

**ESTIMATES COMMITTEE  
(1968-69)**

**SIXTY-FIFTH REPORT**

(FOURTH LOK SABHA)

**MINISTRY OF PETROLEUM AND CHEMICALS—  
PETRO-CHEMICALS**

**Action taken by Government on the recommendations  
contained in the Forty-Eight Report of the  
Estimates Committee (Fourth Lok Sabha) on  
the Ministry of Petroleum & Chemicals—  
Petro-Chemicals**



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C O R R I G E N D A

TO

Sixty-Fifth Report of the Estimates Committee (Fourth Lok Sabha) on the Ministry of Petroleum & Chemicals - Petro-Chemicals.

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Cover page, line 9, for 'Forty Eight' read 'Forty-Eighth'.

Page (vii) - para 2, line 7 delete 'draft'.

Page (vii), para 4, line 5, for '33' read '35'.

Page (vii), para 4, line 7, for 'reply' read 'replies'.

Page 14, line 4, for 'deplication' read 'duplication'.

Page 19, in the last but one line for 'development', read 'developing'.

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**(1968-69)**

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**SECRETARIAT**

Shri B. B. Tewari—*Deputy Secretary.*

Shri G. D. Sharma—*Under Secretary.*

## INTRODUCTION

I, the Chairman of the Estimates Committee having been authorised by the Committee, present this Sixty-fifth Report of the Estimates Committee on the action taken by Government on the recommendations contained in the Forty-eighth Report of the Estimates Committee (Fourth Lok Sabha) on the Ministry of Petroleum and Chemicals—Petro-Chemicals.

2. The Forty-eighth Report was presented to the Lok Sabha on the 22nd March, 1968. Government furnished their replies indicating the action taken on the recommendations contained in the Report between 28th September, 1968 and 31st October, 1968. The replies were examined by the Study Group 'F' of the Estimates Committee (1968-69) at their sitting held on the 20th December, 1968. The draft Report was adopted by the Estimates Committee (1968-69) on the 14th February, 1969.

3. The Report has been divided into the following Chapters:—

I. Report.

II. Recommendations which have been accepted by the Government.

III. Recommendations which the Committee do not desire to pursue in view of the Government's reply.

4. An analysis of the action taken by Government on the recommendations contained in the Forty-eighth Report of the Estimates Committee (Fourth Lok Sabha) is given in Appendix. It would be observed therefrom that out of 41 recommendations made in the Report, 33 recommendations i.e. 85 per cent, have been accepted by Government and the Committee do not desire to pursue 6 recommendations, i.e. 15 per cent, in view of Government's reply.

NEW DELHI;

February 20, 1969.

Phalguno 1, 1890 (Saka).

P. VENKATASUBBAIAH,

Chairman,

Estimates Committee.



## CHAPTER I

### REPORT

The Estimates Committee are glad to observe that the ~~recom-~~mendations contained in their Forty-eighth Report (Fourth Lok Sabha) on the Ministry of Petroleum and Chemicals—Petro-Chemicals have been replied to by the Government in time and ~~have~~ been generally accepted by them.

## CHAPTER II

### RECOMMENDATIONS THAT HAVE BEEN ACCEPTED BY THE GOVERNMENT

#### Recommendation (Serial No. 2, Para No. 1.29)

*The Committee note that in view of the highly capital intensive nature of the petro-chemicals industry, basic petro-chemical projects which would supply raw material to other units, like naphtha cracker, aromatics extraction plant etc., are mostly being set up in the public sector and that downstream units which would manufacture end products, would generally be set up in the private sector. Since the petro-chemical industries have a profound impact on the industrial economy of the country and since these industries offer vast scope for substitution of conventional raw materials such as cotton, wool, rubber, steel, cement, non-ferrous metals, vegetable oils and fats, it is imperative that Government should take effective measures for the rapid development of these industries. The Committee would like to emphasise that public sector should take initiative in accelerating the pace of development in this regard wherever considered necessary.*

#### REPLY OF GOVERNMENT

Noted. The proposal to set up a public sector organisation for the development of petro-chemicals is in an advanced stage. This organisation will immediately take over the implementation of the Aromatics project in Gujarat for which contracts have been signed with process licensors etc.

[Ministry of Petroleum and Chemicals (Deptt. of Chemicals) O.M. No. 2 (34) /68-Ch. I, dated 28-9-1968].

#### Recommendation (Serial No. 3, Para 2.12)

*The Committee regret to observe that against the tentative target of 85,000 tonnes of plastics to be manufactured during the Third Plan period, the capacity licensed was about 71,000 tonnes and the actual production was 27,000 tonnes only. The Committee find that the imports of plastic i.e. P. V. C., polyethylene and polystyrene during the last year of the Third Plan (1965-66) was of the order of 3,860 tonnes valuing Rs. 83.30 lakhs. They consider that had the plas-*

*tic units been commissioned in time, the heavy imports on account of plastics could have been largely eliminated. They hope that concerted measures would now be taken to set up these thermo-plastics units without further delay.*

REPLY OF GOVERNMENT

Noted. All efforts are being made to expedite the setting up of thermoplastics units in the country.

[Ministry of Petroleum & Chemicals (Department of Chemicals) O.M. No. 2 (34)/68-Ch I, dated 31-10-1968].

**Recommendation (Serial No. 4, Para No. 2.17)**

*The Committee realise that in view of the altered circumstances, it is necesary to readjust the targets to correspond to the realities of the economic situation prevailing in the country. They would, however, stress that the final targets of production of petro-chemicals during the Fourth Plan should be realistic and co-related to the demand of organic chemicals as nearly as possible, so as to make the country self-sufficient in this vital sphere.*

REPLY OF GOVERNMENT

Noted. A Planning Group is currently examining the programme that could be realistically drawn up for implementation during the Fourth Plan commencing from 1-4-1969 and they are keeping this recommendation in view.

[Ministry of Petroleum & Chemicals (Department of Chemicals) O.M. No. 2 (34)/68-Ch. I, dated 28-9-1968].

