

**INDIAN PETROCHEMICALS
CORPORATION LTD.**

**MINISTRY OF CHEMICALS AND
FERTILIZERS**

**(Department of Chemicals and
Petrochemicals)**

**COMMITTEE ON
PUBLIC UNDERTAKINGS
1992-93**

TENTH LOK SABHA



**LOK SABHA SECRETARIAT
NEW DELHI**

EIGHTEENTH REPORT
COMMITTEE ON PUBLIC
UNDERTAKINGS
(1992-93)

(TENTH LOK SABHA)

INDIAN PETRO-CHEMICALS CORPORATION LIMITED

MINISTRY OF CHEMICALS AND FERTILIZERS
(DEPARTMENT OF CHEMICALS & PETRO-CHEMICALS)



Presented to Lok Sabha on 30.4.1993
Laid in Rajya Sabha on 30.4.1993

LOK SABHA SECRETARIAT
NEW DELHI

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Corrigenda to the Eighteenth Report of the
Committee on Public Undertakings (1992-93)
on Indian Petrochemicals Corporation Ltd.

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(1992-93)

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3. Shri A. Louis Martin — *Assistant Director*

* Ceased to be a Member of the Committee on appointment as Minister in the Council of Ministers w.e.f. 18th January, 1993.

INTRODUCTION

1. The Chairman, Committee on Public Undertakings having been authorised by the Committee to present the Report on their behalf present this Eighteenth Report on Indian Petrochemicals Corporation Limited.

2. The Committee took evidence of the representatives of Indian Petrochemicals Corporation Limited on 3rd September, 1992 and 12th, 21st and 22nd January, 1993 and of the Ministry of Chemicals and Fertilizers (Department of Chemicals and Petrochemicals) on 15th March, 1993.

3. The Committee considered and adopted the Report at their sitting held on 23rd April, 1993.

4. The Committee wish to express their thanks to the Ministry of Chemicals and Fertilizers (Department of Chemicals & Petrochemicals) and Indian Petrochemicals Corporation Limited for placing before them the material and information they wanted in connection with the examination of the Company. They also wish to thank in particular the representatives of the Ministry of Chemicals and Fertilizers (Department of Chemicals & Petrochemicals) and Indian Petrochemicals Corporation Limited who gave evidence and placed their considered views before the Committee.

5. The Committee would also like to place on record their appreciation for the valuable assistance rendered to them by the officials of the Lok Sabha Secretariat attached to the Committee.

NEW DELHI;
April 27, 1993
Vaisakha 7, 1915 (S)

A.R. ANTULAY,
Chairman,
Committee on Public Undertakings.

ABBREVIATIONS

ABS	Acrylonitrile Butadiene Styrene
ACN	Acrylonitrile
AF	Acrylic Fibre
BA	Butyl Acrylate
CATAD	Catalyst and Adsorbents
CBFS	Carbon Black Feedstock
CN	Cixon (Solvent)
DCPC	Department of Chemicals & Petrochemicals
DEG	Diethylene Glycol
DMI	Dimethyl Isophthalate
DMT	Dimethyl Terephthalate
EA	Ethyl Acrylate
EDC	Ethylene Dichloride
EIL	Engineers India Limited
EO	Ethylene Oxide
FIB	Foreign Investment Board
FPU	Feed Preparation Unit
GAIL	Gas Authority of India Limited
GC	Gas Cracker
HDPE	High Density Polyethylene
HMU	High Molecular Weight
HNP	Heavy N-Paraffins
IOC	Indian Oil Corporation Ltd.
IPCL	Indian Petrochemicals Corporation Limited
LAB	Linear Alkyl Benzene
LDPE	Low Density Polyethylene
LLDPE	Linear Low Density Polyethylene
LMW	Low Molecular Weight
LPG	Liquified Petroleum Gas
LR	Light Reformate
LSHS	Low Sulphur High Speed
MA	Methyl Acrylate
MGCC	Maharashtra Gas Cracker Complex
MEG	Mono Ethylene Glycol
MOU	Memorandum of Understanding
MTA	Metric Tonnes per annum
MX	Mixed Xylenes
NC	Napachtha Cracker
NC	Nagothane Complex
NCL	National Chemical Laboratory
NSY	Nylon Staple Yarn
NCPA	National Committee on the use of Plastics in Agriculture
NTY/IY	Non-Tyre Yarn/Ind. Yarn

OCG	Operations Control Group
ONGC	Oil & Natural Gas Commission
OSBL	Outside Battery Limit
OX	Ortho Xylene
PAP's	Project Affected Persons
PBR	Polybutadiene Rubber
PFY	Polyester Filament Yarn
PEG	Polyethylene Glycol
PP	Polypropylene
PTA	Purified Terephthalic Acid
PS	Polystyrene
PSF	Polyester Staple Fibre
PVC	Poly Vinyl Chloride
PX	Para Xylene
R&D	Research & Development
SBR	Styrene Butadiene Rubber
TEG	Tri Ethylene Glycol
VCM	Vinyl Chloride Monomer
WC	Wire & Cable

PART A

BACKGROUND ANALYSIS

I. Role and Structure

(a) *General Background*

Petrochemicals essentially consist of plastics, synthetic rubber, synthetic fibres and fibre intermediates and a host of chemicals which are all directly or indirectly used for the manufacture of a wide range of products. These can be broadly categorised as follows:

- (i) Plastics (such as LDPE, HDPE, PP and PVC)
- (ii) Synthetic Rubbers (such as SBR and PBR)
- (iii) Synthetic fibres (such as nylon, polyester and acrylic fibre)
- (iv) Intermediates (such as ethylene, propylene, benzene, DMT, Caprolactam, etc.) which, in turn, are used in the manufacture of various petrochemical items.

1.2 The end-uses include consumer durables, packaging, industrial products, potable water distribution, agricultural use, pesticides, paints, pharmaceuticals, automotive industry, electrical and electronics industry, business machines.

They also find applications in manufacturing certain products which play important role in conserving national resources like wood from forest, water, food grain etc. use of plastic crates for packaging fruits in place of wooden crates, canal lining with LDPE film, use of LDPE CAP covers for storage of food grains are a few such examples. Emergence of detergents has almost eradicated use of oil-based soaps, thus, saving wastage of essential edible/non edible oils. Petrochemicals also play an important role in core sectors of our economy and in improving the 'quality of life' of human beings.

1.3 Petrochemicals are manufactured from petroleum feedstocks like naphtha and gas and also from alcohol and calcium carbide. At present naphtha is the dominant feedstock in our country. With the commissioning of IPCL's Maharashtra Gas Cracker Complex at Nagothane, natural gas made available by ONGC from its Uran Terminal is also now being put to use.

1.4 Production of basic petrochemicals in India made a beginning at a comparatively late stage during the 1960s. A small capacity naphtha

cracker of 20,000 TPA ethylene capacity was set up in 1966 by Union Carbide. In 1968 a slightly larger capacity naphtha cracker of 60,000 TPA ethylene capacity was set up by National Organic Chemicals Industries Limited. Both the plants were set up in the private sector in the vicinity of Bombay area. Prior to that, small quantities of petrochemicals (mainly plastics resins and intermediates) were being produced on alcohol, coal tar intermediates, calcium carbide etc. as feedstock. A major thrust in this field was made when IPCL's naphtha cracker of 1.3 lakh TPA ethylene capacity was set up at Baroda in 1978.

1.5 Indian Petrochemicals Corporation Limited was incorporated in March, 1969 at Baroda as a wholly owned Government of India Undertaking. IPCL is having manufacturing units at Baroda, Nagothane (Maharashtra) and Thane. The Corporation is setting up an integrated gas based petrochemical complex at Gandhar in Gujarat.

1.6 The Company has following plants at its Baroda Complex:

- (a) Aromatics plant consisting of (i) Xylenes (ii) DMT.
- (b) Olefins plant consisting of (i) Naphtha Cracker, (ii) Benzene, (iii) Butadiene, and (iv) Feed processing Unit where the basic building blocks like ethylene, propylene, benzene, butadiene are manufactured which are used as unput for other downstream units.
- (c) Various downstream units, viz. LDPE, PP, PBR, PPCP, EO/EG, LAB, ACN, AF, DSAF, Acrylates, VC/PVC and Petroleum Resins which manufacture saleable products.

1.7 At Nagothane Complex the Company has following plants:

- (a) Gas Cracker Complex where ethylene and propylene are produced.
- (b) Down stream units where (i) LDPE, (ii) EO/EG, (iii) LLDPE/HDPE, and (iv) PP are manufactured.

1.8 From its traditional forte in petrochemicals, IPCL is set to enter frontier areas of Engineering Plastics, human vaccines, Chemical Port terminal etc. With the Department of Biotechnology, Government of India & Pasteur Marieux Serums and Vaccins, France as equal equity partners, IPCL has established a joint venture Company named Indian Vaccines Corporation Limited to install production facilities for human viral vaccines at an estimated cost of Rs. 122 crores at Gurgaon. The Company has joined multinational Company—M/s. General Electric Plastics, BV, The Netherlands as equal equity holder in the Company registered as M/s GE Plastics India Limited to eventually set up manufacturing facilities for advanced engineering plastics at an estimated cost of Rs. 700 crores. The Company has also set up a joint venture company called Gujarat Chemical Port Terminal Co. Ltd. in association with five other companies for establishing Chemical Port terminal facilities at Dahej in Gujarat. The Company's proposal for a joint venture in Saudi Arabia with Alujain Corporation is stated to be under consideration by Govt. From the

proposed joint venture IPCL would be getting Acrylonitrile at a preferential rate of 5% less than the CIF price of Acrylonitrile.

1.9 IPCL in its Annual Report (1991-92) had reported that to give exports and overseas contracts an organisational focus the company conceptualised a 100% subsidiary, "IPCL Videsh". Asked about the progress in setting up of this subsidiary, DCPC informed in a post evidence reply that during discussions with the top officials of IPCL, it was perceived that they were not very keen to go ahead with this venture. The matter was referred back to IPCL once again after the new C&MD has taken over.

1.10 IPCL was previously examined by the Committee on Public Undertakings in 1974-75 (5th Lok Sabha - 64th Report) and also in 1986-87 (8th Lok Sabha - 15th and 21st Reports).

(b) *Role of IPCL*

1.11 Asked about Ministry's assessment in regard to the performance of IPCL in fulfilling its role, the Secretary, DCPC stated during evidence,

"The IPCL was set up to play a pioneering role in the development of the Petrochemical industry in the country, which it had done exceedingly well. In fact, many other units which have come up in the petrochemical sector, have taken the lead from the IPCL. It has played a very good role in promoting the use of these plastic materials and others in the market also. To that extent, we can say that IPCL had fulfilled its objectives. Fortunately, this is one public sector undertaking which worked with a balanced commercial approach and it is also a company which has got good technology all through. It has been generally competitive in the market. That way, one can say that it has fulfilled its objectives."

