under the auspices of Government or some other will not work and rather will create further complications. But the answer is not for going in for a Central agency. My suggestion is that we can divide the technologies fields into various groups, like fertilizer, Petro-Chemicals or electrical etc.

"In the manufacture of power equipment we have BHEL having 7000 engineers and an engineering organisation who can act as the lead agency. Similarly there are other types of organisations in other fields who can act as lead agent to evaluate and decide appropriate technology. Government should identify and help such agencies rather than centralising this work."

3.86. The Chairman and Managing Director, Fertilizer Corporation of India stated that "to say that only one group of people would be competent to do that technology would not be correct. Because there are a number of groups working in the lead agency for different areas. . . . In some cases where there is a prominent manufacturing capacity or interests outside the lead agency, some of the members of the other groups from outside the interest should also be there representing the lead agency primarily for the lead agency and are supplemented by other groups in the industry—they can form a nucleus who will be responsible for evaluating the import. Here I should even add some of the groups can also be made responsible for coordinating the research activities in the same field."

3.87. In this connection, the representative of P & D of FCI stated that "My submission therefore is that only the people who are engaged and whose professional instinct is in favour of not being dependent on outside sources are the best agencies to prevent the import of unnecessary technology. This is why we should have an agency consisting of people who are engaged in research and in design engineering who should be able to tell us whether the technology should be imported or not."

3.88. The Chairman and Managing Director of IPCL stated that "I would like to elaborate on the lead agency function. It appears that we cannot have that agency only to evaluate the technology for the import. Such an agency will have to follow the objectives given to them. We cannot have an agency of this kind unless it is charged with the import of technology where it is absolutely necessary. Unless this sort of an agency has objective to achieve the export of technology we never are going to fulfil the other objectives of restricting imports and upgrading the technology."

3.89. The representative of MECON in this connection stated that "we would agree that the public sector agency should be the realm of coordinating agency. As regards the import of technology I want to add one proviso. In the matter of recommending technology, designs, know-how, equipment, design, etc. they are totally a different area. They still come within the perview of the DGTD and the Ministry concerned."

3.90. In this connection the Ministry of Industries & Civil Supplies (Deptt. of I & D) stated that for examination of Foreign Collaboration proposals from the technical angle, technical agencies such as Directorate General of Technical Development, Council of Scientific and Industrial Research, National Research and Development Corporation etc. already perform an important function in scrutinising the applications and advising the Foreign Investment Board. With a view to coordinate the techno-economic evaluation of such proposals it has also been decided that a technical cell and a Data Bank should be established in the office of the Directorate General of Technical Development. Therefore, it does not seem necessary to set up a National Technical Corporation of the nature envisaged.

3.91. The Department of Heavy Industry stated that import of technology is required in a wide spectrum. Furthermore, the technology has to be absorbed, adjusted and assimilated before it can be transferred in an effective manner. It may not be possible for one organisation to deal with this work adequately. A viable proposition worth considering would be to have nodal agencies for different technologies. Such a nodal agency should associate other concerned organisations for evaluating various technologies in a given case and recommend the most appropriate one.

3.92. The Ministry of Petroleum and Chemicals have stated that it is not practicable to have a single organisation for screening and evaluating technology in all the fields, the existing system appears to be satisfactory.

The Ministry of Defence have also stated that it is not necessary to set up a separate Corporation for the purpose.

3.93. The Department of Atomic Energy have however supported the suggestion as it is on the lines of the composite group suggested by it. But evaluation of technology and clearance from the foreign investment angle should be attempted simultaneously.

3.94. The Committee note that all foreign collaboration proposals and at present scrutinised by Technical Departments/agencies, namely, the Department of Science and Technology, DGTD, CSIR, NRDC and their comments are obtained from the point of view of suitability of the proposal. Sometimes ad hoc technical committees of experts are also constituted for the purpose. The administrative Ministry concerned examine the proposal with the norms laid down under the guidelines and place their views before FIB which

takes into account the views of all these agencies and decide the cases within the framework of guidelines. Undertakings like EIL, FCI, IPCL, MECON have stated that a "Lead" organisation in the Public Sector which has developed expertise in the particular field should be nominated/utilised for screening and evaluating the proposed technology. While FCI stated that the lead organisation should have coordination with DGTD and FIB through administrative Ministry, IPCL has suggested that the lead organisation should associate the DGTD and make its recommendation to FIB. MECON has stated that DGTD need not come into the picture. Consultancy organisations like NIDC has suggested that consultancy organisations in specified fields should be nominated to handle such work in respect of specified technologies. The consultancy agency should be available to DGTD and FIB for clarification if needed.

3.95. The Ministry of Heavy Industry however feel that the role in the evaluation of technology by the different agencies viz., undertakings, DGTD, administrative Ministries, Technical Evaluation Cells, NCST etc. is to be complementary to that of FIB. It is open to adopt a suitable methodology or to take the assistance of particular agency for evaluation. The Ministries of Petroleum & Chemicals and Defence have stated that the evaluation of technology should be done by the undertaking itself in consultation with DGTD/CSIR. The Department of Atomic Energy have suggested that a composite group representing technical experts including the Economic Affairs Department may evaluate the technology.

3.96. The Committee feel that screening and evaluation of technology should first be done by a "Lead agency" in the public sector nominated for a particular field of industry or a 'nodal' agency for a particular technology with the assistance of DGTD and expert bodies like CSIR, and recommend the appropriate technology for consideration by Government which would evaluate the same through a technical committee of experts drawn from DGTD, CSIR, NRDC. Department of Science and Technology before a final decision of the choice of appropriate technology is taken by the Foreign Investment Board. As already recommended in paragraph 2.69 ante, the system in FIB should be so geared up so as to minimise delays in approval of foreign collaboration proposals.

3.97. The Committee note that the basic requirement for availability of information regarding foreign technologies/collaborators is now to be met by the Data Bank which is being set up. The Committee agree that it may not be necessary to have a central



body for a corporation as the main agency for screening, evaluating and recommending appropriate technology as no single agency howsoever competent it may be can claim expertise in all types of technologies for various types of industries and in the opinion of the Committee creation of a new agency will only add to the problems of coordination. The Committee need hardly stress that the screening function should not only include technical evaluation and investigation but also evaluation of financial implications and economics of the project.

### **E—Selection of Technology—Labour Intensive Technology**

3.98. Asked whether the choice of technology should be in favour of "Labour Intensive" and appropriate to socio-economic needs of the country instead of "capital intensive" projects.

The Chairman and Managing Director, Hindustan Machine Tools stated during evidence:—

"While selecting a collaboration, I personally see that is suitable for our country, as our main objective is to provide more employment to the people since more and more people are now getting educated and technically trained."

HMT has also added in a written reply that this may not be possible in certain cases where modern technology is connected with their export programme.

3.99. The Chairman and Managing Director, Bharat Heavy Electricals, Ltd. stated during evidence that "from the way in which we have designed and built the plants of Bharat Heavy Electricals, you would see there is no automation. There is no attempt made for going in for highly sophisticated labour saving devices. Basically, the Indian counterparts organisation should ensure that we do not go in for highly sophisticated things which would mean less labour. But there are areas which are exceptions."

In a written reply after evidence the BHEL added that:

"In the field of heavy equipment, we cannot always be favouring labour-intensive technologies. This is because besides economics alone, in this highly technological field, quality of the products is very important. Further if the organisation is considering entering the export market then it is of prime importance that we be

able to match the quality and delivery periods of our competitors abroad and this may necessitate the use of sophisticated manufacturing techniques."

3.100. Engineers India Ltd. has stated that there is "no harm in keeping in view the socio-economic needs of the country. If labour-intensive technologies could be imported without affecting either quality or quantity of production there should be no bar for their import."

In the case of export-oriented industries it may not be possible to adopt labour-intensive technologies as in exports, we will be required to compete with International organisations.

3.101. Fertilizer Corporation of India Ltd. has stated that "the technologies which should be accepted should be labour intensive provided the efficiency of the process can be maintained. Otherwise a judicious balance has to be maintained. It is, however, emphasised that the appropriateness of the technology to be selected should also aim at maximising indigenous content in its application in the matter of raw-materials, equipment consultancy engineering etc."

In the case of export-oriented organisations also, the technology should be labour intensive provided the efficiencies and the economies of the process remain the same as would be the case if the technology is capital intensive.

The export-oriented organisation should be allowed to accept technologies which are capital intensive provided they prove to the satisfaction of the Government that by making the technology labour intensive, the efficiencies and economies will have to be sacrificed and would lead to the increase in the production cost, thus reducing their ability to compete in the international market.

3.102. IPCL has stated that "in the case of the petrochemical industry, the considerations of process technology and the scale of operations compel the introduction of capital-intensive methods. It may not be possible to obtain the quantity and quality of material required by labour-intensive methods in the petrochemical intermediates industry. In the conversion industries, however, labour-intensive methods are successfully adopted—e.g. plastics processing industry, spinning and weaving of fibre etc."

3.103. NIDC has stated that "within the framework of the national policy of maximum employment opportunities technology

has to be examined for its relevance not merely to its labour employment potential but also a variety of other factors which may otherwise predicate the need for greater automation."

NIDC has further stated that there is no justification in accepting the hypothesis that export-oriented projects should be exempted from the national policy of maximum employment opportunities. The only difference that needs to be made in their case is that the economics of operation should be judged essentially in relation to international markets rather than domestic economic conditions.

3.104. Lubrizol (India) Ltd. and Indian Rare Earth Ltd. have stated that there should be judicious balance between modern and labour intensive objectives. Lubrizol (India) Ltd. has further stated that while manufacturing operations can be automatic, the assembling and packing can be manual even where facilities to do through automatic process are available. HEC has suggested that for Consumer oriented industries it would be better to go in for technology suited to our conditions i.e. labour intensive technology.

3.105. HEC and IDPL have stated that in the fields of Heavy equipment, Heavy Engineering and Pharmaceutical industry, which are by nature capital intensive, they cannot be favouring labour intensive technologies. They have stated it would be better to go in for most modern technology.

3.106. In written replies furnished to the Committee after evidence BFML, BOGL, BALCO, BHPV, FCI, IOC Instrumentation Ltd. MAMCO, HPF have stated that the import of technology should be labour intensive and appropriate to socio-economic needs and environments prevailing in the country.

3.107. In regard to the question whether the import of technology should be labour intensive and appropriate to socio-economic needs of the country, the Secretary Department of Heavy Industry stated that:

"to my mind that question has two facets—one is the technology which is required for the manufacture of a particular equipment. Let me give you one example. Take the case of blast furnace. We manufactured 2,000 cubic metres blast furnace for Bokaro (that was developed in this country). That was done at the HEC. Now even the Steel Ministry has decided to go in for the higher capa-

city blast furnace. For this purpose, the HEC and the BHEL plant is as modern as any other plant anywhere else, in the world. For the past 15 years it has continued to have these facilities for the manufacture of blast furnace. HEC's production is labour-intensive to the extent that there is not very much of automation. Even the numerically controlled machines are not there. That is how it is going to be. On the other hand where the design of end-product is concerned, there perhaps some sophistication has to be introduced so that we are able to be competitive. It should not be labour intensive so that our cost of production becomes prohibitive."

3.103. In regard to the making of technology more labour intensive, the representatives of Department of Petroleum stated that:

"This is a very noble effort and objective. But we find that in the chemical industries, particularly in the processing industries, they are highly capital intensive. Apart from that, most of the materials generated are noxious substances which cannot be manually handled; they will have to be mechanically handled. This constraint will make it rather difficult for us to go in for large-scale labour-intensive methods in the peripheral activities. For instance, in the packaging industry operations can be really manually handled. That means peripherally there is lot of scope for adapting labour-intensive methods to suit local conditions.

3.104. In regard to this question selected Ministries in note furnished to the Committee after evidence have stated as under:

The Department of Industrial Development have stated that as a general rule technology which involves displacement of labour is not considered desirable. At the same time, it is necessary for us to ensure that we do not import an obsolete technology which results in making the products uneconomic in the competitive export market.

In case, the products for export can be manufactured on the basis of labour intensive technology and can compete both in terms of price and quality in international markets, it would be ideal for us to go in for such technology.

No such specific guidelines|directives have been issued by Department of Industrial Development.

3.110. The Ministry of Petroleum have stated that;

“Labour intensivity may not be the major criterion for selection of technologies for chemicals and process industries considering the nature of chemicals which are generally noxious, toxic carcinogenic or mutagenic etc. to be handled and difficulties in manual operation of controls. However, efforts are taken in such industries to increase employment potential in possible areas of production. In some areas labour intensive industries may be economical but not necessarily so in other areas.”

3.111. The Ministry of Defence (Department of Defence Production) have stated that considering the availability of abundant labour in India and the socio-economic needs of the country, the foreign technology to be imported should preferably be labour intensive. However, an exception in this regard may have to be made in the case of export oriented or other highly competitive areas or also in the case of industries where manual handling of materials may not be desirable from the point of view of *safety* or *equality* of production e.g. explosives.

However in export-oriented industries automated processes or those which are not labour intensive but are more suited to mass production and uniform quality of production may have to be permitted.”

3.112. The Bureau of Public Enterprises, Ministry of Finance, have stated that “the selection of foreign technology has to be considered taking into account the various aspects, but export orientation has to be given sufficient importance.”

3.113. The Department of Atomic Energy have stated that while importing technology comparative evaluation should be made to ensure whether a satisfactory mix of capital intensive process and labour intensive application is possible in the same technology.”

In the case of export-oriented organisations if the evaluation so warrants, there should be no hesitation to adopt the most modern and the most economic technology.

3.114. In the matter of selection of technology, the Committee find that while some undertakings like BEML, BOGL, BALCO, Instrumentation, MAMCO, HPF, BHPV have stated that import of technology should be labour intensive and appropriate to socio economic needs and environments prevailing in the country, undertakings like, HEC, IPCL & IDPL have stated that in the field of Heavy equipments, Heavy Engineering, Petrochemical and pharmaceutical industry which are capital intensive, they cannot be favouring labour intensive technologies and it is better to go in for the most modern technology. Even in these cases, it has been stated that there are areas where labour intensive methods could be successfully adopted. HMT and EIL have stated that in export oriented industries it may not be possible to adopt labour intensive technology as in exports it is necessary to compete with international organisations. Undertakings like Lubrizol and IRE have stated that there should be judicious balance between modern and labour intensive technologies. Some Ministries have expressed the view that though labour intensive technology should be preferred, exception has to be made in the case of export-oriented industries and in the highly competitive areas or where manual handling of materials may not be desirable from the point of view of safety or quality of production. In case products for exports can be manufactured on the basis of labour intensive technology and can compete both in terms of price and quality in international markets, it would be appropriate to go in for such technology. The Committee however feel that it is preferable to go in for labour intensive technology under the conditions obtaining in India. While there may be some force in the argument that in the interest of competing with international organisations it may not be desirable to go in for labour intensive technology in the case of purely export-oriented industries, the Committee are of the view that, even in such cases labour intensive technology should not be ruled out and in fact may be preferred provided the quality and the prices are competitive and the manufacturing process would not expose the workers to avoidable health hazards.

3.115. The Committee are given to understand that Japan has achieved a high rate of technology in a labour surplus situation by (a) restructuring production techniques (b) confining technological development to most oligopolistic large enterprises and (c) successful adaptation of advanced technology by concerted R&D effort. It is also understood that in engineering industries, large enterprises perform assembly work while parts are manufactured by sub-contracting firms of medium and small size. In the case of process in-

dustries raw materials are manufactured by large enterprises while conversion to finished products is done by medium and small manufacturers linked to respective large Corporations.

3.116. The Committee would like Government to study in depth the latest trends in Japan so as to evolve the procedures for the selection of the best and most upto date technology in the public sector which would make for economic production at most competitive prices consistent with the national requirement of finding employment opportunities for our growing population.

*F. One Time Purchase of Technology*

3.117. Asked whether it would not be advantageous to go in for one-time purchase of technology best suited to the country's requirement, Bharat Aluminium Company has stated that a rigid enforcement of "one time" purchase of the best know-how may lead to stagnation. They have further stated that it will depend on the merit of each case. Bharat Earth Movers Limited has stated that one time purchase may not always be advisable. Bharat Heavy Electricals Limited has stated that this may not be feasible till such time we are able to develop our Research & Development Facilities at least to the minimum international standard. One time purchase can be allowed on a limited range of product where basic facilities already exist. Bharat Heavy Plates has stated that in the case of one time purchase of know-how there is no possibility of obtaining the latest developments in the field as technologies are prone to quick changes. Bharat Ophthalmic Glass Limited, Fertilizer Corporation of India, Heavy Engineering Corporation and Instrumentation Limited are in favour of one time purchase of technology. Heavy Engineering Corporation has further stated that it will be advantageous as against royalty payments over a period of time. FCI has stated that it may not be the best course in our country's stage of development, for one technology is never static. Hindustan Photo Films has stated that this would depend on the type of industry. For sophisticated technology like photo sensitive products, provision for updating of technology based on the research and development activities of the collaborators on a continued basis would be necessary at a normal cost. Hindustan Machine Tools has stated that one time purchase is a deterrent to our technological growth and import of know-how from time to time to better our own performance is desirable.

3.118. I.D.P.L. has stated that this system would be preferred even if it involves more payments in the initial stages than the

present system invoked in terms of royalty based on the present production spread over a number of years which generally involve restrictions on the horizontal transfer of technology. Indian Oil Corporation has stated that as far as the patent processes are concerned, these are generally obtained by payment of royalties linked with the capacities. The practice has been to pay fully-paid royalties instead of running royalties, Indian Petro-Chemicals has stated that there should be a judicious mixture of one time purchase and the general system that is in vogue at present. Lubrizol (India) Limited has stated that the main advantage of one time purchase of know-how is that it will spur greater Research effort to improve on the technology. But on the other hand it limits the know-how level to a time when the transfer has taken place. Subsequent modifications and improvements in the process and the product are not passed on by the licensor. Continuous licensing has a distinct advantage. MAMCO has stated that one time purchase of technical know-how is an advantage in cases where the know-how to manufacture an equipment exists in the country, and import of design and documentation by one time payment would considerably shorten the time in establishing manufacture of such items.

3.119. In regard to the question of "one-time" purchase of technology, the Secretary, Department of Industrial Development stated that:

"There are certain fields where it is better to buy on one time basis and try to develop it. On the other hand, in production technology, let us say in the engineering field, it is not so much the documentation that we will get but continued assistance in production techniques which is very important. In such a type of technology it is better to have continued association (even during certain periods, we will prefer to continued association) and it is better to pay royalty."

3.120. The Secretary Department of Heavy Industry stated that "it will have to be considered on case to case basis."

3.121. Asked whether it will not be advantageous to have one-time purchase of technology known suited to country's requirements the Department of Industrial Development have stated that in cases where continued technical assistance of the foreign collaborator is considered essential over a period of years collaboration on the basis of recurring payments for a specified number of years is preferred. The advantage in such cases is that further development made by the collaborator during the currency, of the agree-



ment is made available to the Indian company. However, where the technology to be imported is of such a nature as is not likely to become obsolete in the near future, one-time purchase is preferred.

3.122. The Ministry of Petroleum and Chemicals have stated that in the case of process industries, the changes in the processes are rapid, and it may not be desirable to stick to the principle of one time purchase of technology.

3.123. The Ministry of Defence have stated that one time purchase of foreign technology may be said to have the advantage of discouraging continued reliance on foreign collaborations and thus helping indigenous design and development efforts. However, in cases where the technology abroad is fast changing and involves substantial investments in R & D, foreign technical collaboration on a continuing basis for a certain period may be more advantageous since it would also enable the Indian party to obtain the benefit of further Research and Development work by the foreign collaborator during the collaboration period.

3.124. The Department of Heavy Industries have stated that "the scope for application of one time purchase of know-how can only be limited to certain products for which a technological base has already been established in the country and what is actually required is design documentation and manufacturing drawings for a particular product."

3.125. The BPE have stated that in respect of certain products/product mix it is necessary to ensure only one time purchase of best know-how suited to the country's requirement.

3.126. The Department of the Atomic Energy have stated that where technology gets superseded a one time purchase of best know-how may not be beneficial.

3.127. Since India has already built up a very competent technological base in a large number of sectors what may be required is know-how and technology in specified fields. The Committee recommend that Government should on the basis of best advice available in the country consider as to what type of technology/know-how should be imported and from where. The Committee need hardly emphasise that the technology obtained should be up to date, reliable, proven and be capable of economic production. The Committee have elsewhere in the report stressed the need for assimilating, updating and indigenising the technology to get the maximum benefit and to avoid import of technology in future.

3.128. The Committee would stress that one time purchase of technology would serve the purpose only, if it is supported by a strong R&D base for assimilating, updating and transfer of technology. The Committee also feel that it is essential that provision should be included in the collaboration agreements requiring the collaborator to pass on any subsequent modifications and improvement in technologies of Processes and products.

3.129. The Committee recommend that it should be made obligatory on the part of the Undertakings to keep a careful watch on the improvements/developments in technology/know-how taking place elsewhere so as to avail of the facilities through the collaboration agreement.

#### G. Know-how of a Composite Nature of Technology

3.130. The representatives of 18 Public Undertakings were asked to express their views on the question whether it will be advantageous to go in for a know-how of a composite nature including technical assistance, manner of transmission of technical know-how, place and limits for transmission, etc.

From the analysis of the replies furnished after evidence it has been seen that BEML, BHEL, BHPV, BOGL, FCI, HEC, HPF, IDPL, Instrumentation Ltd. Lubrizol (I) Ltd. have stated that it is desirable to have know-how of a composite nature. BEML have stated that the collaboration agreement should include in addition to making available working drawings material specification, process sheets, etc. a provision for training of personnel in the use of such sophisticated technology.

3.131. BALCO, MAMCO, HMT & IOC have stated that it will depend on case to case basis.

3.132. Fertilizer Corporation of India Ltd. has stated that "this is the manner in which the Fertilizer Corporation of India negotiates and concludes know-how agreements, which normally include the licence to use the technology, the basic process know-how package, engineering assistance for procurement, as well as training etc. Suitable provisions are also made to ensure that transmission of information takes place according to pre-determined schedule."

3.133. Engineers India Ltd. have stated that it has to be dealt with on a case-to-case basis. Import of know-how and technology on a composite basis may be less costly, to start with; but it may not be

in the best interests of the country in the long run. It is likely that the components may be developed by different parties with different specialisations and it may be worthwhile to import the best of the individual components wherever they can be bought. Such a collaboration is likely to bring in the more advanced technologies. Even absorption of technologies of different types may be quicker if they are not composite technologies. If more than one technology is introduced, it is likely that there will also be healthy competition leading to further improvements."

3.134. IPCL have stated that process technology, technical know-how and basic engineering in the case of all currently approved projects except in the case of one project basis engineering is done within the country are imported. Detailed engineering for all projects and the designing of all utilities systems are done within the country by Engineers India Ltd. Fabrication of indigenous equipment is done by the various vendors in the country. Only a portion of the equipment is obtained from Abroad.

3.135. MECON have stated that "know-how agreements are generally entered into to meet specific requirements. It must be ensured in the agreement that the basic knowledge is passed on to the licensee. There must be a continuous passing on of information and basic data which will enable the Licensee to become more self-reliant and to that extent the agreement should be comprehensive and cover all aspects relating to transfer of know-how."

3.136. NIDC have stated that "it is felt that India has gone past the stage where it needs such induction of technical know-how on a composite basis—except in very rare instances of high sophistication hitherto not practised in the country. As such, the extent of induction should be limited to only that part of the effort which is not already forthcoming from Indian Organisations."

They have further stated that whenever technology is imported, whether on a composite or non-composite basis, the conditions to be imposed should be such that they do not restrict the Indian party from free use of such technology in any manner it finds it beneficial."

3.137. In reply to the question whether it will be advantageous to go in for a know of a composite nature, the representative of P & D Organisation of FCI stated that—

"a composite agreement for technical collaboration is not in the interest of the country because we get tied down to one party for a long time and options are not open. As we

are developing fast as the technology is developing fast, we should be able to get out of a particular agreement according to the terms of the agreement as soon as we think appropriate."

3.138. In this connection the Department of Industrial development have stated that if the term "composite" refers to a 'total package' including product design, process know-how, manufacturing techniques, plant design or engineering, training etc., it is the policy of the Government not to encourage such packaged import of technology. The policy of the Government is that import of technology should be restricted only to that part which is not indigenously available. It is for this reason that turn-key projects are not favoured. Indeed, the developing countries, generally regard 'packaging' of technologies as a restrictive business practice to be avoided.

3.139. The Ministry of Petroleum, the Bureau of Public Enterprises, Ministry of Finance, the Ministry of Defence (Department of Defence Production) and Department of Atomic Energy have stated that Selection of Technical know-how of composite nature will depend upon case-to-case basis. The Department of Atomic Energy have further stated that where such know-how of a composite nature can be made use of in an industry or group of industries it is desirable to have such know-how instead of each unit considering foreign collaboration for the same know-how from different sources.

3.140. The Committee note that a large majority of undertakings selected by the Committee had felt that it is desirable to have know-how of a composite nature, some undertakings have felt that in addition there should be provision for training of personnel in the use of sophisticated technology, making available the help of collaborators' representatives for establishing production with the use of such sophisticated technology, provision for transmission of information according to predetermined schedule. Some have stated that it should be dealt with on a case to case basis. While EIL and P. & D. organisation of FCI are of the view that import of technology of composite nature may not be in the interest of the country in the long run.

NIDC also felt that except in very rare instances of sophistication in the country, India has gone beyond the stage where it needs induction of technical know-how on a composite basis. The Ministry of Petroleum and Chemicals, Defence (Department of Defence Production), BPE and Department of Atomic Energy have stat-

ed that selection of technology of composite nature will depend on case to case basis.

3.141. The Committee are of the view that packaged import of technology which combines product design, process know-how, manufacturing techniques, plant design and engineering, training etc. as one deal should be discouraged as it is in the nature of 'turn-key' project, and import of technology should be restricted to only these areas where indigenous technology is not available or where high degree of sophistication not hitherto practised in the country is called for in a particular field. Technology imported should also be such as could be utilised in the best interests of country without any restriction.

#### H. Repetitive Import of Technology

##### Selection of a Different Type of Technology for The Same Product or Product-mix When one is Already available and Developed.

3.142. Selected Public Undertakings in written information furnished to the Committee after evidence regarding their views about selection of a different type of technology for the same product or product-mix, when one is already available and developed have stated as under :—

BHEL have stated that in exceptional circumstances, namely, in case of a new generation of products or for obtaining better parameters of functioning, a different type of technology could be imported.

In cases where developmental work is not possible under existing or the first collaboration and the product/process is of strategic importance-duplicate know-how import should be allowed.

Regarding repetitive import of technology in the case of highly sophisticated products where a long time is required to absorb the technology, it may be advantageous to go in for repetitive collaboration with the same collaborator because to go to another collaborator might involve substantial changes in design philosophies which would delay the process of technology absorption.

3.143. Engineers India Ltd. have stated that "the relative merits and demerits of alternate technologies that are available, or to be used, alone should determine whether same technology should be continued or alternatives brought into the picture."

Regarding repetitive import of technology it has been stated that nothing fixed can be stated in the matter. If a collaborator, after entering the country, is not helping its development, or is transferring the technology very slowly, it may be necessary to introduce another collaborator, or another country." FCI have stated that "if a satisfactory technology for one product or product-mix available in the country, import of different type of technology should not be generally permitted. However, in situations where the product or product-mix may be the same, but the raw-material may be different or the specifications for the product or intermediate products or the requirement of pollution standards may be totally different, the import of alternative technologies would be necessary. In situations where rapid build-up of industry is called for and the capacity for building up industry on the basis one technology and on the same sources of financing, may be severely limited also, alternative sources of financing and alternative technologies may have to be imported. We do not think that rigid criteria can be laid down for import of technology. Each case will have to be considered on its own merit." IPCL have stated that "depending upon the product or product-mix, the route adopted and the improvements available there is no harm in importing technology even when one is already available. Although it would be more advantageous if the available technology is absorbed and improved upon, till this capability can be achieved there is no alternative to import of improved processes, provided the production capacity thus developed leads to a healthy competition with the existing unit and not to its closure."

3.144. NIDC have stated that "It would be detrimental to industrial progress if a blanket ban is imposed on subsequent induction of technologies in the same field unless we can ensure that:—

- (i) Effective steps are taken by the Indian organisation to continuously develop the acquired technology so that it is fully abreast of latest developments in the related field and that the technology is at a level which is fully in consonance with the continuously changing environment.
- (ii) All restrictions in existing foreign collaborations for horizontal transfer are removed.
- (iii) No such restrictions are permitted in the future.
- (iv) Holders of such inducted technology in India are caused to give up their current attitude of aversion to horizontal transference within the country.

3.145. In regard to the question whether or not import of different type of technology for the same product and product mix allowed, the selected Ministries in written notes furnished to Committee after evidence have stated as under :

The Department of Industrial Development have stated that normally, import of different types of technology for the same product is not encouraged. However, such import of technology would be unavoidable

Where recent development have rendered the previous technology obsolete; due to the presence of secrecy clauses or prohibition against sub-licensing in agreements prevent horizontal transfer of technology or unwillingness on the part of the Indian Company to effect horizontal transfer of technology; as in certain cases it is in the interest of the economy not to be dependent on a single source of technology and to facilitate entry of small and medium scale entrepreneur in a field where larger houses/foreign companies are holding monopolistic positions.

3.146. The Ministry of Petroleum have stated that this would depend very much on the merit of each case and the approach should be whether the foreign technology is needed or not. It would also depend on whether the foreign technology offered has certain specific advantages over the one which is already available or adopted.

3.147. The Ministry of Defence, Department of Defence Production have stated that import of foreign technology in addition to that already available or developed may have to be permitted where the technology proposed to be freshly imported incorporates improved features. Such import may also have to be allowed if the party already possessing the requisite technology is not willing to part with it or if this technology is not entirely suited for the particular type of product proposed to taken up for manufacture. Repetitive import of technology may also be allowed to export-oriented industries in order to help increase foreign exchange earnings.

3.148. The Bureau of Public Enterprises, Ministry of Finance and Department of Atomic Energy have stated that different types of technologies for the same product-mix when is already available and developed, should not normally be permitted. Considering the export potential, it might be necessary to do so.

3.149. The Department of Atomic Energy have, however added that where it can be established that cost benefit relationship is significantly to the advantage of the industry, a different technology could be availed for the same product.

3.150. The Ministry of Industrial Development stated that Government are conscious of the need to avoid repetitive imports. The principle of avoiding repetitive imports has been incorporated in the present guidelines. The question of repetitive import has to be viewed in its two aspects i.e. repetitiveness over a period of time and as to source. As regards the first aspect, the policy of the Government has been to enable rapid absorption of imported technology over larger areas of industries. With this end in view foreign collaborations are sanctioned for the shortest possible period and definite periods are prescribed for collaboration agreements. As a rule, extensions are not favoured.

In regard to repetitiveness of imports in fields where there is likelihood of 3 or 4 units of the same industry being set up at about the same time and all of them are likely to require foreign collaboration, it is required that negotiations for acquisition of know-how for such units are conducted in a coordinated manner with selected foreign parties so that more favourable terms can be secured. There are some industries in which import of technology in a coordinated manner is not only feasible but also likely to result in considerable saving in foreign exchange.

In suitable cases Government have taken positive steps to organise coordinated purchase of technology.

In the process of avoiding repetitiveness as to source, the effective role of consultants is also important. In suitable cases association of Indian consultants is also advised so that multiple applications of the imported technology without further resort to imports is made possible.

To secure uniformity of approach to the extent possible, a comparative statement of terms of collaboration already approved in a particular field of industry normally submitted to the Foreign Investment Board.

When a foreign collaboration has been allowed in a public sector unit and another private sector needs the technology for the same item of manufacture, it should normally be possible for the public sector unit to sub-license the know-how to the private sector unit.



The sub-licensing would no doubt have to be done in consultation with and the concurrence of the foreign collaborator.

After the expiry of the collaboration agreement and when the public sector unit has absorbed the technology the public sector unit will be in a position to pass on the know-how to the private sector unit on mutually acceptable terms.

3.151. The Chairman and Managing Director, IPCL, expressing his views on the working of guidelines issued by the Government on foreign collaboration stated that :—

“We buy technology only once and not allow it to be repeated is too general. It depends upon the type of technology of an industry that you are in. Suppose you are in an industry where you are getting in a very large investment. It is unlikely that in the next five to seven years you will repeat that technology because that will cost money.”

3.152. In the draft Fifth Five Year Plan it has been provided that import of repetitive technology should be avoided as far as possible. A number of different mechanisms could be used for this purpose. Where the import and assimilation has already taken place, all possible measures including appropriate incentives, should be taken to promote ‘horizontal’ transfer of that technology to other enterprises which wish to make the product concerned. As for prospective import of technology, in cases involving large plants and major investments, detailed forward planning of productive capacity should be carried out, particularly where the plan indicates the need to set up a number of plants in order to meet the demand. This should be followed by proper selection of the technology to be imported. Such selection should be done, to the maximum extent possible, with the full involvement of the relevant design engineering and R & D laboratories. The resulting advantages of standardization of raw materials, plant and equipment and the economies which flow from it, merit adoption of this procedure at least in a few selected areas to begin with. In adopting the above approach, it would be necessary to take into account the desirability of allowing the requisite degree of competition between imported technologies so as to prevent a situation, which, in effect, gives a monopolistic position to a particular overseas technology and to safeguard against obsolescence.

3.153. On the question of repetitive import of technology the representative of Department of Economic Affairs and Foreign Investment Board stated that in the Foreign Investment Board :—

“Whenever there is a consideration of particular foreign collaboration, if there is indigenous technology available in that area or even if similar inducted technology from abroad is available in the country, then we go by the advice of the representatives of the DGTD, Department of Science and Technology and the National Research and Development Corporation, who are present in the Investment Board. I will put it this way. Generally no such intake of foreign collaboration is allowed, where there is indigenous technology. Sir, Secretary, Ministry of Industrial Development mentioned certain examples, like exports. Here I would like to say that apart from exports, sometimes, though we may set our face against repetitive import of technology, there are constraints such as the restrictive provisions preventing any sub-licensing of technology once it has been inducted into the country. Secondly, there is also a further point that an Indian party who is already there in that particular area, may either be unwilling or unable to part with the technology to another Indian party. In such cases—there may be certain extenuating circumstances—rather than perpetrating either a monopoly or an obligopoly, even if it means a repetitive import of technology, we may have to allow it.”

3.154. Regarding the question of repetitive import of technology, the selected Ministries in written notes furnished to the Committee after evidence have stated as under :

The Department of Industrial Development have stated that in scrutinising foreign collaboration proposals the Technical Departments|Agencies ensure that repetitive import of technology is avoided to the extent possible.

The Ministry of Petroleum have stated that:—

“It may neither be possible in all cases nor necessary to avoid import of similar technologies especially in the field of drugs and pharmaceuticals. With the process development growing at a fast pace, it may at times be advantageous to go in for a different process technology if the

cost benefit ratio justifies the same. In cases where a price has to be paid repetitively for the same technology, it may be advantageous to go in for a different technology at the same price as it is not always the case that no price need be paid for importing a technology already in use within the country since the condition of horizontal transfer has to be settled with foreign collaborator who may have at times an edge over the national parties."

3.155. The Department of Atomic Energy have stated that the Bhabha Atomic Research Centre is always involved from the R & D angle and wherever necessary the research organisations, like NRDC, are also consulted.

3.156. In a note furnished after evidence the DGTD has given a list of cases where Government allowed Foreign collaboration by two private parties when the technology or know-how was available with public undertakings during the last five years. (Appendix VI) It is seen that in the 15 cases mentioned in this list foreign collaboration has been allowed either due to restrictions in the collaboration agreements to pass on the know-how or necessity to cover the capacity gaps in some ranges or non-availability of complete production technology or due to export obligations.

3.157. The Committee are informed by the Ministry of Industrial Development that in scrutinising foreign collaboration proposals, the Technical Departments/agencies ensure that repetitive import of technology is avoided to the extent possible. The principle of avoiding repetitive imports has been incorporated in the guidelines. In suitable cases, the Government have taken positive steps to organise coordinated purchase of technology. In certain cases, association of the Indian consultants is advised so that multiple application of imported technology without further resort to imports is made possible. To secure uniformity of approach to the extent possible a comparative statement of terms of collaboration already approved in a particular field is normally submitted to the FIB. The Department of Economic Affairs have stated that if indigenous technology is available in that area or even if similar inducted technology from abroad is available in the country, they go by the advice of the representatives of the DGTD, the Department of Science and Technology and the NRDC who are present in the Investment Board. Generally no such intake of foreign collaboration is allowed wherever indigenous technology is available.

3.158. In spite of this, apart from export oriented industries sometimes, repetitive import of technology is allowed because of constraints of restrictive provisions in the foreign collaboration agreements preventing sub-licensing of technology or the unwillingness or inability on the part of the Indian party having the technology to part with the technology to another Indian party. The Ministry of Petroleum and Chemicals have stated that with the process development going at a fast pace it may be advantageous at times to go in for a different process technology if the cost benefit ratio justifies the same. In cases where price has to be paid repetitively for the same technology it may be advantageous to go in for different technology at the same price.

3.159. The Committee find that during the last 5 years in as many as 15 cases Government allowed foreign collaboration by private parties even when the technology or know-how was available with Public undertakings due to export obligations or contractual constraints or technology not being absorbed completely by the undertaking.

3.160. The Committee feel that repetitive import of technology should be avoided except where it is not possible to sub-licence the technology because of restrictive provision in the collaboration agreements. The undertakings should take steps through their Research and Development Cells to absorb the technology within shortest possible time, adopt it to the Indian conditions and improve the same so that it is fully abreast of the latest development in the field and be in a position to make horizontal transfer of the technology to other undertakings in public interest. Where it is considered necessary to go in for a different process technology because of the fast developments in the field, a careful cost-benefit analysis of the import of such technology should be made before a decision to import a different technology is taken. The Committee feel that it should be possible to avoid such cases if only the Research and Development Cells of the industries keep themselves abreast of the developments in technologies taking place elsewhere in the industry and make improvements in the process technology already imported. Till this is achieved, even if import of improved process technology is to be allowed, it should be subject to the condition that production capacity could lead to a healthy competition with the existing unit and not to its closure.

3.161. The Committee also suggest that as provided for in the draft 5th Five Year Plan import of repetitive technology should be avoided and where import and assimilation has already taken place

all possible measures including appropriate incentives should be taken to promote horizontal transfer of that technology to other enterprises which wish to make the product concerned. The Committee also expect that keeping this in view Government will take proper measures to avoid repetitive import of technology or know-how.

Where for the same product collaborations have been made with different countries, it would be useful to make a comparative study of the technology and the cost of product under different collaborations so as to assess the comparative merit.

3.162. The Committee also suggest that the International Technical Transfer Centre proposed to be set up may consider the problem of lateral transfer of already imported technology which may or may not have further developed and re-designed in India and evolve proper measures to stop repetitive import of know-how for the same product or process.

#### I. Know-how for Auxiliary Industries

3.163. In paragraph 84 of their 13th Report (1965-66) (3rd Lok Sabha) on Management and Administration of Public Undertakings, the Committee on Public Undertakings had recommended that when public undertakings go for foreign collaboration, they should ask the collaborators to make provision or give the know-how about establishing of suitable auxiliary industries.

Government in reply to this recommendation stated that "whenever we go in for foreign collaboration we could ask the collaborator to make provision or give us the now-how about establishment of suitable auxiliary industries.

3.164. In this connection the following undertakings have stated that no provision exists in their agreements for asking the collaborators to give the know-how about establishment of suitable auxiliary industries.

BALCO, BHEL, BHPV, BOGL, HEC, HMT, HPL, IL, IOC-(Refineries), Lubrizol.

BEML have stated that the know-how for components can be passed to sub-contractors, including auxiliary industries, according to all collaboration agreements entered into by the company.

FCI have stated that depending upon the possibility of establishing a suitable auxiliary industry, collaborators are asked to make

provision for establishment of such industries but where they can themselves take up auxiliary industries in course of time, such provision is not made.

HPF have stated that the recommendations of the Committee on Public Undertakings on Management and Administration of public undertakings in their 13th Report will be taken into consideration for any future collaboration agreements.

IPCL have stated that such provisions have been made in some cases.

IRE have stated that there are no special auxiliary industries that can be started to support the Rare Earths Plant or the Mineral sands separation plant areas in which IRE functions.

MAMCO have stated that a provision is being made in the agreements being executed for establishing auxiliary industries for supply of components for maintenance of equipment.

3.165. The Committee note that in paragraph 84 of their 13th Report (1965-66) (3rd Lok Sabha) on Management and Administration of Public Undertakings the Committee on Public Undertakings had recommended that when public undertakings go for foreign collaboration, they should ask the collaborators to make provision or give the know-how about establishment of suitable auxiliary industries.

3.166. Although Government have as far back as 1968-69 stated in reply to this recommendation, that whenever they go in for foreign collaboration, they could ask the collaborators to make provision or give them the know-how about establishment of suitable auxiliary industries, the Committee are surprised to find that either provision has not been made at all in the collaboration agreements entered into by certain undertakings or provision has been included only in some agreements concluded by Public Undertakings.

In the case of BEML, it has been stated that the know-how for components can be passed on to sub-contractors including the auxiliary industries. FCI has stated that the collaborators are asked to make provision where there are possibilities of setting up suitable auxiliary industries.

3.167. The Committee regret to observe that the recommendation of the Committee on Public Undertakings in this regard has not been fully implemented in spite of Government having accepted the re-

**commendation. The Committee reiterate their recommendation in their earlier Report on Management and Administration of Public Undertakings (13th Report, 3rd Lok Sabha-Paragraph 84) and stress that when public undertakings go in for foreign collaboration, they should ask the collaborators to make provision or give the know-how about establishment of suitable auxiliary industries.**

### **J. Consultancy Services**

3.168. The Ministry of Industrial Development have stated that in order to ensure maximum possible utilisation of Indian Consultancy Services, wherever Indian consultancy Service is available, it should be utilised exclusively and if the foreign consultancy is available, Indian consultancy should also be associated and as a rule be the primary agency employed for consultancy. It is further provided that approved/registered Indian engineering, design and consultancy organisations are associated right from the start in any evaluation, selection and negotiations conducted for the purchase of overseas technology.

3.169. Bharat Heavy Plates and Vessels Ltd. has stated that Indian Consultancy Organisation, such as, NIDC, Engineers India Ltd. and other private consultancy Organisations do not possess the know-how in the fields in which they entered into collaboration agreements. Bharat Ophthalmic Glass Ltd. has stated that the project being highly specialised one and the technology being non-existent in India, there was no question of consulting Indian Consultancy Organisations. HMT has stated that they do not ordinarily take the opinion of technical consultants in India since such specialised consultation services are not available in the country. Hindustan Teleprinters (including ITI) has stated that at the time of agreements were entered into Indian Consultancy Service had not developed. IDPL has stated that technical know-how, design drawings and DPR for which services of Soviet collaborators were sought, were not available indigenously from Indian Consultancy Services at that time. However, technical services of NIDC were utilised while finalising the collaboration agreements. Lubrizol India Ltd. has stated that at the time of finalising collaboration agreement not very many of the existing consultancy organisations existed, and neither were they consulted. NMDC (Kudremukh) has stated that is project is the first of its kind in the country. NIDC, EIL or EPI had no experience of this type of operation. However, NIDC and EIL were associated and their services were utilised in negotiations with foreign collaborators. Bharat Heavy Electricals has stated that most of the products introduced by them are such that they are being manufactured

in the country for the first time and as such it will be difficult to have Indian consultancy available for them. Bharat Coking Coal stated that the foreign consultation is limited only in the field of the mine construction or designs. There is no public sector consultancy organisation in the field of mine design or construction. Only organisation in private sector which had a collaboration had to be consulted. They have further added that if Indian Consultancy Services of proven worth is available we need not go for foreign collaboration. Hindustan Photo Films has stated that there is no agency/organisation in photographic film industry which could be consulted.

3.170. Fertilizer Corporation of India has stated that for certain processes which were being operated for the first time, assistance of foreign parties are to be sought as no other expert consultancy firms were available in India. In the case of Haldia Project, we had to take the assistance of M/s. Halder Tosoeareowned firm in the field, who had engineered a number of fertilizers plants were taken as consultant for the limited purpose of checking their system, design and engineering only.

3.171. In the case of Durgapur Fertilizer Plant after detailed consultation both in the Administrative Ministry and the Planning Commission it was concluded that an external outside consultancy expert in the field should be appointed to make a complete technical survey of the plant from end to end to identify the deficiencies and make recommendations to bring up the plant to maximum operating level, M/s. Techiment of Italy who were acceptable to all parties were chosen for this work.

3.172. In regard to the question as to what are the areas where India should develop consultancy service on a priority basis, the Fertilizer Corporation of India has suggested that expert consultancy facilities should be developed in the case of environmental pollution control and expertise for determination or selection of "Appropriate Technology". Engineers India Ltd. has suggested that Indian Consultancy Service is required to be strengthened in the case of technical know-how and basic engineering. They have further suggested that where patented or non-proprietary developments are not involved, consultancy organisations should indulge in the development of the process/design packages and basic engineering. It is in such areas that consultancy organisations should work on a priority basis. IPCL has stated that complete elimination of foreign assistance in consultancy is possible after EIL has gained some more experience. They further stated that consultancy organisations which already exist



in most of the priority sectors of industry would need strengthening and support from Government if dependence on foreign consultancy organisations is to be completely eliminated. MECON has stated that that consultancy and detailed engineering services for iron & Steel Projects are adequately developed except in certain specialised fields. NIDC has stated that dependence on foreign sources will have to continue for sometime to come in respect of process know-how primarily for chemical and metallurgical industries. They have further suggested that consultancy organisations in India should now direct their energies towards developing their capabilities in respect of process know-how and in totally new fields such as bulk material transportation, Industrial Ecology use of Solar Energy and Waste materials utilisation etc.

3.173 The Bureau of Public Enterprises have stated that their guidelines to Public sector enterprises stipulate that Indian Consultancy Organisations should be the prime consultants. The Department of Heavy Industry have stated that in the field of heavy engineering it is no longer necessary to depend on foreign consultancy organisations. The Ministry of Petroleum and Chemicals have stated that the consultancy organisations in India are equipped to reduce but not altogether eliminate dependence on foreign consultancy organisations. The fields in which consultancy organisations have yet to develop include process knowhow, drugs and some petro-chemicals. The Ministry have agreed with the suggestion that we should not get consultancy for project engineering but we should follow a liberal policy to allow Indian Consultancy Organisations for a back up by foreign consultancy Organisation to enable them to develop it to such an extent as to avoid its import again.

3.174 The Department of Atomic Energy have stated that Indian consultancy is engaged for processing necessary local engineering, design and consultancy services based on know-how and process furnished by their collaborators for the plant.

3.175 The Ministry of Defence have stated that Indian Consultancy Organisations at present lack adequate technical competence in certain fields, for example, construction|development of major shipyards or equipment for off-shore drilling and in these areas the country needs to develop consultancy on a priority basis. They have also supported the suggestion that we should not get consultancy for project engineering but we should follows a liberal policy to allow Indian consultancy organisation for back up by foreign consultancy organisation.

3.176 The Ministry of Industrial Development has stated that the Ministry is enlisting technical consultancy firms in the areas in which they have acquired technical know-how. This enlistment is stated to be voluntary and for statistical purpose only. The Ministry of Commerce are also registering consultancy firms for export purposes. In view of this, the Ministry does not possess full details of activities of consultancy firms operating in India and it is not possible to indicate categorically the fields in which there is absence of consultancy organisations.

3.177 In regard to a question whether foreign collaboration is necessary for consultancy services it has been stated by selected Public Undertakings that:—

NIDC has stated it is no longer necessary to permit inclusion of these activities in the package of foreign collaboration, except in those rare instances where expertise of detailed engineering relating to a specific project is demonstrably not yet available in the country.

FACT stated that Indian consultancy organisations can certainly offer consultancy services. There is no necessity to import them atleast in their field.

IPCL has stated adequate expertise in consultancy in the field of petro-chemicals is available within the country. It is not necessary to go in for foreign consultancy in this field except in some very specialised cases.

Lubrizol is of the opinion that consultancy organisation in India are confined at present to some selected fields and processes.

IDPL have stated that the level of consultancy available in India is fairly of high order. However in case of drug and pharmaceuticals, details of technical know-how has to be obtained from foreign collaborators before entrusting detailed design and engineering to Indian consultancy organisation.

BHEL has opined that limited collaboration may be unavoidable.

BEML have stated that technically speaking, foreign collaboration for consultancy sources is not necessary.

3.178 From the material placed before them, the Committee find that Indian consultancy was not available for consultation in the fields in which collaboration agreements were entered into by BHPV,

BOGL, HMT, IDPL and HZL Process engineering enterprises like IPCL, IDPL, FACT, have stated that it is not necessary to go in for foreign collaboration for consultancy in their fields. BHEL has opined that limited collaboration may be unavoidable. Some undertakings have however, felt that consultancy facilities should be developed in the case of environmental pollution control, process design packages and basic engineering, specialised areas of iron and steel industries, bulk material transportation, industrial ecology, use of solar energy, waste material utilisation, etc. The Ministry of Petroleum however stated that the fields in which consultancy organisations have yet to be developed include process know-how drugs and some petro-chemicals. The Ministry of Defence has felt that Indian consultancy organisations lack adequate technical competence in certain fields like construction/development of major shipyards, equipment for off-shore drilling. The Committee are surprised to note that the Ministry of Industrial Development has not been able to indicate categorically the fields in which there is absence of consultancy organisation. The Committee feel that a procedure should be evolved by which consultancy organisation in various fields may be compulsorily required to enlist themselves with the Ministry/DGTD. The Committee would also like that Government should, in consultation with the Public Undertakings and national research organisations like NRDC, Department of Science and Technology, CSIR, etc. take steps to identify the specific areas in which consultancy is yet to be developed and consider whether the existing consultancy organisations could be strengthened for providing consultancy services in such fields.

#### K. Role of D.G.T.D.

3.179 In regard to the question by the Committee as to the necessity for D.G.T.D. when F.I.B. is already there and time taken by D.G.T.D. for selection of technology and the time taken by D.G.T.D. for clearance of the cases, the D.G.T.D. stated that:—

“It is true that some years back DGTD organisation was more known for its regulatory functions than for developmental functions. But I think in the last two or three years we have moved a long way from such regulatory functions to developmental role which, I think, is a legitimate role of the DGTD. A number of procedures have been streamlined or simplified. But difficulties we used to have was in regard to the availability of indigenous material. Now, through

the new import-export policies, we have introduced a system of automatic licensing so that it is done by the CCI."

\* \* \* \* \*

3.180 In regard to clearance of cases it has been stated that:—

"In fact there are cases which are cleared in a day. And normally we have now stipulated the time as 30 days for licensing applications or collaboration cases. The overall time stipulation for any of these cases is within 90 to 120 days." \* \* \* An analysis of cases dealt with by DGTD for the last three years is placed at Appendix VIII.

3.181 The Secretary, Department of Industrial Development stated that:—

"The FIB is for the purpose of consideration of cases. For a proposal dealing with foreign collaboration, it does have to have an examination by a technical authority and obtain information as to whether indigenous technology is available, whether imported technology is needed for a particular product or industry, whether the proposal by the undertaking or by a private party is the best and what are the terms that we should have, etc. By and large for a larger number of industry DGTD is the technical authority which has to scrutinise these cases. It has the technical expertise for a variety of industries. In regard to certain areas, we do have expertise either in the public sector undertaking or in the Ministry concerned and, of course, these are also brought before the F.I.B."

In this connection the Secretary, Department of Industrial Development added that "they deal with a variety of industries like chemicals, engineering, paper, etc. The Department itself does not have the technical authority and they have to rely on the DGTD."

The representative of Department of Mines stated that :—

"Over the last two or three years there has been a change in this psychological climate. Before that, there was a tendency of the DGTD as then constituted giving more of a negative impression than a positive one. DGTD by itself is not a repository of knowledge. It is the clearing house of indigenous availability of equipment or personnel. It

does not generate its information by itself. All the producing ministries have dealings with them. This cross-fertilisation or pooling of information takes place *via* DGTD. It is not possible for each public undertaking or Ministry to keep abreast of all developments in this vast land—what is being made somewhere now which was not being made last year, and so on. If all producing units keep DGTD informed and if all the consuming units ask for DGTD “assistance” rather than “clearance” I am sure much of the past misconception will disappear.”

To a question by the Committee as to whether DGTD also does cost benefit analysis, the representative of DGTD replied:

“Yes and we make a recommendation through the administrative ministry to the Foreign Investment Board.”

3.182 To a further question by the Committee as to whether the present set up of DGTD is sufficient and what are the functions of DGTD, the representative of DGTD stated that:

“The Indian parties are to come up with the statement of different sources which they have investigated including the analysis and also it is our desire to technically equip ourselves to the extent possible. The technological base has become vast and we cannot have expert knowledge of all technologies and therefore, our endeavour in this direction has been to involve association of industries and also through the development councils as well as coordinating mechanism with the Department of Science & Technology, CSIR, NRDC and other engineering design firms to bring together this knowledge and out of that on the specific recommendations and suggestions which may come out of this, evolve our own standards. Our strategy in this direction has been that we have implemented the first form of coordination of technical information in techno-economic evaluations. Our Division is in close touch with R&D, Department of Science & Technology, NRDC and other expert groups. We have decided to implement the programme of attachment and orientation of officers in our cells with industries and a number of officers have been sent on attachment to public sector units in both engineering and chemical fields. We have advised entrepreneurs

and in the guidelines we also bring out illustrations, our contributions in this direction in areas where import of technology is permissible and where it is not permissible. The important activity which the DGTD has taken up is the development of technological data bank. The aim of this data bank is to provide information on absorption, assimilation of imported technologies and improvements thereof. It will provide information on technologies which may be available and update them. Where there are gaps or where there is an indication of gap, we locate the source of technology through which this can be acquired. In this direction I would like to point out that DGTD have headed delegations abroad with public sector projects in the choice of the technology. We are doing this perspective planning on a long range basis which in my view requires more work and attention to be paid."

3.183 To a question by the Committee as to what is the contribution of DGTD in regard to standardisation of plant and machinery and raw materials, the representative of DGTD stated:

"We are doing it through the mechanism of import export policies as well as through reorganisation of DGTD; but there are certain essential features of such clearances which are linked with a number of other important points. If we want a standardization of plant and machinery and raw materials through avoidance of the multiplicity of collaborations, the DGTD in my opinion has to exercise a pivotal role in this task." \*\*\* The DGTD has a vast data on Management, industrial data and data on capacity utilisation and so on. Then, somebody has to plan the management of inputs. I do feel that coordinated attention to this problem is required. DGTD has technical advisers and consultants for the various Government departments."

3.184 To an enquiry by the Committee whether DGTD should function as a technological intelligence cell not concerned with regulatory functions like allocation of raw materials, the representative of Department of Science & Technology, stated that:—

"I do agree with you that the DGTD should have a technological intelligence cell which should keep track of the developments that are taking place in the various fields of technology that have been assigned to them. That is one of the primary functions."

\*\*\*\* I personally think that the kind of information that is required to know what is being developed in our country and the tremendous infrastructure that we have built up is so vast that it may not be possible for Departments to collect information and keep it upto-date. It may be possible if a wholly different organisation could be set up in co-operation with the DGTD to do this job, and that could be done if it promotes efficiency."

In regard to the information, the representative of DGTD has said that they are setting up a management information system by which we would know what are the products that we have produced, what are the raw-materials that are required and what is the organization that is required to handle it. During the last 20 years, we have got different technologies from a large number of countries and have reached a stage now where we should be able to evolve some standardisation and have standard specifications for various items.

The specification of material is another important area that has to be decided upon. This is an area where the Technological Development Division can really play an important part in bringing the different industrial inputs together to standardise the raw-materials and other inputs. The DGTD has also been associated with the industry very closely in various designs and development functions in order to find out what are the requirements in the country.

The industrial machinery comes under the purview of the Ministry of Industrial Development. I think this aspect is being looked after by the DGTD.

\* \* \* \* \*

Taking all these factors into consideration, I would plead that there should be some central organisation for collecting information and making it available as rapidly as possible by some computerised management system. Where some information relates to the functions of a particular Ministry only, it would have to be decentralised so as to make it more easily available to the people concerned."

3.185. The representative of Department of Steel stated that:—

“It is a matter of opinion whether it should be performed individually in the Ministry or in a central organisation like the DGTD.\* \* \* It would only like to submit that perhaps our experience in the past few years looking at the development of DGTD would only make us think that a central DGTD with a proper data processing bank and a properly equipped division would perhaps be able to perform this function in a much better and more co-ordinated manner.”

The representative of Department of Mines stated that:

“that the kind of professional technical competence that DGTD has and should by increasingly have should not be frittered away act as a rationing DGTD being made to supply office. That responsibility should be squarely put on the production Ministry. We have already done it in steel and oil. The DGTD should, on behalf of unorganised sectors and consumers of each raw material, represent very strongly with all its data before its production Ministry. That Ministry, its secretary and the Minister, should be squarely responsible for the whole national economy to ensure that the availability of particular input is neither too short nor too much. If this is continuously reviewed, say once in three years, so that the DGTD can give up item-wise the supply aspect, DGTD will have naturally more time to give attention to the appropriate tasks to which the representative of DGTD referred.

Over the last 2-3 years, already the DGTD has increasingly shifted away from that rationing aspect. They must be released from that not at one stroke but stage by stage, whenever there is an undertaking or a Department/Ministry which is matured enough to be squarely saddled with that aspect instead of palming off on DGTD the problem of scarcity.”

3.187. The representative of Department of Economic Affairs and FIB stated that:—

“I would only submit that this role of the DGTD in advising on licensing, I presume, is basically an aspect of our import policy. \* \* \* There is a whole range of residual



industrial imports about which the import licensing authorities would like to have the considered judgement of an expert in the field about the indigenous availability. If we do not have the DGTD, we would need to invent one because we need that type of a central agency, a central clearing house, to tell us what is indigenously available. This information is very important when we are allocating scarce foreign exchange resources for the purposes of imports.”

Because we have been having a tight-stringed budget as far as imports are concerned, it is necessary that we don't fritter away our foreign exchange resources on items which we don't need to import. Often, the spending Ministries would not know as to what is the indigenous availability as much as the Central organisation. As one of my colleagues has said, if we don't have one DGTD we would have Mini DGTDs in the Ministries. There are certain advantages in having a centralised operation and I would submit that, as long as our economy is limited by scarcity of foreign-exchange, we have to ration our imports and we need to obtain technical advice which, I believe, the DGTD is now in a position to give.”