**Recommendation (Serial No. 6, Para No. 2.27)**

*The Committee have already emphasized the imperative need to accelerate the development of petro-chemicals industries in the country in view of their importance to the National economy. They hope that in allocating funds during the Fourth Five Year Plan, Government would ensure that necessary resources are allocated to these industries on a priority basis.*

REPLY OF GOVERNMENT

The attention of the Planning Commission and the Ministry of Finance has been drawn to the recommendation of the Committee.

[Ministry of Petroleum & Chemicals (Department of Chemicals) O.M. No. 2 (34)/68-Ch. I, dated 28-9-1968].

### Recommendation (Serial No. 7, Para No. 2.29)

The Committee note that though according to the I. F. P. Report, the Bombay petro-chemicals complex was to start up in 1966, only some of the major schemes of this complex were completed in 1967 while others will be completed by the middle of 1968. The delay is regrettable as they consider these schemes of fundamental importance in the development of petro-chemical industry which would greatly help the industrial development and the economy of the country. They have no doubt that the commissioning of the Bombay schemes will go a long way in meeting the demand of organic chemicals in the country and reducing their imports.

#### REPLY OF GOVERNMENT

All the four projects in the Bombay Complex namely those of M|s. Union Carbide India Ltd., Trombay, M|s. National Organic Chemical Industries Ltd., M|s. Polyolefins Industries Ltd. and M|s. Herdillia Chemicals Ltd. have since been commissioned and commercial production of most of the products started.

[Ministry of Petroleum & Chemicals (Department of Chemicals) O.M. No. 2(34)/68-Ch I, dated 31-10-1968].

### Recommendation (Serial No. 8, Para No. 2.35)

The Committee are constrained to observe that the Gujarat petro-chemical complex which is the public sector and which was approved by the Government of India in December, 1963 has not progressed satisfactorily. According to I. F. P. Report, the first stage of this complex was scheduled to start up from 1966. Even the Planning Group report had envisaged that the naphtha cracker would commence operation as early in 1968 as possible. It appears that the benzene and toluene plants would now be ready by the end of 1968. The other units viz., Xylenes and D. M. T. are nowhere in sight as the contracts for these units have not yet been finalised. The naphtha cracker scheme is still under negotiation. On the other hand a number of units of the Bombay complex which is in the private sector and was approved about the same time in 1963, have been commissioned and the others are about to be commissioned by the middle of 1968. The delay in the setting up of the Gujarat complex has resulted in non-utilisation of naphtha from the Gujarat refinery and the import of organic chemicals which would have been produced in this complex. The Committee realise the difficulties in securing foreign collaboration for this project on acceptable terms. But they

*feel that time taken in discussing preliminary proposals for this complex i.e. about 3 years between 1964 and 1966 was too long. The Committee hope that concerted efforts will now be made to finalise the agreements for D. M. T. and Xylenes Units and the naphtha cracker plant as early as possible so that these projects are expeditiously commissioned.*

#### REPLY OF GOVERNMENT

Contracts for the Xylenes and DMT plant forming the Aromatics Complex in Gujarat have since been signed in May and July 1968. The project is expected to go into production by 1971-72. For the naphtha cracker and the olefins complex in Gujarat a detailed project report has been prepared by the Oil and Natural Gas Commission (Petro-chemicals Division) and this is being examined by Government for further action.

*[Ministry of Petroleum & Chemicals (Department of Chemicals) O.M. No. 2 (34) /68-Ch. I, dated 28-9-1968].*

#### **Recommendation (Serial No. 9, Para No. 2.38)**

*The Committee are glad to note that the processes to be used at Barauni Complex would be the same as at the Gujarat Complex which will no doubt result in considerable economies in costs of construction and operation. They hope that the pilot plant tests and other necessary investigations would be completed soon and the work on the first phase of the aromatics plant at Barauni commenced as soon as the agreement for the Gujarat Complex is finalised.*

#### REPLY OF GOVERNMENT

Noted.

*[Ministry of Petroleum & Chemicals (Department of Chemicals) O.M. No. 2 (34) /68-Ch. I, dated 31-10-1968].*

#### **Recommendation (Serial No. 10, Para No. 2.43)**

*The Committee consider it unfortunate that the Methanol Plant of the Fertilizer Corporation of India at Trombay is working at about half its rated capacity, resulting in an annual loss in production amounting to about Rs. 1.5 crores. Since this plant was set up on a turn-key basis, the Committee would urge that the foreign col-*

*laborators should be obliged to fulfil the contractual obligation. Suitable measures should also be taken to ensure that the plant attains its maximum rated capacity at an early date.*

#### REPLY OF GOVERNMENT

As the contractor has failed to fulfil the contractual obligations in regard to performance of guarantee test etc. and the plant is not working to the rated capacity, action is already in hand to refer all the disputes in respect of fulfilment of the obligations by the Contractor to arbitration according to the rules of International Chamber of Commerce. Suitable action is also being taken to stabilize the production in the Methanol Plant. With the adoption of another Reformer Catalyst the plant has so far reached about 60 per cent of its rated capacity (*viz.* 60 tonnes a day). The Fertilizer Corporation of India are working out a scheme for making additions and alterations for raising the capacity further.

[*Ministry of Petroleum & Chemicals (Department of Chemicals) O.M. No. 2 (34)/68-Ch. I, dated 28-9-1968.*]

#### **Recommendation (Serial No. 11, Para No. 2.44)**

*The Committee would further suggest that the demand for methanol should be assessed in a realistic manner, and if necessary, steps to instal additional capacity for methanol production be taken well in time to avoid its imports.*

#### REPLY OF GOVERNMENT

The Planning group on petrochemicals and Fertilizer Corporation of India are seized of this question of demand for methanol in the context of drawing up the Fourth Plan programme for petrochemicals.

[*Ministry of Petroleum & Chemicals (Department of Chemicals) O.M. No. 2 (34)/68-Ch. I, dated 28-9-1968.*]

#### **Recommendation (Serial No. 12, Para No. 2.48)**

*The Committee regret to observe that the price of methanol charged by the Trombay Unit of the Fertiliser Corporation of India is much higher compared to the price prevailing in other countries. The Committee urge that the reasons for the high prices charged by this unit should be investigated and effective measures taken to reduce them so as to make it available at cheaper rates to the consumers.*

## REPLY OF GOVERNMENT

The reasons for the high prices for methanol charged by the Trombay unit of F. C. I. have been investigated by the Government. It has been found that the prices are higher than international prices because the plant has not achieved the rated capacity as yet and it is working only at 60 per cent capacity at present. This low production is again due to design deficiencies and the failure of catalyst. Various alternatives to rehabilitate the plant and reduce the cost of production have been considered. After some of these measures are put into effect and the plant reaches its full capacity or near full capacity, it may be possible to revise the prices downwards.