1.12 IPCL is stated to be a major player in most of the petrochemical products. Amongst about 20 manufacturers of major petrochemicals products in the country, IPCL's share at present in capacity is about 50% for polymers and 33% overall in all products. The Company has informed that due to expansion programmes and new complex/capacities being implemented by 1996-97 IPCL's market share for polymers will be sustained at about 50% level and will increase to 36% overall for all products with a production capacity of 12.4 lakh tonnes for major petrochemical products from three complexes at Baroda, Nagothane and Gandhar.

1.13 The estimated total production of petrochemicals in the country and that of IPCL during the year 1991-92 was stated to be as follows:

	Estimated total production in lakh MTs	IPCL production in lakh MTs	% share of IPCL
Polymers	4.20	2.24	53
Chemicals	5.30	1.27	24
Fibre & Fibre) inter Mediates)	4.33	1.16	30
Total	13.83	4.67	34%

1.14 Asked about the constraints in becoming the leading manufacturer of the petro-chemicals in the country, IPCL stated in a written reply as follows:—

“The Company’s future plans including expansion of -the production facilities at Baroda and Nagothane as well as the Gandhar Complex will help the Company to maintain its present position in the petro-chemical market. The constraining factors are economy of sizes and availability of funds since petro-chemical is a capital intensive industry. The product mix of petrochemicals derived from hydrocarbons has also limitations.”

(c) *Ownership Structure*

1.15 As on 31.3.1992 the authorised and paid up capital of the company stood at Rs. 400 crores and 186 crores respectively. Till January 1992, The Govt. of India was holding the entire equity capital of IPCL and thereafter Govt. disinvested 20% of its equity holding in the company. According to the Company’s Annual Report (1991-92), the Government disinvested its share holding in the company to the tune of Rs. 37.2 crores to 12 financial institutions and mutual funds in 1991-92. The total number of shares disinvested by the Government upto 26.2.1992 (3,72,00,000) shares constituted 20% of the number of shares (18,60,00,000) held by the Government. According to information available with Deptt. of Chemicals & Petro-chemicals (DCPC) the total realisation in the disinvestment of 3,72,00,000 shares was Rs. 242.68 crores.

1.16 Asked about the average realisation from disinvested shares of IPCL, a representative of DCPC indicated during evidence that the average realisation from the disinvestment was Rs. 65/-per share.

1.17 Enquired about the details of IPCL’s public issue of shares, a representative of DCPC informed as under:

“Rs. 21 crores worth of shares have been sold to the public at a premium of Rs. 150. The face value of the share was Rs. 10/- That is the first phase of their sale of equity within the country. Further offering of the equity to the public will depend on the market conditions and the need for money. As far as the amount is concerned, the total amount was about Rs. 337 crores which they obtained and for which they had offered the equity to the public. They have received subscription four times. They have got the subscription money around Rs. 500 crores.”

1.18 Pointing out the wide difference between the average realisation through disinvestment by Govt. (Rs. 65 per share) and through the company's public issue (Rs. 160 per share), the Committee enquired whether it can be said that optimum value has been obtained for the IPCL's shares through disinvestment by Government, the Secretary, DCPC stated,

"As far as the earlier shares were concerned, they had got disinvested in a bundle of shares along with all other public sector undertakings. So, that was not the correct indicator of what the IPCL share was worth of. But the next lot of eight per cent equity shares which have been sold recently, were purely done by the company on its own shares. There, we got a premium of Rs. 150/- per share. That is a measure of IPCL's standing."

1.19 Asked whether any valuation of shares of IPCL done either before or after dis-investment and if so, when and by whom, the DCPC informed in a written reply:

"The valuation of the shares at the time of disinvestment by the Government of India was Carried out by the Department of Public Enterprises. IPCL, at the time of offer of shares to public, had four independent organisations assessing the value of its shares. The organisations involved are SBI Caps Limited, ICICI, DSP Financial Consultants and JM Financial Consultants. The four organisations ultimately recommended fixation of a premium of Rs. 150/-per share on a face value of Rs. 10/-"

1.20 To a query whether there is any plan for further disinvestment of IPCL shares by Govt., the DCPC stated in a written reply:

"There is no plan for further disinvestment of shares in IPCL by the Government of India. IPCL has been allowed to raise equity capital both within the country and outside such that the holding of Government of India is not less than 51% of the paid up equity capital."

1.21 Enquired whether disinvestment by Govt. has any impact on the Ministry's control over IPCL, the Secretary, DCPC stated during evidence:

"With the majority shareholding with us, we can always have our will carried out. In actual working it would not make a difference because we will continue to appoint the CMD and other functional Directors. We will continue to have our representatives on the Board of Directors. Moreover, the Articles of Association remain the same. Except for some minor modifications would give certain flexibility. So, in the functioning, I do not think that it will make much of a difference."

1.22 About the impact of disinvestment on the working of IPCL, the CMD stated during evidence:

“Management culture in that sense of the word is improving the efficiency and competitiveness. It is not that we are not competitive otherwise but the need to be on your toes for facing the competition and answering to the large community of shareholders, not only the Government but a very large number of other shareholders, has become very urgent and, therefore, we have to change to that extent.”

1.23 The organisation of Government (Ministries and agencies) for public sector has historically grown in a certain manner. Presently many regulations (price, distribution, investment and import controls) are being dismantled. This liberalisation not only calls for restructuring of enterprises but also the the Government in the governance of industrial growth and management of inter-face with the public undertakings. The Eighth Five Year Plan document had highlighted the need for a new institutional capability in Government that is responsive to environmental change, professional and can facilitate operation of market forces through orchestration of the efforts of various (R&D, education, engineering, manufacturing, trade, etc.) organisations towards priority targets in select areas, by building a consensus and partnership among the different shareholders.

1.24 To a query whether any action has been taken to generate an institutional capability in the wake of liberalisation measures, the DCPC informed in a written reply as under:

“Government has been in the past trying to provide direction to the public sector units through its various arms. The Deptt. of Public Enterprises, with a view to granting sufficient autonomy to the PSUs, has been operating the concept of MOU for monitoring the performance of the PSUs. The Board of Directors of the PSUs are also being professionalised with the incorporation of professionally qualified non-official Directors. With the offer of shares to the public, the ownership is now diffused and further induction of professionals on the Board of Directors may have to be considered. The fast changing economic environment is recognised by the Planning Commission in evaluating the projects, for which investments are proposed by the PSUs. Government also has instituted special bodies for propagating the use of some of the products of the PSUs. The constitution of the National Committee on the use of Plastics in Agriculture (NCPA) is one such step.”

(c) *Structure of Board*

1.25 Apart from the CMD the existing Board of Directors of IPCL consists of six Functional Directors one each for Finance, Marketing,

Personnel, Operation, R&D and Gas Cracker Complex and three official part-time Directors (one each from the Govt. of India, Govts. of Gujarat and Maharashtra). Thus, the Board consists of 10 directors in all.

1.26 On the question of division of responsibilities among the directors, the CMD, IPCL stated in evidence on 3.9.92:—

“We have made a proposal to the Govt. for restructuring the Board, the number of full-time members remaining the same but the division of responsibilities in a little different manner.”

1.27 IPCL having become a multi locational undertaking, the Committee desired to know whether the Govt. envisage a need for any organisational changes in order to bring about better control over production, productivity and profitability of IPCL. In reply to this query, DCPC stated in a written reply as under:

“IPCL had constituted a Committee under the Chairmanship of Shri V. Krishnamurthy, former Member Planning Commission to make a study of the structure of the Board of Directors and suggest modifications, if necessary, so that IPCL could equip itself to face new challenges. This Committee suggested the creation of the post of Director (Technology), in addition, to the existing posts of functional Directors. The matter was considered in the Government and it was suggested that it may be appropriate to combine the functions of the proposed Director (Technology) with that of the Director (R&D) since such a step would enable exercise of control on technology development, searches and choices. The work in any case was not such that required two separate full-time Directors. Since then, a new C&MD has been appointed in IPCL and he is now seized of this matter.”

II—PROJECTS

(a) *Nagothane Complex*

2.1 With the discovery of Bombay High crude in the seventies, a new petro-chemicals complex based on the associated gas from Bombay High was conceived as a part of the Sixth Five Year Plan. Site for the Complex was Selected at Nagothane in Raigad District of Maharashtra and Indian Petrochemicals Corporation Limited (IPCL) was entrusted with the job of executing the country's first grass-root gas based mega petro-chemicals project. Government approved in August, 1984 the setting up of the project at a cost of Rs. 1167 crores (at 1982 prices), with the scheduled date of mechanical completion as August, 1989. The project has a capacity to produce 300,000 MTA of Ethylene, 90,000 MTA of Propylene along with other downstream products. The detailed estimates indicating revised cost estimates of Rs. 1390 crores were approved by Government in December, 1988. The costs have further gone up now due to delay in commissioning caused by an unfortunate mishap. The project cost is now estimated to be around Rs. 1635 crores.

2.2 There was time lag in completion of the various projects in Nagothane Complex as given in the statement below:—

Time lag in completion

	Project	Commissioning			Time lag in months
		Installed capacity 000' M.T.	Original schedule	Actual	
1	2	3	4	5	
1.	Gas Cracker				
	Ethylene	300.0	August 1989	July 1990	12
	Propylene	90.0			
2.	Ethylene/Ethylene oxide/Glycol				
	EO	5.0	December 1989	November 1991	24
	EG	50.0			
3.	Butene-I	15.0	February 1990	February 1992	25
4.	Poly propylene (PP/PPCP)	60.0	August 1989	April 1989	(Completed 4 months ahead of schedule).

1	2	3	4	5	
5.	LLDPE/HDPE	135.0	February 1990	April 1992	27
6.	LDPE	80.0	December 1989	September 1991	21
7.	Wire & Cable Compounds	12.5	December 1990	July 1992 (Phase I)	16

2.3 It may be observed from the above table that there was also delay ranging from 12 months to 27 months in commissioning the projects in the complex except the Polypropylene Project which was completed 4 months ahead of schedule. The following unforeseen events reportedly affected the project implementation schedule:

- Due to flash flood followed by heavy rains in July 1989 all the work came to a standstill for about 4 to 6 weeks.
- C2/C3 was not available from June 1990 to August 1990 and the plant had to be commissioned on LPG.
- There was some minor problem noticed in heater area of Gas Cracker Unit during April 1990. Imported Safety Relief Valves in the heater area were behaving erratically and due to design problem Boiler feed water pumps in the same area got damaged during commissioning activities.
- In August 1990, when C2/C3 was available, ONGC had pumping problems and also power interruptions.
- Steady supply of C2/C3 started from last week of October 1990 and Gas Cracker produced Ethylene. While in the processes of stabilisation, unfortunate accident took place on 5th November, 1990 resulting in stoppage of operations. The gas cracker unit was recommissioned on 16th July, 1991.