3.188. The representative of Department of Industrial Development in this connection stated that:—

“With regard to the regulatory functions in which the DGTD has to play an important part—but not necessarily an exclusive part—there are four principal items which I can enumerate. One is industrial licensing; the second is licensing for capital goods import; the third is for raw material import and the fourth is proposals for foreign collaboration.

In regard to this type of proposals, the kind of information that is necessary is for example, in regard to industrial licensing, there is the question of estimates of demand and the target as in the Plan, there is the question of the current installed capacity and the production in different firms and what we might like to have in the short term of the Annual Plan and so on. Similarly, for capital goods import, there must be availability of information of what capital goods are produced in the country, and, secondly,

whether the capital goods sought to be imported are really needed for the production of the particular product or some other substitute could be found.

\* \* \* \*

Now, it is a fact that the DGTD is not the sole technical authority for some things. For example, steel was mentioned, and petroleum is also there. For the textile industries, for example, the technical agency is really the Textile Commissioner and for the jute industry, the Jute Commissioner. These different technical authorities have information on production imports, the types of goods being produced, etc. and without coordinating this and having central information at one place, it is extremely difficult to take a view—whatever Committees there may be on this—in regard to developmental and planning functions. You must have at one place considerable amount of information collected and a considerable amount of expertise and, by and large, these functions have been with the DGTD. But, as has been pointed out, in many Ministries expertise is being increasingly developed, either in the public sector or in the Ministries concerned, and in many of the problems of technology and problems of planning, the Ministries, I think are playing an important part—for example, Electronics. In the case of certain material, while the Electronics Commission are able to forecast the kind of production they are going to go in for and the kind of technology required, when it comes to the import of equipment, for information as to whether the machinery is available or not, they have to rely on the DGTD. So, there is some distinction between the kinds of functions and there is a degree of compatibility between the DGTD and the expertise in the Ministries themselves.

I would also like to point out that the so-called regulatory functions are not purely regulatory; some input of planning and some input of technical assessment is also involved.

This is the broad way in which, for a number of years, the DGTD has been the major technical agency we have in which expertise has been built in.

As far as the central information system and the suggestions to have things like a technical data bank for the study of imports|exports in terms of the machinery available, and so on, are concerned, this is a kind of system where it will be impossible for us to duplicate it. We cannot multiply resources or the repository of information of this kind. I agree that there have been times when too much emphasis is placed on regulatory functions and we forget or overlook the developmental functions, but as my friend has pointed out, we have been able to correct this and we hope that all the officers concerned will increasingly attach sufficient importance to this aspect."

To a specific question by the Committee whether DGTD should continue as a technological intelligence cell and not concern itself with licensing and all things, the representatives of Department of Industrial Development replied:

"No, Sir. It is necessary that these functions should have to be done by the DGTD." \* \* \*

"My point was this. In regard to certain functions, it will not be possible to duplicate; for example, production statistics cannot be duplicated." \* \* \*

"This has to be based on the collaboration and the analysis, periodically, of relevant material. I would mention one thing. It is not as if in many of these cases the Ministry and the DGTD work at cross purposes. Of course, I do not say that there are no differences. There are bound to be differences, even in the same Ministry between the people who are administratively concerned and the people who are technically concerned. I can say that in almost every case that comes to the Licensing Committee of the Capital Goods Committee, there is the view of the DGTD and there is also the view of the administrative Ministry; often, they conform, but sometimes they do not."

3.189. The representative of Department of Heavy Industry stated that :—

"It is a question of attitude also that they have to exercise these regulatory as well as developmental functions. You can lay a greater emphasis on regulation rather than on development. That was what was happening some years

ago: there was a lot of emphasis on regulatory function. But for the last two or three years, there has been a change of emphasis, and I can say from my experience in this Ministry that the DGTD is playing a very important role in the development activities of the industry.

Secondly, as representative of Department of Industrial Development was saying, we shall have to have some central repository for some of the basic information which would enable them to take decisions with regard to clearance of capital goods, allocation of raw materials and import of technology. In this also the DGTD is playing an important role. I would particularly mention about allocation of scarce raw materials for the engineering industry where they have been coordinating with success.

About the point which representative of Department of Science and Technology made, I was wondering whether the function of standardisation and rationalisation of equipment should not be with the administrative Ministry and the public sector undertaking concerned. This is a function which, rightly, has to be discharged by the public sector undertaking and the administrative Ministry concerned. This is also being done with regard to the other items of industrial machinery, including mining equipment to which reference was made by representative of Mines.

The administrative Ministry also must take responsibility for making sure, to the extent possible, that the inputs to the industry are made available. Here, we do it in consultation with the DGTD. I must say that the information readily available with them enables us to take this action promptly. In the absence of this information being available, it would be much more difficult for us to take appropriate action.

When our proposals go up to the various committees, we do that in consultation with DGTD and in almost all cases unanimous recommendations are put up. The DGTD has a very important role to play. They have changed their attitude; they are improving their systems, and their data bank is much better than what it was. If a right rapport is established between them and the Ministries,

they can work jointly to the advantage of the Ministry as a whole.”

3.190. The representative of Department of Petroleum in this connection stated that—

“I would support all that my colleagues have said so far. DGTD is developing into a very useful part of management of industries by Government. The most important part is the data bank which is gradually developing. The other is, of course, the indigenous angle. We find that people in the private sector and also in the public sector would rather import items with their well known brand names. It is here that the objectivity of the DGTD is useful in ensuring that the indigenous development of machinery manufacturing capabilities is utilised and is not left to languish merely because the owners of plants, be they in the public sector or the private sector, would rather engage foreign processes, foreign licensors or buy foreign equipment. In that sense, DGTD makes a very valuable contribution.

In licensing again, though part of my charge is not covered by DGTD, I have found in several cases based on demand projection, existing production, consumption or the availability of raw materials, DGTD is able to make objective contribution and the Ministry would then moderate its approach on the basis of that contribution. This idea of decentralisation should also not be overdone.\* \* \*

I think, DGTD has an important role to play. Over the last two-three years, it has streamlined its working very greatly and we find it useful.”

3.191. The representative of Department of Fertilizers while endorsing the views expressed above stated that—

“In the last two years, undoubtedly, there has been a complete change in the outlook and attitude of the DGTD\*\*. So, given the existing parameters, I should imagine they should be able to deliver the goods. \* \* \* \*

If we want to understand the place of the DGTD in the Governmental scheme of things, the historical process will also have to be understood. Some years ago most of the

Ministries of the Government of India were what we describe as administrative Ministries. They were manned by people essentially from the Civil Services or from the Central Secretariat Service and they felt the need of technical organisation on which they could rely for technical advice. This position has changed considerably over the years and these administrative Ministries have tended to become techno-economic Ministries. In many of the Ministries technical experts have been inducted. I understand that the intention of bringing in technical experts into the Ministries is to perform the functions which at one stage were being performed at the centralised level. While there may be a need for a certain degree of centralisation, I should think that we will have to very carefully avoid what may be patent duplication. Government has recognised this and certain Ministries operate as their own DGTD.

We will have to recognise this techno-economic duplication if some Ministries are in the sense totally self-contained but that is not always the case. If various industrial activities are there and they are not restricted to any single Ministry, it is all-pervasive and in order to discharge the function, you would require to have the DGTD and also strengthen it.

There is one additional point. We have been talking here about the relationship of the DGTD and the Ministries. There is a more important relationship which perhaps slightly baffles solutions. The DGTD is not only concerned with self-sufficiency in equipment but also self-sufficiency in technology. We seem to have three agencies for this purpose. The Department of Science and Technology is there. Then we have the Director-General of the Council of Scientific and Industrial Research. We have DGTD who is also dealing with the technical aspects. It is necessary that a decision is taken as to who should co-ordinate the fostering and developing of the indigenous technology and also we should see whether these organisations are not to-day working in tandem which I think they are and their relationship perhaps has to be demarcated and if there should some protection of Indian technology, I think it would be better be centralised these organizations."

3.192. The representative of Ministry of Defence (Deptt. of Defence Production) stated that—

“From our side we come in contact with the DGTD mostly in relation to the import of capital goods and also for raw materials. We find a single point contact as provided by the DGTD useful for all our requirements as we do not then have to refer to a number or different authorities for clearance.

For the imports of equipment for the Leander Frigate Programme we have a special organisation in the form of a Committee, chaired by senior DGTD officials. This has played an important part.

I endorse the views of my colleagues who feel that as long as there is import control, technical advice is required and it is the best if it is available from a single source.”

3.193. The representative of Ministry of Finance (Deptt. of Expenditure) stated that—

I have known the organisation since 1950 when it was called the Development Wing of the Ministry of Commerce and Industry. If you look to the licensing policies since 1960 this organisation has contributed substantially to the Industrial planning of this country.

I would like to repeat what representative of Deptt. of Industrial Development and others have said—that it is not a fact that it is too big an organisation. Textiles, jute, plantations, electronics, petroleum and steel industries are dealt with by separate bodies. Engineering and Chemical Industries including a very large amount of common-users industries by way of industrial machinery, transport machinery and the like are still dealt with by this organisation and there are good reasons why this kind of activity should not continue to be dealt with centrally.

Some years ago the present Secretary of Works & Housing and I were looking into the organisation structure of DGTD. At that time this issue whether the developmental work could be separated from the regulatory work was considered by us.

In 1963 or 1964 it was suggested that in DGTD the regulatory functions which are less important should be delegated to the junior officers and some senior officers should be brought in, if necessary, from the industries to take up developmental aspects. As my colleagues have said, in the last two or three years, developmental work has further improved. Licencing work can be done by the Ministries, provided it does not mean duplication of work. As some one has said, we should not be faced with demands for separate Technical Directorates for licensing purposes. Some reforms can be expensive and we should make sure that the reform is worth the cost.

In regard to clearance both of machinery and technology if the requirement is from the private sector, nobody appears to have objection to its scrutiny by the DGTD. Scrutiny is necessary whether the import of machinery, technology, raw material are in the national interest.

There are rules for similar scrutiny of the requirement of the public sector, and what I would submit is that there is a case for a second look at many of these requirements. Of course, there are some cases of resentment which some of our public sector executives have expressed, saying that they are all highly qualified people and why should the recommendation from any one of them be subjected to any second scrutiny and all that. This is quite understandable in human terms. But in overall organisational terms, I would submit to the Committee, there is every reason for the Government to have a second option."

3.194. The representative of Bureau of Public Enterprises in this connection stated that—

"I entirely endorse what representative of Deptt. of Expenditure, Ministry of Finance has said especially in defence of the DGTD. The DGTD has played a very important and outstanding role in the matter of industrialisation of the country in the early stages. There were certain instances of delays etc. no doubt, but many other things have been done. We have to say certain things have been streamlined and improved very considerably. Delays have been reduced very much. Some of the public sector executives, as one of them proposed to you, were inclined to take up the proposition that clearance from indigenous



angle for public sector in respect of their imports should be done by the Bureau. In the Bureau of Public Enterprises, we have not given serious thought to this aspect. We felt it not necessary, in view of the present improved performance of the DGTD."

3.195. In a note furnished to the Committee after evidence by Directorate General of Technical Development (Technology Development Division), it has been stated that a technology Division has been formed in the DGTD in order to develop meaningful co-ordination between the DGTD, CSIR, Department of Science and Technology, NRDC and other leading national research institutions and industry associations. The effort of this Division is to try and bear a total technological approach consistent with the objective of self-reliance in technology.

3.196. As a necessary back-up to this Division collection consolidation and dissemination of technical and industrial data is necessary.

Objectives of the Data Bank are stated to be as follows:—

- (a) analysis of the industries where there are on-going collaborations with imported technology to reveal thereby gaps in our industrial technology and know-how in order to intensify our efforts in the development of suitable technologies and know-how to meet these requirements.
- (b) to collect information on development of indigenous technologies and their verification which thereby would enable support and even preferential treatment to suitable indigenous technologies.
- (c) to provide information on the absorption and improvement on imported technologies. In this also to collect and disseminate information on appropriate technologies for exports.
- (d) to provide information which will enable techno-economic evaluation of competitive bids and advice and assistance to entrepreneurs on the availability and other facets of technology like costs, capital goods, raw materi-

als availability etc. which will provide useful guidance to the entrepreneurs in setting up new projects or in modernisation.

3.197. The Committee were informed during evidence that though, some years back DGTD organisation was know for its regulatory functions than for developmental functions, in the last two or three years, it has moved a long way from such regulatory functions to the developmental role. It is stated that a number of procedures have been streamlined or simplified. A time limit of 30 days has been stipulatd for clearance of licence applications or collaboration cases, the over all time limit stipulated for any one of these cases being 90 to 120 days.

3.198. The Committee, however, find that in spite of streamlining the procedures and stipulating a time limit for approval of applications for foreign collaboration, during the period from 1972-73 to 1974-75 out of 114 proposals referred to DGTD by the Public Undertakings or administrative Ministries, 66 cases have been disposed of between 90 and 120 days and in 6 cases the time limit has exceeded 120 days. The Committee would like that a case study of the applications, the disposal of which have exceeded the 3 months limit may be made to see how far the delays in these cases could have been avoided with a view to taking suitable remedial measures. The Committee need hardly stress the importance of speedy and timely processing of application for foreign collaboration by Public Undertakings. The Committee suggest that all matters requiring clarification during the consideration of applications should be arranged to be settled by holding discussions with the Public Undertakings and administrative Ministries in the interest of expeditious disposal of applications.

3.199. It has been stated that though for Foreign investment Board examines cases for final approval of foreign collaboration, the DGTD as the technical authority, scrutinises the cases from the point of view of availability of indigenous technology, the need for import of technology, whether the proposal of the undertaking is the best and also the nature of the terms and conditions required for the collaboration. The DGTD also does the cost benefit analysis and makes a recommendation through administrative Ministry to FIB. Since the technological base has been vast, it has been the endeavour of the DGTD to bring together the knowledge and evolve

standards suitable to Indian conditions through the association of industries, development councils, as well as coordination with the Department of Science and Technology, CSIR, NRDC and other engineering design firms. A decision has also stated to have been taken to attach the officers in the various cell of the Directorate to different industries in order to orient them both in the engineering and chemical fields. The Committee recommend that DGTD as a technical authority should act more as a developmental agency rather than as a regulatory one and suggest alternative proposals for foreign collaboration wherever necessary after discussion with the Public Undertakings.

3.200. The Committee are informed that a data bank is proposed to be developed to provide information on absorption, assimilation of imported technology and improvements thereof. Where there are gaps in technology or where there is an indication of gap, the source from/through which such technology could be acquired would also be located. It has also been claimed that the DGTD has vast data on management, industries and on capacity utilisation. It has technical advisers and consultants for the various Government Departments.

3.201. The Committee have already given their recommendations in regard to data bank in an earlier chapter of the report. The Committee would like that the data bank should be set up expeditiously and should provide exhaustive information about the technologies, their developments and improvements, the sources etc. so that the information may be useful for selection of the appropriate technology in any particular field of industry.

3.202. The Committee are also informed that a Technological division has been formed in the DGTD to develop a meaningful coordination between DGTD, CSIR, NRDC, Department of Science and Technology and other leading institutions and other associations. It is stated that effort of this Division is to try and bear a total technological approach consistent the objective of self-reliance in technology. As a necessary back up to this division collection, consultation and dissemination of technical and industrial data is also to be done through the Data Bank in the DGTD.

3.203. The Committee recommend that the DGTD should identify the specific areas of importance where foreign technology is being imported by public undertakings and suggest measures to attain

self-reliance in consultation with public undertakings, research institutions concerned, etc. The term 'importance' may be construed to mean areas which are of sensitive nature from the point of view of security or where large outgo of foreign exchange is involved.

3.204. During the course of 20 years as different technologies have been obtained from a large number of countries, it will be necessary to evolve some standardisation and standard specifications. The Committee feel that the Technological Development Division can play an important role in bringing about standardisation and rationalisation of equipments and inputs so as to reduce dependence on imports and encourage full utilisation of installed capacity particularly in the public sector.

## CHAPTER IV

### RESEARCH AND DEVELOPMENT

The Ministry of Industrial Development have stated that:

“While agreeing to any proposal for foreign collaboration, Government invariably imposes a condition that the Indian party, within the currency of agreements, would take necessary steps to set up their own research and development facilities so that the imported technology is fully absorbed by the Indian party and continued dependence on foreign collaboration is not necessary beyond the period of agreement. Normally collaboration approvals are approved for a period of five years and extensions are granted only in exceptional cases.”

They have further stated that :

“areas where the technological base in our economy needs to be strengthened have been indentified by the National Committee on Science and Technology and suitable R & D programmes have been drawn up for this purpose as part of our policy to promote self-reliance in Indian industry.”

4.2. An analysis of the replies furnished by undertakings about their R & D activities, indicates that BHEL, IDPL, Mazagon Docks have set up their own R & D Wings with a view not only to develop indigenous know-how to suit Indian conditions and to avoid continued dependence on foreign collaboration but also improve the technologies. Undertakings like FACT, FCI, Hindustan Aeronautics Garden Reach Workshops, EIL, SAIL, Instrumentation Ltd. NMDC, have their own planning & Development or Designs Development etc. like P & D Division of FCI, FEDO of FACT, CRDO of HSL and MECON of SAIL etc. Certain public undertakings like Hindustan Organic Chemicals, Hindustan Insecticides, Hindustan Latex, ONGC, Machine Tools Corporation, IOC (Pipelines and Refineries Divisions), Madras Refineries, have their R & D Cells which are continuously putting their efforts on by-products, utilisation, import subs-

titution, although some are also developing indigenous technologies for some products. Some of the undertakings (BCCL, BOGL, HOCL, IOC) are working in close coordination with CSIR organisations like National Chemical Laboratory, Central Glass Research Institute, Central Mining Research Institute, Indian Institute of Petroleum. The ITI is stated to be working in coordination with HTRC. The BALCO has stated that it is proposed to set up a R & D centre for aluminium at national level under the aegis of CSIR. A nucleus organisation has been set up to absorb know-how. The BCCL and CIL have recently set up a Coal Mines Planning and Development Institute. The Cochin Shipyard, the Garden Reach Workshops have stated that the question of setting up a Central Marine Design and Research Organisation is under consideration of Government. While Engineering Projects India is proposing to set up its own R & D Wing in consultation with Department of Science and Technology, the HMT is participating in the programmes of NCST and is establishing R & D for various activities. In BHPV and IPCL a full fledged Research Cell is being set up. The Hindustan Zinc Limited has set up its own R & D Cells, Laboratory facilities and pilot plants which will be developed into R & D Wing in course of time. It has been stated that the expertise available in the mining and development beneficiation of Zinc Lead copper ores is limited both in know-how and technical personnel and since rapid changes in smelting and mining technologies are taking place all over the world it would not be possible or prudent to say at this stage that foreign assistance/collaboration can be avoided in the near future. Indian Rare Earths Ltd. has stated that it would make every effort for the adaptation of the technology and for its future developments by their R & D Section and one or two Engineers may have to be associated with the consultants during the design and detail work as provided in the agreement. The Tungabhadra Steel Products Ltd. is yet to set up its own R & D Wing.

4.3. The NIDC has stated that sustained R & D in any particular field, cannot be taken up because of lack of advance Commitment of assignment.

4.4. In this connection the Chairman and Managing Director, Bharat Earth Movers Ltd. stated that "we are fairly young. Our first collaborations are over and our range of production is between 100 and 600 H.P. Any item required in this particular range we can manufacture by our own research and development and modify and produce it within two or three years."

4.5. The Chairman and Managing Director, Hindustan Machine Tools stated in this connection that "it is a question of keeping ourselves abreast with the times, and if we do not do our home work, the R & D, in every field of activity, we will be depending upon foreign collaboration. The question of R & D should be given the highest preference if you want to minimise the foreign collaboration. Here, the public sector can play an important role. In R & D if you make an investment today, you cannot expect the results tomorrow. The R & D has to be done primarily by Government aided agencies like the public sector. Today we are short of funds. So, there are certain difficulties. But the R & D should be given the highest preference if you want to cut down our reliance on foreign collaboration. To do that, the Government aided agencies are the best agencies. It is not that the private sector will not do, but the private sector agencies basically want to have quick profits."

4.6. To an enquiry by the Committee as to how many private sector concerns have developed their own R & D, the witness replied that "firms like Tatas and TELCO have research facilities, but only in the restricted field of their own products. I would not be able to say whether the small companies in the private sector have. But I can tell you that, as far as the public sector is concerned, we have been asked by the Government to set up our own R & D."

4.7. The Committee pointed out that there is still reluctance to utilise the know-how developed by our own public sector R & D units, leave alone the private sector units. The Chairman HMT confirmed that it was not so. "In fact, Government will not import a technology if it is already established here. Each individual case is examined at the Government level and a suitable decision in the interest of the country is taken. In my field, we make quite sure that we do not go in for imported technology unless it is absolutely new as we did in the case of lamp making industry. There is no technology available in the country to produce the whole chain of producing bulbs. In the world there are only three or four firms who have this like Westing House, General Electricals and Philips. But we have already started setting up our R & D. We do not wait till we are experienced."

4.8. The representative of a Public Undertakings stated that "actually, when we talk about foreign technology, we have three or four things in our minds—one is, of course, pure technology. In the case of engineering technology—in engineering industries—it consists of designs. Now, there is a certain amount of royalty payment re-

lating to production. If we produce more over a period of years, then, it is possible for us to transfer that to someone else. In the case of process technology it is a know-how or knowledge only. There it includes training and several other things. This is a basic process only.”

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“It is difficult to catch up with that rate of development by starting off R & D Government should also devote some time to see how best the Indian know-how or knowledge that is being developed here can be utilised elsewhere.”

“We must choose the areas. We should say that we shall invest a great deal in this area so as to be self-reliant. The difference between self-reliance and selling the technology outside is nothing at all. We should have only such technology which is good for selling elsewhere. Of course, initially, for ten years or so, we may have the gestations period we may be quite sure that we are getting the best in our own country and so we do not go and buy them from outside.”

4.9. The witness added that:

“there are many cases where we can develop technology. It all relates to planning. Only if we have a reasonably advance notice we can develop our technology in two or three years.”

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“We have to calculate between the economy of the scale, quickness of the realisation and the need for indigenous development.”

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“I would very strongly advocate in process industries the establishment of a very strong chemical process and engineering works which will merely repeat on a small scale and gather the data under the exact conditions under which it is done and also the know-how constraints and gather what is not only to be done but also what is not to be done. What are the limitations within which you can work and what are the limits within which you cannot work.”

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"The current arrangements for import of research equipment are very poor. They take years."

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"They are subject to so many constraints."

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"I would also like to suggest that wherever possible, initially when a company is set up and when we spend a great deal of money, I think it is possible that the Government should treat all these initial expenses purely as grant and in the end it will save vastly more money than what can be the case later on."

4.10. In this regard the Chairman and Managing Director, IDPL, stated that "Technology is a commodity which is fast changing."

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It is necessary that we develop our own technology. The creation of technology is not the work of one individual company. It is the result of the social scientific and industrial environment, because technology does not mean science alone.

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"R&D is very important. It becomes the responsibility, both of the industry and of the scientific institutions." The science of today is going to be the technology of tomorrow."

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"Fortunately enough, science is an open secret. Our countrymen are able to go to the scientific institutions both in the East and in the West. In other countries, the industrialist picks up the scientific invention of today and realises that after 10 years, it would become the technology."

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“Fortunately enough, we are passing through a stage of transition and it is really worth appreciating that some efforts have been made in this regard as far as public sector undertakings are concerned. Most of the public sector units start with R & D efforts, whereas the private sector units do not do so. The nation as a whole has to take certain steps in this regard.”

4.11. The Managing Director IDPL further stated during evidence:

“After all, R&D is a very costly affair; but side by side, we allowed the other people to go in for foreign technology.”

\*\*\*“The expenditure on R&D is a very long term effort. Today we do not earmark any money for it. There is no budgetary allocation for it. The money comes out of the profits and losses of the company. As such, the company will not be able to show results.”

4.12. The witness further added that “as far as our synthetic drugs plant is concerned. I am happy to say that although they gave technology for 15 drugs, our R & D has improved the technology given by the Soviet Union. We have been able to double the capacity of the plant as well as develop technology for another 18 drugs.” “We will come on par with any other foreign drug firm provided we also produce new drugs. We are making an effort in that direction.”

4.13. The Committee enquired about steps taken for rapid absorption of imported technology during the currency of the agreement over the different areas of industry, for establishing research and development facilities to develop self-reliance in the particular field of technology and to ensure effective coordination between the R&D activities of Public and Private sector so that the results are available for the common interests of the country and import of technical know-how is obviated.

4.14. Bharat Heavy Electricals Ltd. has stated that Research and Development for industrial products is both time consuming and costly and as such it is neither practical nor desirable to aim at self-reliance in all products/processes.

4.15. Indian Oil Corporation has stated that it is not necessary to develop each and every process in the country as it will be cheaper

to pay royalties rather than to invest a lot of money in their development specially when the demand for such processes is limited.

Some of the selected Public Undertakings in written information furnished to the Committee after evidence regarding their views on development of Research and Development activities especially in process technology have stated as under:—

4.16. Fertilizer Corporation of India Ltd. while agreeing with this view stated that:

“for absorption and assimilation of the process technology taken from outside, besides its absorption through operation and maintenance of plants based on that process, full assimilation can take place only when facilities have been built within for plant trouble shooting through R&D as well as design and engineering. Another area where indigenous development though research is called for is the adoption of technology to use Indian raw materials and equipment. This can be best done only within the country through research and development.”

4.17. The Engineers India Ltd. has stated that:

“it may not be desirable to aim at self-reliance in all products/processes. For buying of technologies, licence know-how and/or royalty may be involved. As long as the payments to be made for such know-how or royalty are very small compared to the economic cost of the process to the country, it may not be worthwhile developing that technology in India. Mass items which require repetitive use of technology should be developed and self-reliance obtained in them. Similarly, items of strategic importance should be isolated and efforts made for development of indigenous technology in those fields.”

4.18. Indian Petro-Chemicals Corporation Ltd. has stated that:

“It is true that it is not possible to develop processes in all fields indigenously. It will be more advantageous to concentrate efforts on selected areas of high potential for the future, rather than spreading our capabilities thinly over a vast area. This is indeed the philosophy of all large industrial concerns abroad as also of highly industrialized nations.”

**4.19. MECON has stated:**

“In areas where there has been much development in foreign countries and it would be both time consuming and expensive for our country to attempt to reach that stage of development, it would be advisable to import know-how to enable us to reach the stage of development of other countries. Research towards further development could be carried on from this stage.”

**4.20. The NIDC has stated that they subscribe to the view that it would not be correct to adopt the policy of total self-reliance in R&D for products and processes. While indigenous development as against induction from abroad should be preferred, this would depend upon a number of factors including:—**

- (i) The time interval available for the R & D work and the date on which the required technology has to be commercialised;
- (ii) Indigenous ability to carry out such R&D work within the given time frame having regard to available resources;
- (iii) The costs of such R&D effort as compared to the costs of induction; and
- (iv) The apportioning of available R&D capacities to other problems of relatively higher national importance and priority.

**4.21. With regards to the steps taken by Government to develop technology in the field of Petro-chemical industries and other process industries where technological development takes longer time and where rapid developments in the technological fields are taking place in the advanced countries, the Department of Science and Technology in a written note furnished to the Committee have stated that IPCL has set up a R & D laboratory recognised by the Department of Science and Technology. Similarly, Engineers India Limited have also built up consultancy and engineering services in this field. Further steps, if any, would no doubt be taken by the administrative Ministry.**

4.22. The representative of a leading public undertaking dealing with heavy industry stated that "as in the industry we have to depend on certain imported technology for many of our goods because research and development laboratories which should have come up concurrently did not come up. There was a time-lag."

4.23. The witness added that "in the turbogenerator field we have developed enough expertise and skills required for the design and manufacture of this equipment and have a strong Engineering and Development Organisation"

4.24. The witness also stated in this connection that "we know that Czechoslovakia was not very good in boiler making. That was known to the whole world. We proceeded, however, with a firm called SKODA from CSSR and we jointly set up a plant for manufacture of boilers in this country. After four years or so, we achieved a tremendous amount of success and the technology skills that we have developed were as good as anything in the world. "They gave us the initial technology and we are now able to develop it and we have moved away from where we were in the past."

4.26. The witness added that planning for "five years is no good. It may be all right for initiating investment, not for finalising investment. All our project take 6-7 years, when you come to technological development, even 5-6 years or 7 years are not good enough."

4.27. The witness further added that in the areas of petro-chemicals and electronics,

"we must ensure that our research abilities are equal to some of the countries which are better placed in the field of research. We are not doing that. In most of these cases, we are still trying to produce what has been produced five years ago since we do not have enough resources.

The quantum of research required will be very much larger than is justified by commercial consideration. We must find some mechanism."

4.28. The Managing Director, NIDC, in this connection stated that "except for a few exceptions, in most cases where technology has been inducted, very little has been done continuously to upgrade that technology and keep it abreast with the latest requirements. Quite a large proportion of these technologies is today not appropriate to the current circumstances." He added that "it must be enquired and ensured that those who got technology from abroad

absorb the technology and also build on that technology and not let it remain static." Our ability to absorb this technology has risen and what is more important, our ability to judge the technology has also grown."

4.29. The Chairman, MECON in this connection stated that "as far as our R & D are concerned, we had got a larger number of people from abroad. The Steel Sector is not very secretive. We can get the knowledge from the various countries to go round the plants."

There are institutes like the International Iron and Steel Institute which meet every year; we are a member of that Institute. So, we happen to meet most of the large manufacturers in the world and through them we get opportunities to visit their plants and discuss with them. This is how we keep ourselves up-to-date."

4.30. The representative of MECON stated that "for future projects in the field of Alloy and Special Steel, there has been considerable improvement; most of it is being developed by our own people."

4.31. Referring to the SIRON process (West German process for Sponge Iron) the witness stated that "we have no one in our country except the NML which has developed this process now in Andhra which we are watching very closely because a lot of work has been done in the past but from the laboratory you have to translate it to the pilot plant stage and from the pilot plant you have to translate it to commercial operation and this is what is being done today by the Andhra Steel."

4.32. The Chairman, MECON added that "keeping this in view we are in our HSL (R&D) working with Heavy Engineering Corporation to develop a process by using producer gas which is available in HEC for use in their open hearth furnace. Through this gas we are really projecting a plant for this direct reduction. This work we have taken on hand because the solid reductant developed so far has not been fully successful."

4.33. In regard to absorption of imported technology the Chairman and Managing Director of Fertilizer Corporation of India stated that "for absorption of technology it is essential that these should be R&D back-up available in any institution which is buying that technology. In the case of Fertilizers, the FCI has built up R&D facilities in the last few years and a considerable amount of absorption of technology has been possible."

The witness added that "I do not think absorption of technology is something which can be passed on from one organisation to another. It is absorption by human beings who have to work continuously on that."

4.34. The witness added that they have been spending about Rs. 2.5 crores (on Research and Development every year since 1964-65.

4.35. To an enquiry by the Committee whether this was a small amount, the witness replied that:

"it is small when compared with R&D expenditure in other countries. But it is all right. It comes to about 1.8 per cent of our total turn-over. We shall propose to naturally increase this as our turn-over increases."

4.36. The representative of a Public Undertaking has suggested during evidence that "there is some need for consultancy organisation to get back up facilities by bringing in some specialists but at the same time our own people should be trained. Training can be done only during this period, when you are holding this consultancy. It is better that Government gives some facilities for this."

4.37. The witness added in regard to Research and Development stated that:

"Now, the Government is committed to getting everybody carry our research and give encouragement. but, in practice, there are innumerable difficulties.\* \* \* \* \* In the case of research and measuring and other investigative equipment there are bound to be various models which could be used but we need a very high order of sensitivity and accuracy in the measuring equipment. I think we do not at all have and we are asked to go from one country to another and so on. The second point I would make is much more serious\* \* \* \* \* We are now finding it difficult to get leadership in scientific areas amongst the young people".

\* \* \* "We probably have good chemical engineers. In the basic areas such as Chemistry, Physics or Biology, it is extremely difficult to have them and I think this is going to have very lasting and telling negative effect on our ability to build research. " \* \* \*

"When we start a new industry in our organisations, we are not in a position to fund much research and yet where there is no mechanism, we give grant. We put Research Laboratory with Rs. 4 crores but how it will be capitalised, we do not know. I will appeal to the Investment Board since everything remains on paper XXX when facilities are available we, will have to get people. When we do not have these facilities, people will not come."

4.38. During evidence the representatives of various Ministries stated as under:

The Secretary, Department of Economic Affairs and Chairman, Foreign Investment Board stated that "in the area of research and development, and progress in that, I often find it disappointing particularly in the private sector. I feel here that the public sector makes much faster advances than does the private sector where very little investment hitherto has been made in developing R & D cells. We are strict in trying to ensure that when the period for an agreement is over, there are no unnecessary extensions. We try to stop them, and even when we do give some extension, we say that we will give it only for a short time and will not extend it, and that in the meantime R & D facilities must be set up. Of course, the smaller entrepreneurs find it difficult to bear the cost. In these matters we always turn to bodies like the CSIR and we exhort them to develop the technology themselves for purposes of transfer. Perhaps they have some problem of inadequate resources, and they have not been able to do as much as might have been possible if their resources had been larger. Research and Development in an expensive matter. In foreign countries, a very large sum of money is spent on this which perhaps we cannot easily afford."

4.39. To a question by the Committee as to what should the Government do in regard to the private sector having a R & D Division of its own, at least in a group of industries, such as textiles, jute, cotton, engineering chemicals etc. which the private sector is controlling, the witness replied that "some steps in this direction must be taken if we are to be assured of their bona fides that they have done their best without automatically asking for extensions."

Since many of them are small units, a pooling arrangement could be made. Our public sector organisations could try to extend more help particularly to the smaller units, to cottage industries, in terms of the know-how. But, perhaps, one problem is there that processes



are so varied that just one or two organisations will not be able to provide the right answer. Some inducements, some rewards, for people who have done good R & D work could be given. There should be an attempt to bring some similar units together through a cooperative effort. Some use of disincentive could also be made to make it difficult to grant either extensions or new contracts to people who have not given enough evidence that they have done their best in the matter. You cannot ask them to do more than that. But evidence of a good effort would be called for in this regard."

4.40. To a further question by the Committee as to the performance of multi-national corporations in so far as R & D is concerned, the witness replied that "by and large, the performance of these big companies or even companies which are located in more than one country is quite good. These companies are better placed in terms of keeping abreast of latest technology because they find it easier to get the flow of know-how from their own headquarters. I do not know whether every such company's record is equally good. But their performance, I think, is better because it is easier for them to get the latest know-how from their parent organisations who have a lot of money to develop the know-how."

4.41. To a question by the Committee as to what is the thinking of Government for establishing and developing sectoral R & D keeping in view needs of the country and in respect of decentralised technology which can be labour-intensive, the witness replied that the two things are not mutually exclusive and they can go side by side.

"If you take the instance of pharmaceuticals, technology today advances very fast, and if we cut off the stream from outside and rely only on our own advances, we may take along time to reach the point which the other countries have already reached. It would be a waste of effort. So we must keep up the inflow; we must keep those pipes open for getting the latest technology."

There is no reason why, having secured the technology, you should not decentralise and produce in a way suited to your country which will enable the result of that technology which you buy and which may be capital-intensive initially to organize your industry in a way that it produces not only for the city dwellers or the people above a certain income but for everybody. Therefore, these two approaches are not mutually exclusive, but need to be

combined. Your R & D effort has to be combined with the inflow of the latest technology. Then you adopt it, you use it, you expand it, you get the horizontal transfer, so that instead of remaining in small pockets, there is adequate extension to cover a country of this size and population."

4.42. The witness added that proposal to have sectoral R & D units is a good idea.

"if you can have sectoral units which make up for the smallness of many of the concern which do not have large resources to put into R & D effort and if, in this sectoral way, you can keep yourselves open to the winds that blow from outside in terms of technological change, you can achieve that mix which is what you may be looking for."

4.43. The Secretary, Department of Heavy Industry stated that—

"in Heavy Electrical we have gone in for integrate development of technology. So far as BHEL is concerned, we imported technology from various sources (for 120 M.W. sets) and now our intention is to have independent cells in these units to integrate that technology which has been imposed and then evolve a design which is suitable from a long term point of view to meet the requirement, this being for turbine boilers, transformers and the whole complete range.

In Heavy Engineering Corporation we have already set up a design and Development Bureau. I am not talking of basic research, because we do design and development and not research. We have a complement of designers and stage has been reached, when based on know-how from the Soviet Union and other countries, we can develop our equipment. Similarly it is true of MAMC who have a nodal agency for designing for washeries and things like that. There is no dearth of resources, because in the public sector to the extent it is necessary to use resources for this purpose the money is always made available. It is not only the question of financial input, it is the question of having man-power of the right experience with the background to go in for detailed design development work. To get good Design-Engineers, it

is not easy. It is a rare commodity. But we are building up Design Engineering and the financial inputs are made available to the extent these Design Engineers and the Design Operators in the agencies which have been set up can perform at their optimum level.

I would also like to mention about another point about the imported technology—as to whether imported technology is more expensive or whether indigenously developed technology will be cheaper. It should be the responsibility of the indigenous people to improve upon that technology. It is not necessary to start from scratch and build-up technology which is readily available in other country. At the same time we have to have a very strong design and development base here, even to sustain production, leave aside improvement on the imported technology. We may import technology to suit our requirement. We should continue to improve upon it so that we are in a position to export that.

Regarding the nodal institutions for different types of technology, somewhere I found a suggestion where it was stated that we can have one Central organisation. I feel it is impossible to have one Central organisation because spectrum is so wide, so many different types of technologies are involved and it is not possible to have one organisation. But we can have some nodal institutions to do design and development work—HEC for steel plants and BHEL for power generation equipment.”

In the collaboration agreements, we try to insist that the collaborator should give the full details, the design know-how and calculations which go behind the whole design philosophy. Once this is given it is very easy for us to develop the technology from there onwards.

4.44. The Secretary, Department of Industrial Development stated that:

“I think industrial research has to be looked upon at three levels: unit level, industrial level or sector level and national level. Those three are not necessarily mutually exclusive, but complementary in one sense. There are distinctive kinds of research that can best be done at different levels and one should take into account this particular factor. Taking the unit level for example, I think every unit of any significant size must be encouraged,

must even be compelled by appropriate measures to undertake certain kinds of research. There are certain types of research which can best be undertaken nearest the point of production and in a laboratory; for example, improvement of materials, improvement in manufacturing processes testing and so on.....

This kind of research will to some extent flow to others by a process of percolation and we can bring about incentives to make people pass on more readily this information, even if you do not find it possible to compel them. Every undertaking of any size in the public or private sector should undertake research on its own, in its own interest and for its own benefits. Some incentives exist today but some disincentives are also there. The incentives are that some tax concessions are there; some concessions regard to terms of getting a licence for undertaking research on their own are there; they are given some liberal imports of capital equipment, testing equipment and so on. There are also disincentives in the sense that if he had collaboration in the past, we cut that off so that he can himself do all these things.

Considering the general structure of our industry, it is not possible for most of the research to be done at unit level; too many of them are too small to invest money. Therefore, we must have a sectoral approach."

4.45. To an enquiry by the Committee as to what efforts are being made to persuade various private sector industries to utilize the applied technological research that has been developed the representative of Department of Industrial Development replied that:

"In certain fields of sectoral research I pointed out, the communication is very good. The results are being adopted by industry. Of course, there are many areas where the results of laboratory research have not flowed down to private industry as they should have. The DGTD are making efforts to build up a technological bank. They have identified about 200 different items technological perfections have been made. The idea is to evaluate them and see which can be readily adopted by industry by having discussions with the associations of the manufacturers. At the same time, pressure will be applied by way of restriction of imports. Efforts are being made

by the NRDC on the laboratory side and by DGTD from industry side to project the results of research to the industry and make them use these results partly by persuasion and partly by pressure."

4.46. The Committee referred to the Prime Minister's Speech in the Leather Seminar at Madras wherein she said the Technology available with the Central Research Leather Laboratory might be given to even the Small Leather manufacturers and enquired as to what is the positive effort which the Government is doing in this regard.

The Secretary, Department of Industrial Development replied that:

"I think, this is a very good example. The Central Leather Research Laboratory is in very close touch with the industry and they have done a very good deal of research in the field of tanning, etc ., and a good deal of transfer of technology is taking place. Similar effort is being made both to push the industry to adopt the results of research and to see that their results are translated into practice. As a result of historical arrangement, the research activities have not been oriented to the needs of the industry or the needs of the situation. So, sometimes, they discover very good process but in economic terms or in terms of relevance to the industry, at a point of time they may not be able to adopt. Now the entrepreneur says: then, this is still not a completely full-fledged research. Whereas if I import the technology, I can get production in three years." So, there are certain difficulties. By and large we are pushing and the administrative Ministries are increasingly conscious of it."

4.47. The representative of Department of Petroleum stated in this connection that :—

"The development of expertise and capabilities indigenously is something that has been placed as an objective before ourselves. We have been consciously promoting research and development efforts. During the discussions, it was mentioned that attempts should be made to pool the results of research in the private sector as well as in the public sector. Before we go into that stage, there is need really to pool the results of research activities even among various Ministries of the Government, Government

agencies, Government laboratories and so on. This is necessary because we find that till some time back, research and development activities were going on in various Government agencies themselves without much of a correlation; but thanks to the initiative taken by the Department of Science and Technology, we find that this has been set right, at least during the period of the 5th Plan. The S&T component is specifically pressed now and for every sphere of activity, we find that the S&T schemes were listed and the list was really screened by a committee on which we had representatives of the administrative Ministry, the Department of Science and Technology, the CSIR, the DGTD and all others concerned. All the schemes were short-listed and a certain number of schemes were identified for implementation during the 5th Plan period. Subject to the resources constraint, we have been providing funds for the implementation of this research and development activities, or the S&T schemes as we now call them."

4.48. [In regard to R & D the representative of the Department of Petroleum stated I would also mention that the industries have promoted what are known as import substitution incentives. We have promoted a scheme by which if any of the employees can really give an effective import substitution method, they will be adopted and the employee who gives that suggestion is suitably rewarded, both in cash as well as in terms of promotion.

I am mentioning this to show that it is not as if we are always necessarily going in for foreign technology. We are trying to tap whatever local talent is available. If something is not possible within, then, of course, there is no way out except to go in for foreign technology.

Then, while we need not depend on foreign technology for all times to come, would suggest that we should certainly keep the windows open, so that we do not shut ourselves completely to what is happening elsewhere. May be, we can adapt them to suit our local conditions and then we would be able to accelerate our own research and development activities."

4.49. The Secretary, Department of Fertilizers stated in this connection that—

"I would like to second what the representative of Department of Mines said, namely that this is not entirely a

question of money. There is a certain behaviour pattern involved.

I believe that the secret of the great and spectacular success of the West was entirely based on failure, a whole series of failures after which a break through is made.

Sometimes there is a price to be paid for developing indigenous technology, not for all time, but during the interim period there is a possibility that you may have to have a higher cost of production for some years.

We will deliberately produce it at a higher cost and charge higher prices. It would be another step forward in developing indigenous technology."

4.50. The witness added that—

"We have already made massive investment in the national laboratories and they are doing research. The national laboratories are working on laboratory scale development of technology. If you want this technology developed in the national laboratories to be translated into action, there are certain stages from the Laboratory to the pilot plant stage and then its up-scaling to engineering sizes. Now, we talk about the CSIR. Some attention has to be paid to the engineering up-scaling.....

Some of the national laboratories do research and have engaged certain private companies like Dalal, etc. to do engineering up-scaling. They offer, on behalf of the national and international laboratories, guarantee performance. This is a very important thing that a particular step which they have taken should be encouraged"

4.51. The Secretary, Department of Science and Technology stated that—

"All the R & D projects are identified. We see that we are informed about it. We are informed through various departments of the Government sector-wise. We have also many organisations which do sector-wise research. This R & D culture is growing for the last 2 years. This is the appreciation to which we have come.....

We are all working under serious financial constraints which the Finance Secretary has pointed out. The other day I gave you information about R & D expenditure in various sectors of industry. This is 0.6 per cent. It should be at least 1 per cent before the end of the Plan period. A number of organisation in the public and private sectors have set up R&D units. 281 units are registered with the Department of Science and Technology. These are inspected by the Committees of scientific engineers. They have assured us that there are viable R & D in their organisations. These are all different companies. Each company has its own 'in-house' R & D to assimilate the technology, to adapt it to their conditions and for doing innovations in it at a later stage."

4.52. The witness added that—

"According to a Committee's recommendation, there is going to be an R & D cess; if that is imposed, this will take care of those private industries who do not have R & D of their own."

4.53. The witness further stated that—

"There is no agency to collect and assimilate the technology as such because this has to be done by an engineering consultancy firm and the industries which are engaged in such activity....."

We supply information to the R & D projects. I think some firms are taking advantage of that. On that basis, recognition has been given to the R & D project. They are aware of the projects. Coming to the technology, those firms would like to commercialise their technology."

4.54. To an enquiry by the Committee whether cess for R & D is the only answer or something more will be required to be done, the witness replied that—

"If the research is funded by the public exchequer, naturally, the results of the research could be disseminated...."

I do not know if our banking institutions really finance the research by our R&D. On the other hand we have been suggesting that they should take some risk."



4.55. The representative of Department of Mines stated in this connection that—

“It is not so much a question of funds. It is a question of management levels—whether in Government or in public sector or in private sector. As far as my limited experience goes many of the institutions or the companies which we have talked of do keep an R & D organisation partly due to moral pressure—or that of Parliament—but very often they do not use their R & D results. As regards the solution to it I do not think it is completely R & D cess or funds. They will pay the cess and cut back on what they are spending on their own R & D. I do not think knowledge always necessarily grows by over-centralisation. In fact, research and development is a matter of human initiative and you should not over-centralise it. One of the dangers which this Committee should be of is that when you have a centralised organisation how do we always know that it will not become too enamoured of one stream of technology from some where you have to be very careful in regard to that.

Secondly, there is also in this country a danger of gigantism in Indian R & D. I think the real missing link is trust in the man who invests or takes the responsibility for investment in the Indian R & D and *vice versa*.

What happens is that in our present credit system, there is no cover for private investor if he tries some experiment; if he fails he is broken; even if he is able to persuade the banks to give some money, he is not covered. There is an export guarantee scheme if he exports abroad but there is no methods of guaranteeing him, even partly, for the risk in trying Indian R & D but if he imported technology, banks will run after him and give money.”

#### **B. Expenditure on R and D**

4.56. In regard to the percentage of expenditure on Research and Development to the turnover in the field of activity and how does it compare with expenditure in other countries, some of the

selected Public Undertakings in written information furnished to the Committee after evidence have stated as under:—

4.57. Bharat Heavy Electricals Ltd. has stated that their R&D expenditure during 1974-75 is of the order of 0.34 per cent of their turnover.

They have also stated that compared to approximately 3-8 per cent of expenditure on Research and Development by the firms like Siemens, C.E., Combustion Engineering, this is still low.

4.58. Engineers India Ltd. have stated that "approximately 2 per cent of the turn-over of the company is being earmarked for Research and Development activities of E.I.L. unlike manufacturing companies the business fluctuations in consultancy engineering firms are more and it is not correct to plan more than 2 per cent of the turn-over on Research and Development. They have further stated that according to the information available with E.I.L., the amount of expenditure on Research and Development spent by other consultancy organisations is not more than this small percentage.

4.59. The Fertilizer Corporation of India Ltd. have stated that in their case the percentage of expenditure on Research and Development to the turn-over is 1.8 per cent at present. According to information available with FCI, the percentage expenditure in the developed countries on Research and Development is more.

4.60. IPCL has stated that the running expenditure on R&D as a percentage of turn-over of products from the only plant under production is about 0.7 percent. With increase in turn-over, the expenditure on R&D will also correspondingly increase and the percentage is likely to be maintained if not improved upon. It has been further stated that for the same research effort, the ratio of expenditure on R&D to turn-over is less in India than abroad due to higher costs in India though costs of research personnel are much less than those prevailing abroad.

4.61. In regard to the percentage of expenditure on Research and Development to the turn-over in the field of activity the Ministry of Defence have stated in this connection that from amongst the Defence Public Sector Underakings, Hindustan Aeronautics Ltd. (HAL) and Bharat Electronics Ltd. (BEL) have undertaken research and development work on a significant scale and the funds earmarked by them for R&D activities are considered adequate. The budgeted expenditure for R&D in the case of the HAL for the year 1975-76 works out and to 6.4 per cent of the total estimated production for the year while in the case of BEL it works out to about 4.5 per cent. These undertakings also receive sizeable back-up in the R&D field from the Defence Research and Development Organisation.

4.62. The Department of Science and Technology have stated that it has been estimated that the overall expenditure as percentage of sales turnover would be about 0.6 per cent. They have furnished a statement indicating the expenditure on Research and Development on a sectoral basis. (APPENDIX VIII).

4.63. To an enquiry by the Committee as to what efforts are being made for training of personnel in the sphere of applied technology, the Secretary, Department of Industrial Development replied that—

“I do not know whether there is a national programme but in the Cement Research Institute there is a programme by which the Institute deputes persons for this programme. This is usually confined to analysis, and sometimes it includes design also I believe, there is increasingly an appreciation for exchange programmes between industry at the research design level and the research laboratories.”

4.64. The Secretary, Department of Defence Production stated in this connection that:—

“In so far as inter-relationship between the organisations which are under the Research and Development organisation and our manufacturing units are concerned, we try to arrange as close an inter-relationship as possible. After the activities of the laboratories have reached a particular

stage with reference to a particular item, the know-how is transmitted to the manufacturing organisation by an inter-change of personnel. In the first place, the manufacturing organisation by an inter-change of personnel, the manufacturing unit would send their engineers to the laboratories where the development activity is taking place for the purpose of acquiring the technology. They then go back and employ the methods after necessary modification so that production is established in manufacturing. In this process they are helped by results from the R & D personnel who actually develop this item. All this is very important, particularly when you are designing electronics or mechanical equipment. It is only when the research personnel are left to themselves they often come out with solutions which the Engineers cannot translate into workshop procedures. Why try to solve this problem by this type of inter-action.

4.65. To a question by the Committee whether any assessment or exercise has ever been made by the Government for 10 years or 15 years as to whether it would be relatively more advantageous to investing larger sums of money on R & D than spending money by way of import of technology, the representative of Ministry of Finance replied that—

“I am unaware of any studies. All I can say broadly is that so far as complicated technology is concerned, we are at a point where if you start off on your own and reach that technology without buying it, it would more costly.”

“But, having bought the technology, we have not reached the end of the road. We have bought it as a whole component. But now to go through those processes yourself, to learn what were the processes which brought them to this, how you will make the components, how you will develop the metallurgy and how will you design for that purpose—all are correlated. You have to get the technology upto the point this is reached and then you have to see how you can make use of it, how you can reproduce it and how you can adapt it to your R & D effort. All that will come at a later stage.”

4.66. In regard to the question whether any assessment or exercise has been made by Government on longer range say 10 to 15

years of the relative advantages in investing in R & D than importing technology from abroad.

The Department of Science and Technology in a written note furnished to the committee have stated that the investment in R&D over a long period has to be selective. In areas of high investment, a long term investment on R & D is generally desirable so that over a period, the necessary infrastructure for absorbing the imported technology would have been established. This is so also in case where the technological obsolescence is not likely. In areas where technological obsolescence is very high and the demand for products imminent, it is often desirable to import a technology for a limited duration rather than import the item itself.

4.67. In view of the several research programmes which are under investigation in the country and the absorption of technology that is taking place within the industry, it can be expected that several items for which foreign collaboration is permissible now would also get transferred to list-II (Cases where no foreign collaboration is necessary) when self-reliance is reached in these sectors.

### C. Perspective Planning

4.68. In regard to the question whether there is a system of perspective planning (covering a period of say 10 years or so) for the activities to be undertaken by the R&D/P&D Cell, the Design and Consultancy Organisations of some of the selected public undertakings in written information furnished to the Committee after evidence have stated as under.

4.69. Bharat Heavy Electricals Ltd. has stated that work has already been done in drawing up a perspective plan for R&D activities.

4.70. Engineers India Ltd. has stated that they attempted a Five Year plan on R&D to correspond with 5th Five Year Plan.

4.71. Fertilizer Corporation of India Ltd. has stated that "the perspective planning in R&D normally cover a period of phasing over the period of implementation is also furnished."

4.72. NIDC has stated that "With development of the Science and Technology Plan by the National Committee on Science and Technology, a beginning has been made to identify the areas in which R&D effort shall have to be undertaken in the future. What

is now necessary is to keep such a Plan under constant review and to also establish time bound operational plans for each succeeding 3-5 years period. At the same time, it is vitally important for manufacturing establishments to determine their own R&D programmes for the next 5-7 years to take up such R&D work, whether themselves or with the assistance of other establishments. In developing such plans these manufacturing organisations should first institute a detailed study with regard to Market-Pull and Technology-push influences affecting their particular activities."

4.73. I.P.C.L. has stated that research and development activities were started even before the manufacturing units had become ready for production. The main objective behind the establishment of R&D was to absorb the know-how obtained from abroad with a view to ensure the smooth functioning of the plants and to effect improvements where possible. This objective is being achieved.

It is not as yet ready to draw up a long term programme. However, the R&D Centre is already engaged in looking into the ways in which the petrochemical industry can be further developed in the country based on Indian crude obtained from new explorations. In course of time it will be possible to develop a 10 year R&D Plan.

4.74. The Department of Science and Technology have stated that the S&T plan prepared in 1973 has made available for the first time a detailed programme of work in various sectors. Further experience has shown that it is necessary that in addition to a long term perspective plan there is a need for reviewing the S&T plan on a continuing basis.

#### **D. Coordination in Research and Development**

4.75. In regard to coordination between public and private sector organisation, BEML has stated that this could be coordinated by the major user. BHEL have stated that the Development Councils for different industries are trying to ensure coordination. Cooperative R&D has so far had only limited success and is more common in the Textile industry. In the engineering industry, it is yet to gain ground. BHPV has stated that with the establishment of three Research Institutes viz. (i) Chemical Equipment Research Institute (2) Cryogenic Research Institute, it will be possible to achieve effective coordination between the public and private sector and obviate ultimate import of technical know-how.

4.76. HPF has stated that the technology in photographic industry is a closely guarded secret and hence it would not be possible to share the R&D efforts.

4.77. H.M.T: has stated that they are working closely with CMTI:

4.78. IDPL has stated that to obviate the necessity of import of technology from other countries, CDRI has initiated coordination between public and private sector for development of technology of some of the important drugs, which are considered essential for the country. IPCL has stated that they maintain close connections with Government agencies like CSIR, ICAR, ICMR, Atomic Energy, Space Research etc. As the volume of R&D activities in public and private sector is relatively small, they also sponsor research in other institutions for, urgent and quicker results e.g. at National Chemical Laboratory Poona, Department of Chemical Technology, University of Bombay and Indian Institute of Science, Bangalore.

4.79. The Fertilizer Corporation of India in a written note furnished to the Committee regarding coordination in utilising the available technical know-how and absorbing it amount public sector organisations whose manufacturing activities are inter-related, has stated such a coordination is essentially a part of the much larger question of self-reliance, development of indigenous technology and assimilation and adaptation of imported technology in a specific field. The best utilisation of available talent can be secured only through a central leading technical agency for each sector of industry.

4.80. The Central Planning, development, design and engineering organisations, such as, MECON for Steel, BHEL for power, P&D/FEDO for fertilizer, BRAC in atomic energy, EIL in refinery petro-chemicals and CMRDI in coal have initiated a proper R&D back up for for their activities. The main emphasis, objective and strategy behind these organisations have been to pool available indigenous expertise in each field in a central leading organisation and to build up from this base, progressive technological capability and self-reliance in the relevant field. These leading central technical organisations in each sector should be given the responsibility and become the instrument for technological growth of the industry as a whole.

They can develop an appropriate profile of growth of the industry with a proper technological perspective and ensure that the country's limited resources are not dissipated in repetitive or

inappropriate form of import of technology. Their responsibilities should include coordination of utilization of available technical know-how and planned and coordinated growth of technology within the country to conform to the total needs of the industry. For this purpose they have to identify and promote R&D in selected areas, ensure utilisation of indigenous technology where developed, arrange for optional use and assimilation within the country where technology has to be imported.

4.81. In all such cases of utilisation of available technical know-how (imported or indigenous), such a central coordination agency will be in the best position to take a proper appraisal and appropriate recommendation to the Government.

4.82. Where a process know-how is assessed to have repetitive application within the country, the central agency will be in a position to recommend its outright purchase; and organise its proper assimilation in the country, in the form of providing engineering services, equipment design, R&D, for adaptation to suit local conditions.

4.83. Another major function which such a central coordinating agency has to perform is in regard to the 'updating' of technology, judicious selection-and-allocation of competing versions of technologies to planned productive facilities.

4.84. A Central technical coordination agency has to also play a key role for the development of required engineering hardware in the country.

4.85. Each central technical agency may also be able to form out many of the auxiliaries and spares to the medium and small scale industries, and provide them with the necessary expertise, drawings etc. and develop their capabilities.

4.86. A single central, technical agency for each sector of industry, with its own defined sphere of operation is therefore necessary for the consolidation and quick promotion of indigenous technological capability in the country.

4.87. The Steel Authority of India Ltd. in a note after evidence regarding coordination in utilising the available technical know-how, updating it and absorbing it among the Public Sector organi-



sation whose manufacturing activities are inter-connected stated them:—

“Most of the public sector enterprises because of their size, plans for growth and diversification and technological complexity offer substantial opportunities for R&D. A number of parallel activities which includes collaboration and sponsored research have been undertaken in order to help these developmental efforts.

Collaborative work is being arranged so that unnecessary duplication does not occur except in those cases when projects are important and two or more valid approaches can be useful for final result.”

“For each project a potential user plant has been identified. Although such arrangements would take more time and efforts, ultimately the results are more relevant to industrial conditions and implementation can be more rapid.

Availability of technical know-how developed in different steel plants is made known in the operating committees functioning in different areas. Experience gained in a particular plant on the operation side and also the innovations made in respect of processes and products are shared with the other plants.

An Information and Documentation Centre is proposed to be set up for the entire Iron & Steel Industry which besides documenting the available know-how will update them in the light of technological developments abroad and the research work done within the country and disseminate the edited and compiled information to all the interested organisation.”

4.88. The Estimates Committee (1958-59) in their 33rd Report on H.S.L. recommended that for the purpose of technical research on the operational side the desirability of setting up well equipped and organised research establishments in the steel plants or elsewhere might be considered.