The selling prices of methanol effective from September 1966 were as follows:

	Per tonne
1. For bulk consumers for formaldehyde production	Rs. 950
2. For other consumers whose consumption was over 1000 tonnes per year	Rs. 1500
3. For consumers in drums	Rs. 2000 + cost of drum and filling charges.

NOTE:—For consumers mentioned at 2 & 3 distributors' commission was additional.

With effect from 2nd August 1968 these prices have been revised as follows:

1. Supplies in bulk	Rs. 1210 per tonne ex-factory
2. Supplies in drums	Rs. 1500 per tonne ex-factory

NOTE:—All consumers whose offtake is 3,000 tonnes and above during a financial year will be given a rebate of Rs. 250 per tonne.

[Ministry of Petroleum & Chemicals (Department of Chemicals O.M. No. 2(34)/68-Ch I, dated 31-10-1968].

**Recommendation (Serial No. 13, Para No. 2.53)**

*The Committee deprecate the delay in taking final decision on the applications for the manufacture of methyl methacrylate, particularly when intermediate product acetone which is the raw material and an outlet for this secondary or tertiary product will be produced on a commercial scale from April, 1968 in the N. O. C. I. L. complex, which has since been commissioned. This is indicative of lack of*

*proper and coordinated planning for the utilisation of the secondary products of the basic complex at Bombay. The Committee urge that decision to license one of the parties for the manufacture of methyl methacrylate should be taken without further delay.*

#### REPLY OF GOVERNMENT

A letter of intent has been issued on 19th June, 1968 to M/s. Atul Drug House, Bombay for a capacity of 5200 tonnes per annum MMA, 3300 tonnes of HCN and related products.

[Ministry of Petroleum & Chemicals (Department of Chemicals) O.M. No. 2(34)/68-Ch. I, dated 31-10-1968].

#### Recommendation (Serial No. 15, Para No. 2.67)

*The Committee are glad to note that Government is intending to keep a watch on the production costs and selling prices of petro-chemicals. Since the cost of production and selling prices are taken into account at the time of sanctioning the schemes and issuing of licences, it is necessary that Government should exercise a broad control over prices to ensure that after the commissioning of the plants, the prices are generally in conformity with the original stipulations. The Committee consider that such a step will help to keep the rising prices under control to a large extent.*

#### REPLY OF GOVERNMENT

Noted. The need for and the extent of price control required in each case will have to be carefully studied and suitable measures taken, since it will be impractical to control the prices of all the numerous petro-chemicals.

[Ministry of Petroleum & Chemicals (Department of Chemicals) O.M. No. 2(34)/68-Ch. I, dated 31-10-1968].

#### COMMENTS OF THE COMMITTEE

Any study carried out and measures taken in this regard, if any, may be intimated to the Committee.

#### Recommendation (Serial No. 16, Para No. 2.72)

*The Committee regret to note that the existing provisions under the Industries Development and Regulation Act and Rules made thereunder do not provide for any stipulation in the nature of legal*



sanction, to force the entrepreneur to earmark a certain portion of his product for export, although he may have agreed to abide by the export obligation at the time of the issue of licence. The Committee hope that the proposal to amend the Industries Development and Regulation) Act would be finalised by the Ministry of Industrial Development and Company Affairs at an early date so that effective action could be taken in the event of wilful default in fulfilling export obligations.

#### REPLY OF GOVERNMENT

The Ministry of Industrial Development and Company Affairs are considering certain amendments to the Industries (Development and Regulation) Act, 1951 including the appropriate amendment to certain provisions of the Act, with a view to make the entrepreneurs' export obligations legally binding.

[Ministry of Petroleum & Chemicals (Department of Chemicals) O. M. No. 2(34)/68-Ch. I dated 28.9.1968].

#### Recommendation (Serial No. 17, Para No. 3.4)

The Committee note that naphtha of the order of 200 thousand tonnes per annum became surplus to the requirements of the country from 1957 onwards and had to be exported as no petro-chemical complexes were planned in the country to utilise this naphtha simultaneously with its availability in substantial quantities in 1957. In fact the first Committee to consider the development of petro-chemical industries in the country was set up only in 1960. The Committee regret that there has been no forward planning in this respect. As already observed by the Committee the planning for the petro-chemical industries should have been thought of simultaneously with the setting up of the coastal refineries in the country.

#### REPLY OF GOVERNMENT

The possibility of developing petrochemical industries side by side with new refineries is now kept in view.

[Ministry of Petroleum & Chemicals (Department of Chemicals) O. M. No. 2(34)/68-Ch. I dated 28.9.1968].

#### Recommendation [Serial No. 18, Para No. 3.8(i)]

(i) The Committee are glad to note that the whole energy picture in the country is being studied afresh and that the Government

are busy making an estimate of the forecast of the naphtha requirements upto 1975-76. This becomes important in view of the requirements of naphtha for the production of fertilisers which are in great demand. The Committee urge that these studies should be completed as early as possible so as to enable the planning of production of petro-chemicals and fertilisers on a realistic basis. The Committee have no doubt that in this study the World trends in the consumption of naphtha and its availability and price in future would also be kept in view.

#### REPLY OF GOVERNMENT

Noted. The matter is at present under the study of the expert committee appointed for the purpose.

[Ministry of Petroleum & Chemicals (Department of Chemicals)  
O.M. No. 2(34)/68-Ch. I dated 31-10-1968].

#### Recommendation [Serial No. 19, Para No. (Sub-para) of 3.8]

(ii) It is also necessary to consider the utilisation of natural gas in a larger measure for the production of fertilisers and petro-chemicals. In this connection the Committee understand that in the U.S.S.R. acetylene from natural gas has become fairly popular. The Committee therefore, suggest that feasibility of utilisation of natural gas for this purpose in this country may also be considered.