2.4 Regarding the controllable factors which contributed to the delay in project execution IPCL in a written reply mentioned (i) delayed delivery of critical items and equipments, and (ii) damage to EO/EG control instrumentation panels while in transit.

2.5 The cost of Nagothane Complex escalated from the original estimate of Rs. 1167 crores in August 1984 to Rs. 1635 crores in October 1991 registering an increase of Rs. 468 crores (*i.e.* 40% of the original estimate). Asked about the internal rate of return as anticipated original and as per

the actual cost incurred on the complex, the DCPC informed in a written reply as under:—

“The details of internal rate of return originally anticipated as also worked out on the revised cost are as under:

Item	Original	Revised
Capital cost (Rs. in crores)	1167	1635
IRR to Public Sector	17.25%	22.00%
IRR to Enterprise	13.90%	25.00%

The reason for the improvement in the now anticipated IRR is due to the substantially improved product prices *vis-a-vis* those originally anticipated.”

2.6 Enquired about DPR anticipation in regard to production and profitability of Nagothane Complex during the initial years of commissioning and the actuals as compared to the anticipation, the DCPC informed in a written reply as under:—

“The DPR projection included capacity utilisation at the rate of 60%, 80% and 100% during the first, second and third year of commercial operation. However, due to the unfortunate accident during the start up period in November, 1990, the plants were under shutdown till mid 1992. Therefore, the operation during the first year of recommissioning had to be done cautiously and hence capacity utilisation of 60% targetted could not be achieved. It is now expected that during 1992-93 about 40% of capacity utilisation will be achievable.”

Expansion Projects

2.7 Three expansion projects details of which are given below have reportedly been under implementation:

	Additional capacity (000 TPA)	Cost (Rs. crores)
(i) Ethylene Expansion	190	178
(ii) HDPE Expansion	75	159
(iii) Expansion of Wire & cable compounds plant	12.5	48

2.8 It is observed from the information furnished by DCPC that the proposals for ethylene expansion and HDPE expansion was approved by Govt. in May 1992 and the cost of expansion of Wire & Cable compounds plant is within the power of IPCL.

According to IPCL, it is not possible, at this point to expand the existing PP plant at Nagothane Complex due to non-availability of propylene. As there is no Port Terminal nearby Nagothane Complex to receive and store propylene from sources outside India, IPCL is planning to join a

consortium formed by Maharashtra State Petrochemicals Co. Ltd. (MSPCL), which is proposing to build a Chemical Port Terminal near Navasheva with participation of industries from Public and Private Sectors, such as, NOCIL, PIL, BPCL, IPCL, etc. IPCL has stated that once this Chemical Port Terminal is built, it should be possible to further expand PP Plant at Nagothane Complex.

(b) *Vadodara Based Projects*

2.9 There were four projects viz. (i) Polypropylene Copolymer; (ii) Bi-component Acrylic Fibre; (iii) Xylene Expansion, and (iv) Gas Turbine Power plant each costing over Rs. 50 crores completed during the last five years. The details regarding time lag in commissioning and cost escalation in respect of these projects are given below:

Project	Commissioning			Project cost (Rs. in crores)		
	Original schedule	Actual	Time lag in months	Original estimate	Actual	Cost escalation
(i) Polypropylene Copolymer	July 1987	April 1988	9	59	66	7(12%)
(ii) Bio-component Acrylic Fibre	March 1987	July 1988	16	85	96	11(13%)
(iii) Xylene expansion	August 1988	March 1990	20	59	74	15(25)%
(iv) Gas Turbine Power Plant	March 1987	March 1989	24	73	76	3(4%)

2.10 There was delay ranging from 9 to 24 months in completion of these projects. The time lag in commissioning of these projects is attributed in general to factors such as (i) initial process/technical problems in establishing/starting the production; (ii) Delayed delivery of basic design package from Licensor; (iii) Delayed receipt of vendor data for imported equipment; (iv) Inordinate delay in delivery of equipment and instruments by indigenous/foreign suppliers; (v) Logistic problems due to location of projects; (vi) Basic changes in scope of project; and (vii) Problems regarding availability of feed-stock etc.

2.11 There was considerable cost over-run in respect of Bi-component Acrylic Fibre Project and Xylene Expansion Project. In the context of significant cost over-run, the Committee desired to know whether these projects are expected to be viable. The DCPC stated in a written reply:

"The possibility of the Xylenes Expansion becoming economically unviable could not be ruled out due to the uneconomic input prices of the C5 Reformate supplied by the IOC. Bi-component Acrylic

Fibre Plant has been operating at over 95% capacity. With the improvement in the product price, the plant is expected to become viable."

2.12 The time taken by Government to clear Vadodara based project proposals was as given below:

Sl. No.	Project	DPR submitted to Govt.	Approval received	Time taken by Government (months)
1.	Poly Propylene Copolymer	March 1985	November 1986	21
2.	Bicomponent Acrylic Fibre	January 1986	June 1986	6
3.	Xylene Expansion	September 1987	August 1988	12
4.	Gas Turbine* Power Plant	June 1984	July 1985	14

*The date mentioned relates to submission and approval of Feasibility Report.

2.13 Three new projects viz. butadiene revamp (BDR), Polypropylene (PP) grass root and polybutadiene rubber (PBR) plant expansion have reportedly been undertaken. The existing butadiene extraction facility in the Baroda Complex is proposed to be revamped and expanded so as to yield an additional 15,300 MTA of Butadiene at a cost of Rs. 41 crores. This investment is stated to be within the power of Board of Directors. The PBR project is planned to produce 30,000 MTA of Polybutadiene Rubber which will use the additional Butadiene produced by BDR as feedstock. To take advantage of the recent process improvements and the prescribed minimum economic size, a 75,000 MTA grass roots Polypropylene plant is proposed to be set up during the eighth plan period. The cost estimate and schedule of completion of these projects are indicated below:

	Estimated cost (Rs. in crores)	Mechanical completion schedule
Polypropylene	198.63	January 1995
Polybutadiene Rubber	149.20	July 1995

2.14 It is observed from the information furnished to the Committee that the detailed feasibility report was received in the Ministry in February, 1991 in respect of PBR project and in March 1991 in respect of PP project.

CCEA approval for these projects was reportedly obtained in December, 1992 and thereafter investment approval was issued.

(c) *Gandhar Complex*

2.15 To meet the considerable demand-supply gap in products like MEG/EO, PVC etc. the Corporation is setting up a gas based cracker complex at Gandhar in Bharuch district in Gujarat. The feasibility report for this Project was received by Government in June 1990 and investment approval accorded in March 1992. The anticipated internal rate of return for the complex as indicated in the Feasibility Report is stated to be 21.88% to the company. The complex is scheduled to be completed in 48 months and commissioning expected in the first quarter of 1996-97. The capital cost of the complex (July 1991 prices) is estimated at Rs. 3485 crores with a foreign exchange component of Rs. 1085 crores. The capacity for manufacture of various products would be as given below:

Product	Capacity
	(in lakh tonnes)
Ethylenc	3.0
Propylenc	0.38
Polyvinyl Chloride	1.5
EO/EG	0.9/0.03
Alpha Olefins	1.0
Primary Alcohols	1.0
Alcohol Ethoxylates	1.0
Chlorine	1.15
Caustic Soda	1.30

The product list includes surfactant chemicals viz. Alpha Olefins and Ethoxylates which would be manufactured for the first time in India through petrochemical route introducing a sunrise technology into the country.

Project clearance & Execution

2.16 Regarding project clearance and implementation, the CMD, IPCL stated during evidence:

"The investment approval used to be given earlier on the basis of the preliminary feasibility study and a subsequent detailed project report was submitted after the selection of the technology and the basic engineering. Really speaking it is just because of this that there is a feeling that there is lot of delay or that there are cost overruns. You will kindly appreciate that unless we have the detailed project report after the selection of the technology and all these details are given it is very difficult to start up a project. Because of these difficulties the Government has changed its

policy. They are now going by Stage I and Stage II system. Stage I clearance is given on the basis of the preliminary feasibility reports and we are allowed to go on with the selection of the technology. Then the cost estimates are prepared. That is Stage II. Really speaking, from the day we get the stage II approval we prepare the schedule in terms of time, cost etc. and whether we overrun the costs and time it has to be checked."

2.17 The Committee on Public Undertakings which reviewed the performance of Indian Petrochemicals Corporation Limited in Fifth Lok Sabha and Eighth Lok Sabha had *inter alia* gone into the reasons for variations in project cost estimates and delay in commissioning of projects of IPCL. In their 64th Report (1974-75) the Committee had recommended that estimates in DPR should be as realistic as possible taking into account all foreseeable items of expenditure and be based on correct data to obviate necessity of frequent revision of estimates, that IPCL and Government should take measures to control at least those factors (like timely supplies of materials) which can be controlled and that the management of IPCL should take advantage of modern management techniques like PERT etc. to guard against the usual inadequacies and pitfalls in the matter of ensuring sequence and adherence of delivery schedules. Similarly, in their 15th Report (1986-87) the Committee had observed that 'The project planning and implementation machinery remains as weak as before. The cost estimates of each project have been subjected to frequent revisions and time schedules have been revised from time to time so as to render the setting of targets a futile exercise.'

2.18 Asked about the machinery in the company to monitor the progress of implementation of various projects, IPCL in a written reply informed that based on the experience gained and keeping in view the earlier recommendations of the Committee on Public Undertakings project monitoring system had been redesigned to ensure effective control. A separate group was established for the purpose of monitoring Nagothane Project implementation. In regard to Nagothane Complex detailed schedules were drawn sub dividing the whole project activities. For effective execution of this mega project, the essential raw materials like structural steel, cement and steel plates were procured by the company itself in bulk quantity. Effective monitoring of the project was carried out by obtaining weekly and monthly report regarding construction progress from the consultants. Various reports like flash report, capsule report, monthly physical progress report and quarterly report in form C1 to C6 were sent to DCPC. Different review meetings were held with various agencies at different levels to resolve problems. Project review meetings between project authorities of IPCL and consultants, Sub-Committee Review meetings chaired by the CMD, Management review meetings to resolve inter-departmental constraints, Board of Directors sub-committee meetings and meetings chaired by the Secretary, DCPC with the top

executives of public undertakings were held. Follow up and inspection with all the vendors undertaken by the inspection wing of the consultants who also submitted progress report regularly.

2.19 The Committee wanted to know whether, on the basis of the experience of IPCL projects, any improvement is proposed to be made in the project formulation and scrutiny techniques. The DCPC stated in a written reply that the project formulation and scrutiny techniques as prescribed by the Planning Commission and the Ministry of Programme Implementation are generally adequate to meet the requirements. According to the DCPC the project formulation exercises in respect of IPCL projects can be considered, by and large, satisfactory.