4.89. In pursuance of this question of setting up an Iron & Steel Institute both for training of personnel and for research and development was considered. As the response from the private sector steel plants was not encouraging, plans for setting up of a Central

Organisation for Research & Scientific Services under the aegis of H.S.L. was considered. After prolonged discussions and consideration for about a decade a Central Research & Development Organisation took some shape in September, 1972 consisting of a nucleus of seven engineers. The organisation was strengthened to 60 engineers in a period of 3 years. The projects of interest requiring R & D efforts have been identified in different technology areas and concrete proposals were formulated and presented in the form of a draft R & D plan which was discussed with all operating heads of steel plants. The projects included in the draft R & D plan would attempt a step by step approach towards improving the performance standards in different technology areas with a view to bridging the performance gap between Indian and world standards.

4.90. In regard to the question of coordination between the research and development activities of Public Sector and Private Sector, the Chairman, Steel Authority of India during evidence stated that "as far as coordination is concerned, in like areas within publicly owned bodies, be it national laboratories or any other organizations, a certain amount of coordination is desirable. Of course, one can always say, and with justification, that the level of coordination is not as effective in practical terms as is necessitated. This level of coordination could be further raised. But to come to the other end of the spectrum, namely, that there should be formal coordination through a formal Board or a Committee, I personally think, would only stultify the progress because then it becomes a question as to who has the larger pull in these Committee or greater powers in these Committees. It tends to take that turn. That will hard our scientific endeavour."

4.91. The witness added "the best form of coordination will depend on the individuals and the group human effort of the people in various areas. No formal coordination would ensure that better. As I said, it should not be in the shape of formalised committee or board. The witness further added that coordination should be on specific issues, e.g. need for developmental work done on refractories, and not on general issues.

4.92. During evidence a representative of a Consultancy Organisation stated that "so far as the research organisations are concerned, in the matter of research there has to be co-ordination between the industry and research and within the research organizations themselves. So far as the research done by manufacturing organisations themselves is concerned, there is considerable amount of

research being done by industries themselves and by the manufacturing units themselves taking up the problems and finding answers. But co-ordination between manufacturing units over research in the same matter may not be quite possible because that would imply that one manufacturing unit trying to develop a new thing to be ahead of another manufacturing unit will pass on her knowledge to a competitor. But certainly in the field of co-ordination between industry and research, a major step has already been taken when the concept of developing a science and technology plan was evolved. It has moved, to the study of broadly defining the areas for research. I think what is necessary is that the same agency involved in that should now get down to specific programmes with periods stipulated and also stipulate the agencies which should undertake this work rather than have yet another body to sit and co-ordinate."

4.93. The representative of another Public Undertakings stated in this connection that—"It is necessary that the responsibility for technology development is identified with some specific agency which is in the normal commercial industrial area, not only in the pure research area. If it is a pure research agency the work often stops with ideas and early laboratory study experiments. It certainly does not have any time-bound and investment-related programme. At moment, many of our national laboratories are engaged in research work and their research results are certainly made use of. But although there is a national science and technology plan, there is still a lot of work which is not necessarily related to our own planning process. So, I would first of all say that if we are going to have co-ordination in the area of research, it cannot be related to a Five Year Plan. Five Year Plan documents, such as we have for investments and projects, are too short a time span for research co-ordination purposes and we need to indicate on a 10 or 15 years basic some areas for development. If these were available, it would not necessarily cost us a good deal because the early part of research is quite expensive and then we can make the choice.

The Second area of co-ordination is with regard to what one might call development and proving. Here it is the commercial and industrial organisations which and sometimes the engineering consultancy organisations are the prime-mover rather than the laboratories. There may be exceptions. I won't say that there are no exceptions whatever. There may be some laboratory techno-

logy which nobody wants or which nobody has availed of in which case some risk should be taken. But in other cases by and large we are all reasonable. We have enough confidence and one should be able to assess usefulness of that sort of technology and carry to further proving points. Most industrial organisations will be able to risk that money. But that relationship is on an informal basis. I agree informality is very good thing but nevertheless there should be some accountability. National laboratories are going to spend money. Accountability has to be in the form of some strategy development and this is based upon investment programmes that we have in the area of development and proving. In the area of basic and exploratory Applied Research they are independent. Some definition on roles and responsibility is required and I am sure the public sector agencies will all be only too glad to participate in evolving such a thing through, perhaps, the Department of Science and Technology, I believe leading organisation such as Steel Authority have excellent opportunities for research and can aid research and I know they are already doing it by funding research and sponsoring work on a long term basis. I hope other organisations will do so."

4.94. As regards establishing a close link between research and development organisations of major public sector undertakings and Research Institutes like the National Research Development Corporation, Council of Scientific and Industrial Research, etc. to assimilate imported know how and attain self-reliance, the department of Science and Technology in a written note furnished to the committee stated that the public sector undertakings should be associated with the National laboratories in their respective areas of interests during the formulation and execution of the R&D projects. This will ensure a close linkage from the laboratory stage of investigations, through the pilot plant where necessary and eventually lead to a commercial plant|hardware."

4.95. In regard to the suggestion for setting up Development Councils for different industries to ensure coordination between public and private sector for a cooperative research and development effort, the Managing Director, NIDC stated that there are already Development Councils for different industries in which public and private sector participate. Rather than setting up another Development Council. research should be included in their working schedule."

4.96. In this connection some of the selected Public undertakings in written information furnished to the Committee have stated as under:—

Bharat Heavy Electricals Ltd., Indian Petro-chemicals Corporation Ltd., and National Industrial Development Corporation Ltd., have not favoured the idea. Indian Petro-chemicals corporation have added that the alternative would be to entrust research and development in particular field to a "lead organisation" in that field.

4.97. Engineers India Ltd. have favoured the idea subject to working out of satisfactory solution.

4.98. Fertilizer Corporation of India Ltd., have stated that Development Council is in existence for a number of years but so far co-operation in research and development between public and private sectors has not been worked out.

4.99. IPCL has stated that a Council should evolve after the individual units have been in existence for some time and have matured. The Council should:

- (a) be a small advisory body.
- (b) provide inter-action among all public sector R&D units;
- (c) promote interchange of personnel;
- (d) encourage certain common policies and administrative practices;
- (e) take note of certain successful management practices in one area and help in their transfer to other units;
- (f) be in a position to identify new areas of research which the companies can take up jointly; and
- (g) provide a mechanism for co-ordination with CSIR and other research Councils.

In short, the Council should not, by itself engage in the actual conduct of research or with the recruitment of research personnel but will help in the evaluation of major policies and practices on research.

4.100. The Department of Science and Technology have stated that "pursuant to the recommendations made by the National Committee on Science and Technology, a Working Group was set up under the Chairmanship of Dr. S. Vardarajan to suggest measures for organising and promoting R&D in the Public sector units in June, 1974. The report of this Working Group is awaited. The terms of reference of this Working Group include suggestions of measures for establishing meaningful co-operation between Public Sector Enterprises & National Laboratories. The question of setting up the proposed Council for R&D in public sector can be examined after the report of the NCST Working Group is received."

#### E. System of communication of R&D results

4.101. In regard to the system of communication of results of R & D to the various organisations in the field, the Design & Consultancy Organisations of some of the selected public undertakings in written information furnished to the committee after evidence have stated as under.

4.102. BHEL have stated that "the R&D activities related to the established products being taken up at the various Product Engineering Centres. These relate to the product development and improvement based on the analysis of feed back received from the field as well as market information and other technological information gathered through systematic efforts.

Basic research work relating to a number of products are to be undertaken by the Corporate R&D Division who will establish Research facilities in various fields. The various product development groups would use the Corporate R&D facilities to the extent necessary.

For the development of totally new products, based on long term perspective plan as well as market data, a separate division has been formed. A central documentation centre is being organised to disseminate the relevant information to all concerned in the company.

The co-ordination of the company R&D activities is done by a Corporate Engineering Committee."

4.103. Engineers India Ltd. has stated that "results of R&D, wherever they are of a proprietary or secret nature, are retained by the organisation, the broad findings are, however, published in leading

journals. Other public sector undertakings, however, could be given some access to the findings of the R&D.

4.104. Fertilizer Corporation of India Ltd. have stated that the technical services department of each operating unit and the P&D Division form the commercial channel for reporting the results.

4.105.. MECON have stated that R&D is a part of steel Authority of India and the results of R&D are made available to all units of SAIL."

4.106. National Industrial Development Corporation Ltd. have stated that "unless these activities duly developed are completed; the results of laboratory research really do not have much meaning and, to that extent possible, public declaration of laboratory research results should be avoided.

Since undertaking of tool designs and establishing the exact processes of manufacture of engineering products is not normally a part of activities of a research laboratory, such activities should either be undertaken by consulting engineers or by manufacturing establishments. This would therefore imply a much closer liaison and cooperation than hitherto between the research laboratories on the one hand and consultancy organisations and manufacturing establishments on the other."

4.107. The Indian Petro-chemical Corporation has stated that "the results of R&D are communicated to the various departments within the organisation, through cyclostyled internal reports, notes, informal discussions, etc. If the results are felt to be of wider interest to other Public Sector Undertakings or private industries, then they could be sent to them as well, provided they do not come in conflict with our commercial interest. For results of wider scientific and technical interests, we resort to the normal communication Channel of publication in scientific journals. Patenting is also resorted to where our findings have to be protected legally, but the patent literature is also a source of communication to the outside world."

4.108. The Department of Science and Technology have stated that industry would themselves use the results of the investigations. It is only in a few cases that in house R&D results would be offered for commercial utilization by the another industry. The R&D

results from the national laboratories are generally made available through the National Research Development Corporation for commercialisation through public and private sector industrial establishments.

4.109. The Committee note that Government while agreeing to any proposal for foreign collaboration invariably imposes a condition that the Indian party would during the currency of the agreement take necessary steps to set up their own R&D so that the imported technology is fully absorbed and continued dependence on foreign collaboration is not necessary beyond the period of agreement. From the analysis of the replies furnished by 53 public undertakings the Committee find that 26 undertakings have set up R&D units in their enterprises, while some undertakings have started setting up their R&D. It has been stated that there has been a time lag between the date of collaboration and the setting up of R&D units and this is one of the reasons for the delay in the absorption of technology. The Committee need hardly stress that the Research and Development units should be an integral part of the project under collaboration and Government should have monitored the progress in setting up the R&D facilities since the date of approval of the collaboration so that the time lag in this respect could have been avoided and necessity for extension of collaboration on this score obviated. The Committee would like that Board of Management and the administrative Ministries should keep a close and continuous watch on the progress of setting up of R&D units for absorption indigenisation of technology and to ensure that the foreign collaborator is discharging his duties and responsibilities in terms of the collaboration agreement in this regard so that suitable remedial measures are taken in time. The Committee would also like that the R&D units set up at the undertakings level should be closely associated with the actual production, improvement in manufacturing processes, improvement of materials, cost reduction etc. and should be in a position to find solutions to technological constraints coming in the way of achieving the designed output.

4.110. Where it is found to be neither feasible nor economical to have R&D units in certain undertakings, it should be ensured that a close liaison is maintained with undertakings in the same sector and/or engaged in similar manufacturing activities and a pooling arrangement may be made or alternatively such units may be attached to other research institutions as may be found feasible and advantageous.



4.111. The Committee also recommend that there should be a regular system of feed back from the field as well as the market and other technological information on the basis of which product| process development/|improvement may be taken up in the R&D units.

4.112. The Committee are informed that considering the general structure it has not been possible for most of the research problems to be tackled at the unit level and many undertakings are too small to make huge investments in technological research and development and therefore a sectoral approach would be necessary. The Committee have already suggested nomination of leading Public Undertakings or a nodal agency for purposes of screening and evaluation of technology at sectoral level. The Committee feel that the lead agency could take care of the problems of absorption and development of technology at the sectoral level. There should be close coordination between the R&D units of industries in the same sector for example, Heavy Engineering Corporation and MAMC, Fertilizer Corporation of India and FACT etc. etc. The Committee expect that these should cover amongst themselves the entire field of research and development and technological improvements in that sector to avoid any duplication in this regard. In this connection the Committee would like to invite attention to their recommendation in paragraph 6.24 of their 80th Report (1975-76) on Hindustan Antibiotics Ltd. to the effect that there should be a system of coordination between the two public sector units (HAL & IDPL) so that one could benefit from the achievement of the other in larger national interest.

The Committee would also like that there should be a close liaison amongst public undertakings within a particular sector of the industry for dissemination of knowledge acquired through the R&D efforts.

4.113. The Committee note that certain public undertakings are working in close coordination with CSIR organisations like National Chemical Laboratory, Central Glass Research Institute, Central Mining Research Institute, Indian Institute of Petroleum etc. BALCO has stated that it is proposed to set up a R&D Centre for aluminium at the National level under the aegis of CSIR. In regard to Cochin Shipyard, Garden Reach Workshops, the question of setting up a Central Marine Design and Research organisation is stated to be under consideration.

4.114. The Committee are informed that at present coordination between Public Sector and Private Sector in the matter of research

and development or between Public Sector units and national research organisations is being achieved through Development councils for different industries, cooperative R&D efforts in the case of textile industry, Central Drug Research Institute in the case of drug industry; CMTI in the case of HMT; National organisations like CSIR; ICAR; ICMR; Atomic Energy; Space Research, National Chemical Laboratory, Institute of Sciences etc.. in the case of IPCL Planning and Development and FEDO in the case of fertilizers, etc. FCI however, feels that coordination in R&D is essentially a part of the major question of self-reliance, development of indigenous technology, and assimilation and adaptation of imported technology and therefore, the leading central organisations in each sector already suggested should be given the responsibility in this regard. The Steel Authority of India has stated that the coordination is maintained through operating committees functioning in different areas. An Information and Documentation Centre is also proposed to be set up for Iron and Steel industry. Although according to Chairman, SAIL, a certain amount of coordination is desirable, it should be on specific issues and no formal coordination through Board or Committees may be necessary.

4.115. The Committee are given to understand that though Development Councils for different industries have been in existence for a number of years progress in the matter of coordination R&D has not been significant. The Committee are informed that pursuant to the recommendations of National Commission on Science and Technology, a working group under the Chairmanship of Dr. S. Varadarajan was set up in June, 1974 to suggest measures for organising and providing Research and Development in public sector. The terms of reference include suggestions of measures for establishing meaningful coordination between public sector enterprises and National laboratories. It has been stated that the question of setting up a council for Research & Development in Public Sector would be examined after the Report of the working group is received. The Committee would like that the working group should expedite its report. The Committee would also like to be informed of the recommendations of the Working group and also action taken in pursuance thereof."

4.116. The Committee recommend that research undertaken by the National Laboratories should have close relation to the needs of industry so that National Laboratories may see greater purpose and

pressure in producing viable results and the process of know-how transfer is facilitated. In this connection the Committee would like to commend the example of the Department of Atomic Energy which has been successful in making fruitful use of the results of research in their Industry and the efforts made by SAIL in bringing about such coordination in the Steel Industry. The Committee would like to judge the efforts of coordination at the National level by the actual results by way of attaining self-reliance in settling technological problems in industries and in the assistance in the expansion programmes.

4.117. The Committee feel that R&D has a crucial role to play with more emphasis on development and the whole thrust should be on upgrading the technological expertise of the industrial units.

4.118. The Committee also recommend that there should be regular programmes of exchange of personnel between the industry and research institutions as is being reported to be done in the case of Defence undertakings and Defence research institutions and Cement Industry and Cement Research Institute. This will enable an appreciation of the utilisation of the results of research in the undertakings and facilitate the research institutions to adapt their programmes to the needs of the industry.

4.119. The Committee would also like that a study may be undertaken to assess the relative advantage of investment in R&D on a long term basis instead of importing technology from abroad at high costs.

4.120. In this connection the Committee would like to cite the instance of Japan where R&D has been given the highest importance on account of which Japan has not only been able to indigenise the technology but also to improve and upgrade the know-how to improve the products and make their technology exportable.

4.121. The Committee are informed by the representative of Department of Science and Technology that the overall expenditure on R&D in the public sector as a percentage of turnover is only about 0.6 per cent and it is expected to be about 1 per cent by the end of the Fifth Plan. It has been stated that in the Heavy Electricals, the expenditure has been of the order of 34 per cent, the Engineers, India about 2 per cent of turnover in the FCI about 1.8 per cent in IPCL 0.7 per cent, 6.4 per cent in HAL and 4.5 per cent in BEL. The Committee understand that the ratio of R&D

expenditure to turnover is very low in India. Some of the undertakings have stated that there are no specific allocations for R&D by Government and the present expenditure has to be met from the profit and loss accounts of the undertakings. The Committee agree that the Research and Development activities can be done in a meaningful manner if adequate finances are provided. They feel that a stage has now come where it should be possible for the industries themselves to mobilise the necessary resources for their R&D efforts in the overall national interest. The Committee would like Government to ensure that adequate funds say 3 to 5 per cent of the turnover are allocated for research and developments. The Committee have no doubt that if R&D activities are undertaken with determination and dedication, they would pay back manifold.

4.122. The Committee are informed that though the science and technology plan prepared in 1973 has made available for the first time a detailed programme of work in various sectors further experience has shown that it is necessary to have a perspective planning for R&D. The Committee find that certain undertaking like BHEL, FCI have a perspective plan for their research schemes. the EIL has attempted a five year plan corresponding to the fifth five year plan. The Committee feel that Government should draw up a perspective plan say for 10 to 15 years for R&D which should be inter-related to the particular industrial sectoral units

4.123. The Committee understand that a beginning has been made by the Commission on Science and Technology to identify the areas in which R&D may be undertaken in the future and what is necessary is to establish time-bound operational programmes for each succeeding 3 to 5 years period. The Committee would like that there should be close coordination between the Industries and the Research Laboratories at National level so that programmes are drawn up in consultation with the industrial units. Priority should be given by the national laboratories to problems actually faced by the industries rather than to problems of academic interest. The Committee would also like that the programmes to be undertaken should be time-bound and with specific budget allotments therefor.

4.124. The Committee also recommend that an overall review of the Research and Development at the National level with reference to the goals and the financial targets set therefor, should be conducted at quarterly intervals by a coordinating Committee consisting of the DGT, Department of Science and Technology, the

representatives of the industries the BPE, Ministry of Finance, and Chief of the Administrative Ministry concerned and meaningful follow-up action taken as a result of such reviews.

4.125. The Committee note that in multi-unit Public Undertakings like BHEL, FCI, MECON, there is a regular system of communication of results of Research and Development within the different units of the organisation and each unit benefits from the experience of the other sister units. EIL publishes broad findings of their R&D efforts in leading journals. IPCL also does so in the case of results of wider scientific and technical interests. Patenting is also resorted to where the findings have to be protected legally, and the patent literature is also a source of communication. NIDC is however of the view that "unless these activities duly developed are completed, the results of laboratory research really do not have much meaning and, to that extent, public declaration of laboratory research results should be avoided." The Department of Science and Technology has stated that the Research and Development results from the National Laboratories are generally made available through NRDC for commercialisation through public and private sector industrial establishments.

4.126. The Committee are informed that though in certain sectors the communication between the National Laboratories and the industry is good, there are many areas where the results of laboratory have not percolated to the industry. It has been stated that efforts are being made by the NRDC on the laboratory side and the DGTD from the industry side to project the results of Research to Laboratory.

4.127. The Committee feel that there should be a system of communication of the results of research which are of wider interest to all the Public Undertakings and to the industry provided such dissemination of information does not come in conflict with the larger interests of the Public Sector.

4.128. The Committee would also like Government to examine the question of instituting suitable awards/incentives for outstanding achievements/contribution in the field of research and development.

## CHAPTER V

### HORIZONTAL TRANSFER OF TECHNOLOGY

#### A. Horizontal Transfer of Technology

5.1. Government invariably imposes a condition in all foreign collaboration approvals to the effect that the Indian company shall be free to sub-license the technical know-how|product design|engineering design under the agreement to another Indian party, should it become necessary. The terms of sub-licensing would, however, be as mutually agreed to by all the parties concerned including the foreign collaborator and would be subject to the approval of Government.

5.2. During evidence the representatives of Public Undertakings stated as under:—

The representative of IOC stated that:

“in order to develop technology, particularly in the field of chemicals and more particularly in petro-chemicals, Government decided to induct the Engineers India Ltd., the idea being that this organisation will work along with the French and Romanian Collaborators so that the future refineries can be built by Engineers India Ltd. With that purpose in view, we started, for the first time, the induction of Engineers India Ltd. into the refinery and we have also taken certain process licences for the Indian Institute of Petroleum. So, we started this way and we find that the transfer of technology to our Indian collaborators like the EIL has been successful. We later entrusted the entire design Engineering, construction of Gujarat Refinery expansion to the Engineers India Ltd. Therefore, on this point, we may say that the horizontal transfer of technology has been successful.”

The witness also stated that :

“no limitation is placed by our foreign collaborators on making available the know-how and technology to any other party in India.”

There are certain patented processes in the chemical field and in regard to these patented processes, there is a factor involved that—you cannot apply it to any other refinery even in the country without paying some royalty.

But there are also certain processes which are not patented in regard to which there is no bar on duplicating the knowledge which has already been gained in this field. So, I would like to divide this into two categories. One is the patented process where royalty comes into the picture, while in certain cases the royalty goes down, when we duplicate it or triplicate it."

The witness added that:

"In the case of know-how, there is no bar to transferring the know-how to another \* \* \* \*. But in the case of processed patented right, there is a bar. There we cannot transfer the same to anyone else. But, we can do that only with their consent at probably reduced cost. If we go on multiplying the processes in India, then we can do that with their consent only at reduced costs."

5.3. The representative of Hindustan Photo-Films Manufacturing Co. Ltd. stated:

"Our views are that horizontal transfer of technology should be encouraged and that the constraints would be overcome by updating the existing technology and by giving full co-operation to new entrepreneurs."

5.4. The representative of Instrumentation Ltd. stated that their collaborators (West Germany) had no objection to the transfer of technology to another party in India.

The witness added that:

"We had also another clause that they will not give technology to any other party in this country and they have agreed to it. I think this should be there, for, why should the country pay twice for the same technology? In my opinion, when we talk of horizontal transfer, it should be between the public sector and the private sector.\* \* \* \* \*If any technology is given to the private sector, the Government should have the authority to transfer it to any public sector or Government agency because we would unnecessary be paying more than once for the technology if we don't have this safeguard."

5.5. The representative of IDPL stated:

"They (collaborators) do not put a certain limitation that there cannot be a horizontal transfer because the money

they get is pro rata on the quantum of production, say, four per cent of the value of production. Still we have been able to persuade the foreign parties. Now we have entered into an agreement with one of the American concerns and our agreements had been that, if they transfer the technology to any other party in India, the IDPL be entitled to ten per cent of the royalty, whatever they will receive, and till the plant goes into production whatever they will produce and sell to the other parties, the IDPL will get five per cent. commission on the imported bulk to be supplied by the collaborator to the sub-licencee.

5.6. The representative of Fertilizer Corporation of India stated:

“We have assimilated in many cases the technologies and also successfully transferred the technologies with the Corporation as well as, to a limited extent outside the Corporation also. \* \* \* \* \* Our agreements with process licensors are non-exclusive because they insist that they should be paid for each new plant that is to be built. In the case of FCI, within the Corporation, we have been able to get reduced fees from plant to plant so that for subsequent plants we pay much less fee.”  
\* \* \* \* \* The transfer or assimilation can take place only if the establishment has built its own, even in a limited manner, an engineering and R&D Organisation. If they have developed that an assimilated the technology, then it stands to reason that that technology will not be static and they will be updating the technology all the time, and updating is possible only if they have assimilated the basics of technology. If that type of technology exists in any establishment, Government should make it obligatory to transfer that, in other words, that is the one which should be transferred to the new entrepreneurs rather than allowing them to buy technology from outside.”

The witness added that when we talk of transfer “the transfer of technology will be possible only when we develop our own technology.”

5.7. The representative of BHEL stated:

“It is desirable and necessary to insist that horizontal transfer of technology should be permissible. We, in the Bharat Heavy Electricals, in almost all the agreements,



have insisted and got this concession. We have also, in the past few years, within our organization itself, made a horizontal transfer of technologies between Hardwar, Bhopal and Hyderabad. We are also considering sub-licensing to private parties. When you talk of horizontal transfer of technology, it means sub-licensing to another party in the country, and that is not possible unless the organisation which takes the original licence, has enough expertise to transfer this technology." \* \* \* \*  
 But merely having it in the licence agreement that horizontal transfer is permissible is not actually going to be of any effort unless the organisations in India build up sufficient capability to transfer it. Here again, it is only the large organizations which have built up sufficient engineering and managerial capability that can advantageously take this to actual reality.

In each sector you must nominate a lead agency, that is, the agency which, on account of its research, development and managerial strength, is occupying a pre-eminent position in that particular field, should be nominated for absorbing this technology and transferring it laterally to other parties in India."

5.8. The representative of Bharat Earth Movers Ltd. (BEML) stated:

"I generally agree with the principles enunciated, but I would submit that this is applicable mainly to processing industries and not to industries like ours" \* \* \* \*  
 We get the collaboration for technical know-how for a short period and after that period is over, we can pass on the know-how. This condition is not essential. All our agreements have a provision for passing on the knowhow to sub-contractors, subsidiaries etc. which we do in a large way. For example, we buy about 50 per cent of our parts from various parties of India and there is no objection from the collaborators to pass on the know-how to them. We do so after including a secrecy clause."

The witness further stated that:

"In any process industry with which we have entered into an agreement and where patent right is involved, normally, that does not permit the horizontal transfer of technology."

5.9. The representative of Bharat Ophthalmic Glass Co. Ltd., stated:

"I entirely agree that horizontal transfer of technology should be allowed. As far as BOGL is concerned, we have no such problem and we can pass on the technology to anybody else. The only thing is that as soon as we take the technology, we should establish very good research and development centres and a central agency where these processes can be studied and modified according to our conditions and the technology could be transferred."

5.10. The representative of BALCO stated :

"We feel that This transfer of technology is not just transferring something on a plate but has to be done through our boys gathering the experience. And I am glad to inform you that our engineers have done a very good job. In their discussions with the Soviets, they have made suggestions for improvement. In analysing the things they learnt the process technology."

The witness added 'In so far as Ratangiri is concerned, that technology was transferred to us without any restriction. We can use it—any other State agency can do so."

5.11. The representative of Lubrizol (1) Ltd, stated :

"So far as my organization is concerned, the collaboration does not permit horizontal transfer of technology. There are certain sectors particularly where it is processing technology. Horizontal transfer of know-how can have advantages which are limited by the time. These are constantly evolving processes. Processes are being improved. New products are being brought into market and the technology acquired as a result of one collaboration agreement would stagnate at that point of time. Even when you transfer this horizontally, you would have gained only a limited advantage, because at that time there would have been further improvements as regards processes and products. But certainly as a general rule, a provision for horizontal transfer of know how and technology is very helpful."

The witness added that:

“If they (the Collaborators) agree to the horizontal transfer of know-how, they can never be sure that that know-how will not find its way to their rivals in the international markets. This is one of the constraints to their agreeing to the horizontal transfer of technology. \* \* \* \* \* When we talk of transfer of know-how it is always better to create a pool of knowledge than merely a pocket of knowledge, a national agency which should be in a nature of a store house of such knowledge should be associated to absorb this know-how rather than restricting it to that particular undertaking which is availing of that collaboration and that technology.”

The witness further stated, “Instead of having the transfer at the initial stages and when it is being utilized, if we have a national agency, it can acquire the know-how and it will be a pool from which everybody can draw. It will better, instead of the technology going to a particular public sector undertaking.”

5.12. The representative of yet another undertaking stated:

“The technology transfer consists of several steps, the basic process package, the basic engineering, the detailed engineering, procurement services, the construction services including provision of utilities, safety standards and so on.”

\* \* \*

We have now gone further for the first time and to have a truly developed technology and production entirely from Indian resources we have instituted specific research programmes both within the corporation and using national laboratories where the total process is being developed and we are converting this process into a pilot plant, into basic process package and engineering technology and we will be investing approximately Rs. 15—20 crores in plants of these types and technology. Now, we believe this is going to be more and more the pattern.”

\* \* \*

Unless the organisation also puts in a very substantial investment in R&D, it is unlikely to assimilate it and improve upon it.”

The witness added that:

“I am not in favour of giving this role to Government agency which is not dealing day-to-day with the manufacturing plants. A centralised agency, however central it may be at the beginning, will soon die if it is not also forced to enter into economic viable contracts for improving on whatever they have assimilated. If it is a small central Government Department, papers will be passed on, but papers do not transfer technology; people transfer it. This technology is based on quality, contents and the experience of concerned people.”

I support what the representative of BHEL has said that we should have a lead agency in each of these fields and if we wish to be successful in these agencies, I would support that these agencies be made virtually the sole buyer of technology irrespective of whom it goes to.”

The witness added that:

“In the processing industry it is not possible to give the licensee the freedom to manufacture any quality or transfer that technology without limitation. It is also related to patent system. The processing licence depends on two aspects—patent system and know-how system. If there is no patent, one can walk off with the know-how and manufacture the product.”

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“We have, in some cases, been successful in obtaining an agreement with our process licensors which will allow us to cooperate with them in sub-licensing the same to anybody else.”

5.13. To a question by the Committee whether clause regarding sub-licensing to 3rd parties uniformly and consistently incorporated and whether inclusion of such a clause is essential, some of the Public Undertakings in written information furnished to the Committee after evidence have stated as under:

“While BHPV, BOGL, HEC, HMT, HPF, IDPL, Instrumentation Ltd., and MAMCO are in favour of inclusion of such a clause as it will be in a larger interests of the country BALCO have stated that it may depend on merit of each case. FCI has stated it is really not necessary to incorporate such a clause since all such sub-licensing has to be with the approval of the foreign collaborator and on

the basis of terms and conditions to be mutually agreed upon by all the parties. IOC has stated that this is not a general practice in Standard agreements. IPCL has stated that foreign collaborators usually resist the inclusion of such a clause in the collaboration agreements."

5.14. To a question by the Committee whether there have been any cases where the public sector has sub-licensed the know-how to the private sector units, public undertakings--BALCO, BEML, BEPV, BOGL, FCI, HEC, HMT, HPF, IDPL, IOC, IPCL, IRE, Instrumentation Ltd., Lubrizol (I) Ltd. and MAMCO in written information furnished to the Committee have stated that there have been no instances of Sub-licensing to private sector. BHEL has, however stated that they have received certain requests which were under examination.

5.15. The Managing Director, NIDC stated during evidence that:

"as the Chairman of SAIL has pointed out and quite valid by too, there may be occasions when for very definite reasons, the organisation which owns that particular knowledge may not find it possible to part with the knowledge but there may also be equal opportunities when it will be quite easy to pass it on more so within the public sector or for projects of national importance. So, one suggestion I would make is that if some organizations feel that it should seek external assistance, it should first inquire from other engineering or specialist organizations in the country whether they are in a position to help or not. So, it is not only merely to ask for it but it is also important whether the other person is willing to give help or not. It is normal experience particularly where horizontal transfer of technology is concerned—that owners of technology in India, particularly, manufacturing units are averse to the idea of transferring it to another Indian Company because they have the mistaken idea that they are helping a competitor to come into the business. This idea whether it is consultants or manufacturers must be stopped. They must inculcate the idea that the competitor will come in any case whether with your help or with foreigner's help."

5.16. To a question by the Committee that if somebody in the private sector in India wants to go in for the same type of product should whether it not be made obligatory on the private sector people in India that they should have the collaboration from the pub-

lic sector in India rather than with the foreign collaborator and they should not waste the valuable foreign exchange, the representative of Ministry of Defence, Department of Defence Production replied that:

“this would apply if the public sector had developed its own technology and had adapted the technology and had concluded a valid agreement and was thereafter in a position to transfer that technology. In the case which was mentioned, the Bharat Earth Movers had not developed their own technology; they were under contract with one or the other of the foreign firms; it is still in the process. While it has got obligations under that contract, it is not in a position to transfer that technology to a third party, private or public.”

5.17. The representative of Department of Industrial Development in this connection stated that—

“I should like to emphasise the point made by the representative of Ministry of Defence. If there is a company, whether public sector or private sector, which has as a result of its own efforts or as a result of having absorbed foreign technology is in a position to give that technology to others, then it is in one category. But this will not be permitted whether in the public sector or private sector so long as the company is still learning and absorbing it. The second unit or the third unit has still to depend on foreign technology and the only possibility is a direct one or indirect one. But where the unit has absorbed the technology, we do not allow imports.”

5.18. The representative of Department of Heavy Industry added that—

“unless a particular unit has fully absorbed the technology, whether it is a public sector, unit or a private sector unit, it is not possible to embark on horizontal transfer of technology; that is a basic point which we have to accept. Secondly, as representative of Department of Industrial Development has pointed out, I do not think it means very much more outgo of foreign exchange because in the case of indigenous production also, royalty has to be paid, whether it is produced in one factory or another. We have made a suggestion on the horizontal transfer of technology in two or three different areas.

In the case of scooters, we have got imported plant and technology. Now, we have agreed to transfer the technology to 7 or 8 State Industrial Development Corporations. Some of these units are in the joint sector also

But with regard to watch we want to transfer the technology to the various State Corporations. The basic fact remains that unless technology is fully absorbed by a manufacturing unit, it is no use transferring the same to other manufacturing units."

5.19. The representative of Department of Economic Affairs and Foreign Investment Board stated that—

"Regarding the question whether legislation could not be introduced to force any Indian unit which has a particular technology to part with it, even if you do that, in effect you are asking the unit to set up a competitor. So, there still remains the question of how genuine and effective the transfer of technology would be. Certainly this is a matter which is under consideration, but it is not as simple as it seems. Other types of problems would arise. The representative of Department of Industrial Development, referred to the possibility of a large company virtually holding to ransom the smaller units in the industry. As that point of time, it may be better to inject an element of competition even through import of technology in the same area."

\* \* \*

Even if we force the company to part with it, we will have to see whether the effect is what we want it to be. It is not a question of going in for free competition in the classical sense but to prevent exercise of monopoly power."

5.20. The Secretary, Department of Economic Affairs and Chairman, Foreign Investment Board in this connection stated that—

"In the matter of horizontal transfer of technology, we find that much has not been possible in this area. There is a horizontal transfer in terms of main units transferring to ancillary units.

There is some transfer which we do not know enough, particularly in the public sector. Since it is an area of repetitiveness, people, I think, are very willing to effect it,

which means that occasionally in the interest of adequate production, sometimes, there is a degree of repetitiveness. But we have to keep that under control to the greatest extent possible.”

\* \* \* \* \*

Your R&D effort has to be combine with the inflow of the latest technology. Then you adopt it, you expand it, you get the horizontal transfer, so that instead of remaining in small pockets, there is adequate extension to cover a country of this size and population.”

5.21. The representative of Department of Heavy Industry stated that—

“There should not be any question of importing technology for 500 M.W. boilers in the private sector units. If they want to go in for the manufacture of the boilers, they will have to get the technology from BHEL. There is a good case for the horizontal transfer of technology. We in the public sector have tried to develop this concept of horizontal transfer of technology. It has emerged in the private sector to a limited extent. Scooters India Limited has got technology for scooters from Italy. That is being transferred to 8 or 9 State Industrial Development Corporations. For tractors it is being done by HMT. We have also to do it for watches. We have tried it with private sector, but, except for 1 or 2 cases there is resistance here. One of the reasons is, they do not want competitor to come up. It is of course a misconceived idea. We do not have an adequate technological base or design or development base, with the result, we cannot absorb the technology which is imported to the extent that we can pass it on.”

5.22. Ministry of Industrial Development have stated that no limitation is placed on the foreign collaborator making available the same know how or slightly advanced technology to another party in India. Any such application would, however, have to obtain Government's prior approval according to the normal procedure. Twenty one undertakings have stated that making available by the collaborator the same know-how or slightly advanced technology to another party in India is barred by the provision in the collaboration agreements conferring exclusive rights on the Licence. In the case of Bokaro, Bhilai and CMA, transfer to other Indian party is barred because of these agreements being Inter-Governmental In the case of fifteen undertakings no limitation has been imposed



on the collaborator in the provision of the collaboration agreement in making available the same know-how or slightly improved know-how to another party in India. In the case of Hindustan Organic Chemicals while no limitation has been imposed on the collaborator, the plant supplier (collaborator) has to pay to HOC 25 per cent of the know-how engineering fees received by the collaborator from other Indian firms, in case of supply.

5.23. In the case of BOGL, Hindustan Insecticides (DDT Agreement) and HSL (Alloy Steel Plant) there was no specific provision in the agreements for passing on improvements effected in the technical know-how by the collaborator during the currency of the agreements. They have expressed the view that it is not possible for the foreign collaborators to make available the same know-how or slightly advanced technology to another party in India, as every proposal is scrutinised by the Foreign Investment Board.

In the case of collaboration agreements of BEML the agreements stipulate exclusive right to these undertakings which do not provide for any further licencing of an advanced technology to other party in India, MAMCO has stated that absence of such a provision in the collaborations agreement is not conducive to the interest of the Indian party but there may not be uniformity of the same clause in different collaboration agreements as uniform stipulation may not be acceptable to all collaborators. BHEL has stated that it tries to get exclusive rights. However, in certain cases the collaborators refused to agree to this. FCI are not aware that it is not possible for the foreign collaborator to make available the same know-how or slightly advanced technology to another party in India. On the contrary, FCI are aware of the same proven technology being given to different parties by the foreign collaborators. In so far as FCI is concerned, a stipulation for passing on the improvement made by one party to the other, is incorporated in the contracts. If, however, the improvements made by either party is of patentable nature, then the same is to be passed on to the other party on the terms and conditions to be mutually agreed upon.

5.24. In the case of agreement of Cochin Shipyard no limitation regarding transfer of know-how/improved know-how to other Indian Party was imposed on the collaborator as such situation was not anticipated.

5.25. The representative of Lubrizol (I) Ltd. during evidence stated:—

“All collaboration agreements are cleared by the Government of India and to that extent, it should be very easy for that

centralised agency to ensure that the same collaborator does not part with the same technology to more than one party in India.

“It would be worthwhile keeping in view whether the public sector should operate exclusively in a sheltered fashion that is, almost as if it should be the sole person in that field or would the public sector be always on its toes if it is provided with some competition through the private sector? If it is felt that it would add to the efficiency of the public sector by making it operate in a competitive field, then there should be no objection to a foreign collaborator being permitted to give the same technology to another party within the country.”

5.26. To an enquiry by the Committee whether a foreign firm who has got collaboration with any public sector undertaking should not be prevented from entering into collaboration with any private sector for the same product or technology, the representative of IOC replied:—

“I do not think I can agree on this point”

## **B. PATENTED PROCESSES AND PATENT RIGHTS**

5.27. To a question by the Committee whether government have considered inclusion of provision in all collaboration agreements for transfer of technology and know-how especially in patented processes to any other Indian company either in the public or private sector.

The Department of Industrial Development have stated that in the approvals issued for foreign collaborations the standard clauses which are now invariably included are as follows:—

- (i) The Indian Company should be free to sub-licence the technical know-how product design engineering design under the agreement to another Indian party, should it become necessary. The terms of such sub-licensing will, however, be as mutually agreed to by all parties concerned including the foreign collaborators and will be subject to the approval of Government.
- (ii) In case the item of manufacture is one which is patented in India, the payment of royalty/lumpsum payments made by the Indian company to the foreign collaborator for a

period of agreement mentioned in condition above shall also constitute full compensation for use of the patent rights till the expiry of life of the patent and the Indian company shall be free to manufacture that item even after the expiry of the collaboration agreement, without making any additional payments. A specific provision in this regard must be incorporated in the collaboration agreement to be entered into between the two parties.

It would be seen that as a consequence of imposition of the above conditions, the recipient of the technology has full freedom to transfer the technology to other Indian entrepreneurs and, on completion of the period of the agreement, he is free to manufacture in his own right the item/items for which the foreign collaborator holds the patent.

5.28. The Department of Heavy Industry have stated that efforts to get such provision incorporated in all foreign collaboration agreements are now made in every case.

5.29. The Ministry of Petroleum and Chemicals have stated that the conditions under which foreign collaborations are approved include the standard clause.

5.30. The Ministry of Defence (Department of Defence Production) have stated that though according to the general guidelines prescribed by Government for foreign collaborations, such a provision is required to be included, the foreign collaborators do not in all cases agree to such a clause.

5.31. To a question as to why do the Government agree to payment of additional royalty or lumpsum payment for inclusion of clauses regarding transfer of know-how the Department of Industrial Development have replied that for inclusion of the sub-licensing clause in the agreement no additional payments are to be made. However, for actual transfer of the know-how on sub-licensing to another entrepreneur payments have to be made to the foreign collaborators which appears to be quite legitimate.

5.32. The Department of Heavy Industry have stated that "we are not aware of any collaboration agreement entered into by any public sector undertaking where provision for the payment of additional royalty, for merely inserting clauses regarding transfer of know-how has been made."

5.33. The Ministry of Petroleum and Chemicals have stated:—

“The consideration paid to the foreign collaborator depends upon and relate to specific services. Where horizontal transfer of know-how is involved, payment of additional royalty or lump sum payment may have to be agreed to. However, in the field of petrochemicals, we are not aware of a separate payment meant to cover this provision.”

5.34. The Ministry of Defence have stated that—

“This is because the foreign collaborators would not otherwise agree to a stipulation providing for the transfer of know-how obtained under the collaboration agreement to another party.”

5.35. The Bureau of Public Enterprises, Ministry of Finance have stated that “our guidelines to public enterprises stipulate that in future collaboration agreements it should be provided that horizontal transfer of technology to other parties would be permissible.”

5.36. The Department of Atomic Energy have stated that “it will be difficult to insist on the inclusion of provision for transfer of technology in patented process as the foreign parties are not willing to transfer such process.”

5.37. In regard to the question whether Government have considered the question of making transfer of technology which has been assimilated to new entrepreneurs obligatory instead of allowing purchase of technology from outside in the same or similar fields, the Department of Industrial Development have stated that “while considering foreign collaboration applications, wherever it is found that an Indian entrepreneur has absorbed or developed the requisite technology, horizontal transfer is considered before allowing direct import of technology; but if it is found that horizontal transfer is not practicable direct imports of the technology are also allowed. Under existing laws it may not be feasible to make it obligatory on entrepreneurs to transfer technology which has been imported by them from outside. However, in the case of public sector undertakings it may be possible sometimes to administratively impose such conditions.”

5.38. The Department of Heavy Industry have stated that “it is always the intention to arrange horizontal transfer of technology wherever it is possible, though there are certain limitations in this regard and as such it is not considered practicable to make it obligatory in all cases.”

5.39. The Ministry of Defence have stated that "this may need special legislation in order to cover the private sector industries also. But even if such a legislation is promulgated, it may not in practice achieve the desired results in all cases because of luke-warm Co-operation from the concerned units, particularly if transfer of technology is against their commercial interests."

*Sub-Licensing of Technical know-how by Indian parties to other Indian party*

5.40. In regard to the question whether it is necessary to import the same technology a second time, when technology know-how is developed and when Government invariably imposes a condition in all foreign collaboration cases to the effect that the Indian company shall be free to sub-licence the technical know-how/product design/engineering design under the agreement to another Indian party, and how it is proposed to avoid such an import, the Department of Industrial Development have stated that the circumstances in which repetitive import of technology of this nature may be unavoidable are as follows:—

- (i) Where due to the presence of some secrecy clause the Indian entrepreneur is not permitted to transfer the technology to another entrepreneur. It may be added that such clauses are not allowed to be included in agreements now-a-days. However, where the technology has been received on the basis of agreements reached much earlier such conditions may exist to bar the transfer of technology to other Indian entrepreneurs.
- (ii) The technology absorbed by the Indian entrepreneur may have been rendered obsolete as a result of rapid technical developments in the same field abroad making it worthwhile to import the new technology.
- (iii) The terms of transfer of technology between the Indian entrepreneurs have to be mutually agreed upon and in case the recipient is not willing to transfer the technology on the terms offered we have no means of compelling him to do so.

In such circumstances also direct import of technology has to be considered. It may, however, be stated that technical authorities such as Directorate General of Technical Development attempt to bring entrepreneurs together for facilitating the transfer of technology wherever feasible the Foreign Investment Board allows repetitive import of technology only when it is found to be unavoidable.

6.41. The Ministry of Petroleum and Chemicals have stated that:

“It may be necessary to import the same technical know-how a second time if it is available on a non-exclusive basis or is not fully developed in the country.”

5.42. To an enquiry by the Committee whether a clause regarding sub-licensing of the technology to third parties is uniformly and consistently incorporated in the case of all agreements with foreign collaborators and whether inclusion of such a clause is essential; the Department of Industrial Development have stated that:—

“A sub-licensing clause is almost invariably include in the transfer of technology agreements except in very exceptional cases where in view of the importance of the collaboration a relaxation is made so that the proposal does not fall through only on this ground. The inclusion of such a clause is considered essential but in very rare cases exceptions may have to be made for the reasons stated above.”

The Ministry of Defence have stated that—

“It is not possible to include such clause uniformly in all foreign collaboration agreements.”

5.43. The Ministry of Petroleum and Chemicals have stated that this may not be agreed to by some of the foreign collaborators.

5.44. It has been stated by the Ministry of Industrial Development that the payments for patents are generally considered as part of the overall collaboration agreement but in cases where only patent rights are required to be obtained, there are precured on a lump-sum basis.

5.45. FCI have stated that the question of buying patent right on outright basis has been under consideration but no foreign collaborator except Techno-export of Bulgaria who have granted licence for production of sulphuric acid on the basis of pyrites on an exclusive basis, have agreed to grant the licence on an exclusive basis.

5.46. FACT has stated that usually in the chemical manufacturing plant, patents are not purchased on outright basis, as it will entail a very high initial payment, but on the basis of a fee for each plant

to be reduced gradually when services drawn from the collaborator are reduced.

5.47. Out of 53 undertakings which supplied information to the Committee except GRW (Air Compressors and Diesel Engine), IPCL (Universal Oil Products), IL (Agreement with M/s. Prommash-export) and Mazagon Dock, the agreement is said to provide for indemnification against any possible infringement of patent rights, in those undertakings where this clause is applicable.

5.48. IPCL have stated in their post evidence reply that they have not insisted upon infringement clause, as Universal Oil Products is stated to have said that in their (collaborator's) experience of licensing for a number of years in many countries, till October, 1970 no law suit had been instituted. The Collaborators protection is said to have been ensured in the agreement of HMT. It has been further stated that suitable clause to safeguard the interest of the collaborators against infringement of patent rights by third parties should be included in the agreement.

5.49. Instrumentation Ltd. have stated that in their agreement with M/s. Prommash-export, it has been provided that in case of any dispute on any question of patent right, the parties will consult each other for mutual settlement. Their agreement with M/s. YH is stated to have provided for infringement of patent rights.

5.50. It has been stated that generally a limitation is placed on the foreign collaborator making available the same patent right or trade-mark to another party in India. The agreements of BALCO (except with M/s. Chemiokomplex in respect of Ratnagiri project).

5.51. BHEL, BHPV, Cochin Refineries, FACT (in some cases), FCI, GRW, Hindustan Insecticides, HZL, IDPL, IOC (Refineries), IPCL (except Acrylic Fibre Project with M/s. Asahi/Kobe/C Itoh Japan), I.L. (agreement with M/s. Prommash-export), Machine Tools Corporation and MECON however, do not contain any limitation on the foreign collaborator in this regard.

5.52. Asked as to how the Government ensures that in cases where no limitation is placed on the foreign collaborator making available the same patent rights to another party in India. It does not adversely affect the interests of the undertaking which originally acquired the rights, FCI have expressed the opinion in their Post Evidence Reply that in the fertilizer field, the demand for the fertilizer is fairly

large and if some further plants are put up by another party, it is for the Government to ensure that the demand for the additional fertilizer to be produced by the new company exists and the new company can be allowed to take the process from the foreign collaborator.

5.53. BHEL has stated that no restriction being placed on their foreign collaborator has not adversely affected them.

5.54. BHPV have stated that while there is no specific stipulation in the agreement itself, DGTD should not allow another Indian Party to enter into these fields of business, unless such course will not affect BHPV's interest adversely.

5.55. The licences granted to IPCL, it is stated, have not been granted to another party within the country. IOC (Refineries) have stated that no limitation can be imposed on their foreign collaborator for licensing the same process to other parties in India as their licensor gives only a non-exclusive right to use their process. They have further stated that as this has not in any way affected the production or sale of products, no adverse effect is felt.

5.56. To a question as to whether permission to pass the patent rights or trade marks on to another Public Sector Undertaking and/or to Indian/Foreign—Company generally available, the Ministry of Industrial Development has stated that the condition, that the Indian company should be free to sub-licence the technical know-how/product design/Engineering design under the agreement to another Indian Party, is incorporated in all foreign collaboration approvals. Most of the undertakings have stated that this stipulation is generally available subject to payment of the fees stipulated. Bokaro Steel have stated that such documents shall not be transferred to any foreign physical or juridical entities without prior consent of the collaborators.

5.57. FCI have stated in their post—evidence reply that a few contracts have incorporated the same and even in those cases where it has not been incorporated specifically in the collaboration agreement, the collaborators have never refused to give the process to another company in the public/private sector.

5.58. BHEL have stated that most of their collaborators agree to BHEL sub-licencing the rights granted to another Indian Party with prior approval of collaborators on terms to be mutually settled.



5.59. The right to pass the patent right or trade marks to another Public Sector Undertaking is said to be available in the agreements of HMT.

5.60. The agreement of IL is said to contain the provision that the Company may assign its rights to a company in which the Government of India or IL has controlling share holding interest.

5.61. The agreement of BALCO is said to contain the provision for transfer of know-how to any other Government Company—Company.

5.62. However, IOC (Refineries) have stated in their Post evidence reply that these rights are generally neither available nor sought for, though sub-licensing can be negotiated, if required, by payment of a suitable price related to the number of units and their capacities.

5.63. BEML have stated that as trade marks are specific identity of the collaborators and cannot be used even by the Indian organisations entering into the collaboration agreement the question of passing it on to other Public Sector Undertakings does not arise. As regards patent rights, these can only be passed on after the expiry of the agreement.

5.64. IPCL have said in their Post Evidence Reply that the right to pass the patent rights or trade marks on to another Public Sector Undertaking is not generally available and that it would be useful to have such rights.

5.65. To a question as to whether the patents or trade-marks transmitted to the undertaking given them the exclusive rights in India and whether the Public Undertaking is entitled to continue the use of patents after the collaboration agreement expires, it has been stated by the Ministry of Industrial Development that though the question of exclusive rights in India would depend on the provisions made in individual agreement but as regards the use of patent rights after the expiry of collaboration agreement, the guidelines lays down that the payment during the initial period of agreement should also constitute adequate compensation for the use of patent even after the expiry of the collaboration irrespective of the life of the patent. Most of the undertakings have stated that the patents/trade marks transmitted give them exclusive rights in India and also entitles them to continue to use the patents/trade marks after the expiry of the collaboration agreement.

5.66. The Committee note that in approvals issued for foreign collaboration Government invariably imposes a condition to the effect that Indian company shall be free to sub-license the technical know-how, product design/engineering design under the agreement to another Indian party, the terms of sub-licensing being as mutually agreed to by all parties concerned including the foreign collaborators and subject to the approval of Government.

5.67. The Committee feel that a mere provision in the agreement for permitting horizontal transfer of technology may not fully subserve the objectives unless the undertakings importing technology build up their own engineering and R&D organisation to assimilate, update and indigenise the technology and effect improvements as required.

5.68. The Committee have already suggested that Government should, for purposes of screening and selection of technology, consider nominating a leader public undertaking which on account of its R&D, managerial strength and technology expertise in the particular field, has acquired a standing in the industry. The Committee feel that such leader organisations in different sectors may be considered as agencies for absorption of technology and transfer to other parties in India. Such leading agencies should have close coordination with CSIR, NRDC, Department of Science and Technology etc.

5.69. The Committee are informed that the foreign collaborators usually resist the inclusion of such a clause. The Committee feel that a clause permitting the undertaking to sub-license the technology should be specifically incorporated in all the foreign collaboration agreements.

5.70. The Committee need hardly stress that any provision restricting sub-licensing or lateral transfer of technology results in repetitive import of the same technology or creates the problem of multiplicity of collaboration which besides entailing avoidable foreign exchange introduces a variety of standards of various countries for similar products, different standards for raw materials, spares, designs specifications thus hindering standardisation and variety reduction which may be essential for improving productivity and reducing costs.

5.71. The Committee also find that there is no uniformity in regard to inclusion of a provision in the agreements with foreign

collaborators placing a limitation on them to make available the same technology or a slightly advanced know-how to any other party in India. The Committee would like Government to consider including this provision uniformly in all foreign collaboration agreements in the interest of avoiding repetitive import of technology.

5.72. The Committee are also informed by NIDC and Department of Heavy Industry that manufacturing units in private sector are averse to the idea of transferring technology to another Indian company because they do not want any competitor to come up in the same field. The Department of Industrial Development have stated that in case the recipient of technology is not willing to transfer the technology, they have no means of compelling him to do so. The Ministry of Defence feel that a special legislation may be needed to make transfer of technology obligatory in order to cover private sector industries though it may not in practice achieve the desired results in all cases particularly if the transfer of technology is against their commercial interest. The Committee feel that the overriding consideration in such cases should be the national interest and not the interest of an individual unit. The Committee recommended that Government may consider equipping themselves with powers, statutory as well as administrative, to make it obligatory on the part of recipient of foreign technology to transfer it to another Indian party in cases where such a transfer is considered essential in public interest.

5.73. The Committee would like to emphasise that there should be no question of import of technology by a private sector where the know-how for the product already exists in the public sector.

5.74. The Committee find while generally no limitations are placed by foreign collaborators in making available the know-how and technology to any other party in India, restrictions are imposed on certain patented processes where transfer could be effected only with the consent of the collaborator at probably reduced cost. According to the approvals for foreign collaboration, the standard clause provides that in case of item of manufacture is one which is patented in India, the payment of royalty/lumpsum payments made by the Indian company to the foreign collaborator for the period of agreement shall also constitute full compensation for use of the patent rights till the expiry of life of the patent and the Indian company shall be free to manufacture that item even after the expiry of the collaboration agreement, without making any additional payments. A specific provision in this regard has to be incorporated

in the collaboration agreement to be entered into between the two parties.

The Committee are informed that in the case of BEML horizontal transfer of technology of the processes that are patented, is not normally allowed. IOC has stated that a patented process cannot be transferred to any other party without paying some royalty to the foreign collaborators.

5.75. As it is likely that numerous worthwhile processes might have been patented already before the foreign collaboration agreements are signed, the restrictive law/practice obtaining in this regard may place a number of such processes under virtual embargo so far as their horizontal transfer/sub-licensing is concerned. The Committee suggest that Government should examine the question from legal and national point of view and see how there can be free flow of technical know-how etc., patented as well as non-patented from one Indian, party to another so that repetitive import of the same or similar technology can be avoided in larger national interest.

5.76. The Committee note that payments for patents are generally considered as part of the overall collaboration agreement but in cases where only patent rights are required to be obtained; these are procured on a lump-sum basis. They are informed that normally foreign collaborators are not agreeable to grant patent rights on outright or exclusive basis. In Chemical manufacturing plants; patents are not purchased on outright basis as they entail a very high initial payment. The Committee are informed that a large number of agreements entered into by Public Undertakings there is no limitation on the foreign collaborators making available the same patent right or trade marks to another party in India. BHEL & IOC (Refineries) have stated that lack of any limitation on foreign collaborators in this regard has not adversely affected their interests. FCI and BHPV have stated that it is for the Government/DGTD to decide whether or not the foreign collaborator should be allowed to grant patent to another Indian company also, keeping in view the demand of the product.

5.77 The Committee feel that since Government have the regulatory powers, they should ensure that where patent rights have been obtained in public sector there should be no question of any other unit in private sector getting these patent rights at avoidable costs.

## VI

### COLLABORATION AGREEMENTS

#### A. Duration of agreement

6.1. The duration of agreement for foreign collaboration is restricted with a view to limiting the outgo of foreign exchange and obviating the necessity of continued dependence on foreign collaborator.

6.2. According to the policy of Government, collaboration agreements should be approved normally for a period of 5 years from the date of agreement or 5 years from the date of commencement of production, provided production is not delayed beyond a period of 3 years from the date of signing of the agreement (i.e. a maximum of 8 years from the date of signing of the agreement). Within this period, the Indian Company should develop and set up their own design and research facilities so that continued dependence on foreign collaboration beyond this period will not be necessary. Where for development of manufacturing facilities, the gestation period required is longer, the overall duration can be extended. Further, in cases where it is felt that the effective period should be longer in order to enable the Indian entrepreneur to absorb the technology a longer duration upto 10 years is allowed.

6.3. The following statement indicates the period of agreement stipulated in 133 collaboration agreements entered by public undertakings which have furnished information to the Committee by the Bureau of Public Enterprises, Min. of Finance:—

	No. of agreements
0--5 years	14
5--10 years	34
beyond 10 years	85

6.4. From the views expressed by 53 undertakings about the duration of the agreement, it is seen that as many as 35 undertakings have stated that there should be restriction on the duration of collaboration or a time-limit with regard to collaboration although there has been some difference in views in regard to the period. Hindustan Organic Chemicals are in favour of a limit on period of collaboration but have suggested that penalty clauses should also be prescribed for

delay on the part of the collaborators to fulfil their obligations within the stipulated time. Madras Fertilizers have stated that such restriction is essential depending on the nature, purpose and scope of collaboration. Machine Tools Corporation of India, BOGL and MAMCO have stated that the duration of agreement should not be less than 5 years. Engineering Projects (India) Ltd. have stated that the time-limit of 7 years in the collaboration agreement with DEMAG is considered reasonable as shorter duration would not permit recipient companies to obtain know-how of developments made in future and to fully absorb such technology. A few undertakings (HEC, HPF and HMT) have stated that duration of agreement may be 5 to 10 years in most cases. Some other undertakings (BEML, BHPV and IPCL) have stated that 10 years period is considered reasonable, another undertaking (Lubrizol (I) Ltd.) has suggested 10—15 years and still another undertaking (HMT) has suggested that it may be even 15 years in some cases of higher sophisticated technology. IDPL have suggested that the period of agreement should be 5 years excluding gestation period.

6.5. Richardson and Cruddas and Jessop & Co. have stated that for certain sophisticated lines of technology where the production takes a longer time it would be necessary to consider permitting a slightly longer duration.