#### REPLY OF GOVERNMENT

Several feasibility studies have been carried out on the economics of manufacture of acetylene and derived chemicals related to the demand for such chemicals in the country and export possibilities. So far such studies do not indicate that such a project would be viable. However further studies, also taking into account technological improvements, continue to be made for evaluation.

[Ministry of Petroleum & Chemicals (Department of Chemicals)  
O.M. No. 2(34)/68-Ch. I dated 31-10-1968].

#### Recommendation (Serial No. 20, Para No. 3.9)

The Committee further note that in West Germany there has been a tendency for the larger petro-chemicals firms to adopt processes that could utilise any number of feedstocks such as whole crude, natural gas, coke-oven gas or naphtha in order to take advantage of the cheapest feedstock in the market. The Committee hope that this changing pattern would be kept in view while selecting the processes for the manufacture of petro-chemicals in the country.

## REPLY OF GOVERNMENT

Noted.

[Ministry of Petroleum & Chemicals (Department of Chemicals)  
O.M. No. 2(34)/68-Ch. I dated 31-10-1968].

**Recommendation (Serial No. 21, Para No. 3.14)**

The Committee note that the price of naphtha as charged by the ESSO and Burmah Shell Refineries from the petro-chemical industries varies from each other. While the ESSO bills at the provisional rate of Rs. 106.97 per tonne, the Burmah Shell charges at the rate of Rs. 131.30 per tonne. Since the price of naphtha which is the principal raw material for the petro-chemical and fertiliser industries, has a vital bearing on the prices of intermediates and end-products, the Committee recommend that Government should keep a close watch and exercise effective control over the price of naphtha so as to ensure that it is available to the basic petro-chemical industries at competitive prices and that the prices of the end-products to the consumer are economical.

## REPLY OF GOVERNMENT

This Ministry has laid down a formula for the determination of the selling price of Naphtha supplied for use as feed stock in the manufacture of petrochemicals. The price of Rs. 106.97 per tonne charged by Esso is based on this formula. In the case of Burmah Shell the price of Rs. 131.30 per tonne referred to in the recommendation of the Estimates Committee was in respect of naphtha which was used at that time by NOCIL as *Industrial Fuel*. Had Burmah Shell supplied the naphtha for use as feedstock in the manufacture of petrochemicals at that time, the price would have been only Rs. 107.20 per tonne in accordance with the pricing formula. The small difference between the price of Burmah Shell and that of Esso referred to above is due to the element of ocean freight which varies from time to time.

[Ministry of Petroleum & Chemicals (Department of Chemicals)  
O.M. No. 2(34)/68-Ch. I dated 31-10-1968].

**Recommendation (Serial No. 23, Para 3.23)**

The Committee note that the imports of organic chemicals in the country have been quite high. In view of the ever increasing utilisation of petro-chemicals and their potential to save scarce foreign exchange through import substitution, the Committee urge that effective measures should be taken to develop petro-chemical indus-

tries on a high priority basis, specially those which would help to save imports of fibres, non-ferrous metals, synthetic rubber etc.

#### REPLY OF GOVERNMENT

The Fourth Plan programme is being drawn up by a Planning group on petrochemicals which is seized of the need to develop the industry on high priority. The attention of the Planning Group has been drawn to the Committee's observation.

[Ministry of Petroleum and Chemicals (Department of Chemicals)  
O.M. No. 2(34)/68-Ch. I dated 28-9-1968.]

#### Recommendation (Serial No. 25-26, Para 4.10)

25. The Committee are constrained to observe that in spite of the recommendations made by the I.F.P. Team in 1963 and the Working Group in January, 1965 for the setting up of an integrated organisation for petro-chemicals in the public sector, no such organisation has yet been set up. On the other hand benzene and toluene plants are being erected as a part of the I.O.C.-Gujarat Refinery which gives the impression that the organisational matters regarding the setting up of petro-chemical complex in public sector are being dealt with in an ad hoc manner. The slow progress in the setting up of petro-chemical complexes in the public sector may partly be attributable to the absence of a central organisation. The Committee urge that the setting up of a petro-chemical Corporation which is stated to have been agreed to in principle, should be expedited so that the work of organising petro-chemical complexes in the public sector is undertaken systematically in right earnest.

26. The Committee are happy to note that M/s. Engineers India Limited have been closely associated with the detailed engineering, procurement of indigenous equipment and construction of the Aromatics complex and the naphtha cracker at Koyali, Gujarat. The Committee note that in these matters this organisation is working in close collaboration with the O.N.G.C. They are unable to appreciate why the two organisations in the public sector viz., O.N.G.C. and Engineers India Limited are working in the same field. It appears that expertise in design engineering is dispersed in various organisations like the Project Division of the Indian Institute of Petroleum, the O.N.G.C. and M/s. Engineers India Ltd. The Committee suggest that the expertise in design engineering should be integrated in one organisation, which should undertake all work relating to process engineering, detailed engineering, erection etc. of petro-chemical complexes.

## REPLY OF GOVERNMENT

A Petro-chemical Corporation in the Public Sector is expected to be set up very shortly, which, to begin with, will implement the Gujarat Aromatics project near Koyali, Gujarat. When finally set up this Corporation will become the central organisation having the necessary expertise in the erection of petro-chemical complexes. Engineers India Ltd. will continue to be duly associated with the Petro-chemical Corporation.

[Ministry of Petroleum & Chemicals (Department of Chemicals)  
O.M. No. 2(34)/68-Ch. I dated 31-10-1968].

**Recommendation (Serial No. 27, Para No. 5.4)**

The Committee are glad to note that Government are purchasing know-how on an outright basis in respect of the petro-chemical complexes which are being set up in the public sector. The Committee would, however, like to emphasise that in purchasing know-how, Government should guard against acquiring obsolescent technological processes which may some times be available at low initial cost, as that would put the country at a distinct economic disadvantage in comparison with other advanced countries. The Committee would further urge that Government should emulate the example of Japan in improving upon imported technology as continued dependence on borrowed technology, apart from putting the country at a competitive disadvantage, is also harmful technically and economically. The indigenous innovation on imported technology would not only save scarce foreign exchange which is to be paid in the shape of royalty etc. but would also make the scientists and technologists self-reliant and confident. The Committee hope that Government would take effective measures for the development of indigenous technology in this vital industry as early as possible.