2.20 Enquired about the inordinate delay in according clearance to these projects, a representative of the DCPC stated in evidence:

“We do agree that when the project was conceived by the IPCL, till the investment approval was given, there has been a considerable time gap in many cases. There is a very elaborate procedure prescribed. It is not entirely in the hands of the Ministry to give the approval. This is a part of the total problem. We have to solve it.”

2.21 The DCPC informed in a written reply that attempts will be made in the review meetings conducted within the Ministry to speed up clearance of various investment proposals of IPCL.

(d) Fire Accident

2.22 As the Gas Cracker Plant in Maharashtra Gas Cracker Complex (MGCC) of IPCL at Nagothane was getting established, a fire accident occurred on 5th November, 1990 in the Outside Battery Limit (OSBL) Unit resulting in stoppage of operations. Thirty two persons lost their lives in the accident.

2.23 Asked about the cause of the accident, the CMD, IPCL stated during evidence:

“The main reason for the explosion which took place was the kind of leakage and the failure in a fabricated imported equipment in the OSBL.”

2.24 A representative of IPCL stated during evidence:

“The particular equipment in which this explosion took place was supplied by American supplier, M/s. Altec Company..... The equipment was tested in the vendors workshop and also our plant. As per the engineering code, all the joints are not required to be tested. In the random check up, this particular joint was probably left out. And it was found to be defective.”

2.25 Referring to the Engineering code, the CMD, IPCL stated:

"In all such projects, where a lot of equipment, both imported and Indian, are ordered, there are certain minimum standards which are laid down. One such standard is the ASME (The American Society of Mechanical Engineers.) which is applied for all fabricated equipment, whether it be in America or India or anywhere else. And this code prescribes that 10 per cent of the weld joints are random checked."

2.26 Enquired whether the code prescribes that a particular part or parts of the equipment need not be tested, a representative of IPCL stated in evidence:

"No Sir, that is not correct. The code prescribes that minimum 10 per cent of the weld joints should be radiographed and checked. As per the code, in the case of a reputed fabricator, 10 per cent of the joints need to be radiographed. This is allowed as per the ASME Code which is followed by all refineries and petro-chemical plants. Over and above, it was tested in the vendor's shop and it was also tested in our on-plant premises."

The witness also stated:

"When we rebuilt the entire plant, we have gone beyond the code. We have done one hundred per cent radiography of all the joints and the equipment which we procured and installed in the new reconstructed plant is now fully tested."

2.27 In regard to the cause of the accident IPCL informed in a post evidence reply that the plate fin exchanger which is in the OSBL Section of Gas Cracker plant was observed to have failed at the nozzle of a weld joint. IPCL has now reportedly carried out 100% radiography of all weld joints of all plate fin exchangers in OSBL and only after establishing that these welds are sound, exchangers were taken in service.

2.28 Asked about the impact of the accident on project implementation, the CMD, IPCL stated during evidence:

"If we take the total complex as a whole, we did the mechanical completion in Oct. 1989 and commissioning could be done in 1991. But after this explosion, we have gone for full commissioning in 1992."

2.29 Enquired about the extent of loss to IPCL due to the accident, a representative of IPCL stated during evidence:

"The actual cost of rebuilding the plant was Rs. 50 crores, which was covered under insurance because we had taken fire explosion insurance for the total complex. We will get the insurance claim amount and that is under process."

As far as the total cost due to this accident and the delay resulting in start-up of the complex is concerned, the interest burden is about Rs. 64 crores and the other expenses come to Rs. 8 crores."

2.30 IPCL informed in a written reply that loss of production of various products due to delay in commissioning of various plants at Nagothane Complex on account of fire can be estimated as 1,04,500 MTs which were valued at Rs. 299 crores. The resultant foreign exchange outgo was stated to be an estimated amount equivalent to US \$ 84 million.

2.31 The Government of India appointed a High Power Committee of technical experts to inquire into and ascertain the causes of the accident. The Committee was headed by Dr. R.A. Mashelkar, Director, National Chemical Laboratory, Pune. The Committee submitted its report to the Government in October, 1991. The report, however, has not been made public nor has it been laid on the table of the House. Enquired about the reasons for the delay in making the report public, DCPC stated in a written reply that the Government is in the process of finalising its views on the report and the follow-up actions to be taken in this regard.

2.32 Asked about the findings of the Committee, the Secretary, Department of Chemicals & Petrochemicals stated during evidence:-

"According to the Committee, the gas which was received from the ONGC contained some higher amount of carbon dioxide and moisture causing choking and in order to overcome the choking a jump overline was installed and the leakage of this gas was from this jump overline which was being installed over there. The seal was not probably effective there and once the gas emerged out and formed a hydrocarbon vapour cloud, it got ignited and there was fire. The accident was due to various factors like feedstock specifications, welding etc. We are looking into the various facts before taking a final decision."

The witness further stated in this connection:-

"But they have made certain specific recommendations to prevent recurrence of such accidents in future. While we are processing the Committee's reports for a final decision by the Government, we felt that we should not delay the implementation of these recommendations which are from the point of view of safety and which would prevent such accidents in future. We have passed on those recommendations immediately to the IPCL for implementation. And we are monitoring the IPCL's action on implementing them. In fact, we have found that almost on all the recommendations which are to prevent such accidents in future, IPCL has taken action."

2.33 The Department of Chemicals & Petrochemicals informed in a written reply that the following actions have been taken by IPCL on the recommendations of the High Power Committee:—

- Safety audit of all the mechanically completed plants have been conducted once again;
- Extra precaution to be taken before re-commissioning of the Outside Battery Limit was reviewed by M/S. Stone & Webster, USA and M/S. Engineers India Limited and action taken accordingly.
- Worst case risk analysis has been conducted by M/S. Cremer & Warner, London. The recommendations arising out of the study have been implemented. EIL was asked to make another risk study during the re-commissioning. This study was reviewed by M/S. Cremer & Warner, of UK in March 1992.
- The collaborators were requested to conduct a technical audit once again.
- “Hazop” studies were carried out by EIL.
- Before the commissioning of the complex, a technical committee constituted by the Maharashtra Pollution Control Board, Bombay visited Nagothane in August 1991 and offered some suggestions. These suggestions have since been implemented.
- Fire and safety augmentation have been carried out at the site.
- Gas detection systems have been updated.
- Re-training of the operating staff has been carried out.
- A new industrial medical centre is going to be constructed within the plant area.

2.34 IPCL management is stated to have mooted an idea of having a large hospital in association with other neighbouring industries such as RCF, Thal, HOC and other private industries in Patalganga industrial area. This hospital will be located at a site easily approachable by all the industries.

2.35 A sum of Rs. 1 lakh was reportedly paid as compensation to the next of kin of all those who lost their lives and a sum of Rs. 50,000 was paid as compensation to all those who were injured. Out of the 32 deceased persons only 13 were IPCL employees (seven of their dependents have been provided employment and six have not shown interest). Dependents of remaining 19 persons (other than Company's employees) were however not considered for employment in IPCL because they were not the employees of the Company.

2.36 Enquired about the question of offering employment to the dependents of remaining 19 persons (other than company's employees) who lost their lives as a result of accident, the Secretary, DCPC stated:—

“They were not employees of the IPCL but those of the contractors. We would be recommending to the IPCL for a sympathetic view and to decide on their own.”

2.37 In a post evidence reply, DCPC stated in this connection:—

“IPCL has stated that in respect of dependents of those who have died in the accident and who were not employees of IPCL, employment should be provided only by their respective employers. Out of 19 people, who have died, and who do not belong to the IPCL, eight persons belong to CISF. Employment is reported to have been given by CISF to 5 dependents and in the case of remaining three, it is reported to be under consideration by the CISF. Out of the remaining 11 deceased, since they are contractors’ employees, the contractor has to give employment to the dependents of the deceased. However, one case on compassionate grounds has been considered by the IPCL as the deceased person was falling under the Project Affected Persons (PAP) category.”

III. PRODUCTION

3.1 Baroda Complex draws its main raw material which is naphtha from IOC's Gujarat Refinery. This raw material containing more of olefinic hydrocarbon is taken as feedstock for the Naphtha Cracker Plant. This plant which is the mother unit cracks naphtha and produces Ethylene, Propylene, Butadiene and Benzene which are in turn the feedstock for a group of plants known as Downstream Units. The feedstock for mother unit (Naphtha Cracker Plant) having standard/designed specifications can produce Ethylene, Propylene, Butadiene and Benzene in fixed proportions, the remaining stream being returned to the Refinery. This proportion remains constant for given quality of Naphtha. If naphtha contains more of Aromatic hydrocarbon it results in higher production of Benzene and lesser of other products namely Ethylene, Propylene etc.

3.2 The schematic diagram given below represents these details:-

	Ethylene	—LDPE —VCPVC —EOEG
	Propylene	—PP —ACN
Naphtha Cracker Plant	Butadiene	PBR
	Benzene	LAF
	C ₅ +C ₇	Returned to IOC
	Stream	

(a) Capacity Utilisation

3.3 The production performance of Baroda Complex of IPCL indicating installed capacity, actual production and capacity utilisation during the last five years is shown in the statement at the succeeding page.

3.4 It may be observed from the statement that the capacity utilisation of Xylene plant was only 27% in 1990-91. The DPR anticipation in 1990-91 which was the first full year of utilisation of expanded capacity was 60%. The capacity utilisation in 1991-92 was 59%. The low capacity utilisation is attributed to feedstock limitation. IPCL has stated that efforts are being made to import suitable feedstock like mixed xylene for increasing capacity.

3.5 The capacity utilisation of Monoethylene Glycol (MEG) was between 64% and 71% and that of Ethylene Oxide (EO) was between 80% and 86% during 1989-90 to 1991-92. Asked for the reasons for low utilisation of capacity of MEG, IPCL, stated in a written reply:

"Ethylene Oxide which is an intermediate of MEG Plant can be fully converted to either MEG or can be sold as EO. To the extent EO is produced, MEG capacity is reduced correspondingly. If 5000 MTA of EO is produced, the MEG capacity comes down to 13,900 MTA. EO sale outside has increased there by making less EO available for conversion to MEG."

3.6 In the Acrylates Plant (ACR) the capacity utilisation had been very low and ranged only between 20% and 67% during the years 1987-88 to 1990-91. In case of Dry Spun Acrylic Fibre (DSAF) Plant also the capacity utilisation was poor and ranged between 15% and 55% during the years 1988-89 to 1991-92. Asked about the problems faced by these plants in improving the performance, IPCL stated in a written reply that the ACR plant consists of two sections viz. lower acrylates and higher acrylates with installed capacity of 5000 MTA each. The overall demand for acrylates in the country was lower than the installed capacity. Besides, Ethyl acrylates is also manufactured by another manufacturer. In the case of higher acrylates there were also certain process bottlenecks in the manufacturing process. The technology for Ethyl Acrylates was indigenously developed for the first time by National Chemical Laboratory, Pune and EIL. The process scheme as designed originally could not give the rated capacity. The achievable capacity was only 2,700 MTA.