Cochin Shipyard Ltd., Bharat Earth Movers Ltd. Garden Reach Workshops, HPF have stated that the main factors which will determine the duration are sophistication of the technology and the industrial base and as such it may not be possible to lay down any hard and fast rule. It will vary from product to product and technology to technology.

6.6. Bharat Heavy Electricals Ltd. have stated that duration of an agreement should be with due consideration for the gestation period of the product and the time required for the absorption of technology. Bharat Heavy Electricals Ltd. and FACT have added that there should be provision for extension of duration of agreements.

6.7. Some undertakings (BALCO and IOC) have suggested that the period of agreement should extend to one year after the guarantees are fulfilled or provided and one undertaking (IRE) have stated that it should extend to 5 years from commencement of production.

6.8. Lubrizol (I) Ltd. and IPCL have stated that it would not be in the interests of their undertakings to impose a time-limit on the period of agreement.

6.9. In the case of Tungabhadra Steel Products initial agreement was for 7 years and it was extended for 5 years. In the case of NMDC (Donimalai) the initial agreement was for 10 years and it was extended for a further period of 5 years. While Rourkela and Durgapur have stated that there should be suitable provision for extension, Bokaro Steel have stated that the duration of agreement may be extended on mutual consent of the parties if required.

6.10. During evidence, the representative of Bharat Heavy Electricals Ltd. stated as under:—

“As for the period of agreement, it depends upon the type of product or process for which we take out a licence. There are certain cases, particularly in the case of BHEL where we have large capacity turbines or in regard to nuclear products and it goes into operation, 6—8 years pass. So to restrict the period of a licence agreement to five years or seven years is not practicable, nor desirable. The period of the collaboration agreement should depend upon the type of product/process for which we take out a licence.”

It has been added that there should not be any hard and fast rule.

6.11. The Bureau of Public Enterprises have stated that the duration will have to be decided on a case-to-case basis. The Department of Atomic Energy has stated that normally a period of 5 years from the commencement of production should be reasonable period to be stipulated.

6.12. As regards the extension of collaboration agreements the Department of Industrial Development and the Department of Heavy Industry have stated that these may be considered in the following circumstances:—

- (1) Where the gestation period becomes longer than expected the collaboration can be extended so that the period of effective agreement can run for the duration originally allowed i.e. 5 years or more as the case may be.
- (2) If it is found that for genuine reasons the Indian entrepreneur requires some more time to absorb the technology, the period can be extended.
- (3) If the Indian entrepreneur proposes to undertake manufacture of certain new items not already covered under the agreement, extension of the duration of the agreement can be allowed for transfer of technology relating to such new items.

- (4) Extension of collaboration can also be allowed where substantial exports are involved in order to promote such exports.

It may be added that generally when extension is allowed, the rate of royalty payment due to the collaborator is reduced.

6.13. In reply to the question as to what are the circumstances in which extension of agreements should be considered, the representatives of some of the public undertakings in written information furnished to the Committee have stated that extensions of period of collaboration agreements may be necessary on account of delay in production/achievement of expected production which the process is complicated there is unavoidable delay in transmission of know-how, technology is not fully transferred, essential components/assemblies are not available indigenously, where the gestation period for absorption of technology is usually longer, products have not been manufactured during the operation of the agreement, indigenous expertise has not been built up and in a field in which rapid improvements and developments are taking place, like chemical industry.

6.14. In a written reply furnished after evidence the Ministry of Petroleum and Chemicals have stated that extension of agreement is considered on case to case basis. The relevant points for consideration are duration of royalty payment, export restriction, confidentiality of know-how, transfer of ownership etc.

6.15. The Department of Atomic Energy has stated that since the royalty is on a tonnage basis and if the anticipated production in the stipulated period is not achieved due to reasons other than design faults, extension of the period may be considered at the proper time depending on the merits of each case.

6.16. The Ministry of Defence have stated that the period of foreign collaboration agreements would have to vary from item to item. Generally speaking, a collaboration period ranging from 5 to 10 years could be considered reasonable. Extension is normally considered only where indigenous development has not made adequate progress during the existing term of collaboration.

6.17. The Committee note that the policy of Government is that collaboration agreements should be normally for a period of 5 years from the date of agreement or 5 years from the date of commencement of production provided production is not delayed beyond a



period of 3 years from the date of signing of the agreement i.e. a maximum of 8 years from the date of signing of the agreement. Duration can, however, be extended where for the development of manufacturing facilities, the gestation period required is longer, or where a longer period is considered necessary to enable the Indian entrepreneur to absorb the technology, a longer duration upto 10 years may be allowed. From the information gathered in respect of agreements with public undertakings, the Committee find that the duration of agreements has exceeded in fairly large number of cases the prescribed limit of 8 years. They would like that Government should make a critical review of such agreements with a view to find out the specific reasons for such a long duration so that suitable remedial measures may be taken at least in the future.

6.18. The Committee find that generally public undertakings are in favour of restricting the duration of collaboration although there is difference of opinion regarding the period. While some undertakings/Ministries are of the opinion that duration may be decided on case-to-case basis, others have suggested different periods varying from one year after the guarantees are proved or fulfilled, to 15 years at the outside. The Committee are convinced that the collaboration agreements should be for a definite period which should be fixed on a realistic but strict basis even ab initio according to the merits of each case in close consultation with the undertakings, DGTD, National Commission on Science and Technology, Bureau of Public Enterprises etc. The Committee feel that there should be built-in mechanism by which absorption of technology is facilitated within the period of collaboration agreement. The administrative Ministry should take steps to monitor the progress of collaboration at different stages right from the commencement and also undertake a critical mid-term appraisal of the progress of collaboration in close coordination with the Bureau of Public Enterprises, DGTD and NCST etc. with a view to taking suitable remedial measures in time so as to obviate the necessity of extending the period of agreement. The Committee also feel that the period of 5 years normally allowed for collaboration should not be taken for granted but it should be the endeavour of the public sector undertakings to reduce the period of collaboration to less than 5 years and attain self-reliance at the earliest by fully absorbing and indigenising the technology and know-how.

6.19. Since extension of agreements is likely to increase the total amount of royalty payments with consequent increase in the outgo of foreign exchange the Committee urge that extensions of collaboration agreements may be granted only in exceptional cases where called for in the national interest and it should be ensured that the

objective for which collaboration was entered into are at least fulfilled within the extended period. The Committee also stress that requests for extension of collaboration agreements should be made well in time say 12-18 months before the expiry of the original agreement so that the matter can be reviewed in depth in consultation with all concerned and final decision communicated before the expiry of the existing agreement to obviate any uncertainty.

6.20. The Committee recommend that any extension of agreement beyond a period of 8 years should be brought to the notice of Parliament.

### B. Detailed Project Report

6.21. In a written note furnished to the Committee the Department of Heavy Industry have stated that Government have laid down procedures for the clearance of the new projects, although for clearance from Public Investment Board, there is no time limit envisaged. The administrative Ministry concerned, however, makes special efforts to expedite clearance by holding coordination meetings.

In addition to the administrative Ministry, various other agencies like the Planning Commission, Construction, Production and Finance Divisions of Bureau of Public Enterprises, Ministry of Finance, Plan-Finance and Economic Affairs Division examine reasonableness and accuracy of the Project report is put up to Public Investment Board. If the investment is more than five crores, then it goes to the Cabinet Committee on Economic Policy and Coordination.

It is necessary that the Government as well as the Undertakings should follow the time-bound programmes for getting the project report cleared although it will depend in each case upon the complexity of the Project. Government guidelines for the preparation of the Project Report should be adhered to.

6.22. The Ministry of Petroleum and Chemicals have stated that "the DPRs are examined in consultation with the Technical Cells of the administrative Ministry, D.G.T.D., Project Appraisal Division of the Planning Commission, the BPE and the Ministry of Finance."

6.23. The Bureau of Public Enterprises, Ministry of Finance have stated that "there is a detailed procedure laid down for the check and clearance of DPRs and we expect that there should be no delays in future."

6.24. The Department of Atomic Energy have stated that "a workable solution to avoid delays in the clearance of DPR would be to

constitute a Committee comprising the nominee (experts) of the various Ministries involved in the decision making and sit once or twice as a Committee and obtain clarifications from the representatives of the Public Undertakings. This should enable them to take a final decision. This would avoid delays in referring the DPR to various ministries one after the other and then proposals moving through various levels in the ministries."

6.25. In regard to the question whether the DPR prepared by the foreign collaborators is got scrutinised by a competent consultancy organisation in India to verify the reasonableness or the accuracy of DPR before its final approval, Bharat Coking Coal has stated that "detailed project report will be prepared by Indian team only, with active association of Polish team. The DPR is scrutinised by a technical committee headed by Director (Techn.) before it is approved and sent to the Board for final sanction."

6.26. BALCO has stated that "the DPR is scrutinised by the technical officers of the Company and representatives of Indian consultancy firms in the first instance and thereafter it is examined by the Government with the assistance of technical officers of the Department of Mines, BPE and the DGTD. The opinion of other technical persons/consultants is taken wherever considered necessary."

6.27. Bharat Ophthalmic Glass has stated that "DPR prepared by M/s. Promashexport was not scrutinised by any consultancy in India but that was critically examined by a group of technical experts appointed by the Government."

6.28. Bokaro Steel has stated that "the DPR prepared by the Soviet Organisations was examined by a technical Committee consisting of experts in steel including both from public sector as well as private sector organisations which also included representatives of DASTURO (Indian consulting engineers), Railways, DGTD, NMDC, NCDC."

6.29. Engineers India Ltd. has stated that "in the case of three foreign collaboration agreements the arrangements were finalised only after taking into account the recommendations of Expert Committees set up by Ministry of Petroleum and Chemicals."

6.30. Hindustan Photo Films Mfg. Co. has stated that "the proposals are verified for its reasonableness and accuracy by the Government agencies such as, Finance Ministry, Planning Commission and the administrative Ministry etc. before the DPR is approved."

6.31. Rourkela Steel has stated that the DPR for one million ton stage was prepared by IGKD, West Germany, and the same was examined by the then Ministry of Production in consultation with the concerned Ministry Railway Board, Tariff Commission and the representatives of Tata Iron and Steel Company. They had also appointed an *ad hoc* Committee to study the Report.

6.32. Hindustan Teleprinters and ITI have stated that in their case no DPR was required to be prepared by foreign collaborators. However, various terms offered by the Foreign Collaborator were examined by a team of technical experts.

6.33. Hindustan Zinc Ltd., has stated that "the DPR prepared is scrutinised by the Technical Officers in the Department of Mines, BPE and the DGTD. The opinion of other technical persons/consultants is taken wherever considered necessary."

6.34. Indian Oil Corporation has stated that "in the case of detailed project report prepared for Gauhati, Barauni and Gujarat Refineries, the DPRs were scrutinised by a team of experienced IOC's engineers and scientists from the Indian Institute of Petroleum were also associated in the scrutiny. At that time there were no Indian consultancy firms experienced in the line whose services could be utilised in the scrutiny of DPR. Subsequently in the case of Haldia Refinery and other projects, Engineers India Ltd. have always consulted and have taken active part in the scrutiny of collaboration agreements and DPR."

6.35. Instrumentation Ltd. has stated that the DPR in the case of Russian collaborators was prepared by the collaborators and scrutinised and verified by NIDC.

6.36. Machine Tools Corporation of India has stated that in the case of grinding machine tool project the DPR prepared by the foreign collaborators *i.e.* Technoexport of Czechoslovakia, was got scrutinised by the NIDC/MAMCO has stated that DPR prepared by foreign collaborators is scrutinised by the Indian Consultancy Organisation or by special technical team appointed by Government/Project Authorities for the purpose.

6.37. Richardson and Cruddas Ltd. and Jessop & Co. have stated that whenever the DPRs are prepared by the foreign collaborators, these are cross checked with the Project Appraisal Division of the undertaking concerned and by the specialised agencies like the Bureau of Public Enterprises before these are approved by the Government.

6.38. Bharat Heavy Electricals Ltd. has stated that "Government has laid down procedures for the clearance of the Project Report for schemes. In the process for the clearance from the Public Investment Board, there is no time limit envisaged. With regard to the procedure for clearance, the Administrative Ministry takes special efforts to expedite clearance by holding coordination meetings."

6.39. Lubrizol (India) Ltd. has also stated that "no time table has been laid down for clearance out stages of DPR and as a result it becomes necessary to vigorously pursue the items with the Departments concerned."

6.40. Bharat Earth Movers Ltd. has stated that the reasonableness of DPR was verified by a Technical Committee constituted by the Government.

It has been seen that administrative delays in approving the DPR also result in increasing the cost of the project with increase in the liability on account of foreign collaboration. In this connection, the Committee desired to know as to what steps are proposed to be taken to safeguard the interests of the Undertaking/Government and keep the cost down.

6.41. BALCO has stated that Public Investment Board has been set up under the Chairmanship of the Finance Secretary to expedite approval of DPRs.

6.42 BALCO, BEML and Instrumentation Ltd. have stated that time limit should be fixed/evolved for approval of DPR by the different departments/division of Government to avoid delays.

6.43 Bharat Coking Coal has stated that once the DPR is approved by the Company's Board after due technical scrutiny, pending the Government sanction, the scheme should be initiated. A financial sanction being a percentage of total outlay should be allocated and the project officer appointed so that preliminary work etc. could start cutting delays.

6.44 Bharat Heavy Plates and Vessels Ltd. has suggested that approval of DPR should be given within a reasonable time so that the cost of project can be kept within the limits mentioned in the DPR. They further suggested that in view of the fact that the phenomenon of cost escalation has become regular feature there appears to be no solution but to provide for certain percentage to meet the contingencies of cost escalation.

6.45. FACT has stated that administrative delays are inevitable in so far as DPRs have to be studied and analysed by the concerned Governmental departments to ensure that all aspects that have to be looked into in the DPR have been fully and satisfactorily covered. Such a detailed scrutiny is necessary so that the work projects presented for implementation are in keeping with national goals and objectives and that they are not contrary to the Government policies and directives. Further such a scrutiny is necessary as this ensures that national wastages are not incurred in implementing projects which aim at producing products for which a sufficient market does not exist or for non-essential items. If in spite of such close examination by the Government delays do occur in the execution of projects, these delays must be attributed to the incidence of unforeseeable and unexpected problems cropping up at later stages.

6.46. Fertilizer Corporation of India Ltd. has stated that there are other reasons also than the delays in approval of feasibility report/DPR that contribute to increase in project costs, such as difficulties in availability of raw materials, delays in delivery of equipment and labour problems etc.

6.47. Hindustan Machine Tools Ltd. has stated that delay in approval of DPRs by the Government results in increase in the cost of project. However, it is stipulated in the collaboration agreements that prices indicated therein in respect of supplies are to be taken as firm by the Collaborator at least for one year/two years from the date of signing of the agreement. However nothing can be done in respect of other aspects like price escalation of imported plant and equipment and with respect to construction, raw materials, indigenous machine/equipment etc.

6.48. Hindustan Photo Films has suggested that an effective follow up must be maintained by the project team at the operating management level, highlighting the time factor *vis-a-vis* the cost of the Project. They have further stated that all project costs must be time bound, for acceptance within the stipulated; period and promptly reported to Government, where there is abnormal delays.

6.49. Rourkela Steel Plant has suggested that to reduce the administrative delays in approving the DPR study by all concerned authorities may be simultaneous and time limits for examination by various authorities may be fixed.

6.50. Indian Oil Corporation has stated that in their contracts with the Rumanian and Soviet Union for rendering technical assistance

for preparation of DPR the time limit is invariably provided within which the DPR submitted by the collaborators has to be considered and its acceptance conveyed.

6.51. Indian Rare Earths has stated that delays in the administrative approval of detailed project report or of a project most likely, contributes in increasing the cost of the project. Certain percentage of escalation is provided in the cost estimates. However, the liability on account of foreign consultancy is indicated in the agreement as a definite figure not as a percentage of cost of the project, so as to avoid additional liability on this account.

6.52. Richardson & Cruddas Ltd. and Jessops & Co. have stated that efforts are made to keep the prices of equipments as far as possible for at least a period of one year from the date of signing of the agreement.

6.53. Bharat Heavy Electricals Ltd. has stated that it is necessary that the Government as well as the undertaking should follow the time bound programme for getting the project report cleared.

6.54. Lubrizol (India) Ltd. has stated that it is a fact that delay in clearing proposals leads to increased costs of the project.

6.55. Bharat Ophthalmic Glass Ltd. has stated that the DPR should be prepared in parts covering transfer of technology, supply of equipment, training of personnel etc. and each part should be cleared within a period of three months from submission.

6.56. HEC has stated that they are in favour of a time limit for approval of DPR by the Government to ensure increases in cost do not upset financial feasibility in terms of return of capital of the project.

6.57. The Committee note that Government have laid down procedures for the clearance of new projects although for clearance from Public Investment Board there is no time limit envisaged. The administrative Ministry concerned makes special efforts to expedite clearance by holding coordination meetings. The Detailed Project Report (DPR) is first got scrutinised by various Government agencies, viz., Planning Commission, Bureau of Public Enterprises, Ministry of Finance, D.G.T.D. etc. and also by Public Undertakings concerned, and sometimes also by private sector experts and consultancy organisations before the Project Report is placed before the

**Public Investment Board for approval. If the investment is more than Rs. 5 crores, then it is also submitted to the Cabinet Committee on Economic Policy and Coordination.**

**6.58. Although according to Policy Guidelines, it is necessary that Government as well as undertaking should follow time-bound programmes for getting the project report cleared, the Committee have, during the course of examination of public undertakings come across several cases of abnormal delays in the approval of DPRs which had the effect of increasing the cost of the project as also the outgo foreign exchange. It has been stated by FACT that administrative delays are inevitable as the DPRs have to be critically studied by the various departments concerned to see that the projects are in keeping with national goals and objectives and are not contrary to Government policies and directives and will not result in national wastages. While there cannot be two opinions that the DPRs should, as also recommended by the Committee in para 2.27 of their 68th Report on Bokaro Steel Ltd., be effectively scrutinised and properly appraised from all angles, the Committee do not agree that delays in the approval of DPRs are inevitable.**

**6.60. The Committee agree with the suggestion made by the Department of Atomic Energy that a workable solution to avoid delay may be to constitute a Committee comprising the nominees (experts) of the various Ministries involved in decision making, which may meet once or twice alongwith the representatives of the Public Undertaking within the stipulated period to resolve difficulties if any, in order to expedite final decision.**

**6.61. The Committee suggest that suitable time limit should be fixed/evolved for approval of DPR by different Departments and Divisions of Government within the total time schedule fixed. For this purpose the Committee suggest that Government may evolve a procedure by which copies of DPR are made available to the concerned Departments/Ministries in time, so that consideration thereof is not delayed. Once the DPR is approved there should not be any delay in communicating its approval. In case any delay is anticipated at least financial sanction to cover the immediate outlay should be communicated to avoid delay in initiating action for implementation of the Project.**

**6.62. The Committee need hardly stress that any delay in the approval of the DPR not only escalates the cost of the construction**



of the project which may adversely affect its profitability but also have far reaching adverse effect on the attainment of planned targets.

6.63. The Committee therefore, stress that an effective follow up should be maintained at all levels in the administrative Ministry and the undertaking concerned till the DPR is finally cleared by the Public Investment Board or the Cabinet Sub-Committee as the case may be.

6.64. The Committee have in the course of the examination of several Public Undertakings come across many shortcomings in the preparation of DPRs like non-inclusion of cost of township and other ancillary facilities, non stipulation of sequence of delivery of designs, drawings and supply of plant and equipment, non-inclusion of dates for commencement of commercial production, not stipulating the staff requirements at different stages, etc. The Committee have given their recommendations how these shortcomings have resulted in escalation of cost and delays in commissioning, and affected the marketability of products and ultimately the profitability.

6.65. The Committee note that the Ministry of Finance have laid down a detailed procedure for checking and clearance of DPR. The Committee would like that an evaluation should be made of the working of this procedure with a view to further streamlining it and making the scrutiny more meaningful.

6.66. The Committee are informed that the reasonableness and accuracy of DPR are examined either by consultancy organisations available in India in the field or by group of technical experts constituted for the purpose.

6.67. The Committee would urge Government that in addition to examining whether the Project fits in the broad pattern of economic development also consider, the economic aspects particularly the demand for the product, whether the cost would give adequate return, the installed and the likely additions to the Industry, market-analysis, imports-exports policy, etc.

### C. Training

6.68. It will be seen from the statement at page 332 that about 1702 persons have been got trained from abroad by 50 public undertakings during the period 1969-70 to 1973-74. Persons were sent abroad to the firms of collaborators with a view to get expert training in designing,

installation, commissioning and operation of the plants, designing of new plants, using the same process know-how/technology, production of the licenced products and thus avoiding dependence on foreign collaborators with the ultimate object of attaining self-reliance in their respective fields of activities.

6.69. In most agreements, turn-key or other-wise, entered into by Public Undertakings it has been provided that Indian personnel/engineers should be trained by collaborators and undertakings in general are of the view that a clause on training should form an integral part of the collaboration agreement. While in some cases of separate provision has been made for making payment to the collaborators for training Indian personnel and in most cases it is covered by the agreement and no separate payment need to be made for the purpose. A sum of over Rs. 58 lakhs was paid to the collaborators for training Indians abroad; besides an expenditure of over Rs. 109 lakhs and had to be incurred in sending 1702 Indian trainees abroad during 1969-70 to 1973-74.

6.70. Views of some of the undertakings in regard to arrangements for training of Indian personnel are as follows:—

BALCO has stated that the Indian Engineers should be associated with the foreign collaborators during designing stage and should be trained for maintenance and operation of the plants. The duration of training would depend on requirements in each case and keeping the professional background of each engineer in mind.

BHEL has stated this will depend on the expertise that is already available within the organisation. In case of BHEL, in earlier years, seven engineers were trained for three years, but presently BHEL is sending its experts in these for a period of few weeks only for appreciation purpose. There are certain areas where the expertise has not been adequately built up and when a new product is taken up, then this period varies from few weeks to a year. For every product/process the undertaking would have to develop a technology plan giving details of the training needs.

BHPV has stated that the conditions for training of Indian Engineers must form part of the agreement for the transfer of know-how and not covered by a separate contract, as the absorption of know-how can take place at a quicker pace in the case of the former arrangement. Suitable clause should be incorporated in the main agreement itself or

training of Indian Engineers at the collaborators works and design office.

**FCI** has stated that it is provided in the collaboration agreements that the foreign collaborator shall arrange, free of cost to FCI, for the training of FCI's operation and maintenance personnel in similar plants in their own country or elsewhere. Similarly, it is also provided that during preparation of the basic design by the foreign collaborator, he would allow FCI's engineers to associate themselves with the design work, at no additional cost to FCI.

If a separate agreement is executed, then the foreign collaborator would like to have additional consideration for giving training to Indian personnel whereas if it is included in the know-how agreement itself, then he could be persuaded to agree to give training to Indian personnel without any additional cost.

**HEC** has stated that it is preferable to have technicians trained at collaborators works rather than having foreign technicians at the project premises. This is more advantageous as work relating to all the equipment in the production profile will not be under production during the period when foreign technicians are at our works. If our technicians are sent to the collaborators works, there is a greater chance of their being trained in manufacture of these equipment as the collaborators being established industrial units have a wide range of equipment under manufacture at any time.

**IRE** has stated that it would be best to "impart inplant training" in the factory of the collaborators where the collaborators have existing plants in operation using the process, followed by an orientation in the Indian plant before the commencement of actual production.

6.71. During evidence, the Managing Director,\* Instrumentation stated that:—

"I would prefer to send 10 of my engineers for training there at a cost of Rs. 20 lakhs rather than get 4 experts from there to Indian and spend Rs. 2 crores on them."

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\*At the time of factual verification it was stated that the Statement was made to illustrate the point.

6.72. On a point of clarification whether collaborators force on us to take so many of their persons for training, etc. he replied in affirmative and added that:—

“At that stage, we have to say, we know better. Unfortunately, some of us are not obstinate enough to stand up to their pressure and til then—‘we know better what we should do’.”

6.73. As regards arrangements in H.S.L., the representative of SAIL stated that:—

“Foreign collaboration agreements have been there in Bokaro, Rourkela, Bhilai and Durgapur. All these were entered into prior to 1969. Simultaneously in HSL we had a design organisation named CEDB which has now been made into separate company called MECON. They entered into contracts for design know-how, one with the USSR and other with the United Engineering and Foundry Co. of U.S.A. The USSR collaboration was for consultancy and design. The contract provides for the deputation of Soviet engineers to India and Indian engineers to the USSR for training. The agreement came into effect on 1-5-70 for an initial period of 5 years. Since then it has been extended by another 5 years. MECON is today in a position to undertake detailed engineering work for the setting up of steel plants. In respect of our one new steel plants and expansion of Bokaro and Bhilai, MECON are the principal consultants. This itself is a big step in achievement of self-reliance in design. This has been possible through the training of MECON engineers abroad. During 1971-72, 37 Indian engineers were sent to USSR, in 1972-73, 43 were sent and in 1973-74, 35 were sent. At the same time, engineers also came from the USSR; in 1970-71:12, 1971-72:18, 1972-73:20 and 1973-74:25. The contract provides for payment of cost to the USSR for guiding materials they would supply, salary and insurance of the Soviet specialists deputed to India and air passage for the specialists and their families.”

6.74. In so far as the experience of Durgapur Steel Plant is concerned, the General manager, Durgapur Steel Plant stated that:—

“In respect of collaboration, I may say that the training part in our cases was not good. In Russia in the case of

Bhilai, the officers were put actually on the job and they had to operate the machinery themselves and produce. In the case of Durgapur, these trainees were merely observers in the United Kingdom; that is not a right thing to do, I feel."

6.75. Asked to comment if there was any defect in the collaboration agreement in this regard, he added:—

"It was not clearly spelt out in the agreement; it was stated that they would be trained. If you send a trained man as an observer, he will learn. But a raw engineering graduate has to be actually on the job to get to know things. This was a defect in the agreement."

6.76. As regards the utility and usefulness of training, the representative of MECON stated as follows:—

"We send a number of engineers to Soviet Union to absorb further training over there and come to strengthen the people who are doing the work right now. We have certain groups both at Ranchi and Bangalore which have specific assignments on the expansion of Bokaro and Bhilai. We have other groups which are being trained. These groups come and they reinforce the groups whom we have at home. So, self-reliance is being built-up in the nature of these young men. So far we have got our engineers trained abroad and some more are being trained."

6.77. Explaining the fact that MECON had two collaboration agreements—one with USSR for the detailed engineering and planning of steel plants and the other with United Engineering Collaboration, U.S.A. for designing MECON's mechanical equipments, he added that:—

"Training that our engineers receive is quite substantial and we are receiving access to all documents in detail from the first principles as is required. We have so far trained roughly 40 engineers."

6.78. The Committee pointed out that a large number of public undertakings had stated that training of Indian personnel by the foreign collaborators either in their plants/factories or India should form part of the main collaboration agreement but one undertaking had stated that it could be either way. The Committee also draw the attention of the Government to Para 7.14 of their 17th Report on

Personnel Policies and Labour Relations in Public Undertakings (1971-72, 5th Lok Sabha) wherein it was suggested that a number of Indians should be attached with non-Indian Personnel for picking up intricacies of the work and develop capability of handling it. In reply, the Department of Industrial Development, have stated that:—

“Provision for training of Indian personnel forms a part of the main foreign collaboration agreement. This is so because considerable importance is attached to such training so that Indian personnel can help the undertaking in question to absorb the technology. Therefore, it would be advantageous to have a provision in the main agreement for training of personnel rather than a separate contract.”

6.79. In regard to the suggestion of attracting a number of Indian personnel to conditions for picking up the intricacies of work it has been stated that the guidelines do not lay down any policy in this regard.

6.80. The Department of Heavy Industry, Ministry of Petroleum and Chemicals and Defence have stated that provision for training of Indian Personnel should form part of the main foreign collaboration agreement for transfer of know-how, Stipulation of a separate contract in regard to training may give rise to demand for higher or additional fees. The Ministry of Petroleum and Chemicals, have however, added that:—

“In some cases the party who gives the licence|know-how do not own operating plants and a separate contract with an operating company needs to be entered into.”

They have further stated that the suggestion to attach Indian personnel to non-Indian personnel for picking up intricacies of work is already being implemented to the extent feasible and negotiable with the know-how given.

6.81. In this connection, the Department of Atomic Energy stated that:—

“IRE has drawn up with M|s. Metplant No. 1 Pty. Ltd., Australia, an Agreement for personnel training for the Minerals Sands Separation Plant. A separate agreement for training was considered advantageous as it would be easier to identify the areas of responsibility in respect of training of Indian personnel, particularly where training

is of specialised nature in terms of technology or where the outlay of training is comparatively large. It will be easier for IRE to operate this agreement independently without any reference to the operation of other agreements with M/s. Metplant concerning construction, supervision and commissioning.

As far as the BCA Agreement is concerned the agreement provides for BCA, training a maximum number of four (4) engineers from IRE at BCA's plant in U.S. or at any other plant under operation licenced by BCA for plant operation and production control for a total period of 8 weeks. The expenditure for travel and training including boarding and lodging of these engineers will be borne by BCA.

Necessary provision for attachment of Indian personnel with non-Indian personnel for picking up intricacies of the work and develop capacity for handling it has also been provided in IRE's agreement with VB Benett. in regard to the design of the dredge."

*Expenditure on training for the period : 1969-70 to 1973-74*

Sector	Number of People sent for training	Payment to collaborators for training	Payment to Indian trainees abroad in foreign currency
		(Figures in lakhs)	(Figures in lakhs)
		Rs.	Rs.
1. Communications . . . . .	8	Nil	1.41
2. Defence (b) . . . . .	233	Nil	12.49
3. Energy . . . . .	27	2.06	3.67
4. Industry & Civil Supplies (c) . . . . .	401	2.68	Rs. 30.40 10.007
5. Industrial Development . . . . .	37	4.42	3.42
6. Petroleum & Chemicals (d) . . . . .	323	0.85	10.15
7. Shipping & Transport . . . . .	13	10.30	0.49
8. Steel & Mines . . . . .	651	48.40	42.97
9. Supply & Rehabilitation (e) . . . . .	9	A\$ 0.07	
<b>TOTAL : . . . . .</b>	<b>1702</b>	<b>Rs. 58.41</b> <b>10.30</b> <b>A\$ 0.07</b>	<b>Rs. 109.40</b> <b>10.007</b>

6.82. The Committee are informed that in most agreements, turn-key or otherwise, entered into by Public Undertakings, it has been provided that Indian personnel/engineers should be trained by collaborators. They agree with the view expressed by the undertakings in general that a clause on training should form an integral part of the collaboration agreement itself in the interest of absorption of know-how at a quicker pace at no extra cost and stress that the Indian engineers/technicians should be associated with the foreign collaborators during the various stages, particularly the design stage of the plant, for long enough period to enable them to pick up the intricacies of the work and develop the necessary expertise in this crucial field. In this connection the Committee would also invite attention to recommendation in para 7.14 of their 17th Report (1971-72) on Personnel Policies and Labour Management Relations in Public Undertakings. The Committee suggest that during the period when Indian engineers work with foreign experts for designing, commissioning, operation etc. of plant, emphasis should also be laid on the acquisition of knowledge and expertise for reaching full production upto the level of installed capacity at the earliest and maintaining it at that level. The Committee have come across cases where absence of maintenance schedules has resulted in frequent breakdowns hampering production. In the opinion of the Committee, the maintenance of plants (including drawal of maintenance schedules) should therefore be an important aspect to be taken care of. The Committee suggest that arrangements for training should be provided at the collaborator's works on machines and equipments which are more or less identical with those which would be supplied under the terms of agreement for installation in the country and such training should be much before the commissioning of the plant. The Committee recommend that a careful watch on the extent of the facilities actually made available to the Indian engineers and personnel should be kept so as to ensure that full advantage of training is secured. The Committee also suggest that suitable guidelines in this regard may be issued for the benefit of the Undertakings.

6.83. The Committee need hardly stress that there should be coordination amongst the Public Undertakings working in the same sector so as to cover amongst themselves the entire gamut of designing, operation, maintenance, etc., of plants and projects.

6.84. The Committee note that the training in steel technology arranged for Bhilai and Durgapur engineers/technicians provides a comparative picture which can serve as a guide about the type of training that should be imparted to achieve the best results, The



Committee are informed that in the case of Bhilai, the engineers under training were put actually on the job in Soviet Union and they had to operate the machinery themselves and produce; but in the case of Durgapur, the trainees were merely "observers" in the United Kingdom and it is stated by management of Durgapur Steel Plant that "that is not a right thing to do". The Committee would commend the example of training to Bhilai engineers for adoption by the Public Undertakings. The Undertakings should also make sure that content and duration of training is precisely spelt out in consultation with the collaborators before deputing them for training abroad and that the technicians actually receive practical training in the maintenance and operation so that the undertaking can derive maximum benefit out of their experience abroad.

6.85. The Committee note the systematic efforts made by MECON to arrange for training of their engineers and their personnel in crucial areas in steel technology so as to attain self-reliance. They would stress that the strategy evolved by MECON should be followed by other Undertakings, as necessary, to expedite attainment of self-reliance in fields of crucial importance for development.

6.86. The Committee suggest that the Indian personnel and engineers on return from abroad should be required to submit a report giving a precise account of the training that they have received and also about the significant developments in technology which would be of interest to the Public Undertaking. The Management should carefully scrutinise the report with a view to identifying points which should be beneficial to the undertaking and take suitable measures as may be necessary in this regard.

6.87. The Committee also suggest that adequate safeguards and stipulations should be made to ensure that, on return the trained technicians are obliged to serve the sponsoring undertaking for considerably long periods so that the advantages of training are not lost to the Undertaking. The sponsoring organisation should put the services of such trained technicians to the best possible use not only in the sphere of operation and maintenance of the plants, as such, but also in making them impart in-plant training to their technicians working in the unit so as to produce second generation experts in the long range interest of the Undertaking. Besides giving training to others, the trained engineers and personnel on return from abroad should be required to share their experiences in "workshops" with other colleagues in the Undertaking.

#### D. Equipment and Spare Parts

6.88. From the information received from over 50 undertakings, it is seen that most of the collaboration agreements specifically include

the supply of equipment, spare parts and components of undertakings and their sequence of scheme. However, Cochin Shipyard, Hindustan Antibiotics, HMT, IRE, Lubrizol, NIDC, have stated that their agreements do not include supply of equipments, spare parts etc. The agreement of Rourkela steel Plant is stated not to include provision for compulsory channelising of imports through the foreign collaboration. Instrumentation Ltd. have stated that though their contract with M/s. Prommash export USSR included the supply of equipment, their collaboration with M/s. Yamatake Honeywell, Japan, did not. Richard son & Gruddas and M/s. Jessop & Co. have stated that the supply of equipment is not included but wherever it is inescapable a separate supplies agreement is drawn which indicates the details of equipments, spare parts etc.

6.89. In written information furnished to the Committee most of the undertakings have stated that collaboration agreements for transfer of know-how should not include provision for supply of plant and equipment as this will make the country dependent totally. Some of the Undertakings (BALCO, BOGL) have stated that supply of plant and equipment may be limited to only the sections which are not available in the country and which are being produced in the collaboration country. While some undertakings (BHPV, FCI, IDPL, HMT) have stated that provision for import of proprietary items or core of the plant may be necessary, others (BEML, BHEL, Lubrizol and MAMCO) have suggested that the advice/technical assistance of the collaborators may be sought in selection of type of plant and equipment.

6.90. BHEL has stated that sufficient knowledge and expertise in selecting the plant and equipment from other sources should be developed prior to collaboration wherever possible. The collaboration agreement can include a provision for a technical report giving the collaborator's advice regarding equipment especially when adoption of a process patented/developed by the collaborator is concerned. Where a totally new product is being developed for which no expertise is existing it may be necessary to include supply of plant and equipments. Such an arrangement should be the exception and not the rule.

6.91. BHPV has stated that such a provision regarding freedom to the Indian party to purchase plant and equipment from the best possible sources at the cheapest possible prices is not always possible as the collaborator insists that certain items of proprietary nature not available in India should be procured from the sources indicated by the collaborator in order to ensure that the equipments manufactured under the technical know-how do give desired results.

6.92. FCI has stated that it would be in the best interests of the country to take only the basic process design package and the equipment of proprietary nature without which these guarantees of the collaborator would not be valid and to do the entire detailed engineering indigenously so that the Indian expertise can be developed both for putting up the plant and fabrication of equipment.

6.93. IPCL has stated that only in certain very specialised fields the plant and equipment have to be imported.

6.94. HEC and HPF are in favour of inclusion of clause regarding supply of plant and equipment. HEC has also stated that advantages of buying equipment from the collaborator are that the process is warranted by the Collaborator and output guarantees are in line with the techno-economic assessment of the project given by the Collaborator if he supplies the equipment also. It is possible that where agreements are entered into with other than East European Countries it may be advantageous to buy equipment from other sources to the specifications given by the Collaborator.

6.95. The sequence of delivery, it is stated, has not been provided in the agreement of BOGL and Bhilai. The supplies of equipments in the case of Bokaro is said to have been supplied in proper sequence by the collaborator although there is no mention about it in their agreement. CMA's contract with the Russian, is stated, do not provide for sequence of delivery. Garden Reach Workshop have stated that their agreement does not mention about the sequence for delivery of equipment but depending upon their production programme, the delivery of various equipments/components is mutually agreed with their collaborators.

6.96. It has, however, been pointed out by some of the undertakings, that there has normally not been any description of time schedule on account of late receipt of imported equipment. HPF in their post evidence reply has stated that the start-up of production was delayed by four years because there had been some delay in the actual receipt of equipment due to certain inevitable change in the design of building, equipments etc. Based on the level of production envisaged in the DPR, the production loss is claimed to be Rs. 38.25 crores whereas based on the targetted production during the period June 1967 to 31-3-1971 the production loss is claimed to be Rs. 17.67 crores. It has further been pointed out that due to overlapping of responsibilities between the collaborators and the company, no responsibility could be fixed on the collaborators on this account.

6.97. IOC (Refineries) has stated that though there has been delays in the agreed schedule of supplies by the foreign collaborators, it is not possible to conclude that the erection schedule was affected solely on account of the delays in the deliveries of equipments and materials by them. Delays in erection has been attributed to various factors such as unsettled labour conditions at site, strikes or failure on the part of contractors delays in receipt of indigenous supplies etc. though action is taken against the collaborator in terms of the agreement entered into with them for delays in the supply of equipment concerned.

6.98. The agreement of most of the Undertakings providing for supply of equipment is said to provide for pre-inspection and testing of the equipment before despatch. BALCO, Bhilai, IL. Lubrizol, Machine Tools Corporation, Tungabhadra Steel Products & HTL have stated that their agreement do not provide for a pre-inspection and the testing of equipment before despatch. EP (I) L have stated that although no specific clause is stipulated in the agreement, DEMAG is responsible for performance of the complete furnace which includes imported equipment from DEMAG. The agreement of IDPL with the Government of USSR is said to contain stipulations to the effect that the materials and equipment supplied will conform to the quality as per certificates or test certificates of the manufacturing Plant, but do not provide for pre-inspection and testing by the purchaser.

6.99. While the agreement of some of the undertakings is said to contain the procedure for obtaining equipment or spare parts not already included in the initial agreement, BHPV, BOGL, Hindustan Cables, Bhilai, HZL have stated that their agreements do not indicate the procedure for obtaining equipment or spare parts not already indicated. The agreement of BALCO is said to provide for additional deliveries of equipment and spare parts over and above the quantities specified in the agreement, if necessary to be effected on terms and conditions and within the time limit to be agreed upon between the company and the Soviet Party for separate payment. The agreement of CMA with Poland is said to contain a clause to the effect that the supply of spare parts would be the subject of a separate contract to be concluded later. M/s. Richardson and Cruddas and Jessop and Co., have stated that wherever it is considered necessary to cover such a contingency a supplementary supplies agreement is concluded. HPF in their post evidence reply has stated that the collaborators have agreed to supply the spares etc., for a period of five years at a reasonable cost. BALCO's agreement with the Soviets is said to envisage supply of spare parts to the extent of 10 per cent of the total equipment cost and in case additional deliveries

of equipment, over and above the quantities specified by the agreement, is necessitated, such a delivery shall be elected on terms and conditions and within time limits to be agreed upon. MAMCO has stated that spares accessories can be included in the original contract or can be covered under a separate|supplementary agreement and no difficulty is experienced in procurement of spares. IPCL has said that the contract includes provision for additional equipment, not listed during the course of construction, alongwith the spares for successful operation of the plant for an initial period of two years, subsequent imports being through normal channels after obtaining necessary import licences therefor from time to time. HEC has stated that spares are generally ordered from the collaborator initially for a period of two years and that every endeavour is made to manufacture these spares in the plant or obtain indigenously and when this is not possible, import is said to be resorted to and in case the collaborator continues to make the same equipment, he normally supplies the spares when required.

6.100. Though most of the undertakings have agreed on the point that there should be a sequence in the supply of indigenous equipment and that it should be synchronised with that of imported equipment to avoid delays, it has not been indicated in most of the agreements. IOC Refineries have stated in their post evidence replies that the procurement of indigenous equipments and materials is the responsibility of the Uundertaking and that it will be difficult to hold the foreign collaborators responsible for linking the timings of the supplies with the procurement of indigenous equipments and materials as the collaborators have no control over the procurement of indigenous materials. Though, it has been stated that considerable attempts have been made to ensure that indigenous supplies synchronise with imported supplies, it has not always been possible to achieve this in some cases, due to various reasons such as strikes, lock-outs, and electricity cuts by State Governments etc.

6.101. BALCO & BHEL in their post evidence replies have said that it is not necessary to include the supplies of indigenous equipment in the collaboration agreement as it is taken care of in the PERT Network which is evolved at the beginning of the network. IPCL have expressed their opinion in the post evidence replies that as supply of indigenous equipment is not the responsibility of the foreign Collaborators, the question of laying down the sequence of delivery in the agreement does not arise. FCI have expressed their feeling that the procurement of indigenous equipment is the responsibility of FCI and it is not possible to include the schedule for de-

livery of indigenous equipment in the collaboration agreement. They have stated their experience that one of the major reasons for delay in the completion of the project is that the supply of indigenous equipment is substantially delayed by some of the major undertakings. FCI have given the following suggestion to overcome the difficulties caused due to delay in the supply of the equipment:—

- (i) The payment to be made to the foreign party should be linked with the supply of equipment and the shipping documents,
- (ii) A guarantee should be given by the foreign collaborator to supply the equipment in time, failing which penalty should be leviable;
- (iii) The penalty should be levied by relating the penalty to the cost of not delivered equipment but if the delay is unreasonable, may be more than 12 weeks, the levy of the penalty should be linked to the value of the contract.

6.102. The agreement of Instrumentation\* Ltd., Hindustan Aeronautics, Hindustan Latex, Hindustan Organic Chemicals Ltd., MAMCO and Mazagon Dock is said to provide for compulsory channelising of imports. HZL have stated that under the foreign credit terms the supply has to be met from the aid giving country and the payments are made out of aid funds. IOC (Pipelines) have stated that their agreements with any consultancy organisation do not specify any source of raw material but their collaboration agreements tied with foreign credit provides imports through their collaborators. IPCL have stated that in cases where foreign exchange payments are tied with any credit arrangements, the supply of equipment or the provision of services will have to be regulated according to the provision of these agreements.

6.103. To a question as to whether compulsory channelising of imports through the collaborators implied that the equipments were not available indigenously or through other sources of imports, almost all the undertakings in their post evidence replies had agreed on the above view point that the imports of equipment are gene-

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\*At the time of factual verification Instrumentation Ltd. stated that the contract with Messrs. PROMMASHEXPORT made in 1964 for Kota plant provided for supply from USSR as there was no other source or Government agency for the supply

rally channelised through foreign collaborators only when indigenous equipments are not available. The machines/equipment channelised through the collaborators are said to be mostly of a proprietary nature and the reasonableness of the prices quoted is ensured by comparing it with other international agencies.

6.104. FCI have also stated that it would not be possible to import equipment from the actual manufacturer when the supplier credit has been offered by a collaborator or in the case of Government to government credit, to ensure their overall responsibility. It has been further pointed out that it would be advantageous to import the equipment through the collaborators for the following reasons:--

- (i) The guarantee for the equipment would be available for a longer period as compared to the position if equipments are purchased directly from various suppliers.
- (ii) In case of lapse of guarantee, it is always easier to discuss the matter with one single party rather than to discuss with various sub-suppliers, located all over the foreign country.

6.105. Asked to give the experience of the undertaking as regards compulsory channelising of imports through the collaborators and the effect on outgo of foreign exchange, BHPV have stated that they have experienced no difficulty and that there has been no adverse effect on the outgo of foreign exchange. FCI have expressed their opinion that the equipments supplied by foreign collaborators are costlier as compared to global tenders. Lubrizol have pointed out that imports through collaborators leads to additional expenses as the collaborators and procurement charges in such cases.

6.106. Most of the undertakings have stated that the guarantee period for imported equipment performance guarantee is normally available for 18 to 24 months from the date of last shipment or 12 months from the date of completion of erection which ever is earlier.

**Price of equipments, components etc. quality, variation clause etc.**

6.107. To a question as to how the reasonableness of the price of equipment, components and stores of requisite quality are ensured, the replies of the undertakings revealed that though different methods had been adopted for the purpose, most of the Undertakings have stated that the reasonableness of the prices are generally determined by inviting global tenders.

6.108. BEL have stated that by comparison with similar other items of work manufacturers by market surveys, tenders etc., the reasonableness and quality is ensured. The prices of equipment of BOGL and Bokaro have been said to be indicated on tonnage basis. Bokaro have further stated that the reasonableness of the price offered is based on the following points:—

- (i) Comparing the adjusted prices of similar items in case of other steel plants,
- (ii) By referring to the rates offered in the previously concluded contracts for similar items,
- (iii) By comparing the prices wherever global tenders are invited.
- (iv) By comparing in some cases the prices from indigenous sources for similar/near similar items.

6.109. The price of equipment and spare parts quoted in the agreements of FCI and GRW is said to have been studied by them in relation to their own estimates based on their previous experience and informations obtained from the other sources and in the case of HMT the reasonableness of the prices by comparing the prices quoted by the collaborator with other international agencies. Their collaborator is said to guarantee the output of designed quality in respect of materials supplied by him.

6.110. Durgapur and Rourkela have stated that the consultants are utilised for determining the reasonableness of the price and after the consultants are satisfied about quality, the tenders are accepted. Machine Tools Corporation have stated that the prices are checked with the consultants and their quality is judged from various sources of experienced users of these machines. ONGC have said that the reasonableness of the prices are said to be ascertained on the basis of tendered prices and prevailing world market prices. The quality is stated to be determined through various measures like obtaining test certificates of the manufacturers and warranty.

6.111. Most of the undertakings in their post evidence replies have agreed on the point that the price to be charged to equipment, components and stores should be determined and stipulated in the agreement itself and that it should not be left to the collaborators.

6.112. To another question as to whether the agreements provides for any variation clause in regard to weight, prices, freight,



handlings and other charges, the reply of most of the Undertakings is in the affirmative. The agreement of Undertakings like Hindustan Cables, Hindustan Latex, HOCL, Machine Tools Corporation, CMA, IPCL (Low Density Polythylene, Polypropylene and Arylic Fibre Projects) do not provide for such a clause.

6.113. To a further query as to what should generally be the basis for escalation in the opinion of the Undertaking, IPCL have stated that an appropriate escalation clause or formula should be evolved linking the price increase with published indices which show variation in price levels both in respect of materials and wages, HMT are in favour of the formulas accepted by International Chamber of Commerce\*. In the opinion of Instrumentation Ltd., the prices and charges mentioned in the collaboration agreement for supply of items by the collaborator should be firm during the contract period and in case escalation is insisted upon by the foreign collaboration, this should be based on factors which can be verified by the Undertaking with respect to general price rise of the basic material and labour. HPF have expressed their opinion that the escalation clause should normally provide a formula based on the raw material prices and labour indices in the country of origin at the time of entering into agreement. The variation in prices should be linked with variation in the raw material prices and labour indices.

6.114. The Committee note that from the information supplied by about 50 undertakings that except in the case of HMT, IRE, Lubrizol, Richardson and Cruddas, Jessop and Co., the agreements with collaborators generally provide for supply of equipments and the sequence of delivery is also mentioned therein, though in some agreements the sequence of delivery has not been provided as in the case of Bokaro, Bhilai, CMA, CRW and BOGL. It has however been stated that in the case of Bokaro, CRW, the absence of such a provision has not affected the programme of supply. The Committee have in this connection given their recommendation in paragraph 4.34 of their 68th Report (4th Lok Sabha) on Bokaro Steel Ltd.

6.115. In some cases it has been contended that the absence of a schedule of delivery has not affected the programme of the project. The Committee have also given their comments in the case of Indian Telephone Industries where the absence of a detailed catalogue of spares delivery of equipments and parts has affected the schedule of

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\*BHEL is of the opinion that any of the various internationally accepted variation clauses in regard to weight, price, freight handling, it could be considered suitable.

completion of project vide their Report on ITI (34th Report of CPU, 5th Lok Sabha). The Committee have also given their comments in regard to the delay in start-up of production in the H.P.F. due to delay in receipt of the equipment on account of change of design and the consequent loss of production and also how because of overlapping of responsibilities between HPF and the collaborators no responsibility could be fixed on the collaborators. The Committee would therefore like that wherever collaboration agreements provide for supply of plant and equipments the sequence of delivery of these equipments should be specifically indicated in the agreements and the schedule of delivery should be fixed after taking into account the time fixed for erection and commissioning of the plant. There should also be suitable clauses providing for penalties for late deliveries short and/or defective supplies.

6.116. The Committee note that there is no uniformity of practice is regard to the pre-inspection and testing of equipment before despatch. The agreements signed by most of the undertakings are stated to have provided for such a pre-inspection while the agreements signed by BALCO, Bhilai, IL, Lubrizol Ltd., Machine Tools Corporation, Tungabhadra Steel Products and HTL do not contain any such provision. In certain cases where no such provision was made, the quality of material was assured by the collaborators. The Committee feel that though in cases where the collaborator is ultimately responsible for the performance of the system as a whole or where the contract is for turn-key project, the pre-inspection and the testing of the equipment may not appear to be absolutely essential, it will not only be desirable in the interest of timely detection of any manufacturing or other defect but it will be of advantage to the undertaking if the plant and equipments are inspected and tested before despatch at the works of the suppliers. They would therefore, suggest that a provision for pre-inspection and testing of the equipment before despatch should be included in all collaboration agreements which include supply of equipment.

6.117. The Committee also recommend that it should be ensured that the Provision for supply of plant and machinery through the collaboration agreements should also include provision for supply of spares initially at least for a period of two years to assist the undertaking to overcome its difficulties in regard to to maintenance in the initial stages. The undertakings should carefully scrutinise the list of spares with a view to ensure that the spares are absolutely essential. It should however be the endeavour of the undertakings to develop the spares through their R&D Wings on the basis of indigenously developed designs and drawings concurrently with the subsistence of

collaboration agreement so that the undertakings may not be put to the necessity of importing these spares at a later stage for purposes of maintenance.

6.118. Since supplies of plant and machinery and spares provided for in the collaboration agreements are expected to take into account the availability of indigenous plant and machinery and spares, Government/Undertakings should ensure that the schedule of delivery of such indigenous equipments synchronises with that of the imported equipments to avoid delays in erection and commissioning of plants due to non-supply of indigenous equipments in time. The Committee have during the course of examination of several undertakings, come across cases where delays in supplies of indigenous equipments have affected the programme of erection and commissioning of plants with the result that not only expenses on accounts of collaborators have increased with consequent increase in the outgo of foreign exchange but the collaborators also could not be held responsible for delays in erection|commissioning and/or for guaranteed production, as generally the collaboration agreements provide that normally guarantees are available for a period of 12 months from the date of completion of erection or 18/24 months from the date of last shipment whichever is earlier.

6.119. The Committee are informed that certain collaboration agreements (Instrumentation Ltd. Hindustan Aeronautics, Hindustan Latex, Hindustan Organic Chemicals Ltd. MAMCO and Mazagon Docks) provided for compulsory channelisation of imports. They are also informed that certain foreign collaboration agreements tied with foreign or Government to Government credits provide for imports through collaborators. Certain undertakings (BHIPV, FCI, HEC, HPF) have expressed an opinion that procurement of equipment, particularly equipment of proprietary nature from or through the collaborators has an advantage as in such cases, the guarantee given by the collaborators are valid for longer period and in case of lapse of guarantee, it is easier to discuss the matter with one single party rather than with various sub-suppliers. Almost all the undertakings have however stated that imports of equipments are generally channelised through foreign collaborators only when indigenous equipments are not available and such equipments are mostly of a proprietary nature. The Committee feel that compulsory channelisation of imports through collaborators are only a means of imposing restrictions on purchases and involve not only additional expenditure on foreign exchange but is also likely to lead to increase in the import content of the product.

6.120. The Committee learn that the reasonableness of prices in such cases is ensured by inviting global tenders, comparing prices with those quoted in previous contracts of similar nature in India or abroad or with those of indigenous equipments of similar or nearly similar items, obtaining certificates of manufacturers or through consultants. The Committee are informed that the equipments supplied by foreign collaborators by purchasing from their sub-suppliers are in some cases costlier by 25 to 30 per cent than global tenders and imports through collaborators lead to additional expenses as the collaborators add procurement charges in such cases.

6.121. The Committee are not sure whether it is always possible to retain freedom to procure equipments from the sources of one's own choice where either the agreement is tied to foreign credit or the equipment is of proprietary nature. But they see no reason why the Indian party should be made to buy equipment through the collaborator where either the required equipment of good enough quality is available from indigenous sources or where the collaborator does not himself manufacture the equipment in question but merely procures it from a sub-supplier. The Committee would like the Government/Undertaking to examine this aspect and to resist any such attempt by the foreign collaborator. In view of the experience that the equipments supplied by the collaborators by purchasing them from their sub-suppliers are costlier by 25 to 30 per cent than the global tenders it is all the more necessary that the Government/Undertaking do some hard bargaining with the foreign collaborators and do not agree, as far as possible, to have equipment through them when they themselves are not the manufacturers of such equipment. Where, however, it is un-avoidable to agree to channelise, procurement of equipments through the collaborators, Government/Undertaking should not agree to pay prices which are higher than the world market prices as tested through global tenders or through consultants or otherwise by comparison with the prices of similar or near similar items supplied by the same collaborator to other parties in India and abroad, as far as possible.

6.122. The Committee would like that the prices to be charged for the equipment, components and stores should not be left to the collaborators, as was seen in the case of Hindustan Cables Ltd. but should be determined in advance and provided in the agreement.

#### E. Specification for raw Materials

6.123. The Ministry of Industrial Development have stated that as a general policy Government are averse to any conditions which

provide for compulsory channelising of imports through the collaborators or through sources specified by them and payment of fees or commission thereon. While taking the collaboration agreements on record, the administrative Ministries are required to ensure that there is no restrictive clause in the agreement in regard to purchase of machinery or raw material.

6.124. A large number of public undertakings have stated that the agreements provide for relevant clauses regarding specifications of raw materials, the quality of the materials and alternative processes instead of a more documentation.

6.125. Cochin Shipyard, MECON and Hindustan Zinc Ltd. have stated that this clause is not applicable to them as in their case the agreement was only for technical consultancy. Similarly, Engineers India Ltd. FACT and NIDC have stated that their agreements were only for import of know-how.

6.126. BALCO has stated that though their agreements provide for specifications of raw materials and quality of materials, no alternative process is indicated. The procurement of materials of the right type and quality conforming to the specifications is ensured through their quality control personnel. Bharat Pumps and Compressors Ltd. has stated that the question of alternative process does not arise in the manufacture of Pumps and Compressors. Bokaro Steel has stated that the Inter-Governmental agreement provided that the equipment and materials supplied shall be in conformity with the specifications of the Detailed Project Report of the Plant and in conformity with the standards in force in USSR as well as with the climatic conditions of the Bokaro site. Cochin Refinery has stated that the list of sources of supply of imported crude oil could be altered or amended from time to time with the mutual written agreement of the Government and Phillips Petroleum Company. Fertilizer Corporation of India has stated that specifications of raw materials and the utilities are also in the agreement on the basis of which process guaranteed to be proved by the collaborator are also given. The specifications are widely flexible to cover contingencies. Further, in the case of contract with M/s. Nissan of Japan for use of their process for production of phosphoric acid, the alternative sources of supply of rock phosphate were also indicated. Garden Reach Workshop has stated that the proper material specifications furnished by the collaborators normally need to be substituted by materials of equivalent specifications to suit Indian conditions.

6.127. Heavy Engineering Corporations have stated that in the case of Heavy Machine Building Plant, as per the agreements they get certain reference documentations wherein specifications of materials are given. But they have developed sufficient know-how to substitute them with available Indian raw materials and alternative process where required.

In the case of Heavy Machine Tools Plant the specifications|quality of the materials is indicated on the collaborators documentation according to the Czechoslovak National Standards. As a part of the indigenisation programme, the Design Department of HMTP selects alternative indigenous materials of the right type and quality. In the case of collaboration agreements with the West Germany, specifications|quality of the raw materials are indicated on the documents. These are substituted by the equivalent indigenous materials by the Design Department.

6.128. HMT has stated that in the case of non-availability of raw materials and their quality provided for in the agreements from indigenous sources Government's approval is sought for the import of such materials. Hindustan Photo Films Mfg. Co. Ltd. have stated that the agreements provide for the collaborator to furnish technological operation documentation which include, among others, specifications of raw materials and products and analytical techniques for checking the raw materials required for production.

6.129. IOC (Pipelines) has stated that the foreign collaborators are not only concerned with the documentation but are sometimes also associated in selection of right type and quality of material and equipment conforming to the specifications. IPCL has stated that though their agreements provide for specification of raw materials and the quality of finished products they do not provide for alternative processes. However, prior to finalisation of these agreements the availability and specifications of raw materials are ascertained. Instrumentation Ltd. has stated that during the period of the agreement the availability and use of right type and quality of raw materials and process are ensured through discussions with the foreign specialists and the collaborators. Lubrizol (India) Ltd. has stated that periodical dialogues are held with potential suppliers and ancillary industries to improve on the products quality to come close to the raw material specification provided by the collaborator. Machine Tools Corporation has stated that in case the exact type

of materials are not available, materials which are technically suitable and closely resemble the properties of the designed materials, are procured or efforts are also made to import them.

6.130. Mazagon Dock Ltd. have stated that the agreement provisions are comprehensive in this regard and only materials tested and approved by the relevant classification Society e.g. Lloyds Register of Shipping, are procured.