## REPLY OF GOVERNMENT

Noted.

[Ministry of Petroleum & Chemicals (Department of Chemicals)  
O.M. No. 2(34)/68-Ch. I dated 31-10-1968].

**Recommendation (Serial No. 28, Para No. 5.7)**

It is well recognised that petro-chemical industry is characterised by rapid technological developments and therefore, proper establishment of the industry in the country must be supported by research carried out within the country. The Committee are glad to learn that research in petro-chemicals has been undertaken in some

*institutes/laboratories. They, however, consider that the existing arrangements of coordination between the various organisations engaged in research on petro-chemicals require to be further strengthened for mutual benefit and to avoid overlapping and deplication of research efforts and expenditure.*

REPLY OF GOVERNMENT

This matter is now properly coordinated with the laboratories concerned and also with Engineers India Ltd. as well as specifically with public sector organisations.

[Ministry of Petroleum & Chemicals (Department of Chemicals)  
O.M. No. 2(34)/68-Ch. I dated 31-10-1968].

COMMENTS OF THE COMMITTEE

The measures that have been taken for ensuring proper coordination may be intimated to the Committee.

**Recommendation (Serial No. 29, Para No. 5.8)**

*The Committee further suggest that arrangements should be made to give wide publicity to the research carried out and facilities available in these organisations by bringing out annual reports and technical bulletins from time to time for the benefit of the industry.*

REPLY OF GOVERNMENT

The CSIR laboratories concerned are now bringing out technical bulletins on processes developed and distributing them to all parties likely to be interested as well as to Chemical Industry Associations to obtain wide distribution and publicity. This is apart from informative Annual Reports which they have been publishing regularly.

There is also a technical information centre for chemical Industries run by the C.S.I.R. at Bombay mainly with a view to have a useful contact with the chemical Industry in the country for taking up research problems sponsored by it and to make available the know-how developed by it to such of those units requiring it.

[Ministry of Petroleum & Chemicals (Department of Chemicals)  
O.M. No. 2(34)/68-Ch. I dated 31-10-1968].

**Recommendation (Serial No. 31, Para No. 5.19)**

*The Committee are glad to note that indigenous capacity for the manufacture of major machinery required for processing plastics has been established in the country. They hope that this will fully*

meet the growing requirements of plastic processing units in the country thereby obviating the need for imports on this account.

REPLY OF GOVERNMENT

Noted.

[Ministry of Petroleum and Chemicals (Department of Chemicals)  
O.M. No. 2(34)/68-Ch. I, dated 28-9-1968].

**Recommendation (Serial No. 32, Para No. 5.24)**

The Committee note that a broad estimate of the requirements of senior trained technical personnel for the petro-chemical complexes to be set up in the public sector as well as the requirements of technical manpower for the processing industries in plastics, rubber, synthetic detergents and synthetic fibres has been made. They are glad to note that a Training Institute for imparting training in moulds, dies and tools for plastic processing is being set up at Guindy in Madras. The Committee urge that the Institute should be set up at an early date so as to meet the requirements of the technical personnel for the plastic industry.

REPLY OF GOVERNMENT

The training institute set up with assistance from the United Nations Development Programme to train technicians for the plastics processing industry, has since been registered as a Society under the Societies Registration Act with Headquarters at Madras. The Institute is expected to start its training programme by early next year.

[Ministry of Petroleum and Chemicals (Department of Chemicals)  
O.M. No. 2(34)/68-Ch. I, dated 28-9-1968].

**Recommendation (Serial No. 33, Para No. 5.25)**

The Committee also suggest that necessary arrangements to provide training facilities for the technical manpower required by rubber processing and other petro-chemical industries may also be made by Government as the required number of skilled and trained personnel for these new industries may not be available in the country.

REPLY OF GOVERNMENT

Adequate training facilities are already available in all fields of rubber processing. The Indian Institute of Petroleum offers special training facilities for Engineering graduates in the field of petro-

chemicals. Arrangements have also been made for training engineers, technicians and operators in refineries, fertiliser plants and in existing petro-chemical plants. Such arrangements are considered adequate and will be further developed as required.

[Ministry of Petroleum and Chemicals (Department of Chemicals)  
O.M. No. 2(34)/68-Ch. I dated 31-10-1968].

**Recommendation (Serial No. 34, Para No. 5.26)**

The Committee would further point out that the four main types of training for the senior technical personnel to meet the requirements of petro-chemical complexes in the public sector were suggested by the I.F.P. Team in 1963. These were:

- (a) On-site training during the plant construction period.
- (b) Practical training in factories in India, principally for foremen.
- (c) Training courses in Indian technical institutes under the guidance of Indian and foreign instructors, principally for junior engineers and foremen.
- (d) Overseas training for senior engineers and specialized engineers such as instrument engineers. This part of the training is to be arranged by foreign engineering companies process licensors and equipment suppliers.

The Study Team had also observed that "Failure to obtain and train the necessary number of Indian personnel will make it necessary to hire overseas personnel and employ them both on shift work and in executive position. To replace an Indian engineer by a foreign one will extremely expensive". The Committee agree with the above observations and recommend that necessary arrangements to provide for the training of senior personnel for the petro-chemical complexes should be made by Government at an early date and the Committee informed of the action taken in the matter.

**REPLY OF GOVERNMENT**

Arrangements for (a) and (b) have already been made and are working satisfactorily. In regard to (c) the Indian Institute of Petroleum has arranged suitable courses; several such courses have already been held and completed and others will be continued to be arranged as and when required.



Overseas training in specialised fields is arranged in the plants of technical collaborators—both engineering design organisations and process licensors.

Training facilities have been greatly augmented by the commissioning of a number of petro-chemical plants in the country. These plants are now able to train personnel for other plants also.

[Ministry of Petroleum and Chemicals (Department of Chemicals)  
O. M. No. 2(34)/68-Ch. I dated 31-10-1968].

#### **Recommendation (Serial No. 35, Para No. 6.3)**

Rapid industrialisation, particularly the setting up of the refineries fertilizer plants and petro-chemical complexes in the country is bound to create the problem of air and water pollution, as these industries especially, petro-chemicals plants, emit a variety of foul gases and discharge potentially dangerous effluents. There is therefore an urgent need to guard against air and water pollution, particularly in areas where these industries are concentrated. The Committee consider that if the poisonous effluents and obnoxious gases are allowed to be discharged untreated, they are bound to pose a big health hazard to the population in the areas surrounding these complexes.