3.7 IPCL has taken following steps to improve the performance of ACR plant.

—The storage capacity of finished goods has been increased to ensure longer production runs.

—A complete debottlenecking study for higher acrylates was undertaken jointly with EIL and NCL, Pune. Constraints were identified and schemes have been initiated for process modifications and additional hardware. However, the implementation is deferred since a lot of dumping of Butyl acrylates is taking place from Korea, Japan, France and Taiwan into the country which has reduced the contribution from the product. The scheme will be implemented when the international prices tend to harden.

3.8 On the basis of anticipated increase in demand of lower acrylates, IPCL expects to achieve 84% capacity utilisation of ACR in 1992-93 and 100% or more from 1993-94 onwards.

3.9 In the case of DSAF the technology has not been fully absorbed. IPCL has stated that due to process problems encountered, there were some difficulties in achieving capacity utilisation uptill now. The process problems have now been resolved and 66% capacity utilisation has been achieved in 1992-93.

Production Performance of Baroda Complex

Installed capacity and production
quantity in 000 M.T.A.
Capacity utilisation in percentage (%)

Products	Installed Capacity	1987-88		1988-89		1989-90		1990-91		1991-92	
		Qty. %	Qty. %	Qty. %	Qty. %	Qty. %	Qty. %	Qty. %	Qty. %	Qty. %	
Xylenes	23.5 *(47.9)	25.5	108	22.8	97	12.0	25	17.6	37	28.0	59
DMT	30.0	29.0	97	30.0	100	28.0	93	26.5	88	30.3	101
Benzene	23.6	28.4	120	29.2	124	30.0	127	31.7	134	33.4	141
LDPE	80.0	79.6	99	82.6	103	76.2	95	82.0	102	80.2	100
PP	30.0	25.9	86	29.1	97	27.8	93	24.2	81	23.6	79
PBR	20.0	14.5	73	15.6	78	15.1	76	15.3	76	17.4	87
PR	5.0	3.5	69	3.4	68	4.3	87	4.5	90	4.1	83
PVC	55.0	42.4	77	43.2	79	40.6	74	44.2	80	45.6	83
LAB	30.0(43.5**)	31.1	104	31.7	73	16.2	37	38.0	87	42.5	98
MEG	13.9	10.3	74	10.3	74	9.9	71	9.2	66	9.0	64
EO	5.0(10.0*)	7.4	149	6.8	135	8.4	84	8.0	80	8.6	86
ACN	24.0(30.0)**	25.2	105	20.3	68	25.2	84	26.1	87	26.2	87
AF	12.0	12.4	103	12.4	103	12.4	103	11.5	96	11.8	98
ACR	10.0	2.0	20	2.9	29	3.7	37	5.0	50	6.7	67
DSAF	12.0	—	—	1.8	15	5.2	48	6.3	52	6.6	55
PPCP	25.0	—	—	9.6	38	16.7	66	22.2	89	20.2	81

3.10 According to the information furnished by IPCL in a written reply, the production performance of Nagothane Complex in 1991-92, was as shown below:

Production performance of Nagothane Complex

Products	Actual Production during 1991-92 (MT)	MOU targets (MT)	% achieved
Low Density Polyethylene (LDPE)	12,421	20,000	62
Polypropylene (PP)	24,283	15,000	162
LLDPE/HDPE	NIL	33,000	NIL
Monoethylene Glycol (MEG)	1,606	12,000	13
Ethylene Oxide (EO)	NIL	1,000	NIL

3.11 It is observed from the review of accounts of IPCL by C&AG that the capacity utilisation of MGCC varied from 3.21% of 40.47% and average utilisation of installed capacity was 22.42% during 1991-92. According to DCPC, the capacity utilisation achievable in 1992-93 is expected to be about 40%.

3.12 Regarding shortfall in production in Nagothane complex in 1991-92 IPCL stated in a post evidence reply that there was no production of LLDPE/HDPE due to delay in mechanical completion of the plant. Though this plant was mechanically completed in September, 1991 due to several process problems normal production could not be achieved till March 1992. As regards Ethylene Oxide, due to an explosion in the licensor's plant at USA, all licensees were advised to suspend production till complete investigation is carried out and remedial measures taken. The Plant will start production from June 1993. The shortfall in production of MEG is stated to be due to the fact that Gas Cracker Plant could not produce adequate quantity of Ethylene to meet the demand of downstream units.

3.13 The overall capacity utilisation of plants at Baroda Complex was reportedly 92% in 1987-88, 88% in 1988-89, 83% in 1989-90 and 90% in 1990-91.

3.14 The CMD, IPCL stated in evidence on 3.9.92 that capacity utilisation of 85% and above in a petrochemicals plants or complex was considered to be satisfactory internationally and the IPCL achieved 93% utilisation in 1991-92.

3.15 International comparison of percentage of capacity utilisation in petrochemical products as furnished by IPCL is given below:—

% capacity utilisation

Products	Country	% capacity utilisation	
		1989	1990
Low Density Polyethylene	West Europe	87	86
	Japan	88	85
	World	83	79
Linear Low Density Polyethylene	West Europe	65	61
	Japan	100	100
	World	82	71
High Density Polyethylene	West Europe	100	97
	Japan	100	100
	World	91	88
Polypropylane	West Europe	83	73
	Japan	98	95
	World	86	77
Polyvinyl Chloride	West Europe	91.1	92.4
	Japan	96.9	99.5
	World	86.2	84.2

3.16 IPCL was reportedly adjudged as the best performer in 1990 amongst petrochemical companies all over the world by "Chemical Insight" a prestigious London based specialised publication. This was based on an assessment of yardstick of improvement in sales, operating profits, margins and return on assets while arriving at composite performance.

3.17 Pointing out that there was shortfall in production of 9000 tonnes against target in 1990-91, the CMD, IPCL stated in evidence:

"The problem was with regard to Baroda plant. The quality of feed stock coming from Gujarat Refinery was not upto the level of requirement. The Naphtha precursor was at 36 point level whereas we require at 41 point level. The level of production was affected because of this. We lost 11,800 tonnes of production because of this."

3.18 Attributing the production shortfall in 1991-92 to the poor performance of Nagothane Complex, the witness stated:

"In 1991-92 our target of production was 4,68,000 tonnes in totality of all products and the achievement was 4,44,000 tonnes, thereby a shortfall of 24,000 tonnes is there.....The shortfall was because we expected the Nagothane Complex to be fully in operation which was not to be."

3.19 The feedstock for the Baroda complex is obtained from the Koyali Refinery of IOC. The refinery is reported to be facing constraints in regard to quality of feedstock. This is due to the variation in the quality of nix received by IOC. In respect of Polypropylene and

Acrylonitrile, IPCL is facing problems due to shortage of propylene from the FCC unit of IOC and in respect of LAB. Problems are faced in quality of Kerosene due to the low recovery in molex unit and lower content of desired C10 feedstock.

3.20 The loss of production suffered by IPCL in 1990-91 due to feedstock shortage was stated to be as indicated below:—

Products	Loss of production		Value (Rs. in crores)
	M.T.	Due to	
Ortho Xylene	4643	Quality	11.97
"	1307	Quantity	
Paraxylene	5207	Quality	15.42
"	1413	Quantity	
PPCP	670	R-LPG from FCC shortage	2.37
PP	2225	-do-	7.43
ACN	810	Low avail ability of propylene	2.42
LAB	1600	N-P (Im- ported) not available	4.49
		Total	44.10

3.21 IPCL informed that in order to improve the quality of feedstock as available from IOC (Baroda), continued monitoring and periodical interaction had been resorted at various levels. Due to product mix/process optimisation in IOC/Baroda, IPCL has experienced reasonable improvement in quality and quantity of feedstock. Additional quantity of Aromatic Naphtha can reportedly be made available when IOC/Baroda starts processing NGL-Hazira from early 1993 for a short period of around 2 years.

3.22 Import of naphtha has been decanalised from December, 1992 and import of Kerosene, LPG and LSHS has been decanalised from February 1993. With decanalisation of naphtha, the Company is reportedly considering the possibilities of importing naphtha, both for the Aromatics and the Olefins Plants and take advantage of lower international price.

3.23 Enquired whether decanalisation of feed stock fuels will solve the problem of shortage faced by IPCL, DCPC stated in a written reply:

"To take advantage of de-canalisation of naphtha, kerosene and LPG, IPCL has to instal necessary facilities for handling and transportation of the imported feedstocks. Though this may take some time for establishing the infrastructure, the fact of de-canalisation would also be used to negotiate for a lower prices of feedstock from the indigenous producers."

3.24 IPCL stated in a post-evidence reply in this connection.

"With the limited storages (fixed number of tanks) available at the port on rental basis and transportation bottlenecks, the Company is considering alternative of importing Naphtha to the extent feasible. The Company is also actively participating in implementation of

projects to set up chemical port terminals at Dahej and Nava Sheva where large volumes of hydrocarbon feed stocks can be received, stored and transported to consumer units."

3.25 About the prospects for achieving full capacity utilisation, the CMD, IPCL stated in evidence:—

"The technology of the dry spun acrylic fibre plant has been brought to this country for the first time by us. It is a bicomponent fibre plant and we have not been able to get full hold on that technology. There are still problems which we are examining. I am sure that by the next year, we will be able to reach a good production capacity on a consistent basis. As far as the Baroda complex is concerned, our capacity utilisation is in the range of 95 per cent. It is a good achievement given the kind of an integrated complex and the dependence on the feedstock. As far as Nagothane complex is concerned, which is of a different type, we have reached only a capacity of 55 to 60 per cent this year. We were little delayed as far as Nagothane is concerned. We have difficulties with regard to HDPE/LLDPE Plant which is a new concept and we are stabilising the plant slowly. One train started in June 1992 and another train in September 1992 and we are building up the capacity. We are hopeful that by the end of next year, our capacity utilisation, even in Nagothane, will go upto 80 to 85 per cent and with that, our total capacity utilisation will be very good. To reach 100 per cent in all the plants simultaneously would be difficult with all the constraints we have."

(b) *Cost of Production*

3.26 The budget targets and actuals in regard to fixed cost of production of IPCL (Baroda Complex) were as given below:—

(Rs. Crores)

Year	Budget	Actual
1988-89	215	233
1989-90	259	287
1990-91	339	345

3.27 The increase in actual expenditure as compared to the budget is stated to be due to high consumption of stores and spares materials, increase in maintenance etc.