6.131. Regarding sources of supply of raw materials most of the undertakings have stated that it is not indicated in the collaboration agreement. Large number of Undertakings have stated that there is no provision for compulsory channelising of imports, through collaborators and payment of fees and commission thereon. Bharat Heavy Electricals has stated that as a continuing assistance, the sources of supply of quality materials are indicated by the collaborators. Bharat Ophthalmic Glass Ltd. has stated that the agreement provides the sources of raw materials in India. IPCL has stated that except in the case of their agreement with Universal Oil Products Company of USA, no other agreement specifies the source of supplies of raw materials.

6.132. BALCO has stated that the sources of supply of raw materials are ascertained if necessary at the Technical Conferences.

6.133. Bharat Pumps and Compressors Ltd. has stated that the purchase of fully assembled end tested pumps & compressors and progressively of assemblies|sub-assemblies or component was made through a supply agreement with Collaborators. This involves straight purchase and no payment of fees or commission. Hindustan Antibiotics Ltd. has stated that according to its agreement with American Home Products, the collaborator has insisted upon specific raw materials from the sources approved by him. Hindustan Cables has stated that for a few particular machines imports have been made through Collaborators but no extra fees have been paid for these imports to the collaborators. Hindustan Photo Films Mfg. Co. Ltd. has stated that this can only be recommendatory, for general guidance. This cannot be binding on the enterprise, if similar materials are available from other sources to accepted quality standards, at competitive prices. I. O. C. (Pipelines) has stated that provision in the foreign collaboration agreements tied with the foreign credits provided imports through the collaborators at a payment of fixed charges towards freight handling, expediting, procurement and instance etc. IPCL has stated that imports of

catalysts and certain chemicals through collaborators are provided for. Machine Tools Corporation has stated that in their agreement for manufacture of precision grinding machine tools, it has been provided to import group assemblies & components of the machines to be manufactured from the collaborators works. These were imported in the initial years. Prices of these components and group assemblies are mutually decided between parties concerned. Madras Refineries has stated that the agreement provides for channelising imports through their nominated delivery Agents viz. M/s Iran Pan American Oil Company.

6.134 The Committee note that as a general policy Government are stated to be averse to any conditions which provide for compulsory channelising of imports through the collaborators or through sources specified by them and payment of fees or commission thereon. The administrative Ministries are required to ensure that there is no restrictive clause in the agreement in regard to the purchase of machinery or raw materials. The Committee, however, find that these guidelines have not been observed in actual practice in a number of cases. While a large number of public undertakings have stated that the agreements lay down specifications of raw materials, quality of the material and alternative processes instead of mere documentation, alternative processes were not indicated in the agreements in BALCO & IPCL. They also find certain undertakings e.g. IPCL, Hindustan Antibiotics Ltd. Hindustan Cables Ltd., Hindustan Machine Tools Limited and Madras Refineries were obliged to buy materials from sources of supply indicated by the collaborators. IOC (Pipelines) has stated that provisions in the foreign collaboration agreements tied with the foreign credits provided imports through the collaborators at a payment of fixed charges towards freight handling, expediting, procurement and insurance etc.

6.135. The Committee feel that the guidelines laid down by Government in this regard should be followed in all cases and no conditions or restrictive clauses which seek to deny freedom to the Indian parties in the matter of purchase of materials or machinery at internationally most competitive prices may be accepted. If any deviation from such guidelines is deemed necessary in public interest such deviations should be specifically got approved at the highest level.

6.136 The Committee also suggest that Government and public undertakings should ensure that detailed specifications and quality



of materials and alternate processes and sources are invariably spelt out in all the agreements so that the public undertakings are not tied down to one source or one type of raw materials and can choose the right type of raw materials from a wider field in the interest of expeditious and economic implementation of the project. As research and development wings attached to different public undertakings are required to concentrate on import substitution it should be possible to evolve standard specifications for the different kinds of raw materials used or usable as also speed up the process of indigenisation so as to reduce to the minimum the outgo of foreign exchange. There should also be greater coordination between the related undertakings working in the same sector of industry administrative Ministry and the DGTD so that information about such standards and specifications are readily available and could be put to best use of while finalising collaboration agreements.

#### F. Performance Guarantee

6.137. According to the instructions issued by the Government performance guarantee clauses should clearly indicate the liability of the Collaborator/Consultant for satisfactory performance and due fulfilment of the contract in respect of quality, faultless operation, and level of productoin etc.

6.138. From the information furnished to the Committee it is stated that the period of guarantee provided in the collaboration agreements varied from six months to 24 months depending upon the nature of industry. In the cases where collaboration agreement is only for transfer of know-how or technical assistance or financial assistance, such performance guarantee did not exist.

6.139. In some cases, provision has been made in the agreement for extension of period of guarantee for delays in receipt of designs, drawings, equipments, and other materials. In the case of ITI and H.T.L. there was no specific clause in the agreement for extension of period of guarantee on account of delays in supplies etc.

6.140. In case of Fertilizer Corporation of India, the contracts clearly spell out the quality and quantity of the product to be produced by use of a particular process for which agreement is executed with the foreign collaborator. In case of supply of equipment also, the contracts do provide that, in case of any defect in the material, workmanship or performance of the equipment within a particular period from the date of last shipment or within a parti-

cular period from the date of erection whichever is earlier, the foreign collaborator shall replace/modify or repair the equipment as may be necessary to achieve the guaranteed performance.

6.141. However, Civil works, erection of plant, procurement of indigenous equipment and in most cases detailed engineering is the responsibility of FCI and as such foreign collaborators do not take the obligation of completion of the project in time since they have no control over these activities. The contracts also provide for the extension of the period of guarantee if the same are not conducted for reasons exclusively attributable to contractor including delay in supply of drawing, design data and equipment. In case of lapse of guarantees stipulated in the contracts for reasons for which collaborator is not liable, some *via media* is found out to solve the problem.

6.142. Bokaro Steel has stated that the inter-governmental agreement provides that the Soviet Organisation shall guarantee that—

- (i) the detailed Project Report shall conform to the stipulated production capacity.
- (ii) the equipment delivered by the Soviet Organisation shall be in conformity with the said detailed Project Report; and
- (iii) the performance of the equipment shall be in accordance with their stated capacities.

6.143. The Soviet suppliers are responsible to guarantee the quality of the delivered equipments for 12 months from the date of putting the equipment into operation or 18 months from the date of delivery of the last part of any unit of the machine without which it could not be operated whichever is earlier.

6.144. In respect of equipment for Rolling Mills the guarantee period extends upto 24 months from the date of delivery. The suppliers have to rectify the defects or replace the defective equipment or parts thereof, if the equipment proves to be defective during the period of guarantee. In such cases, the guarantee period for the corresponding part of the equipment is increased by period necessary for repair or replacement.

6.145. Bharat Ophthalmic Glass Ltd. and Cochin Shipyard Ltd. have stated that their contracts with collaborators did not clearly

spell out the liability of the collaborators in regard to the fulfilment of the contract in respect of quality, timely and trouble-free operation and guaranteed level of production at an economic cost. Their contracts did not also provide for extension of the period of guarantee on account of delays in supply of drawings, designs, data, equipment, etc.

6.146. Collaboration contracts of CMA (including NCDC) provide for preparation of feasibility/detailed project reports and working Drawings, supply of machinery and technical collaboration for development of mining projects. The project reports are based on geological and other data available at the time and stipulate the targetted production to be achieved and the period during which this would be achieved. In actual practice, the geological and other conditions actually met are not as envisaged and this naturally results in delay in achieving the targetted production. It is stated that from the very nature of work it is not possible to make a provision in the contracts for development of collieries for giving of guarantee about quality, timely and trouble-free operation and guaranteed level of production.

6.147. The contracts of CMA, however, contain a guarantee in regard to the quality and operation of the equipment for a specified period.

6.148. In the case of IOC (Pipelines), the guarantee period starts from the date of final acceptance of the system. In their consultancy agreements, the guarantee period is linked with the commissioning of the pipeline system. Even though individual equipment performance may be tested at shop, it is not possible to judge the performance of the entire system including equipment and plant before the commissioning.

6.149. In so far as IOC (Refineries) are concerned, performance guarantee covers a specific period after commissioning or from the date of delivery which varies from 18 to 24 months in various contracts. In the case of technology since the performance guarantees are related to the period after start-up, if there are delays in supply of drawings, design data or equipment and materials, or even in construction, the guarantees are automatically extended. In the case of equipment, the guarantees are for specific period after delivery.

They have further stated that there are two types of guarantees. One specifically for equipments and materials and other for the

complete system. The performance of the complete system has to be demonstrated after the erection is completed and usually in contracts, there is a provision for ensuring that the plant shall perform in conformity with the guaranteed standards. In the case of contracts other than with USSR, there is a further provision for penalties in case there are any acceptable short-falls in the performance. In the case of contracts with USSR, provision exists for trial runs for testing the guaranteed performance of the plant and also remedial action at the cost of USSR organisation to be taken for bringing up the plant to the guaranteed standard.

6.150. In case of contracts of Indian Rare Earths Ltd. with V. G. Bennet & Associates it has been provided that if any machinery or equipment manufactured according to Bennet's design, fail to perform its specified function for reasons of faulty designs, the consultants will be liable for the expenses of rectifying the defects in such machinery and equipment.

6.151. This guarantee shall be applicable even if the execution of the project is delayed. A separate clause is, however, incorporated that if the Designs & Detail work is delayed beyond 52 weeks for no fault of Bennett, IRE shall be liable to pay an increase in fees of 0.25 per cent of balance payable per week for every week it is delayed. But if the delay is caused for no fault of IRE, then without prejudice to IRE's right to claim all losses and damages, Bennett shall complete the work as expeditiously as possible without extra cost.

6.152. HEC has stated that performance guarantees are given for integrated plant supply from the same source. These are also called output guarantees spread over a period of time within the warranty period of equipment.

6.153. In the case of Hindustan Photo Films guarantee started only after the completion of performance tests, and as such it was considered not necessary to provide for extension of the period of guarantee on account of delays.

6.154. In so far as Alloy Steels Plant is concerned the guarantee period for the equipments supplied by the foreign collaborators was usually for a period of 12 calendar months reliable regular working of the plant commencing from the date of unit going into operation or 30 months after the last consignment necessary to complete the unit reported by the contractor to be ready for despatch.

whichever was earlier. When the guarantee period was reckoned from the date of the unit going into operation the extension of delivery schedule did in no way affect the guaranteed period of 12 months of reliable regular working. However, when the delivery of supplies were delayed even after the contractors' reporting that the last consignment of supplies was ready for despatch, the Agreement did not provide for any clause that any extension of delivery period would automatically extend the guarantee period also. But in case of foreign collaboration the guarantee period had to be curtailed owing to the delayed supplies of the equipment.

6.155. In the contracts of Rourkela Steel Plant, the guarantee period is reckoned from the date of commissioning. Hence there was no question of extension of the guarantee period.

6.156. In the case of IPCL the total systems are guaranteed by the foreign collaborator. If the imported equipment is obtained through the collaborator and if any such equipment is responsible for any shortfall in meeting the overall guarantees the collaborator has to replace that particular equipment free of charge. In the case of indigenous equipment obtained by owner if the below-par performance of the equipment could be traced to basic design defects, the foreign collaborator is responsible for corrective engineering and replacement, if necessary.

6.157. In written replies after evidence regarding the period which the undertakings considered to be reasonable, BOGL has stated that 12—24 months period is reasonable depending on production cycle. Performance guarantee regarding rated capacity should be valid for at least six months after the first production starts. BHPV has stated that a minimum guarantee period of one year from the date of completion or 24 months from the date of shipment should be insisted.

6.158. IPCL has stated that the reasonable period of guarantee should be 12 months from the date of start up or 24 months from the completion of FOB deliveries or 48 months from the effective date of the agreement, whichever is earlier.

6.159. While BHEL has stated that reasonable period of guarantee will depend on nature of equipment, HEC, HMT, IRE and Lubrizol have stated that guarantee period will vary from Industry to Industry.

6.160. Lubrizol(I) Ltd. has stated that most new undertakings would have initial teething troubles before production/process has stabilised. The period of guarantee should cover such period fully. The period in all cases should start from the date of commissioning of the Plant and not the date of delivery of equipment.

1.161. HPF has added that the Collaborator should guarantee against defective materials or faulty construction or operation to replace the same free of charge at site.

6.162. The Committee in their 55th Report (5th Lok Sabha) on Hindustan Photofilms Mfg. Co. Ltd. had pointed out about the failure of the management to provide for suitable acceptance tests so as to ensure input-output relationship at early stage of production.

6.163. In their action taken reply, Government have conceded that the original collaboration agreement did not provide for suitable acceptance tests. Accordingly when the agreement was modified in 1966 it was suitably amplified so as to spell out acceptance and performance tests.

6.164. The Committee in their 56th Report (5th Lok Sabha) on IDPL found that the contract was silent as to the collaborator's responsibility for loss of production due to mal-functioning of plant and equipment.

6.165. In their action taken reply, Government have stated that the Bureau of Public Enterprises have issued a standard check list on foreign consultancy/foreign collaboration agreements and it is expected that these check lists would adequately meet all the shortcomings of such agreements in future.

6.166. The Committee note that according to the instructions issued by the Government, performance guarantee clauses should clearly indicate the liability of the collaborator/consultant for satisfactory performance and due fulfilment of the contract in respect of quality, faultless operation, and level of production, etc. From the material placed before them, the Committee find that period of guarantees varied from six months to 24 months depending on the nature of agreement and in some cases extension of period of guarantee for delay in receipt of design, drawings, equipment and other materials has also been provided.

6.167. The Committee, however, find that the contracts entered into by some public undertakings did neither clearly spell out the liability of the collaborators in respect of quality timely and trouble free operation and guaranteed level of production nor for extension of the period of guarantee on account of delays in supply of drawings, designs data, equipments etc. The Committee are surprised that omission of such important provisions was not detected by Government before approval to these foreign collaboration agreements was accorded. The Committee stress that clear responsibility and liability of the foreign collaborator for proving performance of the equipment/system at his own cost before final payments are released should invariably be provided in each, foreign collaboration agreement. The administrative Ministry concerned and the FIB should in particular ensure that adequate provisions in this regard is included in the agreement before it is approved and signed.

6.168. From the information regarding the contracts signed by various Undertakings for supply of equipment etc. (other than those for consultancy agreements or for complete systems) the Committee find that there is no uniformity in regard to the point of time from which the period of validity of the performance guarantee given by the Collaborator is counted. In the case of FCI, the guarantee is valid for a particular period from the date of last shipment or within a particular period from the date of erection, whichever is earlier. The inter-governmental agreement with the Soviet Union in the case of Bokaro Steel Ltd. provided for performance guarantee for 12 months from the date of putting the equipment into operation or 18 months (and in some cases 24 months) from the date of delivery of the last part of machinery, whichever is earlier. Similar was the position in agreements signed by IOC (Refineries). In the case of Alloy Steels Plant the guarantee period extended to 12 months' reliable regular working of the plant from the date of unit going into operation or 30 months after the consignment necessary to complete the unit was reported by the contractor to be ready for despatch, whichever was earlier. In the case of Rourkela Steel Plant, the guarantee period was reckoned from the date of commissioning. The Committee are informed that in the case of delay in the commissioning of the project for which the foreign collaborator may not be responsible, the guarantee period provided in the agreement is not automatically extended in all cases though the FCI has stated, some via media is found out to solve the problem. In the foreign collaboration agreement signed by the Indian Rare Earths Ltd., the guarantee clause was made

applicable even if the execution of the project was delayed for no fault of the foreign collaborator, but on payment of an increase in fee at a pre-determined rate payable for each week of delay.

6.169. The Committee have come across cases where because of delays in the supply/erection of indigenous equipment (IPCL-Propane compressor), lack of power supply (FACT-3rd stage expansion) etc. for which the foreign collaborators could not be held responsible, the period of guarantee expired before the project was ready for commissioning and in such cases the performance guarantee lost all relevance and as happened in the case of FACT (3rd stage expansion) the undertaking had to get the equipment rectified on its own. They feel that the point of time from which the guarantee period should be counted is of primary importance, the scheme of performance guarantee would be illusory if the period is fixed without any relation to reasonable period over which the performance can be tested. The agreement should clearly stipulate that the liability of the foreign collaborator for proving performance shall stand for a mutually agreed period which may start from the date when the plant is commissioned and not when the plant/equipment is despatched or some parts of it are erected. The period should be long enough to test the quality, capacity and endurance of the plant and equipment under full pressure and the plant authority should physically operate the plant under full pressure on a sustained basis for the stipulated period before accepting the equipment and releasing moneys on account of final payment.

6.170. The performance guarantee should cover not only the performance of individual plants and machinery, quantity/quality of products but also the performance of the system as a whole for a fairly long period depending upon the nature of collaboration.

6.171. The Committee also suggest, that, in case there is some delay in proving performance after the stipulated date due to factors for which the collaborator may be responsible, the period of guarantee should automatically stand extended by corresponding period of delays and a provision to this effect should be made in the agreement itself.

6.172. The Committee feel that it should also be made categorically clear in the agreement that rectification of defect/deficiency in the quality or capacity of an equipment or plant detected in performance test and even replacement of equipment, if found necessary, would be done at the cost of the collaborator and all



the additional expenditure on stay of foreign experts, freight etc., would be borne by the foreign collaborator.

6.173. The Committee also feel that the liability of the foreign collaborator should not end with proving the performance of the plant and equipment within the guarantee period. Apart from performance, the quality of equipment is equally important and can be proved only after it runs for a sufficiently long period. They are of the opinion that if after the expiry of the guarantee period, but within a period to be stipulated thereafter there is a breakdown of equipment due to any manufacturing defect or if it is discovered that the material used in the fabrication or assembly of equipment or plant is below specifications, the collaborator should be held accountable for supplying equipment/plant made of such defective material and thus violating the terms of agreement. The Committee would like Government to examine this aspect in depth and explore the possibility of including a suitable provision in the agreement in this regard to guard against equipment of sub-standard quality being foisted on the public undertakings.

#### **G. Passing on improvements in know-how by Foreign Collaborators.**

6.174. According to the Ministry of Industrial Development Government do not specially lay down a condition to ensure that the collaborators pass on the benefits of improvements in the know-how effected by them from time to time to the Indian parties. It is largely left to the initiative of the Indian parties to secure the most advantageous terms including the benefits of improvement in the know-how effected by the foreign collaborator from time to time.

6.175. Where the Indian entrepreneur is able to negotiate with a foreign collaborator and make the latter agree to the incorporation of a condition that future improvements in design and technology during the currency of the agreement would be passed on to the Indian entrepreneur free of cost, such a stipulation is made in the Foreign Collaboration agreement. However, generally there is no such condition in Foreign Collaboration agreements as the transferee is not able to persuade the transfer to accept such a condition. It may also be added that in some cases where a condition of this nature is included in the agreement it is based on reciprocity i.e. both parties to the agreement commit themselves to pass on each other the fruits of further research and development in terms of improved technology.

6.176. As many as 46 public undertakings have stated that suitable arrangements exist for passing on information concerning improvements in the technical know-how effected by the collaborator during the currency of the agreements. In most cases this is done by incorporating suitable provisions in the agreements. In some cases this is ensured by obtaining periodic reports as well as by associating Indian Engineers|personnel with the collaborator at the various stages of work right from the designing to the stage of production. Indian engineers are sent for training abroad in the firms of callaborator|design Institute of collaborating country and then they are made to work with the exports of collaborators.. In case of Bokaro Steel Plant, the detailed project report incorporates the most progressive, technology and recent development of soviet practice, high capacity units comprehensive mechanisation. and automation of technological processes and transport systems. The DPR envisages the most recent and reliable equipment, economic and standardised building and structures, and adequate general work facilities.

6.177. Engineers India Ltd. stated that it is in the interest of collaborators that EIL sell the equipment because then only can the collaborators expect to get royalties. Collaborators are obliged to provide EIL latest and upto date technical know-how. Besides, EIL deputes its engineers to collaborator's overseas offices from time to time where they work along with the collaborations" engineers and pick up the latest technology|information available with them.

6.178. It is provided in the agreements of FCI that any improvements made in the process shall be passed on to FCI free of cost for incorporation in the plants for which the licence to operate the process has been obtained. However, in case of patentable inventions, the terms and conditions have to be mutually agreed for making use of such inventions in FCI's plants.

IPCL has stated that all their collaboration agreements for supply of technical know-how excepting those in respect of Gujarat Aromatics Project and Gujarat Olefins Project provide for exchange of improvements effected by the collaborators from time to time in the know-how for a specified number of years either from the date of start-up of the plant or effective from date of the agreement.

6.179. In the case of IOC (Refineries) the technical know-how for the design, construction and operation of the three existing refineries, namely, Gauhati, Barauni and Gujarat, was obtained

from Romanians and Soviet Union. The offers were linked with the credit advanced by the countries. Therefore, whatever technology was offered by these two countries which conformed to the approved detail project reports, has to be accepted as such.

6.180. However, in case of the Haldia Refinery, there are two collaborators, namely, Rumanian and French company Technip. For the first time various licenced processes like catalytic reforming, hydro-desalphurication, hydro-finishing etc. falling under the Technip scope of work have been evaluated on the basis of international bids. The Rumanian part of the refinery technology offered by them has been accepted without any competitive bids. Due to the very nature of the government to government agreements linked with long range rupee credit facilities, there is hardly any choice to obtain competitive technology. Wherever such an opportunity existed (as in the case of the French part of the Haldia Refinery) modern process evaluation methods, codes and standards were utilized to obtain the best technology available.

6.181. In the case of process know-how obtained from licensors by payment of know-how fees, generally if major improvements are effected on the patented process, invariably the licensors get in touch with us to know whether we would be interested in purchasing such improved process, in which case a fresh agreement would be required. Regarding other normal improvements in operational efficiency, the licensors can be, as the good business practice, expected to inform us of such improvements which might have come to their notice as a result of some problems faced in other units. However, there is no specific provision in the contracts on this aspect.

6.182. The Collaboration agreements for Cochin Refineries provides for paying the collaborator a technical service fee for technical services including technical achievements and research during the term of the agreement conducted outside India releasing to refinery operations.

6.183. BCCL has stated that:—

“Indian engineers are sent for regular training in Polish design institute when they have an access to know the latest in the field of mine designing etc. On their return they are associated with Polish Experts in preparation of mine designs. This alone ensure that latest in mine design is passed on to us.”

6.184. In the case of six undertakings neither any provision was made in the collaboration agreements nor suitable arrangements exist for passing on information concerning improvements in the technical know-how effected by the collaborator during the currency of the agreement. Out of this, agreements of three undertakings, i.e., BOGL, CMA and HSL (Bhilai) were based on Inter-Governmental arrangements.

6.185. In the case of Alloy-Steel Plant, although the agreement provided that the benefits of improvements of know-how effected by the Production Adviser from time to time should be passed on to the company, there was no specific provision in the agreement to ensure it.

6.186. Indian Rare Earths Ltd. has stated that:

“No sooner the construction is completed and the fees paid to the consultants, then the validity of the agreement shall expire. The consultants are therefore not liable to pass on to IRE any improvements in the technology that may be developed in future.”

6.187. During evidence the representatives of some of the Public Undertakings stated as under:—

6.188. The representatives of IOC stated:

“If any advancement takes place in a particular technology which is a patented process we have got an agreement with the collaborators from whom we have taken the process, that the advanced techniques will be passed on to us. We have a similar agreement with the institution of France which is in collaboration with Indian Institute of Petroleum that it will pass on to us any advancement made in the technology, without any cost—though, if any research is to be done, they will charge a fee. So, we have made it clear that any advancement in technology should be passed on to us, and they are doing it.”

6.189. The representative of Hindustan Photo Films Manufacturing Co. Ltd. stated:—

“Our collaborators have placed no limitations on the transfer of this technology.”

6.190. The representative of Bharat Aluminum Company Limited stated:

“In so far as Korba alumina plant is concerned, the technology is not transferred to us for use elsewhere. In so far as Ratnagiri alumina plant and Smelter is concerned, the technical know-how stands transferred to us or to any other unit in public sector, if they want to set up a plant in India.”

In so far as Tsvetpromexport is concerned, the technology stands transferred to us.

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I feel, these were the reasons why we did not insist on the technology in respect of Korba plant to be transferred to us. For that they wanted additional money to be given to them.”

6.191. The representative of IPCL stated:—

“In all our agreements, we have a provision, excepting in one case for passing on improvements to us for a specific period of time which is again a very important thing in any industry where technological developments takes place very very fast indeed.”

6.192. In written information furnished to the Committee, some of the Public Undertakings have stated that a provision is made in the collaboration agreements for passing on to the Indian units such changes/improvements, as may become available as a result of further research made or work done by foreign collaborators, automatically without any agreements and/or payments. MHEL has however stated that unusual developments are not included in this category. HPF has stated that in the case of their collaboration with M/s Bauchet & Co. it provided for passing of any improvements made by the Collaborators during the period of five years after start of production. BOGL has stated that this was not ensured.

6.193. IDPL has stated that although in the agreement transfer of subsequent improvement in technology etc. is not provided, the Soviet side has from time to time been making available the latest improvements, new strains and the technological information and details. In the new agreements for foreign collaboration, this clause is proposed to be provided.

6.194. IRE has stated that in the BCA agreement such a provision has been made but in their agreements with VGB, this contingency is not expected to arise because they are for "Design and Detail Drawings", Construction Supervision, Commissioning and Personnel training."

6.195. MAMCO has stated that the latest technological developments resulting from research done by the Collaborator are not automatically passed on free of cost excepting in the case of their agreement with M/s. Dowty, U.K.

6.196. Some of the undertakings have stated that they have not come across any case where changes/improvements have not been passed on to them by their collaborators. Some of the undertakings have stated that this does not apply to them.

6.197. The Department of Heavy Industry have stated that generally in all the agreements such provision exists. However, unusual, developments are not included in this category.

6.198. The Ministry of Petroleum and Chemical and Defence have stated that generally such a provision is made in the agreements.

6.199. The Bureau of Public Enterprises, Ministry of Finance have stated that their guidelines to public enterprises specifically provide for incorporation of any changes, improvements during the currency of the contract, and such alternations would be negotiable as far as payments are concerned.

6.200. The Department of Atomic Energy have stated that in the case of IRE's agreement with M/s. Benilite Corporation of America for the production of synthetic rutile, provision exists in the Agreement for the foreign collaborator making available to IRE any improvement in the processes which have to be licenced to IRE, whether patented or not, for which no additional royalty payment is to be made. However, for any new processes, technology, and developments which are not extension to or a part of the process (that is being transferred to IRE under the present agreement), BCA may separately licence upon payment of royalty or fee as may be agreed upon between the BCA and IRE.

6.201. To an enquiry by the Committee whether there have been any cases in which changes/improvements in the technology developed by the foreign collaborators have not been passed on to Indian Units, the Department of Industrial Development, Department of

Heavy Industry and the Ministry of Petroleum and Chemical have stated that no such cases have come to their notice.

6.202. The Ministry of Defence have however stated that in one or two cases the foreign collaborator did not agree to furnish the know-how concerning the latest types of products developed by them.

6.203. The Committee pointed out that some agreements provided for additional payment for design documents and drawings for improved know-how while others do not provide for any additional payment. In this connection the Department of Industrial Development stated that the Foreign Investment Board has been following a consistent policy in this regard and additional payments for design, documents and drawings for improved know-how have not been allowed.

6.204. The Committee note that the Government do not specially lay down a condition to ensure that collaborators pass on the benefits of improvements in the know-how effected by them from time to time to the Indian parties. It is largely left to the initiative of the Indian parties to secure the most advantageous terms including the benefits of improvement in the know-how effected by the foreign collaborator from time to time. The Committee find that there has not been a uniformity in the practice followed in making or not including a provision in the collaboration agreement to ensure that collaborators pass on the benefits of improvements in the know-how effected by them from time to time to Indian parties, although except in certain cases of defence undertakings, or patented processes as in IOC or in case of agreements with MAMCO passing on of such improvements in technical know-how were to be on the basis of additional payment. In this connection the Committee have commented in their 80th report on the Hindustan Antibiotics Limited 5th Lok Sabha (1975-76) that in spite of inclusion of provision for passing on improvements in strains for manufacture of Streptomycin this was not implemented and it resulted in production loss. The Committee would, therefore, suggest that it is desirable to include a provision in all collaboration agreements that a collaborator would be responsible to pass on the benefits of improvement in the know-how effected by them to the Indian parties during the currency of the agreement.

## H. Foreclosure of Contract

6.205. According to the instructions issued by Government for finalisation of collaboration agreements there should be a clause for premature termination of a consultancy.

6.206. Agreements in case the work is found unsatisfactory or not suitable. There should also be an indication regarding the manner of settling the account in case such a contingency arises.

6.207. It has been stated by as many as 23 public undertakings that in their collaboration agreements specific provisions have been made for premature termination of agreement in case of unsatisfactory performance. Seven Undertakings have stated that while provision for premature termination of agreement has been made in some of their contracts with some collaborators, such a provision does not exist in case of other contracts.

6.208. Two agreements concluded between BHPV and M/s. Air liquide of France provide for premature termination of contracts in case either party fails to perform or fulfil any obligation it is required to perform or fulfil under the agreement. In other cases no such provision for termination exists.

6.209. Bokaro Steel Ltd. has stated that their agreement with USSR proceeded from the relations of friendship and close cooperation existing between India and USSR and guided by mutual desire for further developing and strengthening economic and technical cooperation. Viewed in this context, it was not desirable to provide for premature termination of agreement in case of unsatisfactory performance although all safeguards were provided under the guarantee clauses. However, a force major clause was included in the agreement. In case of any disagreement between the Indian and Soviet organisations on any matters arising from or connected with the implementation of the present agreement, it provided that the representatives of the two Governments shall immediately consult each other and endeavour to reach a mutual settlement of such disagreement.

6.210. In the case of Fertilizer Corporation of India, premature termination of agreement in case of unsatisfactory performance is not generally provided. FCI keeps to itself the option of carrying out of the modifications in the plant or completion of the work which has not been performed by the foreign collaborator, at the



risk and expense of the foreign collaborator. The Corporation have, however, started providing in the contracts that FCI shall have the right to request in writing for additions|deletions in the scope of the work of the contractor within the general scope of the contract.

6.211. In the IOC (Refineries) Collaboration agreements so far entered into by IOC no specific clause has been included for termination of the contract for unsatisfactory performance. However, good performance has been assured by relevant performance guarantees while no terms and conditions of terminations have specifically been included in the contracts, these are always settled by mutual agreement.

6.212. MECON's agreement with Tiajpromexprot makes no provision for premature termination of agreement, while in their agreement with United Engineering of U.S.A. there is a provision for premature termination of the Agreements.

6.213. Undertakings are however of the view that a clause should be provided in the agreement by which premature termination of an agreement, in case of unsatisfactory performance of the collaborator, should be possible.

6.214. As regards the mode of payment to collaborator, in case of premature termination of the contract, the procedure varied from undertaking to undertaking provisions made in this regard in some undertakings are enumerated in the succeeding paragraphs.

6.215. So far as the question of payment of royalty, etc. in case of premature termination of agreement is concerned, FCI is of the view that if the collaborator has parted with the basic design package, then he would be entitled to the technical know-how fee only, provided the basic design package is not used in setting up of the plant. If, however, the basic design package given by the collaborator is used for setting up of the plant, then he would be entitled to both the know-how fee and the licence fee. If, however, the contract is terminated even before the collaborator has parted with the basic design package, then the question of payment of basic design fee and licence fee should not normally arise.

6.216. Under the consultancy agreement of Ratnagiri Aluminium Project, BALCO could terminate the agreement after study and scrutiny of the DPR and before starting of work of the detailed

engineering. In that event payment of Rs. 26 lakhs has to be made (less the amounts already paid to that date to collaborators) as against the total fees of Rs. 85 lakhs under the agreement.

6.217. Under Soviet agreement for supply of equipment, the collaboration agreement could be terminated due to any reason beyond the control of Soviets and DALCO shall reimburse to the Soviets the expenses connected with the execution of the works which were actually incurred by the Soviets.

6.218. In Hindustan Aeronautic Ltd. technical assistance fees for technical know-how, design data and drawings are made as per provisions of contract. There is no provision for refund of technical Assistance fees if the contract is foreclosed. Payment of royalties is related to actual production. However, the provision of arbitration clause can be invoked to claim dues, if any, on cessation of agreements.

6.219. The agreements of EIL provide for payment of costs and fees for services rendered as well as Royalties. The Royalties are payable only for the equipment manufactured/sold on the basis of Design provided by EIL. As such in case of premature termination the collaborators would receive in addition to costs and fees for services rendered, royalties for equipment already manufactured/sold before the date of termination. No Royalty would become payable for equipment whose manufacture/sale has not been completed before termination.

6.220. In HSL (Rourkela), the equipment supply contract provide for foreclosure of the contract. But suitable financial adjustments have to be made between RSP and the foreign firms. In respect of contracts for licence and know-how fees full payment has to be effected under the terms of the contracts.

6.221. In HSL (Durgapur), the general clause on "Negligence" under general conditions of contract provides for action against the contractor for unsatisfactory performance in the execution of the contract. In case of foreclosure of the contract the payments would be governed after considering the action taken under the clause "Negligence". After determining the recoveries due from the contractors, the payments due to them are to be settled.

6.222. The termination clause was operated in the case of the contract of HSL (Alloy Steels) with M/s. AMCO Furnace Con-

tractors Ltd., Canada for unsatisfactory performance of the contractors.

6.223. In the case of agreement of HSL (Alloy Steels Plant) with M/s. Atlas Steels Ltd., Canada, (the production Advisers), it was provided that in case of termination of the contract for negligence or unsatisfactory performance of the Production Advisers, the technical fees payable to them under the agreement after the date such termination would not be paid to them. Alloy Steels Plant have no foreign collaboration agreement under which payments for royalties were made to them.

6.224. In the case of Hindustan Zinc, there is no Royalty involved in any of the contracts. All the same time there is no provision for technical fees being stopped and/or recovered in case of termination of the contract.

6.225. In the case of IOC (Pipe-lines), in case of premature termination of consultancy agreements, the company was bound to complete the payment of technical fees plus actual costs incurred upto that time. In regard to construction contracts the proportionate remuneration as specified in the contract was payable to the foreign collaborator. In the existing consultancy agreements, the remuneration is linked with the time spent by the consultants; as such there is no such clause.

6.226. In IPCL out of foreign collaboration agreements 7 projects produce for premature termination of agreement in case of unsatisfactory performance. Out of these contracts 3 projects do not make any specific provision for payment of royalties and technical fees. As per terms of remaining contracts, IPCL has to pay to the collaborators all sums of money due immediately prior to such termination.

6.227. The agreement entered into by FACT are for technical know-how. Agreements with DPG-UK, Societe de Prayon and Davy Power-Gas GmbH of W. Germany do not provide for premature termination in case of unsatisfactory performance. The agreement with Davy Power-Gas Inc; USA for NPK plants is initially for in Cochin Phase II Project. This agreement provides that if there is any material breach of any of the obligations or provisions of the agreement by Davy-Power Gas, FACT may terminate the work under the agreement. In case of this agreement with Davy Power-Gas, USA, if the work is terminated as mentioned above, FACT is liable to pay proportionately for the work actually performed.

6.228. As regard the reasons for not following a uniform procedure in regard to inclusion of a suitable clause in the agreement for termination of contract, most undertakings are of this view that uniform procedure cannot be followed because of varied nature of collaboration agreements and varieties of countries to which the collaborators belong.

6.229. According to IRE, it is very difficult to set forth a uniform procedure for termination of contracts, because a number of factors are involved in individual cases and the individual cases are so varied in number and nature. IRE is however of the view that it would be advisable to ensure that in any termination, the attempt is to evaluate the work done and calculate the damage of payment on "quantum merits" basis.

6.230. MAMCO has stated that it is difficult to enforce uniformity in regard to inclusion of a suitable clause in the collaboration agreement as uniform clause may not be acceptable to different collaborators of different countries.

6.231. In BHEL the termination clause is generally included in the collaboration agreements. According to BHEL, the reasons for the termination can be made uniform but the procedure for termination cannot be uniform as it will depend on collaborator's practices. In cases of CSSR and USSR the collaboration agreements do not prescribe any time duration and as such this termination clause was not considered.

6.232. The Committee note that although the general instructions issued by Government for finalisation of collaboration agreements only provide for inclusion of a clause for premature termination of consultancy agreements in case of unsatisfactory work, collaboration agreements entered into by 23 out of 53 Public Undertakings, provided for premature termination of the agreement in case of unsatisfactory performance. In the case of 7 undertakings where more than one contract has been entered into, Provision existed only in some agreements. When collaboration was based on Government to Government agreements it is stated that it was not desirable to include such a clause. In some cases only an enabling provision for getting the work done departmentally at the risk and expenses of the contractor existed in the agreements. Some other undertakings have stated that recourse is taken to the provision under "force majeure" in their agreements.

6.233. The Committee also find that in regard to settlement of payments in the event of termination of contracts, the procedure

followed by the undertaking has not been uniform. While most of the undertakings settle their accounts with reference to the payment of technical fees, some undertakings settle the contract by making payment with reference to the work actually done immediately before termination, some undertakings invoke the aid of arbitration clause for settlement of dues. It has been conceded by most of the undertakings that a uniform procedure cannot be followed in this behalf because of the varied nature of agreements and varieties of countries of collaboration.

6.234. The Committee feel that it is in the interest of the undertakings that a clause regarding foreclosure of the contract in the event of the unsatisfactory performance by the collaborator may be suitably included in the collaboration agreements under specific conditions. The agreement may also include definite terms of settlement with the collaborator in cases of such premature termination so as to avoid any ambiguity in such an important matter. The Committee suggest that a standard clause as far as possible in this regard may be evolved and suitable guidelines issued to the undertakings.

### I. Liquidated Damages

6.235. The policy of Government is that there should normally be a provision for liquidated damages in the agreements for foreign collaboration. The provision for liquidated damages should generally cover (i) delay in supply and (ii) performance guarantee. This may be linked as a percentage of material or the fees received by the supplier.

6.236. In the absence of such a clause it has been stated that one has to fall back upon other clauses especially relating to performance guarantee. The last instalments are generally made after the satisfactory performance.

6.237. Some undertakings have stated that provision for liquidated damages have been included in the collaboration agreements. 12 public undertakings have stated that they did not have any provision for recovery of liquidated damages in the contracts/agreements with foreign collaborators in case of delays in supplies of drawings and designs, equipment and other materials and 6 undertakings have stated that this question has not arisen in their cases.

6.238. In the Government to Government agreements, it has been stated that (CMA, BALCO, Bokaro, Bhilai, IDPL, IOC) there was no provision for recovery of liquidated damages.

6.239. Bharat Heavy Electricals Ltd. have stated that foreign collaborators generally do not agree for inclusion for a clause regarding liquidated damages. However, they try to link the payment with the activities so that the chances of the delayed delivery for technical documentation are minimised.

6.240. Engineers India Ltd have felt that such a provision is not necessary in the case of agreements for basic know-how only. FACT has stated that liquidated damages are provided for performance of the process and not for delivery of documents.

6.241. In regard to the manner of the provision for recovery of liquidated damages in contracts, most of the Undertakings have stated that there could be provision for liquidated damages and this should be subject to a ceiling which may vary from 4 to 10 per cent of the cost of supplies. HZL have stated that though there is no specific provision for liquidated damages in their collaboration agreements provision exists for penalty in the case of delay in supply of drawings etc. and the penalties have a ceiling. Hindustan Photo Films Mfg. Co. Ltd. have similarly stated that though there is no clause for liquidated damages—the collaboration agreement provided for compensation for delay in start up of production due to late delivery of machinery and equipments. They have further suggested that there should be a suitable provision for recovery of liquidated damages and the amount can be recovered by withholding certain portion of amount payable to collaborators. HMT have also stated that though there is no specific provision for liquidated damages payments of licence fee to collaborators are linked to supply of designs, drawings and other technical documents and delays in supply of equipment and other materials are compensated by the collaborators. Indian Petro-Chemicals Corporation Ltd. have stated that the liquidated damages are linked to a percentage on either the cost of material or the fees received by the supplier. This can be recovered from the final payments due to the supplier after supply and testing of materials and equipment. In respect of process know-how the question of recovery of damages could be linked with the last payment due on account of licence or engineering fees. Fertilizer Corporation of India have suggested that recovery of liquidated damages should be made either in the last instalment of fee, if due to Collaborator or by enforcing the bank guarantee that might have been given by the Foreign Collaborator.

6.242. Indian Rare Earths Ltd. have stated that liquidated damages would depend on the nature of the contract, price quoted and generally no hard and fast norms can be laid down which can be universally applied. Lubrizol India Ltd. have however stated that the liquidated damages should be reasonable and no ceiling seems necessary. MAMCO have suggested that the basis of ceiling can be determined depending on the nature of the equipment|components|services etc. IDPL have stated that the normal commercial practice regarding liquidated damages is to specify a rate for every month's delay and also a ceiling which is *ad hoc* percentage or 5 per cent of the value of the delayed portion of the supplies. IOC have stated that invariably the collaborators insist on a ceiling. This is in conformity with most of the commercial contracts throughout the world where generally no firm insists for complete compensation of consequential damages without any limit. The ceiling is usually a percentage of the total contract value. In the case of process licences this is generally of the order of 50 per cent of the royalty and in the case of supply contract 3 to 5 per cent of the value of contract.

6.243. The Bureau of Public Enterprises, Ministry of Finance have stated that according to the guidelines issued by them there is a provision for inclusion of clause for penalty/liquidated damages, although no ceiling has been fixed. They are, however of the view that ceiling would be desirable which will have to be negotiated. The recovery of liquidated damages would normally be from the suppliers pending bills. The Department of Heavy Industry have stated that there may be a provision for liquidated damages where there is contract for supply, subject of a ceiling say upto 5 per cent. The Ministry of Petroleum and Chemicals have stated that no general policy can be laid down in this regard and decision may have to be taken on merits of each case. They have further added that no commercial organisation may agree to liquidated damages without any ceiling. The ceiling in each case is a matter of negotiation. It has also been stated by them that diplomatic channels are sometimes utilised in cases of undue delays.

6.244. The Department of Atomic Energy have stated that a suitable clause for liquidated damages and also for termination of agreements for breach of contract have been incorporated in their agreements with a foreign collaborator. As regards delayed deliveries they have suggested that a periodical review and systematic follow up of purchases would ensure timely delivery or at least avoid undue delays. The Ministry of Defence have added that provision for

liquidated damages should be there for supply agreements relating to components/materials.

6.245. The Committee note that even though the policy of the Government is to incorporate provision of recovery of liquidated damages in the collaboration agreements to cover delays in supplies and performance guarantees as may as 12 undertakings did not make this provision in their collaboration agreements while 6 others have stated that this question has not arisen in their cases. It has also been stated that there was no provision for recovery of liquidated damages in case of Government to Government agreements. The Committee further find that provision for recovery of liquidated damages varies widely from undertaking to undertaking. While Engineers India, Ltd. does not consider such a provision necessary in the case of agreements for basic know-how FACT has not provided for liquidated damages in case of delay or non-delivery of documents. Certain other undertakings like Hindustan Zinc, Hindustan Photo Films, HMT have instead of making a provision for liquidated damages, provided for penalty or compensation to cover cases of delay in the commencement of production or successful performance of other parts of contracts. In certain other undertakings, the payments have been linked with the progress made in the execution of the agreements to minimise the delays.

6.246. The Committee note the diversity of the practices followed by the undertakings in regard to the aspects for which provision for recovery of liquidated damages is made in the agreements. The Committee are also not sure of the comparative effectiveness of the legal implications of each one of the methods, namely, compensation, penalty, linking of payments with performance and termination of contract etc. and the extent to which they have proved useful in actual practice. They would like Government to examine the pros and cons both from the legal and functional angles of the different aspects and the methods of provision of recovery of liquidated damages and spell out the comparative advantages and dis-advantages in different situations for the guidance of the undertakings.

6.247. The Committee also feel that absence of provision for liquidated damages in the agreements is likely to erode the sense of urgency and lead to casualness in approach on the part of the foreign collaborators which might not be in the overall interest of the undertakings. The Committee would like Government to examine whether it would be desirable that in Government to Government agreements a provision for liquidated damages etc. could be included in



the agreement itself or some other mechanism should be provided to ensure that the foreign collaborators do not escape responsibility for delays in the discharge of their obligations under the agreements.

6.248. The Committee note that while most of the undertakings are in favour of a provision for ceiling for the amount of liquidated damages in the collaboration agreements, the ceiling varying from 4 per cent to 10 per cent of the value of the supplies etc., involved Lubrizol India Ltd. has stated that the liquidated damages should be reasonable but no ceiling was necessary. According to MAMCO ceiling should depend on the nature of equipment and services. IOC has informed that the collaborators insist on ceiling in conformity with commercial practice throughout the world. In the case of process licences the ceiling is stated to be of the order of 50 per cent of the royalty and in the case of supply contract, 3 per cent to 5 per cent of the value of contract.

6.249. The Committee are informed by the BPE that guidelines do not provide for any ceiling but the ceiling would be desirable and will have to be negotiated. While the Department of Heavy Industry suggests a ceiling of 5 per cent in the case of contract for supply, the Ministry of Petroleum and Chemicals feels that no general policy can be laid down in this regard and decision may have to be taken on merits of each case after negotiations.

6.250. The Committee feel that the question of fixing a ceiling for liquidate damages cannot be determined in isolation but it should have a relationship to the loss in terms of value to which the undertaking may be put to, on account of delays in the discharge of the responsibility envisaged in the agreement in regard to the supplies and other aspects like delay in commissioning of the plant, commencement of production etc. The Committee would like the Government to study this matter in depth in the context of the commercial practices obtaining in India and abroad and suggest specific and enforceable provisions in regard to the quantum of liquidated damages for the benefit of the undertakings. The Foreign Investment Board and the administrative Ministries should also make sure that the suggested provisions are actually incorporated in the collaboration agreements before they are finalised.

6.251. The Committee also recommend that once the amount of liquidated damages is determined, it should be recovered from the amounts payable to the collaborators as and when due and may not be postponed till the final payments become due to the collaborators.

6.252. The Committee have in the course of examination of Public Undertakings found that due to the absence of suitable provision for levy of penalty/liquidated damages, the undertakings were not able to take action on the collaborators for delayed supplies which had resulted in delays in the commissioning of the plants, with consequential effects on enforcement of performance guarantee clauses.

6.253. From the examination of Public Undertakings the Committee have found that recovery of liquidated damages arises mostly on account of delay in supplies or non-supply of drawing designs equipment etc., delays in erection/commissioning of plants and non-achievement of rated level of production. The Committee would like that the Undertakings Administrative Ministries should keep a careful watch on the performance of the collaborators in these critical areas with a view to pinpointing responsibilities at the appropriate time and take action by way of recovery of liquidated damages and/or penalty as the case may be.

#### J. Turn-key Projects

6.254. It has been stated that Government normally do not allow collaboration for setting up projects on turn-key basis. To the extent possible, services such as consultancy, detailed engineering, erection, commissioning and supervision, etc. which can be done by Indian technicians within the country are not allowed to be part of the collaboration agreement.

6.255. Fertilizer Corporation of India have stated that they have some turn-key contracts and on payment of lump-sum amount.

6.256. Hindustan Latex have stated that the collaboration agreement is specified for technical know-how supply of equipment as a turn-key project.

6.257. Asked about the views of the Public Undertakings in regard to turn-key projects, Bharat Heavy Electricals Ltd. has stated that where there is equity participation from a foreign collaborator and the foreign collaborator has already established similar plant abroad, it may be advantageous to have turn-key contracts.

6.258. FCI has, however, suggested that awarding of such contracts should depend on the merits of each case.

6.259. Fertilizer Corporation of India Ltd. has also stated that turn-key projects are definitely advantageous for early completion

of the project and for fixing up the complete responsibility on a single agency, in case of non-performance of guarantee test.

6.260. IDPL have stated that this may be necessary in case of extremely sophisticated projects. I.R.E. has stated that there are certain basic advantages in the areas of export-oriented industries.

6.261. IOC has stated that turn-key projects used to have the advantages of quickness of implementation and also to some extent make it easier to utilise foreign credits. In cases where completion of the project is of greater importance, such agreements have some advantages provided it is ensured that delays do not occur due to procedural requirements.

6.262. BALCO, BHPV, BOGL, HPE, HEC, IPCL, Lubrizol(I) Ltd. and MAMC have stated that they are not in favour of turn-key contracts.

6.263. BHPV, IPCL, IRE, MAMCO, Lubrizol (I) Ltd. have indicated the following disadvantages in turn-key contracts:—

- (i) Higher degree of foreign exchange outgo.
- (ii) Stifling of development of indigenous expertise in detailed engineering, procurement services, fabrication of equipment, inspection of equipment, pre-commissioning tests and construction and supervision of construction.
- (iii) Longer dependence on foreign technicians;
- (iv) Non-association of Indians during construction creates difficulties in maintenance. Further it will deny an opportunity to associate Indian technicians with the design, drawings, plannings, layout and other aspects of projects.
- (v) No scope for employment and development of Indian know-how.

6.264. In this connection, the Ministry of Industrial Development in a written reply after evidence stated that only in case of projects of a very complex nature involving highly sophisticated technology where no indigenous capabilities are available for the different processes involved, collaboration on turn-key basis are considered. In such cases the Department of Industrial Development insist that Indian engineers and consultancy organisations should be associated at various stages so that the technology can be absorbed.

6.265. It has also been stated that collaborations on turn-key basis would stifle development of indigenous technology in the following fields:—

- (i) Detailed engineering.
- (ii) Procurement Services.
- (iii) Fabrication of equipment.
- (iv) Inspection of equipment
- (v) Construction
- (vi) Commission.

6.266. Turn-key projects result in the following disadvantages:—

- (a) Higher foreign exchange outgo
- (b) Greater and longer dependence on foreign collaboration
- (c) Incomplete absorption of techniques leading to maintenance problems.

6.267. The Ministry of Petroleum & Chemicals have stated that in some cases turn-key projects were allowed for example, the Nangal Fertilizer Plant and the Methano Unit of the Trombay Fertilizers. Turn-key Projects are allowed where the technology is new or there is a substantial saving in overall costs and time. Against the relative disadvantages of such arrangements, the advantage is of early completion of projects and better enforcement of guarantee of performances.

6.268. The Ministry of Petroleum and Chemicals have stated in this connection that foreign collaboration including those on turn-key basis are considered by the FIB where views of various technical expert bodies *viz.* DGTD, CSIR, NRDC etc. are secured. Before putting up the case to the FIB, the administrative Ministry concerned also holds detailed discussions with the party to ascertain the expertise available with them for undertaking detailed engineering in more sophisticated fields.

6.269. The Committee are informed that except in the case of projects of very complex nature involving highly sophisticated technology where no indigenous capabilities are available, Government do not normally allow collaboration for setting up projects on turn-key basis. Even in such cases of turn-key projects with foreign collaboration, association of Indian engineers and consultancy organisations at various stages is insisted upon to ensure absorption of

technology. It has been stated that when proposals for turn-key projects are considered by Foreign Investment Board (FIB), the views of technical expert bodies viz., DGTD, CSIR, NRDC etc. are also obtained and taken into consideration.

.270. While some undertakings see certain advantages like early completion of project, fixation of responsibility on one agency for any defects or deficiencies, easier utilisation of foreign credits or exports, or where there is equity participation from a foreign collaborator and the foreign collaborator has already established similar plant abroad, many undertakings are not in favour of turn-key contracts, as such contracts result in stifling of development of indigenous technology, higher degree of foreign exchange outgo, longer dependence on foreign technicians, incomplete absorption of techniques leading to maintenance problems and reduction in scope of employment. The Committee feel that approval of foreign collaboration should lay more emphasis in the development of indigenous know-how and in their opinion turn-key contract have the disadvantage of stifling such development. The possibility of concealing design engineering cost in the price of equipment is also not ruled out. The Committee are therefore of the view that turn-key contracts should not be permitted as a matter of rule and exceptions, if at all, should be allowed very sparingly only in case of highly sophisticated projects for which suitable technical know-how may not be available in India or where a large volume of production is required within the shortest time to meet urgent demands. They need hardly stress that, even in such cases provision should be made in the contracts that Indian engineers and consultancy organisations, should be associated at various stages for doing jobs like detailed engineering, procurement services, fabrication of equipment, construction and commissioning so that dependence on foreign expertise and foreign exchange outgo is minimised.

6.271. The Committee stress that in case where machinery and equipment and technologies are imported from different sources, there is imperative need for stricter integrated planning and coordination with a view to obviating any difficulties in commissioning of the plants and putting to effective use the installed capacities and achieving maximum results.

6.272. The Committee would also like that Government should make an evaluation of the turn-key contracts which had already been executed with a view to evolving guidelines in specific areas for the future.

## VII PAYMENTS

### A. Payment of Royalty

7.1. The following guidelines have been issued by the Ministry of Industrial Development in respect of royalty:

“In principle there is no objection to royalty being allowed to the collaborator in addition to equity participation. In deciding the rates of royalty and other payments as well, however, a total view of the foreign exchange out-go on account of various elements, including possible dividends, is taken. Indeed, in cases where majority foreign participation is involved, royalty payments are allowed to the collaborator on a substantially reduced basis.

Royalty has been grouped into two ranges—a low range upto 3 per cent and other upto 5 per cent depending on the nature and sophistication involved in the industry. Royalty is calculated on the basis of net ex-factory price of the product excluding the excise duty and the landed cost of imported components irrespective of source of procurement. All royalties are subject to Indian taxes. Royalties are usually approved on percentage basis of turn-over either in relation to value of turnover or units of products.

Government's policy is not to allow escalation clause in respect of royalty which is generally specified either as a percentage of ex-factory cost of production or as a fixed amount per units of production. Government do not also allow guaranteed minimum level of royalty to the collaborator. Normally, as the royalty payment is linked to actual production, the collaborator will not be able to derive any undue benefit by non-cooperation.

Royalty payment is normally made for technical know-how whether patented or unpatented. Use of foreign trade-marks is not allowed for products manufactured under foreign collaboration and meant for Indian market.

While approving foreign collaboration proposals a condition is invariably laid down that in case the item of manufacture is one which is patented in India, the payment of royalty/lumpsum payment made by the Indian company to the foreign collaboration shall also constitute full compensation for use of the patent rights till the expiry of the life of patent and Indian company will be free to manufacture the item even after the expiry of the collaboration agreement, without making any additional payment.

Royalty is always made subject to tax. No proportion of royalty is tax-free."

7.2. Out of the twelve undertakings which furnished information in this regard to the Committee four undertakings were paying royalty as a percentage of production—one undertaking was paying royalty between 2.1 per cent to 3 per cent of its actual production, two were paying between 3.1 per cent to 4 per cent and one between 4.1 per cent to 5 per cent, four undertakings were paying as a percentage of sales—one each in the scale of (i) less than 2 per cent of sales, (ii) between 2.1 per cent to 3 per cent (iii) 3.1 per cent to 4 per cent and (iv) between 4.1 per cent to 5 per cent and four undertakings were making lumpsum payment.

7.3. In regard to the amount of royalty paid, 53 undertakings furnished information according to which the percentage of royalty paid is within the limit prescribed by Government in the guidelines.

7.4. A statement of the Royalties paid during the years 1969-70 to 1973-74—Sectorwise—is placed at page 425.

7.5. The Undertakings generally considered 3 to 5 per cent to be a reasonable percentage which should be stipulated in the agreement for payment of royalty.

7.6. During evidence selected Public Undertakings were of the view that the maximum limit of per cent royalty should be flexible so as to get the best that is available in the world.

7.7. The Committee pointed out that according to the guidelines payment of royalty by Indian Company to the foreign collaborator would constitute full compensation for use of patents rights in respect of items patented in India till the expiry of the life of the patent and the Indian party would have the freedom to produce

the items even after expiry of collaboration without additional payment. In this respect out of the undertakings selected for examination while BEML felt that in the case of earthmovers industry, lumpsum payment was always unfair to one of the parties, BHEL was of the opinion that lumpsum payment did not provide an incentive to the collaborator to increase production in the plants.

7.8. IPCL, however, felt that lumpsum payment for a particular production capacity would be preferable as (i) royalty payments linked to production would involve a perpetual payment to the licensor and a recurring liability for an indefinite period; (ii) it would have the advantage of absorbing the variations in the rates of royalty payments.

7.9. The Fertilizer Corporation of India was of the view that there cannot be a dogmatic approach in regard to the question whether the know-how should be obtained on payment of a lump sum licence fee or on payment of continuing royalty based on production/production cost, sales or level of profitability. Each has to be decided on its own merit. The present net worth of the future payment by linking to estimated production, production cost, sales and profit, has to be worked out and compared with the lumpsum payment that might have been quoted.

7.10. On the other hand, Heavy Engineering Corporation felt that lumpsum payment of royalty has limited advantages unless the lumpsum is for transfer of technical know-how as well as in lieu of royalty.

7.11. HMT stated that royalty payment is justified if linked with sales. HPF is however of the view that it is preferable to have the royalty linked with profitability or the production costs; lumpsum payment may be the last preference.

7.12. MAMCO however stated that there is no objection in paying the collaborator on a lumpsum basis, provided the Indian party/ Undertaking is fully satisfied about the market potentialities of the product for which collaboration has been sought.

7.13. IRE stated that it is preferable to link royalty with production on sales. HPF and Instrumentation were of the view that royalty should be linked with production or production costs.

7.14. The Ministry of Industrial Development in their post evidence reply stated that this provision is for ensuring that on expiry



of the foreign collaboration agreement, the Indian entrepreneur is not prohibited from manufacturing the items for which the foreign collaborator holds the patent and extension of the agreement does not become necessary only on this account even though the technology has been absorbed. Therefore, it is a very salutary condition which has to form part of every agreement. Instances where foreign collaborators have inflated the lumpsum amount of royalties on this account have not come to our notice.

7.15. It has been stated that linking up the royalty payments to actual turn-over is advantageous in as much as there are no fixed payments of royalty to be made even if the production does not materialise as envisaged. Secondly, if royalty is determined on the basis of percentage of the turn-over, the collaborator has also a stake in optimising performance of the venture.

7.16. As the payment of royalty is confined to the period of agreement, which is, normally for five years, there is no question of perpetual payment to the collaborator. Even where extensions are granted the payment of royalty stops as soon as the period of collaboration comes to an end.

7.17. Royalty payment on lumpsum basis can be considered favourably in such cases as purchase of patents. Thus, one-time payment of a fixed amount as royalty for the purchase of patent would enable the Indian entrepreneur to manufacture the item for which the foreign collaborator holds the patent without any restrictions.