The Committee, however, note that a central legislation to deal with the disposal of industrial wastes and foul gases from plants is under consideration of Government. They urge that the Ministry of Petroleum and Chemicals should vigorously pursue the matter with the Ministry of Health so that a central legislation on effluent disposal criteria is enacted soon.

#### REPLY OF GOVERNMENT

Noted. The attention of Ministry of Health has been drawn to the observations of the Committee.

[Ministry of Petroleum and Chemicals (Department of Chemicals)  
O.M. No. 2(34)/68-Ch. I dated 28-9-1968].

#### **Recommendation (Serial No. 36, Para No. 7.4)**

The Committee regret to observe that this important industry which could play a significant role in the economy of the country, did not receive the attention that it deserved from the very beginning with the result that no significant headway has been made in

the setting up of petro-chemical industries and the country has to depend for most of its requirements in petro-chemicals on imports. It is only after a time lag of about a decade that the petro-chemical industry is now engaging the attention of Government.

#### REPLY OF GOVERNMENT

The reasons for the lag in the development of petro-chemical industries have been explained in reply to recommendation No. 1.

[Ministry of Petroleum and Chemicals (Department of Chemicals)  
O.M. No. 2(34)/68-Ch. I dated 28-9-1968].

#### Recommendation (Serial No. 37, Para No. 7.5)

The progress in the setting up of petro-chemical complexes in the country especially in the public sector, has not been very satisfactory. Except for the Methanol Plant which has been set up in the Trombay Unit of F.C.I. nothing has so far been done in the public sector in the field of petro-chemicals. The Committee note that while some units of the petro-chemicals complex in the private sector at Bombay (NOCIL) have been commissioned recently and commercial production may start towards the end of 1968, the public sector complex at Koyali (Gujarat) is still in its preliminary stages. It is unfortunate that public sector which should have been the pacesetter in this industry, has lagged behind. The Committee hope that determined and effective measures would be taken to set up the complexes at Koyali and Barauni at an early date so as to make up for lost time. It would, however, be quite some time before the country catches up and finds a place on the international petro-chemical map.

#### REPLY OF GOVERNMENT

Noted.

[Ministry of Petroleum and Chemicals (Department of Chemicals)  
O.M. No. 2(34)/68-Ch. I, dated 28-9-1968].

#### Recommendation (Serial No. 38, Para No. 7.7)

The Committee feel that there is not much to be gained in planning petro-chemical complexes unless the establishment of such complexes is synchronised with the establishment of other units—consumer and ancillary industries—which utilise the products of the basic complex. Since the petro-chemical products are to be used

as intermediates in other industries it is obvious that unless the other industries are also developed simultaneously, petro-chemical production will suffer.

#### REPLY OF GOVERNMENT

Noted. In respect of the Bombay Complex which is in the private sector, Government have already approved other projects which will be utilising many of the products from these basic plants. Similarly in general planning and in the licensing of projects in the field of synthetic fibre, pesticides, plastics fabrication and related industries, Government do keep in view the effective utilisation of the products of the basic petro-chemical plants.

[Ministry of Petroleum and Chemicals (Department of Chemicals)  
O.M. No. 2 (34)/68-Ch. I, dated 31-10-1968].

#### Recommendation (Serial No. 39, Para No. 7.8)

The Committee have, in para 2.62, pointed out how planning has erred in licensing a number of consumer industries without simultaneously arranging for the production of intermediate raw materials within the country. Unless adequate attention is paid to proper scheduling and coordination of petro-chemical projects, there is likelihood of similar mistakes being repeated now in the reverse direction. The Committee would, therefore, stress the importance of maintaining close co-relation between the basic manufacturing and the secondary and tertiary programmes in the planning of petro-chemical complexes.

#### REPLY OF GOVERNMENT

Noted.

[Ministry of Petroleum and Chemicals (Department of Chemicals)  
O.M. No. 2 (34)/68-Ch. I, dated 28-9-1968].

#### Recommendation (Serial No. 40, Para No. 7.9)

The Committee note that fast technological improvements are taking place in petro-chemical industry which is highly sophisticated. The scope for technological research and innovation is very wide. In fact technological innovations and obsolescence are the very characteristics of petro-chemical industry. The development countries trying to enter the petro-chemical field have to encounter

a large number of initial difficulties. There is need to safeguard against acquisition of already obsolescent processes. The Committee realise that basic research in this field is expensive and, therefore, purchase of advanced technology in the early stages is a necessity. In the beginning, the country will have to import a large quantity of technological equipment as well as process engineering "know-how". Simultaneously an intensive research and development programme must be started so that the drain on foreign exchange is reduced to the minimum. It is obvious that the progress in the direction of developing our own know-how cannot be expected to be quick but there should be no continued dependence on imported technology also.

REPLY OF GOVERNMENT

No comments.

[Ministry of Petroleum and Chemicals (Department of Chemicals)  
O.M. No. 2(34)/68-Ch. I, dated 31-10-1968].

**Recommendation (Serial No. 41, Para No. 7.10)**

The Committee cannot too strongly emphasise that an extensive research and development programme should be organised in this field. For this purpose, they suggest that Government should encourage and strengthen purposeful and industry-oriented research in petro-chemicals, so as to improve and innovate upon purchased know-how with the ultimate objective to do away with dependence on imported technology and to make the country self-reliant without always relying on foreign technical collaboration and know-how.

REPLY OF GOVERNMENT

Noted.

[Ministry of Petroleum and Chemicals (Department of Chemicals)  
O.M. No. 2(34)/68-Ch. I, dated 31-10-1968].