3.28 It is also observed from the details of variable cost production of various products manufactured by IPCL during the years 1988-89 to 1990-91 that the actual variable cost of production was higher than the standard every year.

3.29 The main reasons for higher variable cost of production were stated to be (i) higher consumption of raw materials, Chemicals and utilities, and (ii) increase in price of raw materials due to increase in prices of petroleum products and Gulf surcharge etc.

3.30 Asked about the steps taken by IPCL to bring down the cost of production, the Company in a written reply indicated the following:—

—Steps have been taken to modernise / upgrade technology for various plants.

- The Company, with the help of R & D, is also constantly looking into the indigenisation of imported additives and catalysts.
- The feedstock quality and losses need to be taken care of. Within the plant, factors attributable to the higher consumption and losses need to be controlled and there is need for operational improvement and process improvement. Consumption can also be improved reasonably with technological and system improvement. The consumption of raw material is being kept under control.

3.31 It is observed from the information furnished by IPCL that the standard for consumption of input materials are generally set at a level lower than the best performances of the plant in the previous years considering the age of the plant.

3.32 It is observed from the information furnished by IPCL that during the last three years the energy consumption was considerably higher than norms in respect of all the plants except Olefins, EO/EG and LDPE plants. Asked about the factors responsible for higher energy consumption and the remedial measures proposed, IPCL stated in a written reply as under:—

“The specific energy consumption depends on the capacity utilisation and frequency of interruptions. In case, either of these factors is adverse, then specific energy consumption is higher than norms. However, norms are tightened year by year to achieve the energy savings.

The actual energy consumption is monitored regularly every month for each product to ensure that specific energy consumption is within norms. There are continuous efforts to identify energy saving schemes and implement them.”

(c) Impact on Environment

3.33 The Committee wanted to know the anti-pollution measures undertaken by IPCL. The CMD, stated in this connection during evidence as under:—

“There is a claim that there is zero level pollution. It is wrong. Where it is a question of petrochemical plants which are of continuous process, some pollution is inescapable.

As far as air pollution is concerned, it is being monitored. Whatever technologies are available today to prevent such things have been installed and there are no major problems. In the case of liquid effluents which are also generated, first they are treated in our Waste Water Treatment Plant and after treating them to the levels which are laid down by the Pollution Control Board, they are pumped about 30 Kms down the river. Then, it is allowed to go into the sea. There were some complaints that there were some problems about the fish smell.

According to our records, we are within the normal standards that have been laid down for air pollution. There are various levels at which it is maintained. But it is quite possible that on a

particular day, there may be a little disturbance in the plant for a minute or so, otherwise, on a continuous basis, these things are maintained.....

As far as water pollution is concerned we are reasonably confident but nevertheless, to be doubly sure whether there are any problems, we have also referred it to the National Institute of Oceanography (NIO). It is done not because we wanted it, but when the tides come, it is possible that discharged effluents are pushed upstream. It is with reference to that problems, we have asked NIO to look into the aspects to see whether there is any problem of tide which pushes the treated water upstream a little more than what we have probably anticipated. We are also checking with National Institute of Environmental Research in Nagpur for the air pollution. We are getting their Consultancy on this issue."

3.34 IPCL informed in a written reply that the monitoring work of the Amba river estuary at the disposal point is being carried out by National Institute of Oceanography, Bombay/Goa periodically and that following steps have been taken on the recommendation of NIO:—

- Disposal point was selected in consultation with Maharashtra Pollution Control Board (MPCB), Bombay. Treated waste water is released 25 Kms down stream of factory site in the estuarine zone.
- Bio-Assay test conducted at site till date shows 100% fish survival.
- Periodic monitoring programmes are continued after commissioning of the complex.

3.35 Further to ensure that proposed waste water release point is adequate and would not adversely effect the eco-system including the fisheries, the Company approached NIO to undertake studies entitled "Release of waste water from a Petrochemical Complex in Amba river estuary-Probable impact on Marine Life."

On the basis of this study NIO made the following conclusions:

- (a) The release of waste water treated to meet standard by Maharashtra Pollution Control Board near Mankula would not have any gross damage to the biota provided the standards are met at all times.
- (b) Periodic monitoring to assess short term and long term changes in the environmental quality if any should be undertaken.

3.36 IPCL has stated that the integrated waste water treatment plant is designed and operated to treat effluent better than the standard laid down by MPCB, Bombay.

3.37 Raigad district of Maharashtra which has major units of RCF, HOC, ONGC, Reliance, etc. apart from IPCL experiences high level of pollution. The Committee desired to know whether any coordinated effort has been made by these units to ensure that the entire district remains pollution free and whether IPCL can coordinate the efforts in this regard. The CMD, IPCL replied in evidence that this can be done.

(d) *Research & Development*

3.38 IPCL being the premier petrochemical organisation has been identified by the Scientific Advisory Committee to the Deptt. of Chemicals & Petrochemicals for taking up major technology development programmes in the petrochemical area in addition to the absorption and improvement of imported technologies. Major areas identified for IPCL's research are:

- (i) Catalyst development
- (ii) Technology development in the production of aromatics
- (iii) Technology development in the area of Olefin production
- (iv) R & D in the Polymer area.

3.39 The research centre of IPCL which was established ahead of commercial operations at Baroda, attained dominance in petrochemical research in the fields of catalysts and Surface sciences, chemical physics, material science, organic chemistry, chemical engineering, analytical spectroscopy and biology.

3.40 Regarding the activities of the R & D centre, IPCL stated in a note as follows:

"The activities of the Research Centre cover improvements in products and processes, delineation and research for better raw materials, selection of conditions for improved performance of catalyst, development of new catalysts, support materials and molecular sieves, development of solvents and new detergents, new separation techniques, isolation of by-products and conversion to useful intermediates, study of new chemical reaction for utilisation of streams from plants in the Baroda Complex, treatment and recovery of valuable products from effluents, process development of organic chemicals and polymers and development of polymer blends, grafts and composites."

3.41 The main achievements of the R & D centre are stated to be as under:—

"R & D of IPCL has made significant contribution in several areas of strategic importance in petrochemical industry. The successful development and commercialization of catalysts for aromatics production has put IPCL in the world map of catalyst manufacturers. Molecular Sieves and absorbents have also been

commercialised and these will serve as valuable import substitution products.

New polymeric materials have been developed for specialised applications. Process development studies have resulted in standardizing economically viable routes for the production monomers such as acrylamide, acrylic esters etc. Investigation on the bio-treatment of hazardous industrial effluents have yielded attractive ways for treating them to acceptable levels and this process has already been implemented. Technology development efforts are initiated in areas such as alpha olefins. A process developed at the Research Centre along with the Technology Group for the purification of sulfolane has been internationally recognised."

3.42 Emphasising the need for defining the role of R & D the CMD, IPCL stated during evidence:

"The problem of research not only in IPCL but elsewhere in the country also, is what research should we do? If we go in for fundamental research, it requires heavy funding. So, we do not go for fundamental research. Second point is, do you do research to support your business. Even if it is very minor research, it is not done at one place but it is done at three places; research and development, department of technology and in marketing. We have the product application areas, so we do this. We have got about 75 scientists with Doctorate. The whole problem is defining what exactly we want to do. I am only talking of a larger issue.

Secondly, we have very limited resources. There is no national plan on this. Whenever it is done, these three institutions will collaborate and put their resources together. Through R & D, we made a loss making unit of private sector into a profit making unit. In various parameters we have brought about improvements but we have to define our role. We have not gone even half way."

3.43 Enquired about the necessity for importing technology, even after so many years of Research by IPCL R & D centre, the witness said:

"When it comes to technology, world over practically everyone buys technology from others. Today if you want to take Gas Cracker technology there are five companies in the world which have its technology. So, the rest of the companies will take their technology. In terms of basic technology we are too far away and that is where we need not be working. We have got a Committee of Scientists. We want to sharpen the focus so that at the end of the day something comes out."

3.44 The Committee desired to know whether petrochemical products have any harmful effect on the health of the people in the long run and

whether any study has been conducted in this regard. The CMD of IPCL stated during oral evidence on 3.9.92:

“Sir, studies have been made in this regard. So, they will have whole telescopic approach to it.”

Regarding side effects the witness said,

“I will just give two areas of constraints because others are by and large all right. One is relating to detergents. It could have some effect on the skin. The second and the biggest concern is plastic and most of the countries are also concerned with this. Our plastic is recycled because of economic factor, but if recycled material is used for packaging of edible things, then it is something which is harmful. We have got a Food Technology Research Institute in Mysore and all our grades are tested there. If anybody uses the recycled material for packaging, then this is an area of concern.

Another problem, which is a national problem in countries like United States and Japan, is the disposal of waste. Now there is a big *abhiyan* going on among the major countries of the world to use recycled material. Now they tell us that we should not pollute the atmosphere and all that. Now they have a big campaign and billions of dollars are being spent on research on recycling of plastic material and disposal of waste plastic material. We will reap the benefits of their research (when our per-capita consumption of plastics goes up from one KG to 3 KGs after ten years). But your point is a matter of concern and here the quality control is some thing which we have to keep in mind.”

3.45 Expenditure incurred on R & D and percentage of R & D expenditure to sales during the last four years is stated to be as given below:

Year	R&D Expenditure (Rs. Crores)	Expenditure as percentage of total Sales(%)
1988-89	8.07	0.78
1989-90	27.14	2.30
1990-91	16.69	1.25
1991-92	8.48	0.48

3.46 Asked for the reasons for reduction in R&D expenditure of the company in 1990-91 and 1991-92, IPCL stated in a written reply, as under:

“The expenditure pattern given for the years 1989-90 and 1990-91 also includes the major capital expenditure towards S&T Carbon

Fibre and Composite Development Project. The revenue and capital expenditure for the rest of the R&D activities during these two years is actually Rs. 6.04 crores and Rs. 7.48 crores, respectively."

3.47 In the context of liberalisation measures and the need for IPCL to integrate with the global market, the Committee enquired whether the present level of expenditure on R&D can be considered adequate. The Secretary, DCPC stated in reply:

"It is very difficult to give a 'yes' or 'no' answer to it, because certainly, in a competitive environment, the more attention is given to research and development, it is good because they will be able to make some breakthrough. To that extent, we can say that something more has to be done. But, on the other hand, if we compare IPCL with what is happening in other places in the country, certainly IPCL is one organisation which has given very good weightage to research and development and they have their own success stories. Their record in research and development is a fairly good one. Certainly it can improve and there is no doubt about it."

3.48 Another representative of DCPC stated in this connection:

"Unfortunately some of the research work on major items, for instance, cracker are all patented and it takes huge amount of money to develop. What IPCL has been working on is downstream R&D application, development R&D which will be of great use for variety of products."