7.18. The Ministry of Defence has stated that payment of royalty under the technical collaboration agreements of the Defence Public Sector Undertakings is generally regulated with reference to actual production of the licensed products during the currency of the collaboration agreement and the amount of royalty is also generally related to the ex-factory selling price or the value of production.

7.19. The working of the royalty clause in the case of foreign technical collaboration agreements of the Defence Public Sector Undertakings has generally been satisfactory and has not led to any practical difficulties. Since the royalty payment under these collaboration agreements is generally related to actual production during the currency of the agreement, there is no question of any perpetual payment to the licensor.

7.20. The system of royalty related to actual production has the merit of compelling the foreign collaborator to keep a sustained interest in the production of the licensed items by the Indian Licenses during the currency of the foreign collaboration.

7.21. The Ministry of Finance (Bureau of Public Enterprises) are of the view that royalty to be paid on lumpsum basis is considered to be a better proposition although this may not be acceptable in all cases by the foreign collaborators.

### ANNEXURE

*Royalties paid during the year 1969-70 to 1973-74*

Sector	Sector-wise		(Figures in Lakhs)		
	Gross	Taxes	Net		
1. Steel & Mines	Rs.	46.29	Rs. 33.29	Rs.	13.00
	Swiss franc	26.90	—	Swiss franc	26.90
	DM	27.00	—	DM	27.00
	US\$	7.40	—	US\$	7.40
2. Petroleum & Chemicals	Rs.	43.95	Rs. 21.23	Rs.	22.62
	\$	9.34	\$4.77	\$	4.57
	FF	1.22	FF 0.61	FF	0.61
3. Industry & Civil Supplies*	Rs.	192.05	Rs. 71.57	Rs.	114.09
4. Industrial Development	Rs.	50.93	Rs. 25.47	Rs.	24.46
5. Defence	Rs.	31.45	Rs. 8.90	Rs.	22.45
6. Communications	Rs.	12.71	Rs. 6.90	Rs.	81.5
7. Commerce	Rs.	2.02	Rs. 0.81	Rs.	1.21

\*Tungabhadra Steel, under the Industry & Civil Supplies Ministry, has provided in their accounts an excess of Rs. 6.39 lakhs over the actual remittance of taxes paid during the corresponding period.

7.22. The Committee note that technical collaborations are considered on the basis of annual royalty payments which are usually prescribed on a percentage basis either in relation to the value of turn-over or the units of production, the percentage ranging between 3 per cent to 5 per cent depending on the nature and sophistication involved in the industry. It has also been stated that a guaranteed minimum level of royalty is not allowed to the collaborators.

7.23. The Committee find that generally the percentage of royalty paid has been within the limits prescribed by Government. Some Public Undertakings are however of the view that the maximum limit of 5 per cent should be flexible to get the best techno-

logy and know-how available in the world. The Committee need hardly pointed out that if the royalty is linked to the value of production or sale there is every likelihood of the amount of royalty increasing as a result of rise in domestic prices on account of extraneous reasons. It is, therefore, desirable to relate royalty as specified amount per unit of production which is determined having regard to the landed cost of the unit (excluding duty, freight, packing, commission etc., charges) irrespective of the source of procurement. This would ensure collaborator's interest in increasing production while the country would not have to pay more than what is called for in terms of ex-factory price of the unit in the international market.

### B. Payment of Indian Taxes by Collaborators

7.26. According to the policy guidelines issued by Government in January 1969, Royalty payments for technical collaboration are subject to Indian Taxes—Lump-sum payments for import of drawings documentation etc., and other forms of know-how will be subject to "applicable Indian Taxes." The letters conveying approval of Government for foreign collaboration include stipulations to this effect about taxes on royalties and lump-sum payments.

7.27. In regard to the practical working of this condition, while some of the undertakings have stated that the stipulation in the collaboration agreements in their undertakings is clear about the liability in regard to payment of tax, they are of the opinion that there should be a specific provision in this regard and included in the agreement as otherwise the collaborators generally expect that they should be paid the amounts specified in the agreement in full leaving the responsibility for payment of tax to the undertaking. In the case of one undertaking (HMT) it would appear that an assurance was given that the technical assistance fee payable in terms of collaboration would be free of taxes. The tax authorities have however interpreted this to mean that instead of the collaborator paying the taxes the undertaking would have to bear the liability, to the tune of Rs. 43.27 lakhs. Another Undertaking (BHEL) has stated that the provision that all payments would be subject to 'applicable Indian taxes' has not really clarified the tax situation and to the extent the position is vague, there might be tendency on the part of the collaborator to inflate the lumpsum payment. It has been suggested that "before an agreement is signed, the Indian party can at best obtain the legal opinion of experts on taxation so that unanticipated tax deductions are not made by tax authorities. Experience has shown that tax authorities had made arbitrary assessments and taxes depend on their direction rather than well laid out rules.

\* \* \* \* \*

7.28. This puts the Indian company in a very awkward position with respect to successful implementation of the collaboration as the legal advice taken while drafting the agreement is not binding on the discretion of the I.T.O.

7.29. The (BOGL) apprehends that if the principle of deduction at sources is enforced, the collaborator might increase their prices to accommodate the tax liabilities.

7.30. The (IPCL) has stated that in all cases where the collaborators had insisted on payments net of taxes, the matter had been brought to the notice of Government. In fact the agreements are scrutinised by the administrative Ministry and Law Ministry before final approval.

7.31. During evidence the representatives of some public undertakings stated as under, in regard to the payment of Indian Taxes by the collaborators.

7.32. The Chairman of one leading Public Undertaking stated:

“Confining (myself) purely to the licence arrangement for engineering goods, the payment is generally in two significant parts. One is the disclosure fee which is a lump-sum payment made. The other is royalty. The fact that royalty is taxable is clearly understood by all foreign licensors. As regards the initial disclosure fee, for initial information, training etc., nowadays the Government of India insist that it is subject to applicable taxes. There is no definition of this tax. This leaves the foreign collaborator guessing as to what would be the level of tax. This has resulted in endless negotiations. Today of course, any services rendered by a collaborator outside the country is not taxable, but at the same time, Government insist that it should be subject to applicable taxes. This leaves enormous room for discretion to the Income Tax authorities to decide each case in their own way. So the general tendency for the foreign collaborators when they agree to these terms is to make their own guess and boost up the figure; to that extent, I feel our interests are affected. The best course would be to determine first what is the net tax liability. This will help determine the viability of a proposal an undertaking makes rather than leave it to the foreign collaborator to do guess-work in this respect and also leave a lot of discretion at a later stage.”

7.33. The representative of another leading undertaking suggested that the tax for the next three to five years should be specified.

7.34. A representative of third undertaking stated:

“There are two types of taxation. One is on the royalty for the know-how where there is no problem. But the problem arises in respect of foreign people who are working in India while the collaboration agreement is going on. Our experience is that they do not agree to pay the Indian Tax. This is the problem that we are facing with every contract. We have to absolve them of the taxes which are levied by the Income-tax authorities in India. Every time we have to go against the guidelines, we take the Government’s approval.

Yet another undertaking expressed that:

“There is another problem with regard to the tax on disclosure fees. The tax authorities are raising up the issue for the year 1960. I have got only to add that if Board of Direct Taxes do not give a ruling, then we do not know what we ourselves are committing.”

7.35. During evidence the representatives of the Ministries stated as under in regard to the payment of Indian Taxes by Foreign Collaborators.

The Secretary, Department of Petroleum stated:

“They (collaborators) generally quote net of taxes; An agreement that stipulates that a certain payment will be made net of Indian taxes is always objected to and it does take a lot of time for us to settle this matter. The Indian tax authorities naturally have no discretionary power to levy taxes and to make advance assessments, and do not give advance advice on what taxes would become payable. \* \* \* \* \* The Indian tax authorities do not give any advice to the Ministry or the Public Sector undertaking what tax would be leviable on any fee or any service contract that may be entered into.”

\* \* \* \* \*

“The wayout appears to be to accept a lumpsum provision net of taxes and agree that the Indian party will pay such taxes as may be leviable without grossing it up for tax. This might need an amendment of the statute but

that will facilitate so many contracts and also ensure that the foreign party does not inflate its fees on this account."

7.36. The Secretary, Department of Heavy Industry stated:

"We also made the same suggestion to the FIB that the public undertaking concerned should be allowed to take up the tax liability and the foreign collaborator should be assured of an amount net of tax."

7.37. The Secretary, Department of Expenditure, Ministry of Finance stated:

"The difficulties pointed out by representatives of Ministries of Petroleum and Chemicals and Heavy Industry are genuine on both counts, "that the prior determination of the tax liability is difficult because our income-tax law states that tax is payable on that part of the income which arises in India. In a composite contract involving technology transfer, where part of the designing and fabrication is done abroad and part of it in India, the actual determination of the income arising from this whole transaction and its allocation between the two is a difficult matter."

\* \* \* \* \*

"Not only because of this but also because of the possible uncertainties in the tax rate over a period of time over which royalties or technical fees may be payable, the collaborator abroad tends to put a certain amount of money into his estimates to provide for possible escalation in tax rates."

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"If there were a general concession to everybody, private and public, that they could negotiate a contract free of tax, there is absolutely no guarantee that we would be getting the rate quoted to us less the tax amount because the rates as paid to the company here and elsewhere would be the gross rates."

"The more difficult problem is that on account of the nature of double taxation, a company which provides technology to us pays tax in its own country and pays tax to us. Most countries like the United States, Germany and Britain afford tax relief to these companies on the basis of the tax paid to us. Sometimes this is enshrined in double tax avoidance agreement between the two

countries. In any case, the company does not actually pay tax on the same transaction to both the countries. If we were simply to let off these companies from Indian tax, then they would still pay tax to their own country and what would happen would be that in effect the American or the British Treasury would get the tax money while we would not. To avoid that, we have to see that their liability to tax in India is added on to the contract. This is not easy of solution in the absence of exact knowledge of tax incidence in the other country as well as in India."

7.38. To any enquiry by the Committee as to what would be the best solution to overcome the difficulties pointed out by the Public Undertakings as well as representatives of Ministries, the Secretary Department of Expenditure stated:

"Even on behalf of the Ministry of (Finance) we would certainly not shut out a further detailed consideration of this problem and a possible solution. My personal opinion would be that of the two possibilities that have been canvassed, I would prefer the second one, which is a prior determination of the percentage of income-tax payment to arise in India possibly on an *ad-hoc* basis, to settle that part of the problem; or to leave the foreign party to continue to bear possible uncertainties on the tax etc., charges."

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"In a number of cases the enterprises felt there should be a tax agreement and the Finance Ministry and the Administrative Ministry discussed it, but found it unwise, so these agreements have been finally concluded on the conventional basis. There is no pending requirement."

7.39. The representative of Department of Economic Affairs, Ministry of Finance and Foreign Investment Board (FIB) stated in this connection as under:—

"This problem of applicability of taxes has, in fact, come up in a few cases of public sector undertakings. The general policy has been that, as a policy, we do insist on taxes being paid. But there have been cases where exemptions have been given particularly in respect of public sector undertakings. I am not aware whether any private sector company has had any benefit at all. The

only relaxation has been made in respect of public sector undertakings. I would like to emphasize that about uncertainty, much can be said. \* \* \* \* \* You cannot say, what the tax rate is going to be. Equally, the foreign companies cannot say what the tax rates are going to be in their countries. There is that much uncertainty even here. The point is, if we were to forego taxes on that ground, in a poor country like ours there is no reason why we should do so.

I submit, the question of taxation has been referred by the Foreign Investment Board to the Central Board of Direct Taxes.

We are examining this question. As a general policy, it would be my personal opinion that the cases where taxes have to be exempted should be the exception rather than the rule."

7.40. It was added that this taxation problem is only relevant to royalty payment and since the period of royalty is generally limited to five years, the question of uncertainty would relate to the period of five years. However exemptions have been given to Public Undertakings regarding payment of Tax.

7.41. The Secretary, Department of Industrial Development added:—

"About the tax treatment, I would like to submit that as far as I know, no country in the world gives tax exemption for foreign collaborators. This point has come up in the discussions among the developing countries in trying to formulate a code of conduct so that all developing countries try and give the same kind of treatment in regard to foreign collaborators. The point has been made by many developing countries that when foreign collaborators insist and ask for tax exemption, we should certainly not give that and this has been our attempt in our discussions at Geneva. I would be some what wary about formulating in India a policy by which we say, (certainly) we are prepared to negotiate this, which really means waiver of the applicability of tax. The other thing is that uncertainty can be removed by giving an advance ruling which prevails in other countries. There are pro-



blems there, but it may be possible to work out, by which we can say beforehand, that given the nature and circumstances of the kind of services rendered and the place at which these will be rendered, this will not attract tax liability or will attract tax liability, so that the applicability problem is resolved to some extent. I think, actually the problem of the foreign collaborator is not in regard to the tax rates. I might mention that the Indian tax rates have not been fluctuating to such an extent as to introduce uncertainty; by and large on royalty, it is a flat 50 per cent or so it has been so for many years. On other types of income it does vary but it does not vary much. The real problem is that the foreign collaborator does not know whether the payment will be at all subject to tax it will be free of tax. On that we can work out and evolve a system of advance ruling. This will be preferable rather than give tax exemptions."

7.42. In this connection in a note furnished to the Committee after the evidence, the Ministry of Finance (Department of Economic Affairs) stated as under:—

"The matter was given careful consideration by Secretariat for Industrial Approvals in consultation with Central Board of Direct Taxes and it was decided that with a view to safeguarding the interests of the revenue to the maximum extent possible, the following clarifications issued *Vide* S. A. No. FC-1 (15) |75 dated October, 1975 might be kept in mind by the Administrative Ministries and others concerned while scrutinising and approving foreign collaboration agreements;

- (a) It would be desirable to avoid stipulating a composite amount of payment to cover all the services to be rendered by the foreign collaborator in terms of the agreement. Stipulation of a composite sum would lead to controversies regarding the allocation between the taxable and non-taxable activities of the foreign collaborators. Broadly speaking, amounts payable for services rendered in India or by way of royalties for the use of patents etc. are taxable in the hands of foreign collaborators while amounts for services rendered outside India are not taxable unless the amount is received in India.

- (b) Details of the services to be rendered in India and these to be rendered outside India should, however, be clearly spelt out separately in the collaboration agreement.
- (c) Amounts relating to services rendered in India and services rendered outside India should be separately indicated in the agreement, It should be ensured that the amount payable for services rendered in India is commensurate with the nature and extent of services rendered in India and that the amount payable for services rendered out of India is not unduly inflated at the cost of the former or by providing that some of the services to be rendered in India are free of cost or without charging any element of profit e.g. the provision regarding making available the services of technical personnel. The ITO in such cases, will examine whether the amount apparently earmarked for services rendered out of India, does not really include an appropriate amount for services to be performed in India, free of cost or at no profit.
- (d) The payment for royalties for use of patents etc. should be separately mentioned.
- (e) If the supply of know-how is intimately connected with the visit of foreign technicians to enable the Indian collaborator to put the know-how to use, it is to be endured that no attempt is made to draft the agreement in such a manner as to suggest that the entire know-how has been delivered or supplied from abroad. The general position in law is that if the know-how is supplied from abroad the income accrues abroad but where the technicians provided by the foreign collaborator also help the Indian party to introduce the know-how in the Indian project, a view can be taken that know-how is partly supplied in India and hence a part of the income will become taxable.
- (f) Where an agreement provides for the supply of machinery or equipment and also for technical services to be rendered in connection with the putting up or supervision or commissioning etc. of the plant, it may be ensured that the amount stipulated to be payable on account of the supply of the machinery or equipment is

not unduly inflated at the cost of the amount attributable to the technical services to be rendered in India. This has also to be ensured where there is one agreement for the supply of machinery or equipment and a separate agreement for the rendering of technical services.

4. In some cases where public sector undertakings could not persuade the foreign collaborator to accept the tax liability, as a special case Foreign Investment Board agreed to allow the Public Undertaking to bear the tax liability.

5. The question whether the words "subject to applicable taxes" used for lump-sum payments can be concretised is under examination of the Ministry of Finance (Department of R & B).

7.43. The Committee note that according to the Policy Guidelines issued by the Government while royalty payments for technical collaboration are subject to Indian taxes, lump-sum payments for import of drawings, documentation etc. and other forms of know-how will be subject to "applicable Indian taxes." The Committee are informed that while there is no difficulty in regard to royalty payments which are subject to Indian taxes, difficulties had been experienced by the Public Undertakings about the interpretation of the words "applicable Indian Taxes" in regard to other payments. The Committee are informed that due to this stipulation of applicable Indian taxes in the agreement in the case of a leading public sector undertaking, even very old cases of payment of taxes have been reopened with the result that the undertaking has been burdened to the extent of Rs. 43 lakhs in respect of an old collaboration.

7.44. *With a view to safeguarding the interests of the revenue* it has been stated that certain clarifications have been issued by the Ministry of Finance in October, 1975. According to these, stipulation about composite payments for services should be avoided, as this may create controversies regarding the allocation between taxable and non-taxable activities of the foreign collaborators within and outside this country. The guidelines urge that there should be clear provision regarding the services to be rendered in India and abroad, the amounts payable for such services and the incidence of tax. It has also to be ensured that amounts payable and other services rendered out of India are not unduly inflated at the cost of the amount attributable to the technical services to be rendered in India. The Committee need hardly point out that the clarifications should

have been issued many years earlier so that the public undertakings, the foreign collaborators and all others concerned knew more precisely the incidence of taxation and the amount they would have to remit on that account. The Committee would like the public undertakings to keep carefully in view the guidelines in this regard while finalising the foreign collaboration terms to obviate any scope for misunderstanding on this account at a later stage.

7.45. The Committee are informed that the question whether the words "subject to applicable taxes" used for lump-sum payments can be concretised is under the examination of the Ministry of Finance. The Committee would urge that the Ministry of Finance should take an early decision in this matter and notify the same to the public undertakings and the administrative Ministries so that the undertakings are clear about their responsibility in this regard and no uncertain liability is cast on them. The Committee note that many developing countries are not in favour of granting full tax exemption to foreign collaborators for it is obvious that tax on the income has to be paid in one country or the other. This aspect is also bound to come up at the next UNCTAD Conference scheduled to be held in Nairobi in May, 1976 to consider the subject of Code of Conduct For Transfer of Technology. The Committee recommend that Government may review the position during the course of the year in the light of these developments so as to remove all elements of ambiguity and uncertainty. The Committee would like to be informed of the action taken within six months.

## VIII

### RESTRICTIVE CLAUSE

8.1. According to the Ministry of Industrial Development the important features of collaboration agreements which may be deemed to be restrictive|“tied” are as follows:—

- i. The Indian company shall be under obligation to purchase machinery|raw materials|components from the collaborator during the period of agreement.
- ii. The Indian company shall have to return the designs and drawings to the collaborator after the expiry of the agreement.
- iii. The Indian company shall not manufacture the product after the expiry of the agreement in view of the fact that the item is patented in India.
- iv. The Indian company shall not pass on the know-how to a third party during or after the expiry of the agreement.
- v. The Indian company shall pass on any improvements in the technical know-how made during the currency of the agreement, to the collaborator free of cost.
- vi. The Indian company shall not export the product either to certain specified countries, or without the written permission of the collaborator or, shall export only through the collaborators agencies abroad.
- vii. The Indian company shall have to sell the product to the party specified by the collaborator at the pre-determined rates.
- viii. The collaboration agreement shall be subject to the laws of the country of the collaborator.

8.2. The general guidelines however stipulate among other conditions that entrepreneurs should take note of the following before

negotiating foreign collaboration agreements:—

The Indian party should be free to sub-license the technical know-how/product design/engineering designing under the agreement to another Indian party on terms to be mutually agreed to by all all the parties concerned including the foreign collaborator and subject to the approval of Government.

Arrangements or clause which in any manner bind the Indian party with regard to the procurement of capital goods, components, spares, raw materials, pricing policy, selling arrangements, etc. should be avoided—

To the fullest extent possible, there should be no restrictions on free export to all countries.

8.3. According to a note furnished by the Fertilizer Corporation of India Ltd., the following are also to be treated as restrictive/tied up clauses:

- (i) Restriction of not allowing to obtain similar process/equipment design from other parties during validity of agreement.
- (ii) Restriction on use of the process and the licence in further expansion and/or in new plants without payment of further fees.
- (iii) Non-agreement of the collaboration to bear Indian Income Tax that may be levied on them or their personnel.
- (iv) Non-agreement of the various parties to pay consequential damages in case of delays or failure to perform guarantee tests for reasons attributable to collaborators.
- (v) Restriction on the limit for payment of liquidated damages for failure to perform guarantee test.
- (vi) Limit on the payment of liquidated damage on account of infringement action that may be taken by any other party for use of process offered by collaborator.

8.4. From the information furnished by 50 public undertakings to the Committee, it is seen that the nature of the restrictive|"tied" clause could be broadly classified into the following four categories.

1. Exports.
2. Purchase of Machinery.

3. Not to pass on know-how to another party.

4. Trade Marks.

8.5. Restrictive clause in respect of exports appeared in nearly 50 per cent of cases, 23 in number; restrictions on purchase of machinery were included in five cases; restrictions on passing on know-how to another party in thirteen cases and restriction on trade marks in two cases. There was no case of restriction on manufacture after expiry of an agreement—The Sector wise analysis of the restrictive clauses is attached.

*Number of Undertakings having restrictions on*

Sector	Exports	Purchase of machinery	Manufacture after expiry of agreement	Not to pass on know-how to another party	Trade-marks.
1. Steel & Mines . . . . .	4	NIL	NIL	2	NIL
2. Energy . . . . .	NIL	NIL	NIL	NIL	NIL
3. Defence . . . . .	6	NIL	NIL	3	NIL
4. Industry & Civil Supplies . . . . .	6	2	NIL	2	NIL
5. Industrial Development . . . . .	2	NIL	NIL	NIL	1
6. Petroleum & Chemicals . . . . .	3	3	NIL	4	1
7. Communications . . . . .	1	NIL	NIL	NIL	NIL
8. Health & Family Planning . . . . .	NIL	NIL	NIL	1	NIL
9. Commerce . . . . .	1	NIL	NIL	1	NIL
<b>TOTAL . . . . .</b>	<b>23</b>	<b>5</b>	<b>NIL</b>	<b>13</b>	<b>2</b>

8.6. It has been stated that in the cases of M/s. Richardson and Gruddas and M/s. Jessop and Co., the Collaborators insisted on incorporating restrictive clause concerning export of the products to certain areas. The Government however insists on free export rights, excepting in areas where the collaborators already have certain conclusive arrangements or where the law of the land of the collaborators does not permit such exports.

8.7. In written information furnished to the Committee after evidence, while, BOGL, HPF, and IDPL have stated that there is

restrictive clause for export of their products in the collaboration agreements, BHEL, BHPV, IPCL and MAMCO have stated that there are restrictive clauses regarding export to specific countries. BHEL has also added that the collaborators agree to allow the Indian parties to exports to other countries excepting where the collaborator has certain exclusive arrangements or where the law of the land of the collaborator does not permit such exports. BHEL has further stated that though free export rights to all countries is the best proposition, while selling advanced technologies, commercial interests are an important consideration with the collaborator, the Indian Organisation should try to seek the best terms and Government should decide on a case to case basis. A long term export strategy/programme of the undertaking would also help in assessing whether insistence on export rights is all that significant. BEML has stated that KOMATSU and RADJOJE DAKIL agreements specified the countries to which the products could be exported. Under the WABCO agreement, in BEML, the licensor had sole and exclusive right to distribute and sell in export markets and all products have to be sold through licensor or his nominee at 5 per cent less than the licensor's F.O.B. factory net distributor price.

8.8. Lubrizol (I) Ltd., has stated that the agreement between Government of India and Lubrizol Corporation, USA counter on them non-exclusive right for sale of products to certain countries by mutual agreement.

8.9. IRE has stated that restriction on exports is detrimental to the country and should not be allowed unless there are over-riding considerations.

8.10. Instrumentation Ltd. has stated that foreign collaborators generally do not agree for unrestricted export rights. However, the products manufactured as for Russian technology are being exported to various countries without any objections.

In the case of their agreement with Y H of Japan export rights are available to all countries where Y H have joint ventures.

8.11. HMT has informed the Committee as follows:—

“Invariably, the foreign collaborators insist on incorporating a restrictive clause concerning export of the products to certain countries during the period of agreement. They only agree to give exclusive rights for export to adjoining countries like Nepal, Sri Lanka, Burma and Bangla Desh and



non-exclusive rights to sell in other countries. Further we can also export our products in co-operation with the collaborator or through their organised agencies to all countries if specific export orders are to be fulfilled.

This is a matter of bargaining and HMT has always endeavoured to secure maximum possible advantages.

Since our exports are still disproportionate to our total production the existing rights of export held by HMT have not produced any detrimental effect."

8.12. In another reply after evidence the Department of Industrial Development have further stated that restrictions on export franchise being a restrictive practice, is a not normally allowed in foreign collaboration agreement. However, such restrictions are agreed to in regard to exports to the country of the foreign collaborator and to countries where the foreign collaborator has existing licensing agreements. The standard condition incorporated in foreign collaboration approvals in regard to exports is given below:

"Exports shall be permitted to all countries except where the foreign collaborator has existing licensing arrangements for manufacture. In the latter case the countries concerned shall be specified."

8.13. The Department of Heavy Industry in a written note furnished to the Committee have stated that—

"Generally, the licensor agrees to allow the Indian parties to export to other countries excepting where the collaborator has certain exclusive arrangements or where the law of the land of the collaborator does not permit such exports.

It is true that free export rights to all countries is the best proposition. But, while selling advanced technologies, commercial interests are an important consideration with the collaborator. A pragmatic view has to be taken to such cases. The Indian party should try to seek the best terms and Government should decide on a case to case basis. Where there is a choice of collaborators, due weightage could be given to the collaborators' stand regarding exports. A long-term export strategy/programme of the undertaking would also help in assessing whether existence on export rights is all that significant."

8.14. The Ministry of Petroleum and Ministry of Chemicals and Fertilizers have informed the Committee that restrictions imposed in collaboration agreements have not been detrimental to their interests. Export right is a matter of negotiations taking also into account the know-how givers and his other licensees' area of operation.

8.15. The Bureau of Public Enterprises have stated that they have indicated in the guidelines that any limiting clauses, as far as exports are concerned, should be accepted at all and where they already exist, should not be eliminated if and when the contracts come up for renewal.

8.16. The Department of Atomic Energy have stated that—

“as far as IRE's agreement with BCA is concerned, provision has been made to the effect that IRE is entitled to use, sell or otherwise dispose of the product in India or abroad, as long as it will not use BCA trade names.

Government should not approve foreign collaboration agreements without providings for therein similar clause referred to above.”

8.17. The Committee note that general guidelines for foreign collaboration stipulate among other conditions that entrepreneurs should before negotiating foreign collaboration agreements take note of restrictive provisions regarding (a) sub-licensing of the technical know-how, product designs, engineering designs, (b) procurement of capital goods, components, spares, raw materials, pricing policy, selling arrangements and (c) exports.

8.18. The Committee however find from the information furnished by about 50 public undertakings that restrictive clauses on exports appeared in 23 cases, restrictions on purchase of machinery in five cases, restrictions on passing of know-how in 13 cases, and about trademark in two cases. The Committee need hardly stress that there should not be any provision banning the public undertaking from sub-licensing the technical know-how as any restriction in this regard will only entail respective import of technology and accentuate to multiplicity of collaboration with avoidable outgo of foreign exchange. The Committee have dealt with this aspect in a separate chapter of this report.

8.19. The Committee feel that inclusion of clauses imposing restrictions on purchase of plant and equipment, spares, raw materials, components etc. from|through the collaborator is an indirect

compulsion on the entrepreneur to go in for compulsory imports of plant and machinery and should not be agreed to in the interest of securing them at the most competitive international prices.

8.20. The Committee note that though according to the guidelines there should be no restrictions on free exports to all countries, according to the Department of Industrial Development, such restrictions have been agreed to in specific cases where (a) the export restrictions were in regard to certain areas or countries as in the case of Jessops & Co., BHEL, BEML, MAMCO, BHPV and IPCL, (b) to countries where collaborators had exclusive arrangements or where the law of the country of collaborator does not permit such exports (BHEL), (c) exports should be through the licensors or his nominees at 5 per cent less than the licensor's F.O.B. factory net distributor price (as in BEML's agreement with WABCO).

8.21. The Committee agree with IRE that restriction on exports is detrimental to national interests and may not be allowed unless there are over-riding considerations.

8.22. The Committee feel that where the foreign collaboration is being sought mainly for export purposes, any restriction on exports will defeat the very purpose of the foreign collaboration and should not be accepted except where the countries to which the restrictions are sought to be applied are not the ones for which the Indian parties intend to cater.

8.23. The Committee feel that since India has reached a significant stage in the development of manufacturing capability and has in fact become exporter of not only sophisticated engineering goods but also of technical know-how, Government/Public Undertakings should ensure that restrictions which come in the way of natural growth of exports to potential markets should be avoided to the maximum extent possible.

## IX

### ARBITRATION

9.1. It has been stated that according to the Government's policy, all foreign collaborations should normally be subject to Indian laws. Arbitration by organised bodies such as International Chamber of Commerce etc. can also be provided for in specific cases with the approval of Government.

9.2. The check list prepared by the Bureau of Public Enterprises indicating the points required to be taken care of at the time of negotiating/concluding collaboration agreements state as follows in respect of arbitration:—

*“Arbitration—It may be indicated, whether the Arbitration Act, 1940 shall apply. The number of arbitrators, companies, their nationality and the venue of the proceedings may be indicated.*

#### *Law of the country and venue for settlement of disputes*

9.3. Contracts particularly those with foreign parties should contain an express provision as to the law by which they are to be governed. It would be desirable wherever possible to state that the contracts would be governed by Indian law.

According to the information furnished by 44 public undertakings in 19 out of 74 foreign collaboration agreements, the venue of arbitration has been “outside the country”. In 19 cases, the law applicable for arbitration is stated to be the Indian Arbitration Act and in 36 cases, the arbitration would be according to International Chamber of Commerce regulations. In 5 cases, the arbitration will be according to the law of collaborator's country. (Vide statement Appendix IX).

9.4. BCCL have stated that as the collaboration agreement had resulted out of inter-governmental agreement, any matters required for clarification are negotiated at the Joint Polish Commission meetings.

9.5. Bokaro have stated that there is no provision about arbitration.

9.6. CMAL have stated that in case of disputes, the representative of the two Governments shall, by mutual agreement, settle the dispute as their collaboration agreements are with Soviet and Polish Governments.

9.7. Hindustan Latex have stated that their arbitration is settled according to the provision of Indo-Japan Trade Arbitration agreement in India.

9.8. BALCO stated that their agreement with the USSR provides that in the case of any dispute or difference it shall be settled according to the agreement between the two Governments. In the case of agreements with Hungarian firm, the disputes are to be settled by Court of Arbitration to be constituted according to the French Substantive Law.

9.9. In this connection during evidence the representative of FACT stated that the collaboration agreements should be subject to Indian laws. In case of agreements of the FCI, most of the services are performed abroad and the collaborators would like to have a laws of their countries or neutral ones.

9.10. The representative of IOC stated the collaborators do not have any objection to have arbitration in India provided the arbitration is in accordance with the rules and regulations and guidelines of the International Chamber of Commerce.

9.11. The representative of IOC and IPCL were however of the view that venue of arbitration should be India although the arbitration may be according to guidelines of International Chamber of Commerce.

9.12. In this connection the representative of Department of Economic Affairs and FIB stated as under:—

“Most of the countries with whom we have foreign collaboration agreements abide by the ICC or Indian laws.”

9.13. To an enquiry by the Committee whether any difficulty has been experienced in regard to arbitration, the Secretary, Department of Petroleum stated as under:—

“It has happened on my side. In certain cases the party has insisted on the applicability of its own laws or arbitration being according to ICC or in line with British laws etc. This stage is reached after a technology or collaborator has been selected. Then the detailed agreement is work-

ed out and discussed with him. At that stage, he knows that he is either the cheapest or the most desirable and he is not too ready to concede on a point like this. He does not want to accept your laws nor the ICC. There a fair amount of trouble does arise, especially in exclusive technology or high technology areas, like in the process technology, in the IPCL, for instance. In three or four cases, we had to tell the FIB that we could not bring round the proposed collaborator. But in most such cases we do try to see that it should be ICC. Otherwise we have agreed in one case, for example, to the British laws being used; in another case we have agreed to the Swiss laws being used, all under compulsion and considering the desirable nature of the technology or its competitive character. It is on merits and the FIB has been fairly flexible in this."

9.14. The Secretary, Department of Mines added that in case, at the time of consideration of proposal by the FIB, it is proposed that the agreement would be subject to arbitration of ICC etc. this should be clearly brought out in the summary, etc.

9.15. To a further enquiry by the Committee whether there have been delays because of the arbitration clause, the Secretary, Department of Petroleum added:—

"Not specially so. There is delay naturally whenever you go beyond the guidelines. Although it may not be the rule, it is not agreed to overnight it is agreed to sparingly after a lot of discussions and persuasion. That is inherent in it; otherwise people will become a little too relaxed. I would personally not suggest that they should be relaxed on every nor do I suggest that they should be relaxed on every occasion."

9.16. Secretary, Department of Expenditure, Ministry of Finance stated:—

"If I may submit, there are three aspects the law of the contract, arbitral forum and the law of arbitration. It could be to our advantage if all contracts entered into by all companies in India, public or private, were under the laws of India, if arbitration were to be under the Indian Arbitration Act and the forum were to be an Indian arbitration forum. This reduces our costs, makes our position and our knowledge of the law firm. That is therefore,

our bargaining position in respect of literally thousands of contracts that the private sector are entering into with respect to collaboration agreements; that is what the guideline is. However, in all major negotiations the other party would obviously prefer exactly the opposite. An American party would naturally prefer the laws of New York, the arbitral forum to be New York. So in the major contracts it is a matter of negotiations and our guidelines are therefore flexible. We start with the position that we are a Sovereign government; we are negotiating with parties all over the world and they should if they want to invest in India accept our framework of laws which are well-known and well-established; about their fairness there should be no doubt. However, in the real world of bargaining it is necessary that we should be prepared to yield to a certain extent on international arbitration forum, law or arbitration or even law of contract. We are not prepared to accept contracts and arbitration under legal systems which are strange to us. Therefore, as Secretary Ministry of Petroleum had stated, the guidelines should be there; it should be flexible; where major contracts are negotiated and they cannot be finalised under those terms, we should be prepared to relax them."

9.17. In a written note furnished to the Committee it has been stated that so far as the principles of arbitration are concerned, the rules of conciliation and arbitration of the International Chamber of Commerce and the Indian Arbitration Act are the same. However, there are certain differences as indicated below:—

As per International Chamber of Commerce	As per Indian Arbitration ACT
1	2
1. Normally, the International Chamber of Commerce will not take up for consideration if there is no arbitration clause in the agreement between the Parties or where there is an arbitration clause in which the International Chamber of Commerce is not specified or if the defendant declines arbitration by International Chamber of Commerce.	Cases can be referred to arbitration even if there is no arbitration clause, by the Parties concerned or by the court.
2. There is a "Court of Arbitration" the members of which are appointed by the Council of International Chamber. The Court of Arbitration does not itself settle disputes. This Court comes into the picture only under certain circumstances.	The Courts in India have jurisdiction on these matters and they have a legal binding.

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|---|---|
| <p>3. Normally, the proceedings shall be governed by the law of procedure chosen by the parties or failing such choice those of the law of the country in which the arbitrator holds the proceedings; the place of arbitration, if not decided upon by the parties in advance, shall be determined by the Court of Arbitrators.</p> | <p>The proceedings shall take place only in India and the rules laid down under the Indian Arbitration Act shall only apply.</p>  |
| <p>4. No award shall under any circumstances be issued until approval as to its form by the Court of Arbitration of the International Chamber of Commerce.</p>  | <p>The arbitrator can give his award in the form decided upon by him. The award will have to be registered or cause to be registered either by the arbitrator or the umpire.</p>  |
| <p>5. The award shall be final.</p>   | <p>The award can be set aside under certain circumstances under the Indian Arbitration ACT ( Misconduct of Arbitrator or award having been made after issue of an order by a court superseding the arbitration or improper procurement of award). The Court has powers to modify or correct the award (a) where it appears that a part of the award is upon a matter not referred to arbitration and such part can be separated from the other part and does not affect the decision on the matter referred, (b) where the award is imperfect in form, or contains any obvious error which can be awarded without affecting such decision or (c) where the award contains a clerical mistake or an error arising from an accidental step or omission.</p> |

In this connection the Pugwash Draft Code of Conduct in the field of transfer of technology has suggested that " in the field of transfer of technology has suggested that" in the event of a dispute between the supplier and the recipient of technology, legal jurisdiction for settlement of dispute should reside in the courts of the technology receiving country and if the laws applicable to the technology transfer agreement do not exclude recourse to arbitration in this field and the parties concerned agree to submit their possible disputes to arbitration, such disputes can be settled according to the procedure agreed by the parties. However, it is suggested that, in order to permit the solution of technical disputes at an early stage, thus minimizing the need for legal arbitration or judicial settlement of disputes, the parties might insert provisions in their arbitration procedure whereby disputes of a technical nature can be submitted as soon as possible after they arise to



impartial technical experts appointed in a way acceptable to all parties concerned."

The Pugwash Conference on Science and World Affairs held at Madras in January, 1976 in the Code of Conduct which has been finalised, has stated as follows in regard to the applicable law and settlement of disputes:

"Technology transfer arrangements shall be governed, with regard to their validity, performance and interpretation, by the laws of the technology-receiving country.

The technology-receiving country shall exercise legal jurisdiction over the settlement of disputes pertaining to transfer of technology arrangements between the parties concerned.

If the laws applicable to the technology transfer arrangements do not exclude resources to arbitration in this field and the parties concerned agree to submit their possible disputes to arbitration, such disputes will be settled according to the procedures agreed upon by the parties concerned."

**9.18. The Committee find that according to the Government's policy all foreign collaborations should normally be subject to Indian laws and arbitration by organised bodies like International Chamber of Commerce can also be provided for in specific cases with the approval of Government, in 19 out of 74 foreign collaboration agreements in Public Undertakings analysed by the Committee, the venue of arbitration has been outside the country; in 19 cases, the law applicable for arbitration is stated to be Indian Arbitration Act and in 36 cases, the arbitration was to be according to International Chamber of Commerce regulations. In 5 cases, the arbitration would be according to the law of the collaborator's country. In case of 2 agreements, the disputes are to be settled by a court of arbitration to be constituted according to the law of a country independent of the parties to the agreement. Where the collaboration agreement has been the result of Inter-Governmental agreements, the matters are left to be settled according to such inter-Governmental agreements.**

**9.19. The Committee are informed that generally the collaborators have no objection to the venue of arbitration being in India, but the collaborators would like that the arbitration should be in accordance with the rules and regulations and guidelines of the International Chamber of Commerce. The Committee note that it is in the interest of the country if all contracts entered into by companies in India, both public and private, are under the laws of**

**India and the arbitration were to be Indian Arbitration Act and the forum were to be the Indian Arbitration Forum since arbitration in such cases will be under the framework of laws which are well known and well established in the country and will also keep down the costs of arbitration to the minimum. The Committee find that although the principles of arbitration both under the International Chamber of Commerce and Indian Arbitration Act are the same, there have been certain differences between them, viz. while under Indian Arbitration Act cases can be referred to Arbitration even if there is no arbitration clause, the International Chamber of Commerce will not take up for consideration if there is no arbitration clause in the Agreement or where there is an arbitration clause in which the International Chamber of Commerce is not specified or if the defendant declines arbitration by the International Chamber of Commerce.**

**9.20. Again while the courts in India have jurisdiction on these matters and they have a legal binding, the "Court of Arbitration" appointed by the International Chamber comes into the picture only under certain circumstances, but it does not itself settle disputes. Similarly, the proceedings under the Indian Arbitration Act shall take place only in India and the Indian rules will only apply in such cases, whereas the proceedings under the International Chamber of Commerce will be governed by the law of procedures chosen by the parties or failing such choice of the law of the country in which the arbitrator holds the proceedings. The place of arbitration in such cases if it is not decided by the parties in advance shall be determined by the "Court of Arbitration". Again while under the Indian Arbitration Act, the arbitrator can give his award in the form decided upon by him, no award shall, under any circumstances, be issued until the form of the award is approved by the International Chamber of Commerce.**

**9.21. While the award under the International Chamber of Commerce shall be final, the award under the Indian Arbitration Act can under certain circumstances be set aside and the court has the powers to modify or correct the award after due examination.**

**9.22. The Committee feel that the Indian Arbitration Act is more definitive and it should normally be possible to include the provision for arbitration in the collaboration agreements in conformity with the Indian Arbitration Act. However, in cases of collaboration agreements for sophisticated technology where the collaborators may be few, the arbitration may have to be under the rules and regulations of International Chamber of Commerce, if so insisted upon. Even in**

such cases the Committee would like that the venue of arbitration should as far as possible be India.

9.23. The Committee recommend that collaboration agreements should clearly specify the arbitral forum and the law applicable in the case of arbitration so that difficulties do not arise about interpretation of the provision relating to arbitration in the collaboration agreement. The Committee would also like Government to consider the feasibility of making suitable provisions in the agreements by which technological disputes are resolved during the subsistence of the agreement and the need for legal arbitration or judicial settlements which are fairly long drawn out processes involving uncertain liabilities are minimised.

**EVALUATION OF COLLABORATION AGREEMENTS**

10.1. In a note the Ministry of Industrial Development informed that the administrative ministries watch the progress regarding implementation of foreign collaboration agreements. The Reserve Bank of India has carried out two detailed surveys of foreign collaboration agreements entered into by public as well as private sector projects for the period from April, 1960 to March 1964 and from April 1964 to March, 1970. The results of these surveys have helped the Government in reviewing its policies on a continuous basis. For example these surveys had brought out various types of restrictive clauses in foreign collaboration agreements like restriction of exports, sub-licensing, payment of minimum amount of royalty irrespective of level of production, purchase of machinery, raw materials and components from a specified source, returning of designs and drawings after the expiry of the agreement, prohibition on the use of foreign patents after the expiry of the agreement, foreign collaboration agreements being subject to the laws of foreign countries etc. It is the policy of the Government not to generally permit restrictive clauses of the types mentioned above in collaboration agreements.

10.2. The Department of Heavy Industry informed the Committee that difficulties experienced by the undertakings in the working of foreign collaboration agreements by way of delay in receipt of design documentations, components, training facilities, etc. are taken up at the appropriate level.

10.3. The Ministry of Defence also watches the performance of undertakings under their control by periodical monitoring of the progress in execution of the relevant projects and the progress of indigenous manufacture/development. These are also monitored by agencies like the Aeronautics R & D Board, the Aeronautics Production Board, DTD & P (Air) and Steering Committees/Review Committees.

10.4. The Ministry of Petroleum and Chemicals however stated that there had been no specific review of the collaboration agreements with a view to assessing the success or otherwise of the agreements. Such a review was undertaken, if any agreement comes up

for renewal. Such an assessment of performance has also not been done by the Department of Atomic Energy.

10.5. The Bureau of Public Enterprises has stated that they had received information from 35 units indicating their views on foreign collaboration (*vide* Appendix X). Maximum number of collaboration agreements have been entered with USSR. Most of the units have expressed satisfaction in regard to the performance of collaboration agreements and it has been maintained that same proved to be quite useful.

10.6. On an enquiry whether the performance of an undertaking was reviewed with a view to assessing the success or otherwise of the foreign collaboration, the Fertilizer Corporation of India stated as follows:—

“This has been a continuous exercise and we have been attempting with each succeeding contract to improve upon the contract provisions and clauses in the light of experience of previous contracts. However, it is to be stated that there have been contracts in the past wherein we have had finally to go in for arbitration. On the other hand, we have also had fruitful collaboration agreements in the case of Gorakhpur and Namrup and some of the plants in Trombay such as methylamine etc. There are no special outside agencies which monitor and evaluate the performance and progress of the various collaboration agreements. It is done mostly internally in the Corporation itself and in the Administrative Ministry also. In the case of projects financed on World Bank loan, the performance and progress of various collaboration agreements are also periodically reviewed by World Bank staff particularly in order to see that the schedules are being maintained and take action where called for.”

10.7. BHEL stated that “on the basis of overall performance since the first collaboration was concluded, it can be stated that the manufacturing expertise has been absorbed satisfactorily. Capability in developing new products is yet to be fully established and we have to go a long way in developing capability in developing basic know-how.”

10.8. The representative of BHEL stated during evidence before the Committee :

“We have got a Technological Development Plan. We evaluate the performance at the close of the year. We are today having a forum to indicate the progress that we are making in terms of collaboration agreement and the know-how agreement we have entered into.”

10.9. HEC has stated that no specific assessment has been made. Generally, the collaboration has been successful—indigenous know-how developed and equipment manufactured.

10.10. BEML and IPCL have stated that there is no formal agency for continuous evaluation of collaboration agreement. IDPL is however, of the view that success or otherwise of the collaboration agreement has to be determined by two factors :

- (a) whether it has been possible to attain the rated capacity within the norms given;
- (b) whether it has been possible to make a profit at end of of the year.

10.11. Bharat Ophthalmic Glass informed that Government had recently reviewed the performance of the undertaking by appointing a Techno-Economic Committee.

10.12. To an enquiry by the Committee as to what is the experience of the undertakings with foreign collaborators of different countries, the representative of Heavy Engineering Corporation stated :—

“About my experience of foreign collaboration, my collaborators are the Soviet Union and Czechoslovakia and collaboration agreements are not like agreements with private sector firms in the west. They are more in the nature of friendly assistance and co-operation rather than financial collaboration agreements.”

“We have had very happy relations with our two foreign collaborators.”

10.13. *The Managing Director, Bokaro Steel* stated in this connection that:—

“I was in Bhilai for six years and I had the experience with Soviet people there. I then moved to Durgapur which has British-collaboration, for 9 years; and I am now back at Bokaro which has Russian collaboration. I have found in my experience that financially, the Russian collaboration has offered the best terms.”

“Among all the collaboration that we have with foreign countries, my assessment in regard to various matters including the quality of association, is that the Russian collaboration is certainly of the highest standard, because there is some element of missionary zeal in making the unit succeed.”

10.14. *The Chairman, IOC* stated in this connection that:

“I will try to give my opinion about the collaborations with different countries. We have collaborations with the Russians, as well as with the French, as well as with the Romanians and Italians also, in some cases.

Our experience with the Russians is that we have got full cooperation from them. They completely passed on to us whatever technology they had, including the drawings and designs. As mentioned to you, our first refinery was built in Baroda, and they gave full assistance for it. Our experience with them has been very, very good and we are happy with the experience. We are also still getting help from them.”

10.15. To a question by the Committee whether the Russian collaborators are helping and cooperative in further consultations and supply of some spare parts which may be required, the witness replied:—

“I must tell you that when we built the two refineries at Baroda and Gujarat between 1962 and 1965, we had still not developed spare parts and till the spare parts were developed in the country, they supplied them to us and, whatever critical spare parts we need are still being supplied. Wherever we have difficulty, we request them to supply the spare parts and they do so.”

"As far as the Italians are concerned, we have built one plant with their cooperation. There, of course, it was a very small collaboration and after the unit was built, we did not have any relations with them."

"Now we are not getting anything from them because we have developed in our country. As far as the pipeline is concerned, our experience with them has been fairly good, except in certain fields where we had problems, but these problems have been resolved."

But except for certain deficiencies in the design, the performance was more or less fairly good and I do not have much complaint about, except for the capacity part of it.

About the French collaboration, our experience in regard to Haldia was also good and we do not have much problem. They have met most of their commitments except at one or two places and we are still negotiating with them for meeting their commitments as per the design.

We have got collaborations with the Romanians both for the refinery at Gauhati and the one at Haldia and I don't think we have much complaint about the Romanians also. They too have been very cooperative."

10.16. In a note furnished by the Steel Authority of India Limited to the Committee regarding working and experience of collaboration agreements in the case of various Steel Plants, it has been stated as under :

*Rourkela Steel Plant*

"The supply of drawings as per contract has been generally satisfactory. The Main Plant contractors however, were facing some difficulty in obtaining drawings from the sub-suppliers for the bought-out equipments of patented proprietary nature incorporated in the Main Plant machinery and equipments."

The production contractor provided opportunities for the Indian operating personnel for necessary training and experience in the operation of the respective Plants.



All the contracts also provided for training of Rourkela Steel Plant personnel in the operation and maintenance of the respective Plants with the suppliers in Germany. The relevant clause in the General Conditions of contract is reproduced below :

“The contractor shall arrange for the training of a reasonable number of Indian technical personnel to be specified by the purchaser, in the shops manufacturing the equipment and machinery specified in the contract. The period of training will be mutually agreed upon. Their travelling and living expenses shall be borne by the Purchaser.”

#### *Alloy Steels Plants*

“Collaboration with Atlas Steels Ltd., Canada proved to be quite fruitful in standard production.

#### *Bokaro Steel Limited*

During the working with the Soviets for about a decade now, the Indian side has received active cooperation, assistance and readiness to help in all the fields enumerated at para 1.2, in the spirit of the collaboration agreement as at para 1.1.

The submission of DPR, working drawings and technical documentation has been generally on time as per agreed schedules.

Notwithstanding what was provided for in the original agreements with the Soviet Suppliers, they have readily agreed to curtailment of their scope of supplies whenever the Indian side subsequently felt that such supplies could be arranged indigenously.

However, difficulties have been experienced in following respects:—

They have not been agreeing to incorporation of item-wise delivery schedule, which is necessary to link up the supplies with the erection programmes. The experience shows, that, in absence of item-wise delivery schedule in contracts, some items have been delivered out of sequence compared to the actual requirements. In respect of items delivered considerably in advance, problems of storage and reconsevation have been faced.

Due partly to non-sequential supplies, the guarantee period of the equipment shipped much in advance expired while the equipment were still lying in the Stores.

On the Designer's supervision side, a group of Soviet specialists have been working side by side of the Indian Designers rendered effective services. Free and frank flow of information and knowledge has taken place even on intricate design aspects, which has enriched the Indian design side and enable it to handle the tasks for Stage II more effectively.

On the technical supervision on construction, commissioning, etc., Soviet specialists posted to construction organisation have been working shoulder to shoulder with the Indian counterparts. Free flow of information between the Soviet Designer's Supervision Group and the Indian Designer's also augment the design know-how of Indian Designers.

Initial spares for equipment supplied by the Soviet side are included in the scope of supply for the equipment. Additional spares are supplied as required by the India side on terms mutually negotiated. The supply position of spares from the Soviet side is generally satisfactory against the signed contracts. However, it is observed that sometimes quotations in the form of draft contracts for the requirements of spares projected on them are considerably delayed. This delays the conclusion of contracts and consequently supply of spares.

The Soviet side arranges for training in operation and maintenance of the plant to Indian Engineers, in different running plants in the USSR.

Soviet specialists deputed to India also help in imparting their knowledge in design, construction and operation sides.

**10.17. The Committee find that only the Reserve Bank of India have undertaken two comprehensive surveys about the working of the foreign collaboration arrangements in the country. While these have served a useful purpose in giving an overall view, the Committee feel that a detailed survey and analysis has to be carried out at the national, sectoral and unit level in order to learn from**

the experience of working of the foreign collaboration agreements with different collaborators and countries. It would be pertinent in this context to recall that in evidence before the Committee, it has been emphatically stated by the Managing Directors/Chairmen of leading public undertakings that technology and know-how received from Soviet Russia and other socialist countries has largely fulfilled the objectives and that the performance of the units set up has been very satisfactory. The Committee note particularly the element of dedication which has been ascribed to the Soviets in the matter of transfer of technology and in helping the public sector units to absorb technology and reach self-reliance. The problem of selection of technology and collaborators is, however complex in the case of other countries for in India there is no centralised agency or data bank where information may be readily available to facilitate the selection of the most suited technology and the best collaborators for project.

10.18. The Committee, stress that Government should devise suitable arrangements for evaluation of the foreign collaboration agreements on national, sectoral and unit basis with particular reference to the following considerations :

- (i) The extent to which the terms of agreements have been fulfilled in letter and spirit and the readiness shown by the foreign collaborators to resolve unanticipated problems and to adhere to the time schedule for delivery of drawings, designs, equipments etc.
- (ii) whether the production capacity has been developed as per the prescribed time frame upto the installed level and whether the warranted performance has been sustained over a period.
- (iii) Quality of service after installation with particular reference to the spirit of cooperation and helpfulness in resolving problems of operation and maintenance and sharing knowledge about advances in the relevant field of technology and know-how which would help the unit to attain higher production or effect reductions in cost.
- (iv) Concrete help given in import substitution with particular reference to raw materials, machinery and equipment.
- (v) Quality and quantity of production with reference to figures mentioned in the project report.

- (vi) **Acceptability of the product by the users in India.**
- (vii) **Potentiality for export and the extent to which it has been realised.**
- (viii) **Assistance given in setting up maintenance schedules and in arranging supply of spare parts on assured basis and at competitive prices and management of inventories.**
- (ix) **Setting up of a management information system in the interest of effective control over the unit.**
- (x) **Setting up of the Planning Research and Development Division and the concrete help given in the absorption of technology and know-how and making it self-reliant, and self-generating.**

10.19. The Committee suggest that while institutional arrangements may be made for critical study and appraisal of foreign collaboration agreements which have already run their course, such monitoring should be done in future concurrently so as to derive meaningful information and data for use while negotiating and finalising foreign agreements.

10.20. The Committee also suggest that the information on the above mentioned points and other related matters may be suitably brought on the data-bank under DGTD for providing ready reference and guidance in the matter of selection of foreign collaborators and technology. The Committee attach great importance to the above recommendations and would like to be informed, within six months, of the concrete measures taken by the Government in pursuance thereof.

NAWAL KISHORE SHARMA,

*Chairman,*

*Committee on Public Undertakings.*

NEW DELHI;

29th April, 1976.

Vaisakha 9, 1898 (S).

## APPENDIX-I

(Vide Paragraph No. 2.7)

*Guidelines issued under the Ministry of Industrial Development  
O.M. No. ID&FC-5(26) | 68-II dt. 25-1-1969 regarding foreign  
collaboration policies and procedure.*

\* \* \*

The following are some of the general principles to be borne in mind while dealing with foreign investment collaboration cases :

- (i) Even when the principle of foreign investment in a particular industry is accepted, it is important to ensure that, to the maximum extent possible, effective control in a joint venture rests in Indian hands. That is why foreign equity participation beyond 40 per cent is accepted in only exceptional cases. It is probable that in view of the Indian shareholding being divided, the foreign collaborator may be in a position to exercise effective control on the basis of a holding of less than 49 per cent. In view of this, all cases with foreign holding in excess of 40 per cent should be looked at carefully and, where approved, such steps as may be practicable (such as insistence on majority Indian Directors) should be taken to ensure that effective control remains in Indian hands. In judging the relevance of foreign equity holding to effective control, it would also be pertinent to distinguish between cases where the foreign equity holding belongs to a single group of management (or closely related groups of management) and those where it is shared, particularly with foreign financial institutions including International Institutions.

While our policy is to encourage foreign private investments in the industries which we desire to develop, one of the criteria for judging such proposals would be related to the profitability of a particular industry. While considering proposals for foreign equity participation in industries where the profit margin is substantially high, Ministries should take into account the quantum of divi-

dends which will have to be remitted abroad in a relatively short period and relate this to the likely earning or saving of foreign exchange.

- (ii) Normally royalty is expressed as a percentage of the ex-factory selling price of the product, minus the landed cost of the imported components including ocean freight, insurance, customs duties payable thereon etc.

In appropriate cases the alternative of expressing royalty as a fixed amount per unit of production may be considered. This may be particularly appropriate in cases where the Indian price of a commodity is expected to be very high as compared to the International price.

In respect of the engineering industries, a provision should be made in all collaboration agreements to the effect, that if a readily identifiable component is made by the same Indian party in collaboration with another foreign party, on a royalty basis, the cost of such a component should be deducted from the ex-factory price of the final product for the purpose of computation of royalty. Similarly, if the same foreign collaborator is associated with the manufacture of the final product and also many of the identifiable components, even if the Indian partners are different, the cost of such components should also be offset from the value of the final product for the purpose of the computation of royalty.

(iii) For the purpose of these guidelines royalty has been grouped into two ranges, a low range upto 3 per cent and the other upto 3 per cent. All royalties are subject to Indian taxes. The Ministries and the Departments of the Government of India should not as a rule negotiate on the basis of payment of fees to foreign collaborators free of Indian taxes but should insist on such payments being fixed subject to applicable Indian taxes.

The question has been considered whether in cases where minority foreign investment is allowed, the rate of royalty applicable should be something less than what would be admissible if there is no equity participation. A view has been expressed that in so far as the foreign investor gets a share in the profits of the company, there is a justification for a reduction in the royalty rate. On the other hand, the foreign investors have often taken the stand that their participation in the equity risk should not be a ground for denying payments which would otherwise have been made. Government have accepted this position. It is felt that we should not take a rigid stand that

there should be an appreciable reduction in the percentage of royalties on account of equity participation particularly as this may act as a disincentive to investment. In the interest of quick decisions, it does not seem desirable to have too much of a refinement to regulate the rate of royalty according to the quantum of minority investment.

(iv) In the very limited number of cases where majority foreign participation is agreed to the royalty payments to the foreign collaborators should be considered only when one or more of the following main criteria are satisfied:—

- (a) the main contribution of the project is in a field of technology where India has made little progress and where great deal of initial or additional development is necessary;
- (b) the amount of foreign exchange needed for the project is such that unless the foreigner is allowed to have majority share holding we shall ourselves have to find a substantial amount of the foreign exchange for the project, no alternative methods of long term finance being practicable; and
- (c) an essentially export oriented scheme.

(v) There should generally be no provision for payment of a stipulated minimum amount of royalty related to turnover.

(vi) In the case of payment of royalties to overseas concerns by fully-foreign-owned or majority-foreign-owned Indian companies, the following procedure should be followed:

- (a) *Collaboration between a wholly-owned subsidiary of a foreign company in India and the parent company*—Ordinarily no royalty payments to the parent company will be agreed to but payments towards technical services and fees for contribution towards research expenditure may be considered on merits in individual cases.
- (b) *Collaboration between a wholly-owned foreign subsidiary in India and a foreign company other than the parent company*—As a general policy collaboration between wholly-owned subsidiaries in India and a foreign party other than the parent company should be discouraged.