### CHAPTER III

#### RECOMMENDATIONS WHICH THE COMMITTEE DO NOT DESIRE TO PURSUE IN VIEW OF THE GOVERNMENT'S REPLY.

##### Recommendation (Serial No. 1, Para No. 1.24)

*The Committee consider that the development of petro-chemical industries in the country should have been planned at the time of setting up of the three refineries in the private sector in 1954—57. They regret that there was absence of integrated planning on the part of the Government which only thought of setting up the refineries to meet the demand for petroleum products but did not simultaneously consider the development of the petro-chemical industry in which vast developments were taking place in the developed countries and which were increasingly being used to supplement or substitute conventional raw materials. The Committee note that during the Second and Third Plan periods large quantities of organic chemicals which could be produced from petro-chemicals were imported from abroad. Moreover, naphtha which is the base for the production of petro-chemicals was surplus in the country from 1956 itself and exports of naphtha of the order of about 200,000 tons per annum were made from 1957 to 1962 and over 300,000 tonnes from 1962 onwards. Had the development of petro-chemicals been thought of along with the setting up of these refineries surplus naphtha could have been put to good use for the production of petro-chemicals which would have saved considerable foreign exchange which is now being spent on their imports.*

##### REPLY OF GOVERNMENT

The development of petro-chemical industries in the vicinity of a refinery could be thought of only when there is a certainty of the availability of the required quantity of naphtha over a long period. Effective naphtha surpluses from the three private sector refineries that were set up mainly to meet the demand of POL products could be computed only when the demand for POL products itself stabilised. Only thereafter plans could be evolved for utilisation of naphtha surpluses for petro-chemical industries. Considered in this background, although some petro-chemical products were imported

during the period it cannot be said that the imports were avoidable or excessive in the context of the state of development and availability of feedstocks in the country.

[Ministry of Petroleum and Chemicals (Department of Chemicals)  
O.M. No. 2(34)/68-Ch. I, dated 28th September, 1968].

**Recommendation (Serial No. 5, Para No. 2.20)**

*The Committee note that while an investment of the order of Rs. 56 crores was made in the petro-chemical industries in the private sector during the Third Plan period, nothing whatsoever was done in the public sector even though the need for public sector to take initiative in setting up basic industries had been realised around 1962-63. The Committee cannot but feel unhappy over the leisurely way Government has handled the development of petro-chemical industry. Had Government taken timely action to implement the decision to set up petro-chemical complexes, the country would have by now, made substantial progress in the development of petro-chemical industries.*

**REPLY OF GOVERNMENT**

Considerable progress has since been made towards the setting up of the Aromatics project and the naphtha cracker complex in Gujarat in the public sector. Contracts have already been executed with a West German firm in regard to the Aromatics project. In regard to the naphtha cracker, the negotiations have reached an advanced stage.

[Ministry of Petroleum and Chemicals (Department of Chemicals)  
O.M. No. 2(34)/68-Ch.I, dated 31st October, 1968].

**Recommendation (Serial No. 14, Para No. 2.62)**

*The Committee are perturbed to observe that eleven nylon yarn/cord units, based on caprolactam have been set up/licensed in the country without simultaneously ensuring the indigenous supply of the main raw material viz., caprolactam with the result that caprolactam is being imported and will continue to be imported at a considerable cost till 1971 which would strain the foreign exchange position of the country. The import of caprolactam in 1965-66 amounted to Rs. 76 lakhs and in 1966-67 to Rs. 106 lakhs. With the commissioning of all the eleven units the imports of this raw material will increase further and is expected to go up to Rs. 5:00 crores in*

1969-70. It appears to the Committee that the basis for licensing these units was the anticipated manufacture of indigenous caprolactam by the two units viz. M/s. Nirton Synthetic Fibres and Chemicals Ltd. and M/s. Gujarat Polyamides Ltd., to whom licences were issued for the manufacture of nylon yarn/cord and the production of 5000 tonnes each of caprolactam as early as 1960. These two units were intended to produce caprolactam not only to meet their own requirements of feedstock for the production of nylon yarn/cord, but also to meet the requirements of other similar units which were licensed later on. It is not clear to the Committee why these two units were allowed to go ahead with the setting up of the plants for the manufacture of nylon fibre and cord although they had made no progress in the setting up of the integrated unit for the production of basic raw material viz., caprolactam. It took seven years for the Government to revoke the licences of these units for the manufacture of caprolactam. The holding of licences by these units all these years foreclosed capacity in this line and blocked the entry of other entrepreneurs who may have taken up its manufacture in the meantime. The period of validity of the licences was extended from time to time. Further the Committee are also unable to appreciate why the capacity of the three units for the manufacture of nylon yarn was expanded and some other units licensed to be set up based on caprolactam, when no progress had been made for its indigenous manufacture. The Committee consider that proper care was not taken by the administrative Ministry/licensing authorities in this regard resulting in heavy maintenance imports for keeping these industries running. The Committee recommend that a thorough enquiry should be made into this matter with a view to fix responsibility.

#### REPLY OF GOVERNMENT

At the time industrial licences were issued to Nirton Synthetic Fibres and Chemicals Ltd. and Gujarat Polyamides Ltd., the policy followed was that since nylon was a non-key industry and additional foreign exchange should not be spent on import of raw materials the party should agree to put up a plant to produce the required raw material, viz. caprolactam also. This was evidently not a correct approach as the lack of progress on the part of the parties proved the point that unless the plant to produce raw materials is of an economic size and adopts the latest process of production of caprolactam it may be difficult to interest any foreign collaborators in putting up such a plant. The capacities licensed to these parties were very low when compared to the economic size which should be a minimum of 15,000 tonnes per annum.

While examining the feasibility of different manufacturing schemes in the Gujarat petro-chemical complex it was clear that a caprolactam project based on the latest process of starting with cyclo-hexane as the basic raw material can be built as part of the petro-chemical complex. It is in this context that the scheme of Gujarat State Fertiliser Co. Ltd. was approved and a letter of intent issued to them on 22.11.1966.

Simultaneously action had been taken to amend the licences issued to Nirlon Synthetic Fibres & Chemicals Ltd. as well as Gujarat Polyamides so as to omit caprolactam. There were certain procedural difficulties since the licences were composite and part revocation was not possible. Negotiations were therefore conducted with both the parties and ultimately they agreed to drop their plans to set up such uneconomic caprolactam plants. The licences issued to them were accordingly amended in 1967.