IV. FINANCIAL MATTERS

(a) Working Results

4.1 The budget targets and actuals in respect of turnover, value added, profit/loss before tax and generation of internal resources of the Company as furnished by IPCL in respect of the years 1987-1991 were as given below:—

Particulars	1987-88		1988-89		1989-90		1990-91		1991-92	
	Bud- get	Act- ual	Bud- get	Act- ual	Bud- get	Act- ual	Bud- get	Act- ual	Bud- get	Act- ual
Gross Turnover	833	883	976	1036	1027	1179	1519	1330	1515	1935
Value Added	217	268	293	349	397	383	647	489	573	694
Profit/Loss before Tax	14	73	103	116	83	96	92	46	—	52
Gross Internal Resources	108	94	129	122	155	127	252	138	144	196

4.2 Asked for the reasons for shortfall in generation of internal resources as against target in 1987-88 and 1988-89 IPCL stated in a written reply that in 1987-88 the company had to pay Rs. 18.6 crores as dividend for which no provision had been made in the Budget and in the year 1988-89, the company had to make higher payment of Income Tax than budgeted by Rs. 11 crores.

4.3 The main causes for decline in profit in 1989-90 and 1990-91 as compared to 1988-89 are reported to be as follows:

- The operations at Nagothane Complex were not stabilised owing to the initial teething problems.
- Accident in the outside battery limit unit* resulted in stoppage of operations.
- The delay in commencement of the operations increased the cost of funds, thereby contributing towards a higher interest burden.
- Infructuous trial run expenses of Rs. 54 crores had been charged off to Profit & Loss Account during 1990-91.
- Non-operating capital assets of Nagothane Complex.

4.4 The sales of products from Nagothane Complex was estimated at Rs. 488 crores for 1990-91. The actual sales however, amounted to just Rs. 2 crores. This is stated to be the reason for shortfall in achievement of budget targets in regard to gross turnover, value added, profit and gross internal resources during 1990-91. The Nagothane Complex did not go on

stream in 1990-91 as planned. This was however partially offset by the favourable market conditions fetching higher sales realisations by Rs. 297 crores on Baroda Complex products.

4.5 Actual profitability to sales achieved during 1991-92 complex-wise is stated to be as given below:—

	Baroda Complex	Nagothane Complex	Total for IPCL
Sales (Rs. in Crores)	1240.12	103.46	1343.58
Profit before tax (Rs. in crores)	290.31	(238.53)	51.78
Profit as a % of sales	23.40	—	3.85

4.6 IPCL stated in a post-evidence reply in this connection that Baroda Complex has exceeded the target of profit. However, due to the unfortunate accident, the operations of the Nagothane Complex were suspended in 1990 and only towards end of the financial year 1990-91 the operations were resumed in stages. The delay in commencement of the operations increased the cost of funds, thereby contributing towards a higher interest burden.

4.7 Enquired about the prospects for arresting the deteriorating trend in profitability and stabilise the profit at reasonable level in order to create adequate internal resources for future need, the DCPC stated in a written reply as under:

“The generation of internal resources during 1991-92 exceeded the targets set. Thus the deteriorating trend in profitability has been arrested in 1991-92. If feedstock are available at favourable prices to the IPCL, there could be an increase in the internal resource generation. However, reduction in tariff level of products could erode to some extent the internal resources generated.”

4.8 Regarding the profit during 1992-93, the CMD, IPCL stated during evidence on 22.1.1993:

“We had estimated that the profit for 1992-93 would be Rs. 200 crores. Our present endeavour is to reach that figure. I expect that we will be as close to it as possible..... The net profit was Rs. 41 crores for the six months period.”

4.9 Explaining in this connection that certain factors have affected the profitability during the current years, IPCL in a post-evidence reply stated as follows:—

“The increase in petroleum product prices announced on 16th September, 1992 affects the input cost of petrochemical complexes

using naphtha and has a bearing on the profitability of Baroda Complex. In order to offset this impact wherever possible/feasible, the prices of end products were also suitably revised upwards.

However due to excess capacities created beyond their local demand and decline in international price of petrochemical products dumping of products, reduction in import duty, non-stabilisation of production at Nagothane Complex to the extent anticipated etc. have further affected profitability during the current year. However, it is expected that the situation will improve in the ensuing year (1993-94)."

B. Duty Structure

4.10 The high rate of taxes any duties seems to have adverse effect on the IPCL. According to the Eighth Five Year Plan (1992-93) document the prices of most of the petrochemicals products in the country are well above the international levels, partly because of high rates of taxes. While the petrochemicals industry has been delicensed, its growth will be guided to a considerable extent by the reductions in taxes and duties on its products.

4.11 IPCL has reportedly approached the Government with a request to consider rationalising the import duty over a longer period to enable Indian Petrochemicals Industry to integrate with the global market.

4.12 Asked about the present position in this regard DCPC stated in a written reply on 15.3.1993 as under:

"In respect of import tariffs keeping in view the world situation in petrochemicals and overall approach to economic liberalisation, certain changes have been made by the Government in import duty structures in respect of certain items. The request for reducing cross subsidy on the price of naphtha was not accepted by the Government."

4.13 It is observed from the information furnished by DCPC on 15.3.1993 that the current duty on petro-chemical products is as indicated below:

Items	Duty
(a) VCM	10%
(b) Ethylene, propylene, Butadiene, Benzene, EDC, Ethyl Benzene and Styrene	15%
(c) P-Xylene, O-Xylene and ACN	40%
(d) PVC	45%
(e) PS	55%
(f) Caprolactum	60%
(g) LDPE/LLDPE and HDPE	65%
(h) DMT/PTA and MEG	70%

- | | |
|---|-----|
| (i) PP | 75% |
| (j) PFY, PSF, NFY, AF, SBR, PBR and LAB | 85% |

4.14 Asked to what extent has the present duty structure affected the competitiveness of IPCL, DCPC stated in a written reply as under:

"IPCL has stated that the drop in the import duty in respect of P-Xylene and O-Xylene from 85% and 110% to 40% renders their production of both these xylenes unviable. They have, therefore, stopped drawl of C₅ reformat resulting in under utilisation of xylene expansion plant, built at a cost of Rs. 75 crores. They are planning to import P-Xylene. In respect of MEG, IPCL has stated that in 1993-94, there will be adequate capacity to meet the demand of the country. In addition, prices of imported MEG are almost available at a very reduced rate. Lowering the import duty from 110 to 70% renders IPCL's production of MEG unviable. IPCL has requested for increase in the duty rate of MEG."

4.15 Asked about the impact of Government's liberalisation measures on IPCL, the CMD, IPCL stated during evidence (3.9.1992):

"We believe that margins will be under pressure. The petrochemical industry's margins will be under pressure and therefore, they will have to work for greater efficiency and reduction in costs. Most of the industries in our country are not cost conscious so far. Now, we have reduced our energy consumption, our saving on energy only will be more than Rs. 8 crores. This is a net profit. Now, we continue to look out and we will have to look out more feverishly where we can save the costs. Coastal shipping will be a better option to reduce transportation cost. The qualitative change which is needed is upgradation of technology. We are going to moth ball our first generation Poly-propylene Plant. We are going for three times the capacity and that plant will be moth balled and this is only to keep pace with technology, because it gives a saving of Rs. 5000 a tonne and in three-and-a half years it will pay off the extra cost. The decisions were so far taken by Government for us, but we will have to take decisions for us and in certain areas you have a commanding position and in certain areas you divest. So, this is the type of thing which will emerge in time."

4.16 The Secretary, DCPC stated in this connection during evidence:

"I may say at the very outset that the full impact of economic liberalisation and the advantage which IPCL can take of it, would be visible on a long-term basis. For all their products, they have to be competitive and this, to some extent, is hurting them initially. They are undergoing a kind of adjustment process in which in some products they are going to have a disadvantage but

if they are able to cross over this phase of one or two years, then certainly they can concentrate their efforts on products on which they have special advantage."

(c) Imports and Exports

4.17 Since the consumption of products manufactured by IPCL was generally more than indigenous availability, IPCL products were meant for indigenous consumption and focus was on product/market development and import substitution. In recent years domestic consumption for material manufactured by IPCL was more than the indigenous availability.

4.18 In order to augment availability of LDPE and LLDPE, IPCL has been importing these two products which are also produced by IPCL at its Baroda and Nagothane Complexes. In order to circumvent the difficulties of small scale industry from the vagaries of international price fluctuations a concept of "pooled pricing" of domestic and imported products was reportedly introduced. IPCL had to resort to a pool price approach in order to fix the price of indigenous/imported material at the same price.

4.19 The value of the petrochemicals imported by our country is observed to be Rs. 1237 crores in 1988-89, Rs. 1179 crores in 1989-90 and Rs. 1213 crores in 1990-91. The quantity of imports in 1991-92 is stated to be 8 lakh tonnes at a value of Rs. 1510 crores.

4.20 Pointing out that the country is self-sufficient in certain petrochemical products, the CMD, IPCL stated in evidence on 3.9.1992:

"We have been importing petro-chemical products of the order of Rs. 1500 crores. By setting up the Nagothane project with its full capacity utilisation, we will be self-sufficient and surplus in plastics. So far as other chemicals are concerned, we will be surplus in MEG, we will be surplus in DMT/PTA with the Madras Refinery coming up. We are likely to have by and large surplus in regard to petro-chemicals with two more complexes coming."

4.21 Asked about the prospects for exports, the CMD, IPCL stated during evidence:

"For the first time in 1991-92 we started exporting our products. We find that our products are accepted abroad and the quality is to their requirement. I agree that it is not large scale exports compared to our production but it is significant that we started exporting. We are keeping a target of 20 million dollars for exports in this year. I may submit there is a general recession in the petrochemicals industry. So, if you export now, you may not be able to get a reasonable price. That is the current scenario."

4.22 Enquired whether it would be possible for IPCL to achieve export target, the Secretary, DCPC stated during evidence:

“As far as export is concerned, IPCL is only focussing on one or two items like LAB which is for detergents and acrylates, etc. In these things, because of technology and the other inputs which IPCL has, it has an advantage. But their human resources inputs are still competitive.”

4.23 Regarding the prospects for increasing the exports, the DCPC stated in a written reply as under:

“The prospects of increasing exports of petro-chemical products in the context of excess global capacity and related down turn in markets and prices do not signal considerable optimism. Net realisation, which is the major factor for exports, is expected to be governed by the dollar rupee parity. They will be set by the markets in the coming months. IPCL would, however, place necessary efforts on increasing the exports of focused products.”

(d) Internal Audit System

4.24 The auditors report of IPCL for the year 1991-92 has remarked that the internal audit system of the company needs to be strengthened so as to be commensurate with the size and nature of its business. Asked whether this aspect was reviewed by the Ministry during performance appraisal Meeting, the DCPC stated in a written reply as under:

“The internal audit system of IPCL has been indicated by the auditors during 1991-92 as one that needs further strengthening. This has been reviewed by the Ministry during the performance appraisal meeting for the first half year of 1992-93. IPCL has appointed professional auditing firms to do the internal audit of all the regional offices and sales centres. Besides this, the internal audit wing of the IPCL is doing the propriety audit. These measures would strengthen the internal audit system in IPCL.”