(c) *Payment of royalty in joint ventures in which the foreign collaborator has a majority holding*—In cases of companies with majority foreign equity participation it will not be practicable to take the stand that there should be no royalty payments at all. The existing policy of allowing a substantially lower rate of royalty than would otherwise have been agreed to will continue to be followed.

(vii) Royalty payments should normally be restricted to a period of 5 years from the date of agreement or 5 years from the date of commencement of production provided production is not delayed beyond 3½ years of signing of agreement (i.e., a maximum period of seven years from signing of agreement).

(viii) In all cases of Government approval to foreign collaboration proposals it should be specifically stipulated that the royalty terms were being approved for a particular quantum of production (viz. upto the capacity licensed or proposed to be set up, and 25 per cent in excess thereof) and that in case of production in excess of that quantum the prior approval of Government would have to be obtained regarding the terms of payment of royalty in respect of this extra production.

(ix) The fact that foreign investment is allowed should not be a ground for allowing import of capital goods which would otherwise not have been allowed. There should be appropriate scrutiny from the indigenous availability angle to ensure that the maximum possible fabrication of indigenous machinery is insisted upon. It is, on general, desirable for investment to be in the form of cash, with purchase of equipment from the cheapest source. Where the investment is in the form of equipment, care should be taken to see that the prices charged are reasonable. Where the capital participation exceeds the value of imported machinery, the balance should be brought in cash.

(x) There should be no stipulation that raw materials, components etc. will be obtained only from the foreign collaborator. The Indian parties should have freedom of choice in this regard.

(xi) With a view to promote exports of non-traditional products the following points should be kept in view:

(a) When existing collaboration agreements which limit export franchise, come up for renewal, the restrictions should



be totally eliminated or substantially removed. In the event of the foreign collaborator not agreeing to this course of action, renewal of agreements should not be permitted;

- (b) further agreements should be stringently scrutinised to eliminate export restrictions, the approach being that the agreement should allow free export to all countries except perhaps the country of the foreign collaborator or the countries where the foreign collaborator is having joint ventures in the same field of production;
- (c) in low-priority or non-essential fields of production where foreign collaboration is not generally allowed, a relaxation be made where the foreign collaborators agree to undertake a major share of the production for exports; and
- (d) the existing policy of not allowing foreign collaboration in trading activities may be relaxed where such collaboration is exclusively aimed at augmenting our export sales.

The Ministries should ensure that the export clause in the collaboration agreements gives correct and definite information regarding the countries to which exports will be specifically permitted or disallowed and this information should be clearly indicated in the Notes|Summaries prepared for consideration of the Foreign Investment Board or its Sub-Committee.

In considering applications for foreign investment/collaboration in low-priority and non-essential fields, no specific percentage can be rigidly enforced in regard to the quantum of production to be underwritten by the foreign collaborator for export; this will have to be considered on the basis of the export potential of each product. Before putting up such cases to Foreign Investment Board, Ministry of Commerce should be consulted and their views obtained in each case.

(xii) Where an indigenous "know-how" capable of commercial exploitation is available, importation of know-how is not normally permissible.

(xiii) The importance of avoiding repetitive *import of know-how* for the same or similar product or process should be kept in view. Also to the extent practicable fresh entrants should be asked to obtain the know-how imported by those already in the field.

In fields of manufacture where a number of collaborations have already been approved and a new application is received for approval of foreign collaboration in the same field, steps should be taken to explore whether it is possible for the new applicant to obtain the know-how from one of the parties who are already in possession of it. In many of the existing agreements there is a secrecy clause. In future agreements the Ministries should ensure that there is a provision to the effect that the technical know-how|product design|engineering design can be passed on to another Indian party, should it become necessary, on terms as mutually agreed to by all the parties concerned, including the foreign collaborators, and subject to the approval of Government.

In fields where there is likelihood of 3 or 4 units of the same industry, being set up at about the same time and all of them are likely to require foreign collaboration, it should be ensured that negotiations for acquisition of know-how for these units are conducted in a coordinated manner, with selected foreign parties, rather than permit each Indian party to negotiate individually and independently of each other. Economics of scale would make themselves felt in such a case of negotiation on a multiplant basis and result in lowering of royalty rate and lump sum fees for the first as well as every subsequent unit.

(xiv) In appropriate cases, and to the maximum extent practicable, there should be provision for Indian scientific, technological and engineering institutions being associated with the foreign collaboration, so that the foreign 'know-how' is absorbed in our economy as quickly as possible and further developments could take place within the country. While approving a case of foreign collaboration, stress should be laid on the development of indigenous "know-how" as early as possible, so that it may be possible to discontinue the collaboration after the period of validity of the agreement.

(xv) With a view to ensuring maximum possible utilisation of Indian Consultancy services, wherever Indian consultancy is available it should be utilised exclusively and if foreign consultancy is also required, Indian consultants should also be associated and, as a rule, be the primary agency employer for consultancy. From amongst the Indian consultancies, preference should be given to agencies in which the predominant interest is Indian.

Clearance of the Foreign Investment Board should be obtained by the concerned Ministry|Department before consultancy services involving payment in foreign exchange of Rs. 50 lakhs or more are agreed to.

(xvi) Suitable provision should be made for the training of Indian in the field of production and management.

(xvii) The question of use of foreign brand names |trade marks should be examined from the view points (i) whether any additional payment is envisaged for the use of such foreign brand names; and (ii) whether the use of such names would adversely affect the small scale sector or the indigenous industry. In such cases the use of foreign brand names should not be allowed for products manufactured under foreign collaboration and meant for the Indian market. There, should, however, be no objection to the use of foreign brand names on the products meant for export.

(xviii) A predominantly foreign-owned company with agency functions operating in India should be called upon to redefine its functions, wherever it proposes to associate Indian Capital or, in other words, reduces foreign equity.

(xix) Cases of 100 per cent foreign owned Indian Companies or predominantly foreign owned companies seeking to take over another predominantly foreign owned Indian company or any other category of Indian company (a) by complete merger or (b) by making intercorporate investments, within the ambit of Section 372 of the Companies Act, should be brought before the Foreign Investment Board|Sub-Committee. All cases of merger of two Indian companies which will result in the merged company having a direct cum beneficial non-resident shareholding in excess of 30 per cent of the equity capital should also be brought before the Foreign Investment Board.

## APPENDIX II

(Vide Paragraph No. 2.6)

*Guidelines contained in Ministry of Finance Bureau of Public Enterprises O.M. No. 9 (136) 60-BPE (GM) dated 11-6-71*

(i) Some of the items of work may have to be done in the country, while others may have to be done outside. It is necessary, therefore, that a clear indication in regard to both should be available so as to determine the quantum of remuneration. It would also be useful to include in the agreement a list of staff that would be posted within the country so that no confusion or dispute arises at a later stage.

(ii) Certain facilities may have to be made available to the consultants in regard to residential and office accommodation, travelling allowances both from the parent country to India and within India, provision of vehicles, equipment, medical facilities etc. When assessing the remuneration, the incidence of such facilities should be clearly borne in mind.

(iii) There should be a clause for premature termination of a consultancy agreement in case the work is found to be unsatisfactory or not suitable, and there should be an indication in regard to the payments involved in case of such a contingency arising. As far as possible, the quantum of remuneration should approximate to the quantum of work actually done and legitimate expenses incurred by the consultants. It should also be clearly laid down that whatever work has been done by the consultants shall be the property of the employer and all papers, drawings and designs etc. should be secured in suitable form before final payments are made.

(iv) The consultancy agreement should also provide a safeguard to the employer in the contingency of any infringement of patent rights during their employment or in future and the consultants must be required to guarantee indemnification for all time.

(v) The taxation aspects in respect of the remuneration, salaries etc. paid should be kept in mind and not left open, as otherwise foreign consultants are likely to claim tax remissions later.

(vi) In the case of certain consultancy agreements, utilisation of some patent rights may be involved, which may require payment of

royalty or fees for several years to come. As far as practicable, such perpetual payments should be avoided unless justified on financial grounds.

(vii) The foreign exchange aspects should also be kept in view, and as far as possible, the consultants should be required to work within India with the help of local personnel so as to reduce payments in foreign currency.

(viii) When payments are to be made in foreign currency it would be better to deposit the rupee equivalent in a bank in India nominated by the consultants and remittance facility allowed.

(ix) A clause for recovery of liquidated damages should be made (in addition to the right to determine the agreement) in case of delay in execution or unsatisfactory performance and also a right to postpone the payment of every instalment in such a situation should be secured. It may also be desirable in many cases to have a performance guarantee bond being directly enforceable by the enterprise with regard to the functioning of the equipment and the like. In case of delay in execution, it would be necessary for the enterprise to attempt to make a genuine pre-estimate of the damages likely to be suffered by reason of delay and the like, and to make a provision for liquidated damages on that basis.

(x) Remuneration for consultancy service:

- (a) Fixation of remuneration as a percentage of the total cost of the project or as a percentage of the cost of plants and machinery, is open to objection as the incentive for economy in designing is lost thereby. Secondly, it would be difficult to know in advance what the commitments on account of the consultant's fees would be. Thirdly, it might result in unintended benefit on account of the increase in cost of work due to extraneous reasons like contractors delays and failures. In order to avoid these difficulties the fee as far as possible, when based on a percentage, should be calculated on the basis of the estimated cost and expressed in the consultancy agreement as a definite figure. If necessary, provision may be made for varying the figure by negotiation if the scope of the project is changed and, as a result, a substantial change occurs in the actual cost.
- (b) Where a fixed fee payable either in lump sum or in instalments is agreed to and where the consultants require a

portion of the fee within a few days of the agreement being signed, it would be necessary to limit the payment to as small an amount as practicable. The payment of the remaining amounts may be fixed in instalments, e.g., at the submission of the project reports, at the submission of the drawings and designs, during erection period and when the plant has gone into production and given satisfactory performance. It would be necessary that the last instalment should be as substantial as possible, as in the last instalment. The quantum of the instalments, as far as practicable, should be based on the amount of work done.

- (c) In regard to fee for patented rights and processes, it should be considered whether it would be advantageous to buy such rights outright or to make payments on yearly basis.
- (d) in all cases, the interests of the projects should be suitably safeguarded.

(xi) The contracts, particularly those with foreign parties, should contain an express provision as to the law by which they are to be governed. It would be desirable to say that the contracts are governed by Indian Law. A provision might also be made that disputes are to be settled by arbitration in India according to Indian Law, or should be the subject matter of proceedings in Indian Courts.

(xii) The enterprises should take competent legal advice for ensuring that the agreements are properly drafted.

*General Guidelines to be followed—as issued by the Ministry of Industrial Development 1974-75*

Entrepreneurs are advised to take note of the following guidelines in negotiating foreign collaboration agreements so as to ensure that their proposals conform to the policies of Government.

(i) They should, to the fullest extent possible, explore alternative sources of technology, evaluate them from a techno-economic point of view and furnish the reasons for preferring the particular technology and the source of import.

(ii) The Indian party should be free to sub-license the technical know-how|product design|engineering design under the agreement to another Indian party on terms to be mutually agreed to by all the parties concerned including the foreign collaborator and subject to the approval of Government.

(iii) There should be no requirement for the payment of a minimum guaranteed royalty regardless of the quantum and value of production.

(iv) Arrangements or clauses which in any manner bind the Indian party with regard to the procurement of capital goods, components, spares, raw-materials, pricing policy selling arrangements, etc. should be avoided.

(v) To the fullest extent possible, there should be no restrictions on free export to all countries.

(vi) The use of foreign brand names will not be permitted for internal sales.

(vii) Suitable provisions should be made for the training of Indians in the fields of production and management. There should also be adequate arrangements for Research and Development, engineering design, training of technological personnel and other measures for the absorption, adaptation and development of the imported technology. Such measures can be undertaken through in-house facilities of the entrepreneur or in collaboration with recognised engineering design, consultancy, R & D organisations in the public or private sectors and recognised scientific and educational institutions where the necessary facilities exist.

(viii) Consultancy services required to execute the project should be obtained from Indian consultancy firms. If foreign consultancy is also considered necessary, an Indian consultancy firm should be the prime consultant.

(ix) If the proposed item of manufacture is covered by a patent in India, it should be ensured that the payment of royalty for the duration of the agreement would also constitute compensation for the use of patent rights till the expiry of the life of the Patent and that the Indian party would have the freedom to produce the item even after the expiry of the collaboration without any additional payments.

(x) Collaboration agreements will be subject to Indian Laws.

(xi) Government do not favour requests for extensions to the duration of collaboration proposals. All efforts should, therefore, be made by the Indian party to assimilate the technology within the initial duration of the agreement.

*Special Procedure for the Import of Designs & Drawings*

Government have introduced a simplified procedure for the import of designs for machinery manufacturers. The Press Note dated 7 December, 1973 issued in this regard will be found in Appendix. According to this procedure, import of drawings and designs not exceeding Rs. 5 lakhs in value are permitted once in a year to undertakings which are licensed/registered for items covered under "Industrial Machinery" and "Machine Tools" in the First Schedule to the Industries (Development and Regulation) Act or for Rubber machinery or Printing machinery. Applications for the purpose have to be submitted in the prescribed form with 5 spare copies to the Secretariat for Industrial Approvals.

During the pendency of the collaboration, the Indian party is required to submit an annual return to the Foreign Collaboration Unit of the Secretariat for Industrial Approvals Ministry of Industrial Development by 31 January of every year.

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## APPENDIX III

(Vide Paragraph No. 2.7)

*Check List in connection with foreign collaboration agreements issued under the Ministry of Finance, Bureau of Public Enterprises  
O.M. No. 351/73-BPE/MM dated 14-11-74.*

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### 1. *Parties to the Contract*

(a) The principal party to the agreement should have the necessary expertise and proven experience in the field forming the subject matter of the contract and should not be dependent on other parties for its successful performance.

(b) In most cases the foreign collaborator will simultaneously have the role of the consultant as well as supplier, but at times there would be separate agencies for consultancy and supply. In such cases their role should be distinctly specified.

### 2. *Appointment of Consultants|Suppliers*

(a) The foreign collaborator should be chosen on the basis of proven process technology and on the basis of his reliability to complete the work within the stipulated period.

(b) Inter-connected or subsidiary contracts should also be finalised at the same time as the main contract.

3. *Purpose and scope of the contract*—should be defined clearly. If a project requires any change due to unforeseen circumstances after the consultancy agreement is signed, necessary enabling provision should be available for such changes, with a clause similar to the one as under:

“In the course of designing, both the supplier and the customer shall have the right to make alterations and additions in designs with due regard for latest achievements in engineering, design and technology, having intimated the other party and giving due justification thereof. However, all

alterations and additions entailing major changes in technical and economic characteristics and in the cost of the project shall be mutually agreed upon by both the parties.”

#### 4. *Supply of know-how*

(a) The Project may be broken into sub-elements to ensure that designs and processes are obtained from the most suitable manufactures in the world.

(b) The improvements effected by collaborators to the designs/processes/equipments supplied by them under the agreement would be made available to the contracting Indian party.

(c) The collaborators would undertake to train Indian personnel and facilitate the transfer of technical know-how to them.

(d) In turn-key agreements the standing of the collaborators would be checked to ensure that effective coordination through them is possible.

#### 5. *Detailed working drawings & Specifications*

(a) Supply of information and data on design and development including detailed drawings, design sheets, specifications and calculations by the consultants on a regular and continuous basis for a clearly specified period should be ensured.

(b) It has been experienced that supply of mere documentation by the collaborators has been an impediment in transference and assimilation of the technical know-how.

Proposals for majority foreign participation on in new enterprises should be considered only when one or more of the following main criteria are satisfied:—

(a) the main contribution of the project is in a field of technology where India has made little progress and where great deal of initial or additional development is necessary.

(b) the amount of foreign exchange needed for the project is such that unless the foreigner is allowed to have majority share holding we shall ourselves have to find a substantial amount of the foreign exchange for the project, no alternative methods of long-term finance being practicable; and

(c) an essentially export oriented scheme.

(d) There should generally be no provision for payment of a stipulated minimum amount of production processes. Therefore, supply of detailed design sheets, specifications and design calculations should be insisted upon.

(e) Relevant clauses should contain such details as quality of raw materials, specifications for substitute materials and alternative suitable processes etc.

#### 6. *Payment of Know-how fees*

Where the agreement provides for payment of know-how fees in instalments, sufficient interval may be allowed between instalments to permit completion of all formalities and procedural requirements.

#### 7. *Limitation of the duties of consultants|suppliers*

The consultants' recommendation shall not be mandatory in future. The final decision in any matter, technical or economic, shall rest with the undertaking/Indian Government. The responsibility of the consultants *vis-a-vis* that of the management should be clearly laid down. The consultant should not have a free hand to commit the management of the undertaking without prior consultation.

#### 8. *Specifications, Rate schedules, Quantities etc.*

Should be set out in detail and with precision, considering special conditions of contracts, if any, such as free supply of electricity, accommodation, taxes, duties etc.

#### 9. *Schedule of equipments|components and stores to be used*

(a) Provide for the posting of an officer at the collaborator's works to advise and guide with regard to the indigenous availability of materials, implementation of Indian standards, safety and other requirements etc. while the designs are under preparation.

(b) Names of equipments|components|spares should be clearly specified to avoid vague expressions like standards equipments etc. since disputes may later on arise over the interpretation of such expressions.

(c) No commitment for import clearance for any item should be made without prior consultation with DGTD.

10. *Item-wise price schedule where possible for the foreign equipments|components and stores*

(a) Item-wise list of supplies with prices would be useful to check whether the rates allowed to the contractor are reasonable. Pricing of the equipment by average weight should be avoided.

(b) Supply of components equipments at cost plus a specified percentage of profit over the cost should be avoided as some of the companies do not agree to the detailed scrutiny of their costs or estimates by others.

11. *Methods and sources for obtaining the foreign equipment|components and stores*

Provide for the right to procure components/equipments directly from the concerned suppliers in case the prices quoted by such suppliers are lower than those quoted by the collaborators.

12. *Schedule of indigenous equipments|components and supplies*

(a) Ensure maximum indigenous participation in design and manufacture.

(b) Break up of sub-assemblies and component prices may be indicated in the contract itself.

(c) It might be advisable to first settle the prices of the main equipment on a competitive commercial basis and then to see that the total of itemised prices of sub-assemblies and components are as close to the price of the main equipment as possible.

13. *Variations in conditions for supply of equipments, Components, spares and stores*

(a) Break-up of the price should be indicated in regard to the payment of freight, siding charges, handling charges, sales tax, terminal taxes, etc.

(b) Include 'weight variation' clause in the agreement so that the tenderers may not exaggerate the quantities of materials with a view to making their offers more attractive.

(c) Cash discount, if any, received by the suppliers/collaborators should be taken into account while computing the reimbursement due to them.

(d) For the total quantity of steel or other materials required for the work, certificates from the Engineers of the undertaking should be necessary.

#### 14. *Inspection in the foreign country before despatch*

Provide for pre-shipment inspection/testing clause by independent Inspection Agencies covering the inspection of materials before despatch.

#### 15. *Shipping Documents*

In the event of delays in despatch of shipping documents or discrepancies therein the suppliers should be responsible to compensate the customers for losses/extra expenses, if any.

#### 16. *Excess Supply of items/spares*

Collaborators should agree to take back the items/components/spares etc. supplied/arranged by them if they are found to be in excess of requirements within a period of say 3 to 5 years.

#### 17. *Remuneration for Consultancy service*

(a) Payment of Licence fee may be split up into 2 parts—first half being payable for the grant of right to set up the plant including supply of drawings, design data etc. and the second half after commissioning of the plant.

(b) Some agreements provide that the last instalment of licence fee would become payable within a specified period from the effective date of the agreement. In such cases if the completion of the project is delayed, the last instalment of fee becomes payable before the guarantee test-runs are held, with the result the licensor has no financial liability for non-fulfilment of guarantees, if the guarantee test runs are held beyond the period mentioned in the agreement. To overcome this difficulty the licensor may be asked to (i) to extent the specific period as far as possible for (ii) to be responsible for the process guarantees even after the last instalment of the licence fee has been paid.

(c) In case of delay in execution or unsatisfactory performance, in addition to the clause of liquidated damages etc. a right to postpone the payment of instalment could be secured.

(d) Fixation of remuneration as a percentage of the total cost of the project or as a percentage of the cost of plant and machinery, is open to objection as the incentive for economy in designing is lost thereby. Secondly, it would be difficult to know in advance what the commitments on account of the consultants' fees would be. Thirdly, it might result in unintended benefit on account of the increase in cost of work due to extraneous reasons like contractors'

delays and failures. In order to avoid these difficulties, the fee as far as possible, when based on a percentage, should be calculated on the basis of the estimated cost and expressed in the consultancy agreements as a definite figure. If necessary, provision may be made for varying the figure, by negotiation if the scope of the project is changed and as a result, a substantial change occurs in the nature of the work to be performed by the consultants.

(e) Where a fixed fee payable either in lump sum or in instalments is agreed to and where the consultants require a portion of the fee within a few days of the agreement being signed, it would be necessary to limit the payment to as small an amount as practicable. The payment of the remaining amounts may be made in instalments at different stages *e.g.* on the submission of the project reports, on the submission of the drawings and designs, during erection period and when the plant has gone into production and given satisfactory performance. It would be necessary that the stage for the last instalment is such that in case of a serious defect or failure, it would be possible to withhold the last instalment. The quantum of the instalments, as far as practicable, should be related to the amount of work done.

(f) Certain facilities may have to be made available to the consultants in regard residential and office accommodation, travelling allowances both from the parent country to India and within India, provision of vehicles, equipment, medical facilities etc. when assessing the remuneration, the incidence of such facilities should be clearly borne in mind.

(g) Some of the items of work may have to be done in the country, while others may have to be done outside. It is necessary, therefore, that a clearer indication in regard to both should be available so as to determine the quantum of remuneration. It would also be useful to include in the agreement a list of staff that would be posted within the country so that no confusion or dispute arises at a later stage. A part of the fee corresponding to the portion of the work to be done in India should be paid for in non-convertible Indian Rupees.

(h) The taxation aspects in respect of the remuneration, salaries etc. to be paid should be kept in mind and not left open.

(i) If materials are supplied to the collaborators/contractors for completion of the works, "issue rates" covering storage and departmental charges should be agreed upon in advance. This aspect should be finalised even at the time of conclusion of the agreement. Tenders may be invited on the basis of the project supplying such materials and also on the basis of the contractor furnishing all the materials.

### 18. *Posting of technical specialists and provision of free supplies and services*

(a) As regards technical specialists, interpreters and other supporting staff, the total remuneration should take into account all the benefits like salary and allowances, medical facilities, housing, leave travel facilities and free conveyance.

(b) Provision of free supplies and services to project contractors should be avoided as far possible.

(c) Public enterprises should not normally agree to construction of any special type of quarters for technical specialists from the suppliers/contractors.

(d) For technical specialists, minimum number of family quarters may be agreed to. Most of the foreigners should be housed in hostel type accommodation or any residential houses converted into hostel accommodation.

(e) As far as possible foreigners should be persuaded to use the officers' clubs constructed for the officers of the undertaking. If a separate club is insisted upon, it would be desirable to convert one of the houses into a club or add one or two rooms to the dining hall of the hostel.

(f) In cases where the stay of foreign Experts is prolonged because of extension in completion of the project owing to limitation in the Plant and equipments, a clear provision should be made for sharing of expenditure on Experts by foreign collaborators under such circumstances.

### 19. *Travel by Air*

Provision for Air travel of foreign experts and their families should be such that the journeys are arranged through Indian National Air Carriers.

### 20. *Payment in Indian currency*

(a) In cases where contracts provide for the setting up of revolving fund for payment of the contractual obligations, the maximum amount to be placed in the revolving fund should be specified.

(b) The clause for financing charges, if any incorporated in the agreement, should be clear and specific.

### 21. *Payment in Foreign currency*

(a) Foreign exchange aspects should be kept in view and as far as possible the consultants should be required to work with the help of local personnel in India so as to reduce payments in foreign currency.

(b) When payments are to be made in foreign currency it would be better to deposit it the rupee equivalent in a bank in India nominated by the Consultants and remittance facility allowed.

## 22. Time schedule from Trial run to full production

Time schedule for the various important events and progressive targets should be laid down clearly. It would be desirable to watch these time schedules and targets by net work analysis. Constant reviews would be necessary after every important event or delays due to any reason whatsoever to determine the ultimate time schedule in the completion of the project.

A clause for recovery of liquidated damages for delays should be provided. Likewise payment of incentive bonus for improving upon the completion date may be considered where necessary.

## 23. Guarantee on performance and Maintenance of quality

(a) Performance guarantee bond should clearly indicate the liability of the Collaborator/Consultant for satisfactory performance and due fulfilment of the contract in respect of quality, faultless operation, and level of production etc.

(b) Guarantee clauses relating to the professional competence of technicians deputed as also for the accuracy of documents supplied should provide the right of claiming damages and replacement of the defective supplies.

(c) In all contracts for supply of equipments, the Indian party should reserve the right to decide finally whether the non-shipment of minor items would be taken into account for determining the date of last shipment as also the effect of the non-shipment of such items on the erection schedule of the project, the guarantee period for the workmanship guarantees etc.

## 24. Penalty Clause

(a) A clause for recovery of liquidated damages should be included (in addition to the right to terminate the agreement in case of delay in execution or unsatisfactory performance) and also a right to postpone the payment of every instalment in such a situation should be secured. It may also be desirable in many cases to have a performance guarantee bond being directly enforceable by the enterprise, with regard to the functioning of the equipment and the like. In cases of delay in execution, it would be necessary for the enterprise to make a genuine pre-estimated of the damages likely to be suffered by reason of delay and the like, and to make a provision for liquidated damages on that basis.



(b) Where possible penalty clauses for non-adherence to the committed delivery schedules of equipments, components, materials, designs, specifications, know-how etc. should be provided.

#### 25. *Price Escalation Clause*

Escalation should preferably be admissible only where the rates of labour and material have increased due to fresh Government orders like imposition of new duties, taxes, levies etc. If any price escalation clause is incorporated it may be clearly defined as to what extent and on what basis escalation will be admissible.

#### 26. *Royalty Payments*

In the case of certain consultancy agreements, utilisation of some patent rights may be involved, which may require payment of royalty or fees for several years to come. As far as practicable, such perpetual payments should be avoided unless justified on financial grounds. It should be considered whether it would be advantageous to buy such rights outright or to make payments on yearly basis.

#### 27. *Indemnities*

The consultancy agreement should provide a safeguard to the public enterprises in the contingency of any infringement of patent rights and other claims of by the third parties.

#### 28. *Power of Transfer*

The Government|Public Enterprises should have the right to transfer all rights and liabilities under the agreement to any other company or organisation provided that the Government|Public Enterprises have and maintain a controlling interest in such company or organisation.

#### 29. *Property rights in respect of drawings, tools, fixtures, temporary buildings and left over Materials etc. after the completion of the work.*

The question regarding the title to the plant machinery etc. supplied by the contractor should be adequately covered and spelt out in the agreement, so that there is no ambiguity regarding the ownership of the materials left after the completion of the project.

### 30. *Arbitration*

It may be indicated, whether the Arbitration Act 1940 shall apply. The number of arbitrators, Umpires, their nationality and the venue of the proceedings may be indicated.

### 31. *Law of the country and venue for settlement of disputes*

The contracts, particularly those with foreign parties, should contain an express provision as to the law by which they are to be governed. It would be desirable wherever possible to state that the contracts would be governed by Indian Law.

### 32. *Force majeure Clause*

If the execution of the contract is delayed for any period because of hostilities, embargo, blockades or for any other reason beyond either party's control, the parties shall not be held to the date of execution of the contract and the representatives of the parties to the contract shall immediately consult each other and agree upon the necessary measures to be taken.

The existence of such circumstances within the territory of the countries of the parties to the contract shall be confirmed by certificates to be issued by the appropriate authorities in the countries concerned.

### 33. *Giving notices for Termination of Agreement*

There should be a clause for premature termination of a consultancy agreement in case the work is found to be unsatisfactory or not suitable. There should also be an indication regarding the manner of settling the account in case such contingency arises. As far as possible, the quantum of remuneration should approximate the quantum of work actually done and legitimate expenses incurred by the consultants. It should also be clearly laid down that whatever work has been done by the consultants shall be the property of the employer and all papers, drawings and designs etc. should be secured in suitable form before final payments are made.

### 34. *Project estimates*

Project estimates should be drawn up realistically and provision made for all essential items, so that these estimates are not revised frequently.

## **APPENDIX IV**

(vide Paragraph No. 2.60)

*Press Note dated 31-10-1973 issued by the Ministry of Industrial Development*

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*Press Note*

### **STREAMLINING OF INDUSTRIAL APPROVAL PROCEDURES**

In announcing their decisions on Industrial Policy in the Press Note dated February, 2, 1973, Government had expressed their intention to streamline licensing and connected procedures, wherever necessary, so as to expedite the investment process in all its stages. Government have now completed a comprehensive examination of the procedures relating to pre-investment approvals such as letter of intent, industrial licence, foreign collaboration approval, capital goods clearance and approvals under the MRTP Act, 1969. It is both necessary and feasible, within the frame-work of Industrial Policy, to reduce the time lags currently involved in issuing these approvals. With this objective in view, a considerably streamlined system for the issue of Industrial Approvals will be introduced with effect from November 1, 1973 in respect of applications made on or after that date.

The essential objective of the new system will be to issue various clearances within defined time targets. Letters of intent, foreign collaboration approvals and capital goods clearances are proposed to be issued within 90 days of the receipt of applications in each case. In MRTP cases, it is proposed to give a clearance within 150 days having regard to the provisions of the MRTP Act, 1969. It is also the desire of Government that, wherever, possible, entrepreneurs should be encouraged to come forward with composite applications for industrial licence and, as may be required, for foreign collaboration approval and capital goods clearance as well. In such 'composite cases' the time target will be 120 days for a composite clearance which will cover the licence, foreign collaboration and capital goods applications. Where, in addition, an MRTP clearance is also involved the time target will be 150 days.

The implementation of the new system of Industrial Approvals is being placed under the overall supervision and guidance of an Inter-Ministerial Committee of Secretaries, viz., the Project Approval Board (PAB). Existing approval committees such as the Licensing Committee, Foreign Investment Board and the Capital Goods Committee will function as Committee of the PAB. The PAB will directly deal with composite applications. In order to facilitate the co-ordinated and timely disposal of licensing and MRTP clearance, a joint Licensing-cum-MRTP Advisory Committee has been formed.

The Project Approval Board and other approval committees will be serviced by a Secretariat for Industrial Approvals (SIA) which has been formed as a separate division in the Ministry of Industrial Development. The SIA will be responsible for receipt of applications, processing them through the concerned approval committees and for issuing the final orders of Government in each case to the applicant within the prescribed time limit. It will also monitor the implementation of approvals by entrepreneurs and assist them in procedural matters.

All applications for industrial licence and foreign collaboration may be submitted with effect from November 1, 1973 to the Secretariat for Industrial Approvals (Central Receipts and Despatch Section), Udyog Bhavan, New Delhi-11. Capital goods applications, where the estimated value of the equipment is Rs. 10 lakhs (non-rupee area) and Rs. 20 lakhs (rupee area) or above may be submitted to the Secretariat for Industrial Approvals (G. G. Unit), Udyog Bhavan, New Delhi-11. Capital goods applications below these limits may continue to be submitted to the Chief Controller of Imports and Exports, Udyog Bhavan, New Delhi-11. Foreign collaboration agreements which have to be taken in record by government after their conclusion may be sent to the Administrative Ministry concerned.

Application forms currently in force for the various industrial approvals may continue to be used for the present. It is proposed to simplify and streamline them separately. It will be necessary for applicants who need a clearance under the MRTP Act, 1969 to submit industrial licence and MRTP application simultaneously in future. Unless this is done it will not be possible to coordinate the two clearances within the prescribed time limits under the new arrangements. In such cases, a copy of the MRTP application should be sent to the Secretariat for Industrial Approvals (Central Receipts and Despatch Section), Udyog Bhavan, New Delhi-11 along with

the industrial licence application. Simultaneously, the prescribed number of copies of the MRTP application should be sent as at present to the Department of Company Affairs. In cases where an applicant needs capital goods clearance and/or foreign collaboration approval in addition to an industrial licence, he may submit simultaneous applications for all the approvals required. It will be desirable for entrepreneurs to submit such 'composite applications' since it will enable a composite or simultaneous clearance to be given with a significant saving in the time lag. Entrepreneurs are also advised to submit sufficient number of additional copies of applications where the investment proposal involves the manufacture of items which fall under different sub-groups listed in the First Schedule to the Industries (Development and Regulation) Act, 1951 to facilitate speedy processing. Deficiencies in filling up applications will be comprehensively brought to the attention of applicants who will be required to resubmit them with full particulars. The help of the Entrepreneurial Assistance Unit of the Secretariat for Industrial Approvals will also be available to applicants for filling in the necessary forms. It is emphasised that the efficient working of the new system will depend in large measure on entrepreneurs furnishing complete particulars on well conceived investment proposals which conform to Government's industrial policies and Plan priorities.

At present the initial validity of letters of intent is normally six months, within which applications for other clearances as may be required such as foreign collaboration and capital goods are required to be submitted. Since in most cases preparatory work for subsequent clearances takes more time, letters of intent are being extended frequently entailing avoidable paper work for both Government and the entrepreneur. Government have therefore decided that in future the initial validity period for a letter of Intent will be 12 months. In cases where neither foreign collaboration approval nor capital goods clearance is involved, an industrial licence will be issued at the initial stage itself instead of a letter of intent. In cases where only one further clearance *viz.*, foreign collaboration or capital goods clearance is necessary, one further extension of six months to the initial validity may be considered. In cases where both foreign collaboration and capital goods clearance are involved, two extensions of six months' each beyond the initial validity period of 12 months may be considered. Applications for extensions to letters of intent should be addressed to the Administrative Ministry concerned. Government, however, wish to point out that applications for extensions beyond a total period of 18 to 24 months, as

explained above, will in no event be entertained. If an entrepreneur is not able to file applications for all clearances he needs within the total periods indicated above, his letter of intent will lapse and he will have to apply for a fresh letter of intent if he so chooses.

There is considerable delay at present in converting valid letters of intent into industrial licences. To avoid this delay, letters of intent will be automatically converted in future into industrial licences when the final subsequent clearance that is required *viz.*, foreign collaboration or capital goods clearance is given. Applications for converting letters of intent issued prior to 1-11-1973 into industrial licences may be sent with a copy of the original approval to the Administrative Ministry concerned.

The initial validity of industrial licences will be two years within which period commercial production from the licensed capacity will have to be established. This period can be extended by the Administrative Ministry concerned if there is good and sufficient reason for two further periods of one year each. Thereafter, extensions to the validity of industrial licences will have to be decided upon the Project Approval Board. The PAB while considering extensions in suitable cases where the investor has made serious efforts to commission capacity, will at the same time, take a strict view of cases where adequate progress has not been made so that pre-emption of capacity and delays in bringing licensed capacity to fruition can be effectively discouraged.

Entrepreneurs holding industrial licences are required to submit returns in Form 'G' prescribed under Rule 19 of the Registration and Licensing of Industrial Undertakings Rules, 1952 within one month after the expiry from the date of issue of the licence, until such time as the industrial undertaking commence production. The Form 'G' returns should be submitted in future in duplicate to the Secretariat for Industrial Approvals (Monitoring Unit), Udyog Bhavan, New Delhi-11. Copies of the Form 'G' returns should also be sent to the Administrative Ministry concerned and to the Director General of Technical Development or other appropriate Technical Authority.

The Secretariat for Industrial Approvals has also been equipped with an Entrepreneurial Assistance Unit. This unit will help small, medium and new entrepreneurs in obtaining information on Industrial Policy and procedures, the status of various industries and other relevant matters which might be of benefit to them. The Unit will also advise applicants on request regarding the status of their applications if there is a delay beyond the prescribed

target date. Government have also recently brought out a publication entitled 'Guidelines for Industries' 1973-74', which brings together useful information on a number of industries of particular interest to small, medium and new entrepreneurs. It is proposed to issue such guidelines on an annual basis. Government have also separately streamlined the procedural requirements that apply to the 'delicensed sector' of investments upto Rs. 1 crore. These arrangements are specifically intended to reduce delays for small and medium entrepreneurs.

Government hope that these arrangements will result not only in speedy and orderly approval procedures but also in enforcing an expeditious translation of letters of intent and industrial licences into productive capacity on ground.

*Ministry of Industrial Development New Delhi, October 31, 1973 |  
Kartika 9, 1895.*

The above is for public publication/broadcast 4 P.M. on October 31, 1973.

**APPENDIX V**

(Vide Para 2.68)

*Statement showing disposal of cases referred to Foreign Investment Board*

Year	Number of cases in private sector referred to F.I.B.	Number of cases in public sector referred to F.I.B.	Total number of cases referred to F.I.B.	Number of cases in private sector cleared within 120 days	Number of cases in public sector cleared within 120 days	Total number of cases cleared within 120 days
1	2	3	4	5	6	7
1974	417	16	433	290	10	300
1975	459	12	471	174	8	182

205

Number of cases in private sector where final decision could not be taken within 120 days	Number of cases in public sector where final decision could not be taken within 120 days	Total number of cases where final decision could only be taken within 120 days
8	9	10
127	6	133
285	4	289



## APPENDIX VI

(Vida Para 3.156)

### DIRECTORATE GENERAL OF TECHNICAL DEVELOPMENT

*List of cases where Government allowed foreign collaboration by private parties when the technology or know-how was available with public undertakings during the last 5 years and reasons therefor.*

S.No.	Name of the private party to whom foreign collaboration was allowed	Product	Name of the public undertakings with whom technology or know-how was available.	Remarks
1	2	3	4	5
1	M/s. C. S. Sanghvi, Bombay.	Nitrotoloune	M/s. Hindustan Organic Chemicals Poona.	Due to contractual obligation Hindustan Organic Chemicals was not in a position to provide know-how.
2	M/s. Indian Oxygen Ltd.	Tonnage Oxygen Plant	M/s. Bharat Heavy Plate Vessels Ltd, Vishakhapatnam.	The party had not absorbed technology. BHPV are permitted to transfer technical know-how to another Indian party subject to written approval of collaborations.
3	M/s. Rama Krishna Sishi Ltd. Coimbatore.	Process pumps	M/s. Bharat Pumps & Compressors Ltd.,	To cover capacity gap in some range as well as non-availability of complete production technology.

- 4 M/s. Texmaco Ltd., Calcutta. Industrial Boiler M/s. B.H.E.L. Tiruchy. M/s. BHBL, was consulted who clarified that there would be no clash with their manufacturing programme so long as Texmaco confined their manufacturing range of water tube boilers to the capacity not exceeding 200,000 lbs. per hour of steam evaporation. Texmaco's manufacturing programme has been confined to boilers of capacity up to 200,000 lbs per hour of steam evaporation in the approval of foreign collaboration.
- 5 M/s. Tamil Nadu Industrial Dev. Corporation, Madras. Acetylene Cylinders M/s. B.P.C.L. Naini. 1. This is a proposal from State Agency.
- 6 (i) M/s. Eastern Paper Mills Ltd., Calcutta. 2. There is need to create more capacity for these cylinders in addition to the capacity allocated to B.P.C.L.
- (ii) Larsen & Toubro Ltd., Bombay 3. Export obligation of 20% for a period of 5 years.
- (iii) S.K. Paper Machine Pvt. Ltd., Bombay M/s. Jessop & Co. Ltd., Calcutta. 1. The party have recently gone into production and have not so far absorbed the technical know-how completely from their foreign collaboration.
- (iv) B.R. Engineering Industries (I) Ltd., New Delhi. 2. The capacity of M/s. Jessop is also not enough to cover the whole country's demand.
- (v) Indo Barolina Industries (P) Ltd., Bombay. 3. As per Guidelines, the foreign collaboration was permissible for this item.
- (vi) Giovanola Binny Ltd., Cochin.
- (vii) Vijay Tanks & Vessels Ltd., Bombay.
- (viii) Black Clawson (I) Engineers (P) Ltd., Madras.

7. Bharat Westfalia Ltd.

Armoured Flexible Chain  
Conveyors.

Mirirg & Allied Machinery  
Corpn. Durgapur.

This case was considered in a meeting comprising of the representatives of Ministry of Heavy Industry, Ministry of Steel & Mines,

Public Sector Coal Mines M.A.M.C. and DGTD. The Committee felt the need to licence another unit for manufacture of armoured flexible chain conveyors.

8. Sanghi Motors (P) Bombay Ltd.,  
Bombay

Air & Gas Separation  
Plants.

Bharat Heavy  
Vessels Vishakhapatnam.

It was premature for B.H.P.V. to sub-  
licence the know-how at that stage.

9. New Allenberry Works,  
Faridabad.

Gearred Coupling

M/s. Jessop & Co. Ltd.,  
Calcutta.

More or less simultaneous proposals  
and need to licence more capacity.

10. 1. M/s. Printers House (P) Ltd.,  
New Delhi.

2. M/s. Maschinenfabrik Polygraph (P)  
Ltd., Bombay.

3. M/s. Bharat Fritz Warner (P) Ltd.,  
Bangalore.

4. M/s. U.P. State Ind. Dev. Corporation  
Kanpur.

5. M/s. Suresh U. Shah Bombay.

H.M.T.

Cylinder Printing Machine  
(Automatic)

M/s. H.M.T. was not in production.  
The capacity of HMT was not adequate to meet the demand. Therefore other cases were considered on merit as per Guide lines.

6. M/s. Gujrat Machinery Mftra,  
Ltd., Bombay

- |        |   |   |  |  |
|--------|---|---|--|--|
| 11. 1. | M/s. Printers House (P) Ltd.,<br>New Delhi          |   |  | Same as above.   |
| 2.     | M/s. Maschinenfabrik Polygraph<br>(P) Ltd., Bombay  | Sheet-fed Offset Rotary<br>Printing Machines. | H.M.T.                                 |  |
| 12. 1. | M/s. Gujrat Machinery Mfrs.<br>Ltd., Bombay         | Paper Cutting Machine                         | H.M.T.                                 | Same as above.   |
| 2.     | M/s. Maschinenfabrik Polygraph<br>(P) Ltd., Bombay. |   |  |  |
| 3.     | M/s. Printers House (P) Ltd.,<br>New Delhi.         |   |  |  |
| 13.    | M/s. Mysore Kirloskar, Harihar.                     | Thread Rolling Machine                        | M/s. Praga Tools                       | The proposal was an export oriented one involving 60 per cent export obligation and no payment either royalty or down payment was involved. On the other hand, the foreign collaborator paid money to the Indian manufacturer for development of the patterns. |
| 14.    | Shri S. Agarwal, Calcutta.                          | Transistors.                                  | M/s. Bharat Electronics,<br>Bangalore. | This was a 100% export proposal  |

1	2	3	4	5
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15. M/s. Kerala State Electronics Development Corporation Ltd., Trivandrum.

CCTV Equipment.

M/s. Electronic Corpn. of India Ltd., Hyderabad.

Scheme is 75% export oriented. Similar technology is available with ECIL who are in production. A few other manufacturer like J.K. and Teleraad are going to implement with indigenous know-how.

N.B : These proposal were approved by the P.I.B. after endorsement by the Administrative Ministries.

## APPENDIX VII

(Vide Part 3, 180)

*Analysis of cases which were referred to DGTD by the Public Undertakings or Administrators of Ministries during the year 1972-73, 1973-74 and 1974-75 and the time taken for their disposal.*

		1972-73	1973-74	1974-75
Less than 30 days	I . . . . .	13	13	8
30 to 90 days	II . . . . .	23	20	23
90 to 120 days	III . . . . .	1	3	4
Over 120 days	IV . . . . .	—	5	1
<b>TOTAL</b> . . .		<b>37</b>	<b>41</b>	<b>36</b>

**APPENDIX VIII***(Vide Page 4-68)**Expenditure on R & D in the Public Sector, 1972-73*

S. No.	Name of Ministries/Departments/ Undertakings	Expenditure on R&D	Sales Turnover (Net)	R&D Ex- penditure as Percentage Sales turnove
(1)	(2)	(3)	(4)	(5)
<b>A. MINISTRY OF COMMUNICATIONS</b>				
1.	Hindustan Teleprinters . . . . .	4.56	426	1.07
2.	Indian Telephone Industries . . . . .	116.90	3996	2.93
<b>B. DEPARTMENT OF DEFENCE PRODUCTION</b>				
3.	Bharat Dynamics Ltd. . . . .	0.38	182	0.21
4.	Bharat Earthmovers Ltd.	16.83	3981	0.42
5.	Bharat Electronics Ltd. . . . .	126.12	3840	3.28
6.	Garden Reach Workshop	3.49	1659	0.21
7.	Hindustan Aeronautics Ltd. . . . .	243.78	7359	3.31
8.	Praga Tools Ltd. . . . .	2.59	228	1.14
<b>C. DEPARTMENT OF HEAVY INDUSTRY</b>				
9.	Bharat Heavy Electricals Ltd. . . . .	3.59	7514	0.05
10.	Heavy Electricals Ltd. . . . .	35.67	5261	0.68
11.	Hindustan Machine Tools Ltd. . . . .	83.00	3484	2.38
<b>D. DEPARTMENT OF INDUSTRIAL DEVELOPMENT</b>				
12.	Hindustan Cables Ltd. . . . .	2.45	958	0.26
13.	Hindustan Photo Films Ltd. . . . .	3.05	519	0.59
14.	Hindustan Salts Ltd. . . . .	4.27	46	9.28
15.	Instrumentation Ltd. . . . .	1.05	702	0.15
<b>E. DEPARTMENT OF MINES</b>				
16.	Bharat Gold Mines Ltd. . . . .	2.08	597	0.35

(1)	(2)	(3)	(4)	(5)
17. National Coal Development Corporation		19.00	5650	0.34
18. Neyveli Lignite Corporation		4.75	1671	0.28
<b>F. MINISTRY OF PETROLEUM AND CHEMICALS</b>				
19. Fertilizers and Chemicals, Travancore		7.63	2138	0.36
20. Fertilizer Corporation of India		202.43	8451	2.40
21. Hindustan Antibiotics Ltd.		28.14	789	3.57
22. Hindustan Insecticides Ltd.		1.74	502	0.35
23. Hindustan Organic Chemicals Ltd.		1.04	643	0.16
24. Indian Drugs and Pharmaceuticals Ltd.		31.37	2793	1.12
25. Indian Oil Corporation Ltd.		45.36	60895	0.07
26. Oil and Natural Gas Commission		104.69	5092	2.06
<b>G. DEPARTMENT OF STEEL</b>				
27. Hindustan Steel Ltd.		2.02	49886	0.004
28. National Mineral Development Corporation		5.84	1383	0.42
<b>H. MINISTRY OF WORKS AND HOUSING</b>				
29. Hindustan Housing Factory		0.08	212	0.04
R & D expenditure as % of sales turnover : 0.6 (weighted average)				

SOURCES :—For column iv—Annual Report on working of Industrial Commercial Undertakings of the Central Government, 1972-73 pages 33-34.

For Columns —(iii & v)—Information collected by NCST Secretariat.



**APPENDIX IX***(Vide Para 9.3)**Statement showing the provision in agreements in regard to applicability of Arbitration Laws and venue of Arbitration*

Total No. of Agreement : 74

Law applicable not stated in 13 cases.

Law applicable	Venue			
	Total	India	Abroad	Not stated
1. Indian . . . . .	19	13	1	5
2. International Law . . . . .	36	8	14	14
3. Collaborator's Law . . . . .	6	3	2	1
	61	24	17	20
Not stated . . . . .	13	2	2	9
<b>TOTAL</b> . . . . .	<b>74</b>	<b>26</b>	<b>19</b>	<b>29</b>

**APPENDIX X**  
(Vide Para 10.5)

*Statement showing the nature of the Collaboration agreements and the countries with whom the same were finalised as also their views and experience*

Sl. No.	Unit	Agreement with	Area of Agreement	Remarks/Views of the PSE
1	3	3	4	5
1.	O.N.G.C.	USSR France Italy	Oil exploration	Collaboration with USSR has contributed to the development of Oil Industry in India.
2.	Madras Refineries Ltd.	USA UK Netherland	Consultancy in type of platform required for off-shore drilling, setting up of R&D Wing of ONGC and for specialized studies etc.	This is a fruitful culmination of cooperation of different countries and has contributed to the self-sufficiency and industrial growth in the region.
3.	Enginess India Ltd.	Iran (National Iranian Oil Co.) USA (American International Oil Co.) Italy	Design, construction and initial operation of the refinery for Processing of crude supplied by National Iranian Oil Co.	This has enabled India to save considerable amount of foreign exchange and to develop indigenous capability.
4.	National Small Industries Corp.	West Germany U.S.A. Japan Denmark	Technical know-how and design techniques of petrochemical plants etc. Technical know-how in proto-type production.	No difficulty encountered.

5.	Hindustan Shipyard	France	(i) Shipyard development. (ii) Ship construction	(i) Technical advice was basically sound and proved very satisfactory. (ii) In ship construction it was not so fruitful.
6.	FACT	U. K. West Germany Belgium U. S. A.	Design, construction, know-how and manufacture of (i) Petrochemicals (ii) Fertilizers (processing)	No difficulty experienced.
7.	BHEL, Trichi	U. S. A. Czechoslovakia Italy Sweden	High pressure boiler manufacture, design, technical know-how and manufacture of steam generators.	(i) Problems experienced in the admissibility of Income Tax on technical fees paid to collaborators. (ii) Difficulty in finalising the terms and conditions for the deputation of collaborators/experts from other countries as there are no specific guidelines from the Govt. and as these vary from collaborator to collaborator and depend on general standard of living, wages & salaries etc. Undue delays are taking place to obtain approval of Govt. of India. The time lag between date of signing agreement and obtaining approval is too much and results in higher rates to the foreign collaborators in view of escalation clause.
8.	F. C. I.	France (Nagpur unit) Japan (Gosakhpur unit)	Design and expansion	Payments to collaborators were made on lumpsum basis and not on actual value of shipments as per agreement. This resulted in increased custom duty payments. The price agreed to be paid to the Russian supplier was based on average rate basis instead of item-wise prices. Therefore,
9.	Hindustan Steel	U. S. A. U. S. S. R.	Design and know-how	
10.	I. O. C.	Rumania (Gauhati Refinery) (Barauni Refinery) (Gujarat Refinery) U. S. A.	Designing, tech. know-how, services & for distribution of mobil brand products of USA.	

it was difficult to assess the reasonableness of the prices *vis-à-vis* the prices prevalent in the international market.

Encountered no difficulty in implementation.

No specific difficulty has been encountered.

Suggested following for future :  
 (a) Lumpsum payment of plant & equipment should be charged to item-wise cost to determine items to be added or deleted.

(b) Performance guarantee should be made effective for 12 months from actual commissioning of the complete plant and not for 18 months from the date of receipt of last component as stipulated in Soviet Contracts.

(c) Difficulties were experienced in persuading the Soviet suppliers to include the clause of acceptance of claims for losses or shortages, which are not within the purview of under-writers.

(d) The Soviet suppliers did not so far agree for clause on "liquidated damages" to safeguard against late deliveries in India.

(e) Gold parity clause should also be incorporated in the contracts.

Manufacture of Antibiotics  
 For technical knowhow in documentation & services etc.  
 Plant design & technology

U. S. A.

USSR  
 Poland

USSR

Technology, designing & knowhow in Electronics.

U. K.  
 West Germany  
 Japan

11. Hindustan Antibiotics Ltd.

12. NCDC . . . . .

13. I. D. P. L. . . . .

14. Bharat Electronics Ltd.  
 Bangalore.

1	2	3	4	5
15. H.M. T. Bangalore	Netherland U. S. A. Italy France Switzerland West Germany France Switzerland U. S. A. Japan U. K. Hungary Czechoslovakia Belgium	Machine tools know-how etc.	No difficulty experienced.	
16. Instrumentation Ltd. Kozh	Japan U.S.S.R.	(i) Supply of capital goods. (ii) Technical know. how (iii) Training of specialists.	(i) There has been a good business relation ship between Soviet Counterparts. (ii) Despite a concluded agreement for supply of technical knowhow by USSR one clause was deleted without any recourse to law and resulted in saving of nearly Rs. 67 lakhs in foreign exchange. Soviet authorities.	
17. Triveni Structural Ltd.	Austria	Design, construction and technical know-how.	No difficulty experienced.	
18. Neyveli Lignite Corporation,	U.K., USSR, West Germany, Italy	Design, manufacture of equipments Erection, testing of coal mines, preparation of DPR and technical economic feasibility studies.	Do.	

19. Heavy Electricals (India) Ltd.  
Bhopal (Now merged with  
Bharat Heavy Electricals)

U. K.

Manufacture of Heavy electrical  
power equipment like Tur-  
bines, Hydraulic Turbines,  
CVT Capacitor and 235 MW  
Nuclear Turbine for Madras  
Atomic Power Project etc.

Some difficulty was experienced during  
initial years when suppliers did not adhere  
to delivery programme of components  
required for production of complete units  
at HEIL. It was maintained that piece-  
meal supply of items imposes an un-  
balanced load on the factory of suppliers.

It is desirable to provide for financial parti-  
cipation by Consultants to an appropriate  
level to induce their interest in Indian  
Companies.

The prices charged by the foreign suppliers  
should not exceed cost plus profit 10%  
and the same should be certified by the  
auditors of the Consultants. There was no  
means available to HEIL to check if the  
prices quoted were reasonable.

The original project report should be drawn  
very precisely and then only the D.P.R.  
prepared by Consultants.

In HEIL D.P.R. assumed price levels, cost  
and other operating results. Details were  
not furnished, which resulted in difficulty  
in comparison with Project report.

Suitable provision should be made in the con-  
tract for providing/passing on of informa-  
tion/data to the Indian Company at  
the expiry of contract. Some difficulty  
was faced in obtaining such information.

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A provision should also be made for enabling the Indian Company (PSE) to purchase direct from collaborators' own suppliers. It was seen that rates quoted by collaborators were higher than those quoted by the foreign suppliers.

The Clause "Export territory" should be wide so that no difficulty is faced by the unit for exports.

20	Hindustan Aeronautics Ltd.	Being classified		
21	Bharat Heavy Plate & Vessels Ltd.	USA.	Construction and development of Heavy plates.	No difficulty.
		Czechoslovakia	Construction and commissioning of air and gas separation plants.	
		France	Fabrication and designing of high pressure vessels.	
22	Lubrizol India Ltd.	U.S.A.	Chemical processing, Technical services and know-how (for additives for Petroleum Industry).	The results have been excellent and financial results very good, as a result of co-operation of collaborators.
23	Madras Fertilizers Ltd.	U.S.A.	Fertilizers manufacture and other chemicals.	No difficulty.
24	Hindustan Copper Ltd.	France Finland—U.S.A.	Consultancy, Technical know-how and services.	(a) There was delay in installation and civil construction as a result of back references to the Consultants to judge suitability of indigenous suppliers.

24 Hindustan Copper Ltd. (Contd.)

(b) Non-availability of technical know-how at one place. The collaborators had to provide equipment through other foreign consultants, which caused delay.

(c) As per the agreement the specifications of the equipment and plant were furnished by the Consultants. On this basis tender enquiries were floated for ordering the equipment. Before finalisation of the orders bids were referred to the consultants for certifying the suitability of the equipment to be supplied by the indigenous suppliers. After the receipt of recommendation orders were placed and dimensional drawings were thereafter furnished to the Consultants who prepared the final civil scope drawings for the civil construction work. This arrangement led to considerable delay in the execution of works. Consequently the value of payments to French Consultants group in May 1967 had to be increased for completion of design work in France as well as covering man month services performed in India, due to delay in execution of project.

No difficulties.

25 Bharat Ophthalmic Glass Ltd. USSR  
26 Bharat Pumps & Compressors U.S.A.  
Ltd. France-Italy-Japan

The first agreement with Mit Chicago Pneumatic Tool Co., U.S.A. in 1971 was terminated as IOC/FCI main users of end products doubted the capability of foreign collaborators after giving due consideration to the technical Committee's report. The Technical committee was constituted to evaluate the capabilities of the foreign collaborators. Subsequently fresh agreements were finalised in 1972.



1 2 3 4 5

27 Tungabhadra Steel Products Ltd France Designing & manufacture of hydraulic gates hoists. Very useful.

28 Mazagon Docks Holard—U.K. Technical know-how for construction of dredgers and frigates. Quite satisfactory.

29 H.S.A. (Bhilai Steel Plant) USSR (i) For preparation of DPR of experimental coal dust injection scheme into blast furnace. (ii) For preparing the technical project for the continuous casting complex for Bhilai Steel Plant expansion. (iii) For technical project preparation for plate mill complex. No difficulty encountered.

30 Indo-Burma Petroleum Co. Belgium Technical advice & assistance. Knowhow & supply of prototype pressure fillers for manufacture of counter fillers. Problem faced was that the drawings were in French and considerable difficulty was experienced in translating into English.

31 B.E.M.L., Bangalore Japan—U.S.A.—Yugoslavia—W.Germany Manufacture of Earth moving equipment like crawlers, trailers, dozers etc. All implemented.

32 Bharat Dynamics Ltd. France Manufacture of Anti-Tank Missiles etc. No difficulties experienced.

33 Indian Petro-Chemical Corp. Ltd. U.S.A., Japan, France Supply of know-how and process technology. No difficulty experienced.

- 34 Cochin Shipyard Ltd. Japan—U.K. Supply of technical documentation and technical consultancy regarding construction of shipyard Satisfactory.
- 35 Jackson & Co. Ltd. W.Germany—France—U.K. Technical know-how. Satisfactory.
- 36 FACT Engg. & Design Organisation U.K.—W.Germany—Belgium—U.S.A. Manufacture of Ammonia Synthetic gas, Sulphuric Acid, Phosphoric acid, NPK/UAP and Gypsum based cement etc. Satisfactory.

## APPENDIX XI

### Summary of Conclusion/Recommendation

S. No.	Para No.	Conclusion/Recommendation
(1)	(2)	(3)
<i>Policy Regarding Foreign Collaboration</i>		
1	1.29 to 1.35	The Committee find that there had not been any hard and fast rule in regard to permitting collaboration with equity participation in national interest, till 1966 when certain restrictions were imposed in regard to foreign collaboration both in capital participation and in technology import. Though the broad policies as such have been enunciated in the various Resolutions and Plan documents, no detailed guidelines were issued by Government from time to time in regard to foreign collaboration till 1969. The Fifth Five Year Plan document, however, has laid down the broad principles in regard to foreign collaboration and also certain guidelines therefor. The Committee have dealt with these aspects in the subsequent chapters of the Report. The Committee recommend that a careful and methodical watch should be kept on the actual working of the Guiding Principles so that these could be modified as necessary to subserve the best developmental interests of the country.
<i>Guidelines</i>		
2	2.38 to 2.48	The Committee note that Government issued comprehensive guidelines in January, 1969 on the general policy and procedure for handling proposals for foreign collaboration for the guidance of Ministries and technical authorities.  The Committee also note that the Department of Industrial Development have issued general

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guidelines again in 1974-75 indicating the principles to be followed in negotiating foreign collaboration agreements to ensure that the proposals followed the policy of Government.