From the above it will be clear that it is not possible to permit every nylon manufacturer to set up a caprolactam plant because of the size requirements of the caprolactam plants. All the capacity created so far by expansion of existing units as well as setting up of the new units will still not raise the demand of caprolactam, to the extent of justifying an economic sized caprolactam plant. The caprolactam plant of G.S.F.C. is expected to be completed by 1970-71. It is hoped that there would be adequate demand for caprolactam by that time. On the question of import of caprolactam for the existing nylon units the problem has to be viewed in another light. If these units had not been set up then the demand for nylon yarn by textile units and other weavers would have to be met by imports. Even today imports of nylon yarn by S.T.C. are continuing. These imports would have been heavier and would have meant a larger outgo of foreign exchange.

Viewed in the above light there does not appear to be any case for an enquiry into this. On the other hand, the wrong idea regarding proliferation of caprolactam plants has now been rectified by approving an economically viable caprolactam project.

*[Ministry of Petroleum and Chemicals (Department of Chemicals)  
O.M. No. 2(34)/68-Ch.I, dated 31st October, 1968].*

#### **Recommendation (Serial No. 22, Para No. 3.17)**

*The Committee are glad that the Railway Board has given freight concession for the movement of naphtha in a few cases. They hope*



that the question of extending this concession in all cases where naphtha moves as a foodstock for fertilizers and petro-chemical manufacture would be given due consideration and an early decision taken in the matter.

#### REPLY OF GOVERNMENT

Noted. But the question of extending freight concession for the movement of naphtha for petro-chemical projects has not yet arisen mainly because the petro-chemical projects so far set up and planned in the near future are near the refinery locations. However, when naphtha comes to be transported by the railways for the purpose, the question of a freight concession will be taken up with the Railway Board.

[Ministry of Petroleum and Chemicals (Department of Chemicals)  
O.M. No. 2(34)/68-Ch.I, dated 31st October, 1968].

#### Recommendation (Serial No. 24, Para No. 4.5)

The Committee note that the work relating to planning and development and research in petro-chemicals in the country is at present being done by the following:

- (i) Technical Cell in the Petro-Chemical Division of the Ministry of Petroleum and Chemicals.
- (ii) Project Division and Petro-Chemical Division of the Indian Institute of Petroleum, Dehradun (under CSIR).
- (iii) Petro-Chemical Division in the O.N.G.C., Dehradun.
- (iv) Industry and Minerals Division (Chemicals Section) in the Planning Commission.
- (v) Directorate General of Technical Development.

The Committee consider that the setting up of so many agencies to deal with petro-chemicals results in the dispersal of already scarce expertise in this important and growing industry and is not conducive to taking of expeditious decisions regarding the planning and development of this industry in the country. Moreover, the existence of multifarious organisations tends to blur responsibility. Such an arrangement is also likely to result in over-lapping of functions, duplication of efforts and wastage of resources. It appears that the existence of all these agencies is a matter of historic growth rather

than of rational and deliberate planning. The justification for having Divisions/Sections in the O.N.G.C., Planning Commission and D.G.T.D. requires to be examined closely. The Committee recommend that the whole matter regarding the organisations necessary for planning and development of petro-chemicals in the country should be thoroughly examined with a view to having a well coordinated set up for integrated and expeditious development of this industry.

#### REPLY OF GOVERNMENT

In the Government's view the Department of Chemicals which is responsible under the Allocation of Business Rules for the planning and Development of petro-chemicals is the most appropriate agency for coordinating the activities of various organisations working in the field of petro-chemicals. For this purpose the technical cell in the Ministry is being strengthened suitably. The cell will maintain close contacts with all the existing organisations and the Petrochemical Corporation proposed to be set up for implementing the public sector projects such as the Gujarat Aromatics Project and Naphtha Cracker.

[Ministry of Petroleum and Chemicals (Department of Chemicals)  
O.M. No. 2(34)/68-Ch.I, dated 31st October, 1968].

#### Recommendation (Serial No. 30, Para No. 5.15)

The Committee are happy to note that it is now possible to do complete design of off-sites and practically all the civil, structural and electrical design including a major portion of the instrument design or detailed engineering in respect of battery limits in the country itself. In certain cases some parts of the process engineering can also be undertaken within the country. All these factors have reduced the foreign exchange expenditure on such services by almost half. The Committee note that to facilitate indigenous fabrication of plant and equipment, the import of raw material required by the Chemical Plant manufacturers has also been included in the priority industries. The Committee hope that this trend would continue to be encouraged, as it would go a long way in making the country self-reliant in this respect. In this connection, the Committee would urge that the suggestion made at the Seminar of the Chemical Plant Manufacturers Association to set up a Consortium to undertake turn-key contracts for the manufacture of complete chemical and fertilizer plants, should be given earnest consideration and encouragement by Government.

## REPLY OF GOVERNMENT

In Government's view the most important factor in foreign exchange economies is the accelerated development of competent engineering design organisations. Here Government is giving every logical assistance and has also established certain engineering design organisations in the public sector which are growing rapidly. This development has already enabled considerable engineering design to be done in the country instead of overseas and has also assisted in increasing domestic fabrication and procurement of equipment which may otherwise have been imported. Preference is invariably given to domestic engineering design, procurement and equipment. Such developments more appropriately fulfil the basic objectives of the Association of Chemical Plant Manufacturers and will additionally introduce an element of healthy competition between chemical plant manufacturers which will specifically improve the quality of workmanship, delivery etc.

[Ministry of Petroleum and Chemicals (Department of Chemicals)  
O.M. No. 2(34)/68-Ch.I, dated 31st October, 1968].

New Delhi;

February 20th, 1969.

Phalguna 1, 1890 (Saka).

P. VENKATASUBBAIAH,

Chairman,

Estimates Committee.

## APPENDIX

(Vide Introduction)

### *Analysis of the action taken by the Government on the 48th Report of the Estimates Committee (Fourth Lok Sabha)*

I. Total number of Recommendations	41
II. Recommendations which have been accepted by Government ( <i>vide</i> recommendations at Sl. Nos. 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 21, 23, 25, 26, 27, 28, 29, 31, 32, 33, 34, 35, 36, 37, 38, 39, 41)	
Number	35
Percentage to total	85%
III. Recommendations which the Committee do not desire to pursue in view of Government's reply ( <i>vide</i> recommendations S. Nos. 1, 5, 14, 22, 24 and 30)	
Number	6
Percentage to total	15%