The Committee are informed that though the Public Undertakings have not experienced any major difficulty in the practical working of the guidelines, some public undertakings have come across problems in regard to payment of Indian taxes by the collaborators, sub-licensing, exports of products, arbitration, period of agreement, provision of penalty clause and payment of royalty. The Committee have dealt with these specific problems in separate sections of this report.

The Committee are informed that any specific difficulties brought to the notice of the administrative Ministries by the public undertakings have been dealt with and resolved and there is considerable flexibility in the guidelines which are treated only as "guidelines" and not as rules.

The Committee note that the Pugwash Conference held in Madras in January, 1976 has finalised an outline of international code of conduct for transfer of technology which takes largely into account the discussions held on the subject earlier under the auspices of the UNCTAD.

It is understood that UNCTAD are arranging to bring up the draft code of conduct for transfer of technology, particularly to developing countries, at a conference scheduled to meet at Nairobi in May, 1976.

The Committee would like Government to review the guidelines in the light of the latest developments so as to incorporate features which

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would subserve the national interest of accelerating development and absorption of most suited technology on acceptable terms and ultimately enable the country to stand up on its own indigenous know-how.

*Foreign Investment Board*

3

2.69

The Committee note that with a view to minimising procedural delays in disposal of applications relating to foreign investment and foreign collaboration, the FIB was set up in 1969 and charged with the responsibility of expeditious disposal of cases. The Committee are also informed that a special procedural system has been introduced w.e.f. 1st November, 1973 for processing of applications for industrial licence and foreign collaboration. Although it has been claimed that since the introduction of the new procedure, delays have been reduced, substantially, the Committee regret to observe that during 1974 out of 16 cases of public undertakings which were referred to FIB 10 were cleared within 120 days and in 1975 out of 12 cases referred to 8 were cleared within 120 days. The Committee are not convinced of the reasons for the delay in the disposal of the remaining applications and feel that with a more determined effort it should have been possible to dispose them of within the prescribed time schedule.

The Committee feel that in the case of public undertakings there should be no difficulty in obtaining the necessary clarifications or holding discussions with the Chief Executives of the public undertakings and/or the senior officers of the administrative Ministries concerned so as to resolve all matters and issue final orders on the applications for foreign collaboration well within the prescribed period of 120 days. The Committee need hardly point out that speedy proces-

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sing of applications for foreign collaboration would help to clinch the foreign collaboration terms and remove one major uncertainty in the time schedule for implementation of planned projects.

*Basis of Foreign Collaboration and Selection of Technology*

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3.46

to  
3.49

The Committee agree with the Ministry of Finance (Bureau of Public Enterprises) that foreign collaboration should be in the field of high priority and areas where technical know-how, materials and talents are not available indigenously and where the import of technology is absolutely necessary and the same should be a proven process.

The Committee feel that it is important that Government/Undertaking should be clear about the exact nature and type of technology required, the sources of availability of such technology and the resources available for the purpose and should have knowledge about the technology and the collaborator, in order to secure the best terms in public interest.

*Technical Data Bank*

5

3.50

to  
3.51

The Committee are also informed that it has been decided that a technology cell and a technical data bank should be established in the office of DGTD for the technical examination and evaluation of the competitive technologies and advising the entrepreneur of the correct cost of technology.

The Committee recommend that the proposed Data Bank should be brought into action at a very early date and stress that the Data Bank should not only have information about the latest advancements in technology and the collaborators in foreign countries, but also maintain

(1)	(2)	(3)
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liaison with the CSIR, the Department of Science and Technology and other leading Research and Development institutions in the country etc. so as to incorporate at one place, upto date information about technology/collaborators available within the country and outside.

*Evaluation of Technology*

6	3.52 to 3.55	<p>The Committee note that, according to Government, undertakings/administrative Ministries have evolved elaborate methodology to make sure that the technology which is best suited to requirements and is upto date and proven in the field is chosen. The Committee, however, find that in the recent past there have been instances where the technology chosen e.g., in the case of manufacture of photo films and cross-bar telephone exchanges, was later on found to suffer from several deficiencies which basically arose from the fact that the standing of the collaborator and his capability in the field had not been critically evaluated for the suitability of the technology for Indian conditions critically adjudged.</p>
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The Committee feel that in making the choice of technology care should be taken to safeguard against obsolescence and incompatibility to ensure that the technology selected is not only most modern but appropriate to the Indian conditions. The technology should be correlated with the locally available inputs and with the present projected demands as co-relation with the demand projection is important in determining the scale of production. The Committee agree that there should be high degree of selectivity in the case of engineering industry, where the country is reported to have developed a technological base and expertise for manufacture of sophisticated equipment and stress that Government should scrutinise in greater depth the need for any foreign collaboration in this sector after carefully assessing the existing capacity for developing second generation plants.

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*“Lead” Agency or “Nodal” Agency for Selection of Technology*

- 7            3.56            The Committee have elsewhere in this Chapter recommended that a public sector undertaking should be nominated by Government in each sector of the industry to act as the leader in the matter of processing and crystallising proposals for selection of best foreign technology. Where a unit is coming up in an area where no public sector undertaking exists, the Government may consider the question of nominating a suitable consulting agency, such as Engineers India, NIDC, etc., to act as a “Nodal” agency for processing such proposals. The idea underlying this recommendation is that the proposals should, *ab initio*, be drawn up with the association of the most knowledgeable unit in the public sector so as to facilitate the task of Foreign Investment Board to scrutinise and approve the application for foreign collaboration.

*Coordination in the matter of Selection of Technology*

- 8            3.57            The Committee recall that in the public sector, large capacity for manufacturing processing units has already been built up as for example, the Heavy Engineering Corporation, MAMCO, BHPV who have the capacity to manufacture steel plants, large-scale coal mines machinery and port handling equipment, machinery and equipment for petrochemical and fertilizer industries etc. There are, however, certain areas where we are dependant on imported machinery and equipment which could be manufactured by the large manufacturing undertakings in the public sector.

The Committee suggest that there should be meaningful coordination between these large machines manufacturing units and the processing

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		<p>undertakings so that indigenous manufacture of machinery and equipment undertaken with the aid of foreign technology and know-how where absolutely essential, could be taken up in an integrated manner so as to meet satisfactorily the requirements of the processing industry as well as the objectives of indigenisation.</p> <p style="text-align: center;"><i>Screening and Evaluation of Technology</i></p>
9	3.94 to 3.96	<p>The Committee feel that screening and evaluation of technology should first be done by a "Lead agency" in the public sector nominated for a particular field of industry or a 'nodal' agency for a particular technology with the assistance of DGTD and expert bodies like CSIR, and recommend the appropriate technology for consideration by Government which would evaluate the same through a technical committee of experts drawn from DGTD, CSIR, NRDC, Department of Science and technology before a final decision of the choice of appropriate technology is taken by the Foreign Investment Board. As already recommended in paragraph 2.69 ante the system in FIB should be so geared up so as minimise delays in approval of foreign collaboration proposals.</p>
10	3.97	<p>The Committee note that the basic requirement for availability of information regarding foreign technologies/collaborators is now to be met by the Data Bank which is being set up. The Committee agree that it may not be necessary to have a central body or a corporation as the main agency for screening, evaluating and recommending appropriate technology as no single agency how so ever competent it may be can claim expertise in all types of technologies for various types of industries and in the opinion of the Committee creation of a new agency will only add to the problems of coordination. The Committee need hardly stress that the screening function should not only include technical eva-</p>

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luation and investigation but also evaluation of financial implications and economics of the project.

3.114        The Committee feel that it is preferable to go in for labour intensive technology under the conditions obtaining in India. While there may be some force in the argument that in the interest of competing with international organisations it may not be desirable to go in for labour intensive technology in the case of purely export-oriented industries, the Committee are of the view that, even in such cases labour intensive technology should not be ruled out and in fact may be preferred provided the quality and the prices are competitive and the manufacturing process would not expose the workers to avoidable health hazards.

12        3.115        The Committee are given to understand that  
to        Japan has achieved a high rate of technology  
3.116        in a labour surplus situation by (a) restructuring production techniques (b) confining technological development to most oligopolistic large enterprises and (c) successful adaptation of advanced technology by concerted R&D effort. It is also understood that in engineering industries, large enterprises perform assembly work while parts are manufactured by sub-contracting firms of medium and small size. In the case of process industries raw materials are manufactured by large enterprises while conversion to finished products is done by medium and small manufacturers linked to respective large Corporations.

The Committee would like Government to study in depth the latest trends in Japan so as to evolve the procedures for the selection of the best and most upto date technology in the public sector which would make for economic production

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		at most competitive prices consistent with the national requirement of finding employment opportunities for our growing population.
13	3.127	<p>Since India has already built up a very competent technological base in a large number of sectors what may be required is know-how and technology in specified fields. The Committee recommend that Government should on the basis of best advice available in the country consider as to what type of technology/know-how should be imported and from where. The Committee need hardly emphasise that the technology obtained should be up to date, reliable, proven and be capable of economic production.</p> <p style="text-align: center;"><i>One-Time Purchase Technology</i></p>
14	3.128	<p>The Committee would stress that one time purchase of technology would serve the purpose only, if it is supported by a strong R&amp;D base for assimilating, updating and transfer of technology. The Committee also feel that it is essential that provision should be included in the collaboration agreements requiring the collaborator to pass on any subsequent modifications and improvement in technologies of Processes and products.</p>
15	3.129	<p>The Committee recommend that it should be made obligatory on the part of the Undertakings to keep a careful watch on the improvements/developments in technology/know-how taking place elsewhere so as to avail of the facilities through the collaboration agreement.</p> <p style="text-align: center;"><i>Know-how of a composite nature</i></p>
	140	<p>The Committee are of the view that packaged import of technology which combines product design, process know-how manufacturing techniques, plant design and engineering, training etc. as one deal should be discouraged as it is in the nature of 'turn-key' project, and import of technology should be restricted to only those</p>
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areas where indigenous technology is not available or where high degree of sophistication not hitherto practised in the country is called for in a particular field. Technology imported should also be such as could be utilised in the best interests of country without any restriction.

*Repetitive Import of Technology*

17	3.157 to 3.159	The Committee are informed by the Ministry of Industrial Development that in scrutinising foreign collaboration proposals, the Technical Departments/agencies ensure that repetitive import of technology is avoided to the extent possible. The principle of avoiding repetitive imports has been incorporated in the guidelines.
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The Committee find that during the last 5 years in as many as 15 cases Government allowed foreign collaboration by private parties even when the technology or know-how was available with Public undertakings; due to export obligations or contractual constraints or technology not being absorbed completely by the undertaking.

18	3.160	The Committee feel that repetitive import of technology should be avoided except where it is not possible to sub-licence the technology because of restrictive provision in the collaboration agreements. The undertakings should take steps through their Research and Development Cells to absorb the technology within shortest possible time, adapt it to the Indian conditions and improve the same so that it is fully abreast of the latest development in the field. and be in a position to make horizontal transfer of the technology to other undertakings in public interest. Where it is considered necessary to go in for a different process technology because of the fast developments in the field, a careful cost-benefit analysis of the import of such technology should be made before a decision to import a different technology
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is taken. The Committee feel that it should be possible to avoid such cases if only the Research and Development Cells of the industries keep themselves abreast of the developments in technologies taking place elsewhere in the industry and make improvements in the process technology already imported. Till this is achieved, even if import of improved process technology is to be allowed, it should be subject to the condition that production capacity could lead to a healthy competition with the existing unit and not to its closure.

- 19            3.161        The Committee also suggest that as provided for in the draft 5th Five Year Plan import of repetitive technology should be avoided and where import and assimilation has already taken place all possible measures including appropriate incentives should be taken to promote horizontal transfer of that technology to other enterprises which wish to make the product concerned. The Committee also expect that keeping this in view Government will take proper measures to avoid repetitive import of technology or know-how.

Where for the same product collaborations have been made with different countries, it would be useful to make a comparative study of the technology and the cost of product under different collaborations so as to assess the comparative merit.

- 20            3.162        The Committee also suggest that the International Technical Transfer Centre proposed to be set up may consider the problem of lateral transfer of already imported technology which may or may not have further developed and re-designed in India and evolve proper measures to stop repetitive import of know-how for the same product or process.
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*Know-How for Auxiliary Industries*

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| 21 | 3.165<br>to<br>3.167 | <p>The Committee regret to observe that the recommendation of the Committee on Public Undertakings in this regard has not been fully implemented in spite of Government having accepted the recommendation. The Committee reiterate their recommendation in their earlier Report on Management and Administration of Public Undertakings (13th Report, 3rd Lok Sabha—Paragraph 84) and stress that when public undertakings go in for foreign collaboration, they should ask the collaborators to make provision or give the know-how about establishment of suitable auxiliary industries.</p> |
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*Consultancy Services*

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| 22 | 3.178 | <p>The Committee are surprised to note that the Ministry of Industrial Development has not been able to indicate categorically the fields in which there is absence of consultancy organisation. The Committee feel that a procedure should be evolved by which consultancy organisation in various fields may be compulsorily required to enlist themselves with the Ministry/DGTD. The Committee would also like that Government should, in consultation with the Public Undertakings and national research organisations like NRDC, Department of Science and Technology, CSIR, etc. take steps to identify the specific areas in which consultancy is yet to be developed and consider whether the existing consultancy organisations could be strengthened for providing consultancy services in such fields.</p> |
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*DGTD*

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| 23 | 3.197<br>to | <p>The Committee would like that a case study of the applications, the disposal of which</p> |
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		<p>have exceeded the 3 months limit may be made to see how far the delays in these cases could have been avoided with a view to taking suitable remedial measures. The Committee need hardly stress the importance of speedy and timely processing of applications or foreign collaboration by Public Undertakings. The Committee suggest that all matters requiring clarification during the consideration of applications should be arranged to be settled by holding discussions with the Public Undertakings and administrative Ministries in the interest of expeditious disposal of applications.</p>
24	3.199	<p>The Committee recommend that DGTD as a technical authority should act more as a developmental agency rather than as a regulatory one and suggest alternative proposals for foreign collaboration wherever necessary after discussion with the Public Undertakings.</p>
25	3.200 to 3.201	<p>The Committee have already given their recommendations in regard to data bank in an earlier chapter of the report. The Committee would like that the data bank should be set up expeditiously and should provide exhaustive information about the technologies, their development and improvements, the sources etc. so that the information may be useful for selection of the appropriate technology in any particular field of industry.</p>
	3.202	<p>The Committee are also informed that a technological division has been formed in the DGTD to develop a meaningful coordination between DGTD, CSIR, NRDC, Department of Science and Technology and other leading institutions and other associations. It is stated that effort of this Division is to try and bear a total technological approach consistent with the objectives of self-reliance in technology. As a</p>

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		necessary back up to this division, collection, consultation and dissemination of technical and industrial data is also to be done through the Data Bank in the DGTD.
26	3.202 to 3.203	The Committee recommend that the DGTD should identify the specific areas of importance where foreign technology is being imported by public undertakings and suggest measures to attain self-reliance in consultation with public undertakings; research institutions concerned, etc. The term 'importance' may be construed to mean areas which are of sensitive nature from the point of view of security or where large out-go of foreign exchange is involved.
27	3.204	During the course of 20 years as different technologies have been obtained from a large number of countries, it will be necessary to evolve some standardisation and standard specifications. The Committee feel that the Technological Development Division can play an important role in bringing about standardisation and rationalisation of equipments and inputs so as to reduce dependence on imports and encourage full utilisation of installed capacity particularly in the public sector.
		<i>Research and Development</i>
28	4.109 to 4.110	The Committee need hardly stress that the Research and Development units should be an integral part of the project under collaboration and Government should have monitored the progress in setting up the R&D facilities since the date of approval of the collaboration so that the time lag in this respect could have been avoided and necessity for extension of collaboration on this score' obviated. The Committee would like that Board of Management and the administrative Ministries should keep a close



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and continuous watch on the progress of setting up of R&D units for absorption, indigenisation of technology and to ensure that the foreign collaborator is discharging his duties and responsibilities in terms of the collaboration agreement in this regard so that suitable remedial measures are taken in time. The Committee would also like that the R&D units set up at the undertakings level should be closely associated with the actual production, improvement in manufacturing processes, improvement of materials, cost reduction etc. and should be in a position to find solutions to technological constraints coming in the way of achieving the designed output.

Where it is found to be neither feasible nor economical to have R&D units in certain undertakings, it should be ensured that a close liaison is maintained with undertakings in the same sector and/or engaged in similar manufacturing activities and a pooling arrangements may be made or alternatively such units may be attached to other research institutions as may be found feasible and advantageous.

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4.111

The Committee also recommend that there should be a regular system of feed back from the field as well as the market and other technological information on the basis of which products/process development/improvement may be taken up in the R&D units.

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4.112

The Committee have already suggested nomination of leading Public Undertakings or a "nodal" agency for purposes of screening and evaluation of technology at sectoral level. The Committee feel that the "lead" agency could take care of the problems of absorption and

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development of technology at the sectoral level. There should be close coordination between the R&D units of industries in the same sector for example. Heavy Engineering Corporation and MAMC, Fertilizer Corporation of India and FACT etc. etc. The Committee expect that these should cover amongst themselves the entire field of research and development and technological improvements in that sector to avoid any duplication in this regard. In this connection the Committee would like to invite attention to their recommendation in paragraph 6.24 of their 80th Report (1975-76) on Hindstan Antibiotics Ltd.

The Committee would also like that there should be a close liaison amongst public undertakings within a particular sector of the industry for dissemination of knowledge acquired through the R&D efforts.

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The Committee are informed that at present coordination between Public Sector and Private Sector in the matter of research and development or between Public Sector units and national research organisations is being achieved through Development councils for different industries, cooperative R&D efforts in the case of textile industry, Central Drug Research Institute in the case of drug industry, CMTI in the case of HMT, National organisations like CSIR, ICAR, ICMR, Atomic Energy, Space Research, National Chemical Laboratory, Institute of Sciences etc. in the case of IPCL, Planning and Development and FEDO in the case of fertilizers, etc.

The Committee are given to understand that though Development Councils for different industries have been in existence for a number of years progress in the matter of coordination of R&D has not been significant. The Committee

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are informed that pursuant to the recommendations of National Commission on Science and Technology, a working group under the Chairmanship of Dr. S. Varadarajan was set up in June, 1974 to suggest measures for organising and providing Research and Development in public sector. The terms of reference include suggestions of measures for establishing meaningful coordination between public sector enterprises and National laboratories. It has been stated that the question of setting up a Council for Research & Development in Public Sector would be examined after the Report of the working group is received. The Committee would like that the working group should expedite its report. The Committee would also like to be informed of the recommendations of the working group and also action taken in pursuance thereof.

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| 32 | 4.116 | The Committee recommend that research undertaken by the National Laboratories should have close relation to the needs of industry so that National Laboratories may see greater purpose and pressure in producing viable results and the process of know-how transfer is facilitated. In this connection the Committee would like to commend the example of the Department of Atomic Energy which has been successful in making fruitful use of the results of research in their industry and the efforts made by SAIL in bringing about such coordination in the Steel industry. The Committee would like to judge the efforts of coordination at the National level by the actual results by way of attaining self-reliance in settling technological problems in industries and in the assistance in the expansion programmes. |
| 33 | 4.117 | The Committee feel that R&D has a crucial role to lay with more emphasis on development   |
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		and the whole thrust should be on upgrading the technological expertise of the industrial units.
34	4.118	The Committee also recommend that there should be regular programmes of exchange of personnel between the industry and research institutions as is being reported to be done in the case of Defence undertakings and Defence research institutions and Cement industry and Cement Research Institute. This will enable an appreciation of the utilisation of the results of research in the undertakings and facilitate the research institutions to adapt their programmes to the needs of the industry.
35	4.119 and 4.120	The Committee would also like that a study may be undertaken to assess the relative advantage of investment in R&D on a long term basis insted of importing technology from abroad at high costs. In this connection the Committee would like to cite the instance of Japan where R&D has been given the highest importance on account of which Japan has not only been able to indigenise the technology but also to improve and upgrade the know-how to improve the products and make their technology exportable.
		<i>Expenditure on Research and Development</i>
36	4.121	The Committee are informed by the representative of Department of Science and Technology that the overall expenditure on R&D in the public sector as a percentage of turnover is only about 0.6 per cent and it is expected to be about 1 per cent by the end of the Fifth Plan. The Committee understand that the ratio of R&D expenditure to turnover is very low in India. Some of the undertakings have stated that there are no specific allocations for R&D

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by Government and the present expenditure has to be met from the profit and loss accounts of the undertakings. The Committee agree that the Research and Development activities can be done in a meaningful manner if adequate finances are provided. They feel that a stage has now come where it should be possible for the industries themselves to mobilise the necessary resources for their R&D efforts in the overall national interest. The Committee would like Government to ensure that adequate funds say 3 to 5 per cent of the turnover are allocated for research and developments. The Committee have no doubt that if R&D activities are undertaken with determination and dedication, they would pay back manifold.

*Perspective Plan for R&D*

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4.122

The Committee are informed that though the science and technology plan prepared in 1973 has made available for the first time a detailed programme of work in various sectors further experience has shown that it is necessary to have a perspective planning for R&D.

The Committee feel that Government should draw up a perspective plan say for 10 to 15 years for R&D which should be interrelated to the particular industrial sectoral units.

*Coordination between Industries and Research Laboratories*

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4.123

The Committee understand that a beginning has been made by the Commission on Science & Technology to identify the areas in which R&D may be undertaken in the future and what is necessary is to establish time-bound operational programmes for each succeeding 3 to 5 years period. The Committee would like that there should be close coordination between the

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Industries and the Research Laboratories at National level so that programmes are drawn up in consultation with the industrial units. Priority should be given by the national laboratories to problems actually faced by the industries rather than to problems of academic interest. The Committee would also like that the programmes to be undertaken should be time-bound and with specific budget allotment therefor.

*Review of the Research and Development*

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4.124

The Committee also recommend that an over all review of the Research and Development at the National level with reference to the goals and the financial targets set therefor, should be conducted at quarterly intervals by a coordinating Committee consisting of the DGTD, Department of Science and Technology, the representatives of the industries the BPE, Ministry of Finance, and Chief of the Administrative Ministry concerned and meaningful follows-up action taken as a result of such reviews.

*Communication of the Results of Research*

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The Committee are informed that though in certain sectors the communication between the National Laboratories and the industry is good, there are many areas where the results of laboratory have not percolated to the industry. It has been stated that efforts are being made by the NRDC on the laboratory side and the DGTD from the industry side to project the results of Research to Laboratory.

The Committee feel that there should be a system of communication of the results of research which are of wider interest to all the

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Public Undertakings and to the industry provided such dissemination of information does not come in conflict with the larger interests of the Public Sector.

*Awards/Incentives for outstanding achievements/  
contribution in the field of R&D*

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| 31 | 4.128 | The Committee would also like Government to examine the question of instituting suitable awards/incentives for outstanding achievements/ contribution in the field of research and development. |
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*Horizontal Transfer of Technology*

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| 32 | 5.66<br>to<br>5.67 | The Committee feel that a mere provision in the agreement for permitting horizontal transfer of technology may not fully subserve the objectives unless the undertakings importing technology build up their own engineering and R&D organisation to assimilate, up date and indigenise the technology and effect improvements as required.   |
| 33 | 5.68               | The Committee have already suggested that Government should, for purposes of screening and selection of technology, consider nominating a leader public undertaking which on account of its R&D, managerial strength and technology expertise in the particular field, has acquired a standing in the industry. The Committee feel that such leader organisations in different sectors may be considered as agencies for absorption of technology and transfer to other parties in India. Such leading agencies should have close coordination with CSIR, NRDC, Department of Science and Technology etc. |
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34	5.69 to 5.70	The Committee need hardly stress that any provision restricting sub-licensing or lateral transfer of technology results in repetitive import of the same technology or creates the problem of multiplicity of collaboration which besides entailing avoidable foreign exchange introduces a variety of standards of various countries for similar products, different standards for raw materials, spares, designs specifications thus hindering standardisation and variety reduction which may be essential for improving productivity and reducing costs.
35	5.71	The Committee also find that there is no uniformity in regard to inclusion of a provision in the agreements with foreign collaborators placing a limitation on them to make available the same technology or a slightly advanced know-how to any other party in India. The Committee would like Government to consider including this provision uniformly in all foreign collaboration agreements in the interest of avoiding repetitive import of technology.
36	5.72	The Committee feel that the overriding consideration in transferring technology laterally should be the national interest and not the interest of an individual unit. The Committee recommended that Government may consider equipping themselves with powers, statutory as well as administrative, to make it obligatory on the part of recipient of foreign technology to transfer it to another Indian party in cases where such a transfer to considered essential in public interest.
37	5.73	The Committee would like to emphasise that there should be no question of import of technology by a private sector where the know-how for the product already exists in the public sector.



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*Patented Processes*

The Committee find while generally no limitations are placed by foreign collaborators in making available the know-how and technology to any other party in India, restrictions are imposed on certain patented processes where transfer could be effected only with the consent of the collaborator at probably reduced cost.

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The Committee are informed that in the case of BEML horizontal transfer of technology of the processes that are patented, is not normally allowed. IOC has stated that a patented process cannot be transferred to any other party without paying some royalty to the foreign collaborators.

As it is likely that numerous worth while processes might have been patented already before the foreign collaboration agreements are signed, the restrictive law/practice obtaining in this regard may place a number of such processes under virtual embargo so far as their horizontal transfer/sub-licensing is concerned. The Committee suggest that Government should examine the question from legal and national point of view and see how there can be free flow of technical know-how etc., patented as well as non-patented, from the Indian party to another so that repetitive import of the some or similar technology can be avoided in larger national interest.

## PATENT RIGHTS

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The Committee note that payments for patents are generally considered as part of the overall collaboration agreement but in cases where only patent rights are required to be obtained; these are procured on a lump-sum basis. They are informed that normally foreign collaborators are not agreeable to grant patent rights on outright or exclusive basis. In Chemical manufacturing plants; patents are not purchased on outright

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basis as they entail a very high initial payment. The Committee are informed that in a large number of agreements entered into by Public Undertakings there is no limitation on the foreign collaborators making available the same patent right or trade-marks to another party in India.

The Committee feel that since Government have the regulatory powers, they should ensure that where patent rights have been obtained in public sector there should be no question of any other unit in private sector getting these patent rights at avoidable costs.

*Duration of Agreement*

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6.17

From the information gathered in respect of agreements with public undertakings, the Committee find that the duration of agreements has exceeded in fairly large number of cases the prescribed limit of 8 years. They would like that Government should make a critical review of such agreements with a view to find out the specific reasons for such a long duration so that suitable remedial measures may be taken at least in the future.

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The Committee are convinced that the collaboration agreements should be for a definite period which should be fixed on a realistic but strict basis even *ab initio* according to the merits of each case in close consultation with the undertaking, DGTD, National Commission on Science and Technology, Bureau of Public Enterprises etc. The Committee feel that there should be built in mechanism by which absorption of technology is facilitated within the period of collaboration agreement. The administrative Ministry should take steps to monitor the progress of collaboration at different stages right from the commencement and also undertake a critical mid-term appraisal of the progress of collaboration in

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close coordination with the Bureau of Public Enterprises, DGTD and NCST etc. with a view to taking suitable remedial measures in time so as to obviate the necessity of extending the period of agreement. The Committee also feel that the period of 5 years normally allowed for collaboration should not be taken for granted but it should be the endeavour of the public sector undertakings to reduce to period of collaboration to less than 5 years and attain self-reliance at the earliest by fully absorbing and indigenising the technology and know-how.

*Extension of Agreements*

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Since extension of agreements is likely to increase the total amount of royalty payments with consequent increase in the outgo of foreign exchange the Committee urge that extensions of collaboration agreements may be granted only in exceptional cases where called for in the national interest and it should be ensured that the objective for which collaboration was entered into are at least fulfilled within the extended period. The Committee also stress that requests for extension of collaboration agreements should be made well in time say 12—18 months before the expiry of the original agreement so that the matter can be reviewed in depth in consultation with all concerned and final decision communicated before the expiry of the existing agreement to obviate any uncertainty.

The Committee recommend that any extension of agreement beyond a period of 8 years should be brought to the notice of Parliament.

*D.P.R.*

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Although according to Policy Guidelines, it is necessary that Government as well a undertaking should follow time-bound programmes for getting

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the project report cleared, the Committee have, during the course of examination of public undertakings come across several cases of abnormal delays in the approval of DPRs which had the effect of increasing the cost of the project as also the outgo in foreign exchange. While there cannot be two opinions that the DPRs should, as also recommended by the Committee in para 2.27 of their 68th Report on Bokaro Steel Ltd., be effectively scrutinised and properly appraised from all angles, the Committee do not agree that delays in the approval of DPRs are inevitable.

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The Committee agree with the suggestion made by the Department of Atomic Energy that a workable solution to avoid delay may be to constitute a Committee comprising the nominees (experts) of the various Ministries involved in decision making, which may meet once or twice alongwith the representatives of the Public Undertaking within the stipulated period to resolve difficulties if any, in order to expedite final decision.

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The Committee suggest that suitable time-limit should be fixed/evolved for approval of DPR by different Departments and Divisions of Government within the total time schedule fixed. For this purpose the Committee suggest that Government may evolve a procedure by which copies of DPR are made available to the concerned Departments/Ministries in time, so that consideration thereof is not delayed. Once the DPR is approved there should not be any delay in communicating its approval. In case any delay is anticipated at least financial sanction to cover the immediate outlay should be communicated to avoid delay in initiating action for implementation of the Project.

The Committee need hardly stress that any delay in the approval of the DPR not only es-

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calates the cost of the construction of the project which may adversely affect its profitability but also have far reaching adverse effect on the attainment of planned targets.

The Committee therefore, stress that an effective follow-up should be maintained at all levels in the administrative Ministry and the undertaking concerned till the DPR is finally cleared by the Public Investment Board or the Cabinet Sub-Committee as the case may be.

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The Committee have in the course of the examination of several Public Undertakings come across many shortcomings in the preparation of DPRs like non-inclusion of cost of township and other ancillary facilities, non-stipulation of sequence of delivery of designs, drawings and supply of plant and equipment, non-inclusion of dates for commencement of commercial production, not stipulating the staff requirements at different stages, etc. The Committee have given their recommendations how these shortcomings have resulted in escalation of cost and delays in commissioning, and affected the marketability of products and ultimately the profitability.

The Committee note that the Ministry of Finance have laid down a detailed procedure for checking and clearance of DPR. The Committee would like that an evaluation should be made of the working of this procedure with a view to further streamlining it and making the scrutiny more meaningful.

The Committee would urge Government that in addition to examining whether the Project fits in the broad pattern of economic development also consider, the economic aspects particularly the demand for the product, whether the cost would give adequate return, the instal-

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led and the likely additions to the Industry, market-analysis, imports-exports policy, etc.

### *Training*

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6.82

The Committee agree with the view expressed by the undertakings in general that a clause on training should form an integral part of the collaboration agreement itself in the interest of absorption of know-how at a quicker pace at no extra cost and stress that the Indian engineers/technicians should be associated with the foreign collaborators during the various stages, particularly the design stage of the plant, for long enough period to enable them to pick up the intricacies of the work and develop the necessary expertise in this crucial field. In this connection the Committee would also invite attention to recommendation in para. 7.14 of their 17th Report (1971-72) on Personnel Policies and Labour Management Relations in Public Undertakings. The Committee suggest that during the period when Indian engineers work with foreign experts for designing, commissioning, operation etc. of plant, emphasis should also be laid on the acquisition of knowledge and expertise for reaching full production upto the level of installed capacity at the earliest and maintaining it at that level. The Committee have come across cases where absence of maintenance schedules has resulted in frequent breakdowns hampering production. In the opinion of the Committee, the maintenance of plants (including drawal of maintenance schedules) should therefore be an important aspect to be taken care of. The Committee suggest that arrangements for training should be provided at the collaborator's works on machines and equipments which are more or less identical with those which would be supplied under the terms of agreement for installation in the country and such training should be much before the com-

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missioning of the plant. The Committee recommend that a careful watch on the extent of the facilities actually made available to the Indian engineers and personnel should be kept so as to ensure that full advantage of training is secured. The Committee also suggest that suitable guidelines in this regard may be issued for the benefit of the Undertakings.

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| 48 | 6.83 | The Committee need hardly stress that there should be coordination amongst the Public Undertakings working in the same sector so as to cover amongst themselves the entire gamut of designing, operation, maintenance, etc., of plants and projects.   |
| 49 | 6.84 | The Committee would commend the example of training to Bhilaiengineers for adoption by the Public Undertakings. The Undertakings should also make sure that content and duration of training is precisely spelt out in consultation with the collaborators before deputing them for training abroad and that the technicians actually receive practical training in the maintenance and operation so that the undertaking can derive maximum benefit out of their experience abroad. |
| 50 | 6.85 | The Committee would stress that the strategy evolved by MECON should be followed by other Undertakings, as necessary, to expedite attainment of self-reliance in fields of crucial importance for development.   |
| 51 | 6.86 | The Committee suggest that the Indian personnel and engineers on return from abroad should be required to submit a report giving a precise account of the training that they have received and also about the significant developments in technology which would be of interest to the Public Undertaking. The Management should carefully scrutinise the report with a view to  |
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identifying points which should be beneficial to the undertaking and take suitable measures as may be necessary in this regard.

52	6.87	<p>The Committee also suggest that adequate safeguards and stipulations should be made to ensure that, on return, the trained technicians are obliged to serve the sponsoring undertaking for considerably long periods so that the advantages of training are not lost to the Undertaking. The sponsoring organisation should put the services of such trained technicians to the best possible use not only in the sphere of operation and maintenance of the plants, as such, but also in making them impart in-plant training to their technicians working in the unit so as to produce second generation experts in the long range interest of the Undertaking. Besides giving training to others, the trained engineers and personnel on return from abroad should be required to share their experiences in 'workshop meets' with other colleagues in the Undertaking.</p>
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*Equipment and spare parts*

53	6.114 to 6.115	<p>The Committee note that from the information supplied by about 50 undertakings that except in the case of HMT, IRE, Lubrizol, Richardson and Cruddas, Jessop and Company, the agreements with collaborators generally provide for supply of equipments and the sequence of delivery is also mentioned therein, though in some agreements the sequence of delivery has not been provided as in the case of Bokaro, Bhilai, CMA, CRW, and BOGL. It has, however, been stated that in the case of Bokaro, CRW, the absence of such a provision has not affected the programme of supply. The Committee have in this connection given their recommendation in paragraph 4.34 of their 68th Report (4th Lok Sabha) on Bokaro Steel Ltd.</p>
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6.115 In some cases it has been contended that the absence of a schedule of delivery has not affected the programme of the project. The Committee have also given their comments in the case of Indian Telephone Industries where the absence of a detailed catalogue of spares and delivery of equipments and parts has affected the schedule of completion of project *vide* their Report on ITI (34th Report of CPU, 5th Lok Sabha). The Committee have also given their comments in regard to the delay in start-up of production in the HPF due to delay in receipt of the equipment on account of change of design and the consequent loss of production and also how because of over-lapping of responsibilities between HPF and the collaborators no responsibility could be fixed on the collaborators. The Committee would therefore like that wherever collaboration agreements provide for supply of plant and equipments the sequence of delivery of these equipments should be specifically indicated in the agreements and the schedule of delivery should be fixed after taking into account the time fixed for erection and commissioning of the plant. There should also be suitable clauses providing for penalties for late deliveries, short and/or defective supplies.

54 6.116 The Committee feel that though in cases where the collaborator is ultimately responsible for the performance of the system as a whole or where the contract is for turn-key project, the pre-inspection and the testing of the equipment may not appear to be absolutely essential, it will not only be desirable in the interest of timely detection of any manufacturing or other defect but it will be of advantage to the undertaking if the plant and equipments are inspected and tested before despatch at the works of the suppliers. They would therefore suggest that a provision for pre-inspection and testing of the

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equipment before despatch should be included in all collaboration agreements which include supply of equipment.

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The Committee also recommend that it should be ensured that the provision for supply of plant and machinery through the collaboration agreements should also include provision for supply of spares initially at least for a period of two years to assist the undertaking to overcome its difficulties in regard to maintenance in the initial stages. The undertakings should carefully scrutinise the list of spares with a view to ensure that the spares are absolutely essential. It should however be the endeavour of the undertakings to develop the spares through their R&D Wings on the basis of indigenously developed designs and drawings concurrently with the subsistence of collaboration agreement so that the undertakings may not be put to the necessity of importing these spares at a later stage for purposes of maintenance.

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6.118

Since supplies of plant and machinery and spares provided for in the collaboration agreements are expected to take into account the availability of indigenous plant and machinery and spares, Government/Undertaking should ensure that the schedule of delivery of such indigenous equipments synchronises with that of the imported equipments to avoid delays in erection and commissioning of plants due to non-supply of indigenous equipments in time. The Committee have, during the course of examination of several undertakings, come across cases where delays in supplies of indigenous equipments have affected the programme of erection and commissioning of plants with the result that not only expenses on account of collaborators have increased with consequent increase in the outgo of foreign exchange but the collaborators also

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		<p>could not be hold responsible for delays in erection commissioning and or for guaranteed production, as generally the collaboration agreements provide that normally guarantees are available for a period of 12 months from the date of completion of erection or 18 24 months from the date of last shipment whichever is earlier.</p>
57	6.119	<p>The Committee feel that compulsory channelisation of imports through collaborators are only a means of imposing restrictions on purchases and involve not only additional expenditure on foreign exchange but is also likely to lead to increase in the import content of the product.</p>
58	<p>6.120 to 6.122</p>	<p>6.121 The Committee are not sure whether it is always possible to retain freedom to procure equipments from the sources of one's own choice where either the agreement is tied to foreign credit or the equipment is of proprietary nature. But they see no reason why the Indian party should be made to buy equipment through the collaborator where either the required equipment of good enough quality is available from indigenous sources or where the collaborator does not himself manufacture the equipment in question but merely procures it from a sub-suppliers. The Committee would like the Government/Undertaking to examine this aspect and to resist any such attempt by the foreign collaborator. In view of the experience that the equipments supplied by the collaborators by purchasing them from their sub-suppliers are costlier by 25 to 30 per cent than the global tenders it is all the more necessary that the Government/Undertaking do some hard bargaining with the foreign collaborators and do not agree, as far as possible, to have equipment through them when they themselves are not the manufacturers of such equipment.</p>

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Where, however, it is unavoidable to agree to channelise, procurement of equipments through the collaborators, Government/Undertaking should not agree to pay prices which are higher than the world market prices as tested through global tenders or through consultants or otherwise by comparison with the prices of similar or near similar items supplied by the same collaborator to other parties in India and abroad, as far as possible. The Committee would like that the prices to be charged for the equipment, components and stores should not be left to the collaborators, as was seen in the case of Hindustan Cables Ltd. but should be determined in advance and provided in the agreement.

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The Committee feel that the guidelines laid down by Government in regard to compulsory channelising of imports through the collaborators or through sources specified by them should be followed in all cases and no conditions or restrictive clauses which seek to deny freedom to the Indian parties in the matter of purchase of materials or machinery at internationally most competitive prices may be accepted. If any deviation from such guidelines is deemed necessary in public interest such deviations should be specifically got approved at the highest level.

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6.136

The Committee also suggest that Government and public undertakings should ensure that detailed specifications and quality of materials and alternate processes and sources are invariably spelt out in all the agreements so that the public undertakings are not tied down to one source or one type of raw materials and can choose the right type of raw materials from a wider field in the interest of expeditious and

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economic implementation of the project. As research and development wings attached to different public undertakings are required to concentrate on import substitution it should be possible to evolve standard specifications for the different kinds of raw materials used or usable as also speed up the process of indigenisation so as to reduce to the minimum the outgo of foreign exchange. There should also be greater coordination between the related undertakings working in the same sector of industry administrative Ministry and the DGTD so that information about such standards and specifications are readily available and could be put to best use of while finalising collaboration agreements.

*Performance Guarantee*

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6.166

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6.167

The Committee find that the contracts entered into by some public undertakings did neither clearly spell out the liability of the collaborators in respect of quality, timely and trouble free operation and guaranteed level of production nor for extension of the period of guarantee on account of delays in supply of drawings, designs data, equipment etc. The Committee are surprised that omission of important provisions regarding performance guarantee by Government before approval to these foreign collaboration agreements was accorded. The Committee stress that clear responsibility and liability of the foreign collaborator for proving performance of the equipment/system at his own cost before final payments are released should invariably be provided in each, foreign collaboration agreement. The administrative Ministry concerned and the FIB should in particular ensure that adequate provisions in this regard is included in the agreement before it is approved and signed.

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62	6.168 & 6.169	From the information regarding the contracts signed by various Undertakings for supply of equipment etc. (other than those for consultancy agreements or for complete systems) the Committee find that there is no uniformity in regard to the point of time from which the period of validity of the performance guarantee given by the Collaborator is counted.

The Committee have come across cases where because of delays in the supply| erection of indigenous equipment (IPCL-Propane compressor), lack of power supply (FACT-3rd stage expansion) etc. for which the foreign collaborators could not be held responsible, the period of guarantee expired before the project was ready for commissioning and in such cases the performance guarantee lost all relevance and as happened in the case of FACT (3rd stage expansion) the undertaking had to get the equipment rectified on its own. They feel that the point of time from which the guarantee period should be counted is of primary importance, the scheme of performance guarantee would be illusory if the period is fixed without any relation to reasonable period over which the performance can be tested. The agreement should clearly stipulate that the liability of the foreign collaborator for proving performance shall stand for a mutually agreed period which may start from the date when the plant is commissioned and not when the plant| equipment is despatched or some parts of it are erected. The period should be long enough to test the quality, capacity and endurance of the plant and equipment under full pressure and the plant authority should physically operate the plant under full pressure on a sustained

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basis for the stipulated period before accepting the equipment and releasing moneys on account of final payment.

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The performance guarantee should cover not only the performance of individual plants and machinery, quantity|quality of products but also the performance of the system as a whole for a fairly long period depending upon the nature of collaboration.

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The Committee also suggest that, in case there is some delay in proving performance after the stipulated date due to factors for which the collaborator may be responsible, the period of guarantee should automatically stand extended by corresponding period of delays and a provision to this effect should be made in the agreement itself.

The Committee feel that it should also be made categorically clear in the agreement that rectification of defect/deficiency in the quality or capacity of an equipment or plant detected in performance test and even replacement of equipment, if found necessary, would be done at the cost of the collaborator and all the additional expenditure on stay of foreign experts, freight etc., would be borne by the foreign collaborator.

The Committee also feel that the liability of the foreign collaborator should not end with proving the performance of the plant and equipment within the guarantee period. Apart from performance, the quality of equipment is equally important and can be proved only after it runs for a sufficiently long period. They are of the opinion that if after the expiry of the guarantee period, but within a period to be stipulated thereafter there is a break-down of equip-

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ment due to any manufacturing defect or if it is discovered that the material used in the fabrication or assembly of equipment or plant is below specifications, the collaborator should be held accountable for supplying equipment/plant made of such defective material and thus violating the terms of agreement. The Committee would like Government to examine this aspect in depth and explore the possibility of including a suitable provision in the agreement in this regard to guard against equipment of sub-standard quality being foisted on the public undertakings.

*Passing on the benefits of improvements  
in the know-how*

65	6.204	The Committee would suggest that it is desirable to include a provision in all collaboration agreements that a collaborator would be responsible to pass on the benefits of improvement in the know-how effected by them to the Indian parties during the currency of the agreement.
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*Premature Termination of Agreement*

66	6.232 to 6.234	The Committee feel that it is in interest of the undertaking that a clause regarding foreclosure of the contract in the event of the unsatisfactory performance by the collaborator may be suitably included in the collaboration agreements under specific conditions. The agreement may also include definite terms of settlement with the collaborator in cases of such premature termination so as to avoid any ambiguity in such an important matter. The Committee suggest that a standard clause as far as possible in this regard may be evolved and suitable guidelines issued to the undertakings.
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*Liquidated Damages*

67	6.245 to 6.247	The Committee note the diversity of the practices followed by the undertakings in regard to the aspects for which provision for recovery
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of liquidated damages is made in the agreements. The Committee are also not sure of the comparative effectiveness of the legal implications of each one of the methods, namely, compensation, penalty, linking of payments with performance and termination of contract etc. and the extent to which they have proved useful in actual practice. They would like Government to examine the pros and cons both from the legal and functional angles of the different aspects and the methods of provision of recovery of liquidated damages and spell out the comparative advantages and disadvantages in different situations for the guidance of the undertakings.

The Committee also feel that absence of provision for liquidated damages in the agreements is likely to erode the sense of urgency and lead to casualness in approach on the part of the foreign collaborators which might not be in the overall interest of the undertakings. The Committee would like Government to examine whether it would be desirable that in Government to Government agreements a provision for liquidated damages etc. could be included in the agreement itself or some other mechanism should be provided to ensure that the foreign collaborators do not escape responsibility for delays in the discharge of their obligations under the agreements.

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6.250

The Committee feel that the question of fixing a ceiling for liquidated damages cannot be determined in isolation but it should have a relationship to the loss in terms of value to which the undertaking may be put to, on account of delays in the discharge of the responsibility envisaged in the agreement in regard to the supplies and other aspects like delay in commissioning of the plant, commencement of production etc. The

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Committee would like the Government to study this matter in depth in the context of the commercial practices obtaining in India and abroad and suggest specific and enforceable provisions in regard to the quantum of liquidated damages for the benefit of the undertakings. The Foreign Investment Board and the administrative Ministries should also make sure that the suggested provisions are actually incorporated in the collaboration agreements before they are finalised.

69            6.251            The Committee also recommend that once the amount of liquidated damages is determined, it should be recovered from the amounts payable to the collaborators as and when due and may not be postponed till the final payments become due to the collaborators.

70            6.252            The Committee have in the course of examination of Public Undertakings found that due to  
to  
6.253            the absence of suitable provision for levy of penalty/liquidated damages, the undertakings were not able to take action on the collaborators for delayed supplies which had resulted in delays in the commissioning of the plants, with consequential effects on enforcement of performance guarantee clauses.

From the examination of Public Undertakings the Committee have found that recovery of liquidated damages arises mostly on account of delay in supplies or non-supply of drawing designs equipment etc. delays in erection commissioning of plants and non-achievement of rated level of production. The Committee would like that the Undertakings Administrative Ministries should keep a careful watch on the performance of the collaborators in these critical areas with a view

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		to pinpointing responsibilities at the appropriate time and take action by way of recovery of liquidated damages and/or penalty as the case may be.
		<i>Turn-Key Projects</i>
71	6.269 to 6.270	The Committee feel that approval of foreign collaboration should lay more emphasis in the development of indigenous know-how and in their opinion turn-key contracts have the disadvantage of stifling such development. The possibility of concealing design engineering cost in the price of equipment is also not ruled out. The Committee are therefore of the view that turn-key contracts should not be permitted as a matter of rule and exceptions, if at all, should be allowed very sparingly only in case of highly sophisticated projects for which suitable technical know-how may not be available in India or where a large volume of production is required within the shortest time to meet urgent demands. They need hardly stress that, even in such cases provision should be made in the contracts that Indian engineers and consultancy organisations, should be associated at various stages for doing jobs like detailed engineering, procurement services, fabrication of equipment, inspection, construction and commissioning so that dependence on foreign expertise and foreign exchange outgo is minimised.
72	6.271	The Committee stress that in cases where machinery and equipment and technologies are imported from different sources, there is imperative need for stricter integrated planning and co-ordination with a view to obviating any difficulties in commissioning of the plants and putting to effective use the installed capacities and achieving maximum results.
73	6.272	The Committee would also like that Government should make an evaluation of the turn-

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		key contracts which had already been executed with a view to evolving guidelines in specific areas for the future.
		<i>Royalty</i>
74	7.22 to 7.23	The Committee need hardly pointed out that if the royalty is linked to the value of production or sale there is every likelihood of the amount of royalty increasing as a result of rise in domestic prices on account of extraneous reasons. It is, therefore, desirable to relate royalty as specified amount per unit of production which is determined having regard to the landed cost of the unit (excluding duty, freight, packing, commission etc. charges) irrespective of the source of procurement. This would ensure collaborators interest in increasing production while the country would not have to pay more than what is called for in terms of ex-factory price of the unit in the international market.
		<i>Indian Taxes on Payments to collaborators</i>
75	7.43 to 7.44	The Committee note that according to the Policy Guidelines issued by the Government while royalty payments for technical collaboration are subject to Indian taxes, lumpsum payments for import of drawings, documentation etc. and other forms of know-how will be subject to "applicable Indian taxes." The Committee are informed that while there is no difficulty in regard to royalty payments which are subject to Indian taxes, difficulties had been experienced by the Public Undertakings about the interpretation of the words "applicable Indian Taxes."
		With a view to safeguarding the interests of the revenue it has been stated that certain clarifications have been issued by the Ministry of Finance in October, 1975. The Committee need hardly point out that the clarifications should have been issued many years earlier so that the

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public undertakings, the foreign collaborators and all others concerned new more precisely the incidence of taxation and the amount they would have to remit on that account. The Committee would like the public undertakings to keep carefully in view the guidelines in this regard while finalising the foreign collaboration terms to obviate any scope for misunderstanding on this account at a later stage.

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The Committee are informed that the question whether the words "subject to applicable taxes" used for lump sum payments can be concretised is under the examination of the Ministry of Finance. The Committee would urge that the Ministry of Finance should take an early decision in this matter and notify the same to the public undertakings and the administrative Ministries so that the undertakings are clear about their responsibility in this regard and no uncertain liability is cast on them. The Committee note that many developing countries are not in favour of granting full tax exemption to foreign collaborators for it is obvious that tax on the income has to be paid in one country or the other. This aspect is also bound to come up at the next UNCTAD Conference scheduled to be held in Nairobi in May, 1976 to consider the subject of Code of Conduct For Transfer of Technology. The Committee recommend that Government may review the position during the course of the year in the light of these developments so as to remove all elements of ambiguity and uncertainty. The Committee would like to be informed of the action taken within six months.

*Restrictive Provisions*

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The Committee need hardly stress that there should not be any provision banning the public undertaking from sublicensing the technical know-how as any restriction in this regard will

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		<p>only entail repetitive import of technology and accentuate multiplicity of collaboration with avoidable outgo of foreign exchange. The Committee have dealt with this aspect in a separate Chapter of this report.</p> <p>8.19. The Committee feel that inclusion of clauses imposing restrictions on purchase of plant and equipment, spares, raw materials, components etc. from/through the collaborator is an indirect compulsion on the entrepreneur to go in for compulsory imports of plant and machinery and should not be agreed to in the interest of securing them at the most competitive international prices.</p>
		<i>Exports</i>
78	8.20 to 8.23	<p>8.21 The Committee agree that restriction on exports is detrimental to national interests and may not be allowed unless there are over-riding considerations. The Committee feel that where the foreign collaboration is being sought mainly for export purposes, any restriction on exports will defeat the very purpose of the foreign collaboration and should not be accepted except where the countries to which the restrictions are sought to be applied are not the ones for which the Indian parties intend to cater.</p> <p>The Committee feel that since India has reached a significant stage in the development of manufacturing capability and has in fact become exporter of not only sophisticated engineering goods but also of technical know-how, Government/Public Undertakings should ensure that restrictions which come in the way of natural growth of exports to potential markets should be avoided to the maximum extent possible.</p>
		<i>Arbitration</i>
79	9.18 to 9.23	<p>9.18 The Committee find that according to the Government's policy all foreign collaborations should normally be subject to Indian laws and arbitration</p>

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by organised bodies like International Chamber of Commerce can also be provided for in specific cases with the approval of Government, in 19 out of 74 foreign collaboration agreements in public Undertakings analysed by the Committee, the venue of arbitration has been outside the country; in 19 cases, the law applicable for arbitration is stated to be Indian Arbitration Act and in 36 cases, the arbitration was to be according to International Chamber of Commerce regulations. In 5 cases, the arbitration would be according to the law of the collaborator's country. In case of 2 agreements, the disputes are to be settled by a court of arbitration to be constituted according to the law of a country independent of the parties to the agreement. Where the collaboration agreement has been the result of Inter-Governmental agreements, the matters are left to be settled according to such inter-Governmental agreements.

The Committee feel that the Indian Arbitration Act is more definitive and it should normally be possible to include the provision for arbitration in the collaboration agreements in conformity with the Indian Arbitration Act. However, in cases of collaboration agreements for sophisticated technology where the collaborators may be few, the arbitration may have to be under the rules and regulations of International Chamber of Commerce, if so insisted upon. Even in such cases the Committee would like that the venue of arbitration should as far as possible be India.

The Committee recommend that collaboration agreements should clearly specify the arbitral forum and the law applicable in the case of arbitration so that difficulties do not arise about interpretation of the provisions relating to arbitration

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in the collaboration agreement. The Committee would also like Government to consider the feasibility of making suitable provisions in the agreements by which technological disputes are resolved during the subsistence of the agreement and the need for legal arbitration or judicial settlements which are fairly long drawn out processes involving uncertain liabilities are minimised.

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The Committee find that only the Reserve Bank of India have undertaken two comprehensive surveys about the working of the foreign collaboration arrangements in the country. While these have served a useful purpose in giving an overall view, the Committee feel that a detailed survey and analysis has to be carried out at the national, sectoral and unit level in order to learn from the experience of working of the foreign collaboration agreements with different collaborators and countries. It would be pertinent in this context to recall that in evidence before the Committee, it has been emphatically stated by the Managing Directors|Chairmen of leading public undertakings that technology and know-how received from Soviet Russia and other socialist countries has largely fulfilled the objectives and that the performance of the units set up has been very satisfactory. The Committee note particularly the element of dedication which has been ascribed to the Soviets in the matter of transfer of technology and in helping the public sector units to absorb technology and reach self-reliance. The problem of selection of technology and collaborators is, however, complex in the case of other countries for in India there is no centralised agency or data bank where information may be readily available to facilitate the selection of the most suited technology and the best collaborators for project.



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The Committee stress that Government should devise suitable arrangements for evaluation of the foreign collaboration agreements on national, sectoral and unit basis with particular reference to the following considerations:

- (i) The extent to which the terms of agreements have been fulfilled in letter and spirit and the readiness shown by the foreign collaborators to resolve unanticipated problems and to adhere to the time schedule for delivery of drawings, designs, equipments etc.
  - (ii) Whether the production capacity has been developed as per the prescribed time frame upto the installed level and whether the warranted performance has been sustained over a period.
  - (iii) Quality of service after installation with particular reference to the spirit of co-operation and helpfulness in resolving problems of operation and maintenance and sharing knowledge about advances in the relevant field of technology and know-how which would help the unit to attain higher production or effect reductions in cost.
  - (iv) Concrete help given in import substitution with particular reference to raw materials, machinery and equipment.
  - (v) Quality and quantity of production with reference to figures mentioned in the project report.
  - (vi) Acceptability of the product by the users in India.
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(vii) Potentility for export and the extent to which it has been realised.

(viii) Assistance given in setting up maintenance schedules and in arranging supply of spare parts on assured basis and at competitive prices and management of inventories.

(ix) Setting up of a management information system in the interest of effective control over the unit.

(x) Setting up of the Planning Research and Development Division and the concrete help given in the absorption of technology and know-how and making it self-reliant, and self-generating.

The Committee suggest that while institutional arrangements may be made for critical study and appraisal of foreign collaboration agreements which have already run their course, such monitoring should be done in future concurrently so as to derive meaningful information and data for use while negotiating and finalising foreign agreements.

The Committee also suggest that the information on the above mentioned points and other related matters may be suitably brought on the data-bank under DGTD for providing ready reference and guidance in the matter of selection of foreign collaborators and technology. The Committee attach great importance to the above recommendations and would like to be informed, within six months, of the concrete measures taken by the Government in pursuance thereof.

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## LIST OF ABBREVIATIONS

BALCO	. . .	Bharat Aluminium Co. Ltd.
BEL	. . .	Bharat Electronics Ltd.
BEML	. . .	Bharat Earth Movers Ltd.
BHEL	. . .	Bharat Heavy Electricals Ltd.
BHPV	. . .	Bharat Heavy Plates & Vessels Ltd.
BOGL	. . .	Bharat Ophthalmic Glass Ltd.
BPE	. . .	Bureau of Public Enterprises.
BSL	. . .	Bokaro Steel Ltd.
CSIR	. . .	Council of Scientific & Industrial Research.
DGTD	. . .	Director General, Technical Development.
EIL	. . .	Engineers India Ltd.
FACT	. . .	Fertilizers & Chemicals, Travancore Ltd.
FCI	. . .	Fertilizer Corporation of India Ltd.
FEDO	. . .	FACT Engineering & Design Organisation.
FIB	. . .	Foreign Investment Board.
GRW	. . .	Garden Reach Workshops.
HAL	. . .	Hindustan Antibiotics Ltd./Hindustan Aeronautics Ltd.
HEC	. . .	Heavy Engineering Corporation.
HMT	. . .	Hindustan Machine Tools Ltd.
HPF	. . .	Hindustan Photo Film Mfg. Co. Ltd.
HTL	. . .	Hindustan Teleprinters Ltd.
HZL	. . .	Hindustan Zinc Ltd.
IDPL	. . .	Indian Drugs & Pharmaceuticals Ltd.
IL	. . .	Instrumentation Ltd.
IOC	. . .	Indian Oil Corporation Ltd.
IPCL	. . .	Indian Petro-Chemicals Ltd.
IRE	. . .	Indian Rare Earths Ltd.
MAMC	. . .	Mining & Allied Machinery Corporation Ltd.
MECON	. . .	Metalurgical & Engineering Consultants (India) Ltd.
MRTP	. . .	Monopolies & Restrictive Trade Practices.

- NCL . . . National Chemical Laboratory.
  - NCST . . . National Commission on Science & Technology.
  - NIDC . . . National Industrial Development Corporation Ltd.
  - NMDC . . . National Mineral Development Corporation.
  - NRDC . . . National Research Development Corporation.
  - ONGC . . . Oil & Natural Gas Commission.
  - SAIL . . . Steel Authority of India Ltd.
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