V. GENERAL

(a) *Performance Evaluation*

5.1 Public Undertakings are important instruments of planned development. IPCL is a dominant constituent of the petro-chemical industry which has great significance for the economic development of our country. Plan targets and achievements in relation to (a) production in physical terms, (b) value added correlated to the sectoral rate of growth indicated in the plan, (c) capital investment, and (d) generation of internal resources for capital investment correlated to the resources forecast of the plan are important indices for assessing the performance of an undertaking in the perspective of national plan. In order to improve the performance of public enterprises Government is of late following a system of annual performance contract or the Memorandum of Understanding (MOU). MOU spells out the mission, objectives and targets to be achieved in a year by an undertaking. IPCL has been signing the MOU with the Government since 1989-90. The MOU include mutually agreed targets against criteria like:

- (i) Capacity utilisation,
- (ii) Specific energy consumption,
- (iii) Financial parameters,
- (iv) Sundry debtors,
- (v) Inventory,
- (vi) Customers satisfaction,
- (vii) Product development,
- (viii) Exports,
- (ix) Projects Implementation,
- (x) Research and Development, and
- (xi) Training & Development etc.

Achievements against the targets specific in the MOU form the basis of evaluation of the Company's performance on yearly basis.

5.2 The Committee desired to know whether the targets fixed under MOU are derived from plan target as correlated to the sectoral rate of growth indicated by the plan, DCPC stated in a written reply as follows:

"The Company submits an Annual Plan every year based on the guidelines issued by the Planning Commission which forms part of the Annual Plan for the Ministry which ultimately is incorporated in the plan document prepared by the Planning Commission. The MOU is formulated with the Annual Plan targets as the basis subject to minor amendments which may be necessitated due to

the changes occurring in the intervening period between the finalisation of Annual Plan and the MOU document.”

5.3 Pointing out that no target has been fixed in the MOU of IPCL in regard to value added and capital investment, the Committee enquired whether these indicators are not considered important for performance evaluation. DCPC stated in a written reply as under:

“The main purpose of the MOU exercise is to delink the Government’s day to day supervision over the activities of the PSUs and at the same time affording a measure of performance evaluation. In this perspective the indicators included in the MOU are considered adequate to serve the objective.”

5.4 The DCPC, however, suggested that apart from the already incorporated targets on training, certain HRD related issues like improvement of performance of the workers and the supervisory staff may need to be incorporated in the MOU.

5.5 Asked about the views regarding the efficacy of the MOUs, IPCL stated in a written reply:

“The concept is based on sound management practice and would help in providing general direction and midcourse corrections to the Public Sector Undertaking in tune with the Government policies and macro objectives determined for Public Sector Undertakings. Certain amount of welcome autonomy has also been provided. The MOUs also include certain commitments from the Government, but these are seldom evaluated.”

5.6 Enquired whether it is a fact that commitments from Government included in MOU are not evaluated, the Secretary; DCPC stated in evidence:

“I entirely agree that there should be a system of review whether Government has been able to fulfil its commitments in the MOU. I find from the MOU which was signed last time that there were no Government commitments laid down. But in the new MOU which will be signed, we shall take care to see that that is also reviewed at some stage.”

5.7 In the context of MOU, IPCL indicated the following points on which dispensation of the Ministry is sought:

- (a) Authority to raise funds to meet the short term deficit or invest the surplus.
- (b) Authority to decide on equity participation with any other company.
- (c) Dispensation to take loan from any Government company/financial institution etc. to meet the operational requirements.
- (d) Powers to incur free foreign exchange expenditure to meet urgent requirements of operating plants.

- (c) Dispensation to undertake foreign visits for a period not exceeding 7 working days at a time and not exceeding 3 occasions in a year.
- (f) Need for Government approvals for the investment schemes within six months from the date of submission of feasibility report.
- (g) Dispensation of IESB advertisement once public sector consultants certify non-availability of equipments indigenously.
- (h) Authority to tie-up foreign exchange through suitable lines of credit.
- (i) Authority to form subsidiary company with equity not exceeding Rs. 1 crore.

5.8 Asked about the reaction of the Government to these points, a representative of DCPC stated during evidence:

“In the MOU which was signed in 1991-92, these points have been included for consideration by the Government. There is no commitment as such by the Government that they will necessarily agree to these points during the course of the year. If we go one by one, none of these points is actually crucial or material to the operational efficiency of the IPCL. I will take the points one by one. The first one is about the authority to raise funds to meet the short term deficit or invest the surplus. IPCL has never raised this point with the Government that they are short of funds, which they would like to borrow from the market to meet that deficit. As far as investment surplus is concerned, because of the securities scam and other things, we would not like the public sector to be given a free hand to invest surplus money wherever they feel like.

Coming to the second point on equity participation, there is no proposal from the IPCL. This is a theoretical proposition.

Coming to the point of operational flexibility for borrowing funds in this new climate of liberalisation, now, the Articles of Association have been amended and the Board of Directors of IPCL can borrow funds without coming to the Government. No permission is required for such kind of borrowings which are envisaged here. Here, we have to draw a slight distinction between the role of IPCL when it is a commercially operating organisation and the role of the Government who is the owner. As an owner, the stake is a little more than what the Board of Directors of IPCL would have been having for their organisation.

In a private organisation, normally, the CMD in the Board is the promoter's representative and their stake gets fully reflected. In case, when it comes to companies setting up a joint venture or some such thing, there is a certain amount of commitment of an owner as such, in the case of IPCL the Government must have say as an owner.”

5.9 It is observed from the information furnished by IPCL in respect of the last four years that each year different set of indicators has been used in MoU which defy comparison of performance in successive years. For instance under financial criterion three indicators viz. internal resources generation, borrowings and capital expenditure have been used for the year 1989-90, while in 1990-91 and 1991-92 altogether different set of indicators viz. Turnover and profit have been used. During 1991-92, various financial ratios have been used as indicators of financial performance. Replacement of indicators year after year makes the task of comparing MoU performance over the years impossible.

5.10 The MoU composite score is a summary measure of the performance of an enterprise in terms of attainment of its stated mission. The year-wise composite score in respect of the company as furnished by DCPC is as under:—

Year	composite Score	Rating
1989-90	—	Good
1990-91	1.24	Excellent
1991-92	1.46 (1.39)*	Excellent

*This composite score is arrived at by considering the performance reconciling the production loss due to shortage of raw material and the quality of the raw material received.

5.11 According to DCPC the achievement by the Company during the period April, 1992 to February 1993 in respect of production targets for the year 1992-93 in Baroda Complex has been very good. In respect of Nagothane Complex, the production is estimated to be 80% of the target until February '93.

5.12 Asked about the desirability of disclosing the information about details of MoU and the evaluation there against in the Annual Report of the company and of the Administrative Ministry, the DCPC stated in a written reply as under:—

“The information about details of MoU signed with the Government and the evaluation there against is contained in a SCOPE Publication. Besides, the Department of Public Enterprises also publishes information in this regard by a Newsletter. In view of the above, it is not considered necessary to incorporate the MoU signed with a PSU and its evaluation either in the Annual Report of the company or of the administrative Ministry.”

(b) *Industrial Relations*

5.13 According to IPCL the company's balanced labour relations policy has been the reason for 'no production loss' in over twenty three years of existence. The Company is stated to have encouraged participation of employees representatives at different levels, resulting in resolving of grievances amicably. A well defined grievance redressal scheme has reportedly been drawn up and is being implemented for expediting redressal of individual grievances.

5.14 Asked about the progress made by IPCL in implementing the scheme of Workers participation in Management IPCL stated in a written reply that Employees' Participation Scheme in Management was introduced at Baroda Complex in the year 1984. The participation system was institutionalised on a two-tier concept, namely "Area Committees" and "Plant Level Committee". Currently, IPCL has six Area Committees functioning at Baroda Complex and a Plant Level Committee at the apex level. Over and above the Employees' Participation Scheme, IPCL has also constituted statutory Committees like Apex Safety Committee and Canteen Committee as per the provisions of law.

5.15 The Committee noted from the information furnished by IPCL that flash strike resorted to by a majority of non-supervisory personnel of IPCL at Baroda Complex followed by declaration of lock-out by management went on from 23rd to 30th July, 1992 in the wake of wage settlement involving rate of HRA payment. The value of production loss as a result of strike is estimated to be around Rs. 14 crores. The total mandays lost is 40610.

5.16 Explaining the reasons for strike, the CMD IPCL stated during evidence:—

"The genesis of the whole thing is regarding payment of House Rent Allowance. We have separate period of settlement with non-supervisory employees and supervisory employees. For workers that period of settlement is from 1.10.87 to 30.9.1991—a period of four years is there. That settlement was first entered into and then the settlement for officers was negotiated. That was for a period of five years from 1.1.1987 to 31.12.1991. In that settlement there was a provision for house rent allowance to be raised from 17½ per cent to 22½ per cent effective from 1st July, 1990 whereas in the settlement for workers it was not provided because every settlement is a package and it is not changed. When we take up a settlement, it is the Department of Public Enterprises which finalises the settlement in totality taking all the concessions into consideration and the BPE had accepted this position that the house rent allowance for the officers would be raised from 1.7.1990 by five per cent. Then this was discussed with all the three unions. Two unions did not accept that and asked for the same HRA as given to officers, we said when we negotiate from 1.10.1991, the next settlement which had already become due, at that time

we will consider this. Out of three unions—we have three unions—INTUC, AITUC and HMS affiliated—two unions, that is INTUC and AITUC said that they do not accept this decision and that they should get 22½ per cent. But BMS union said that if that is the decision of the Government then they would accept it. Government said that it should be given to them from 1.10.91 and that is the date of the new settlement which has become due. So the gap was 15 months. On 1.7.90, officers got and the Government agreed to give to the workers on 1.10.91. Workers got later, 57 per cent of eligible employees accepted this decision and they took the arrears money. The balance 43 per cent said that they want from the date on which it was given to the officers. They went first on relay fast. It went on for few days. Then the Labour machinery of Gujarat Government came on the scene and they advised the management to take it up with the Government again and try and use its goods offices to get it from 1.7.90. And I not only wrote but also met concerned people not once but thrice in the following weeks. And the answer was: "Sorry, it cannot be done."

Meanwhile, the workers decided to go on an indefinite hunger strike on this issue of 15 months arrears. It was on 7th of July.

Now the total amount on account of arrears was of the order of around Rs.50 lakhs. Really, the amount was not so substantial but the Government had certain guidelines which is that if we open the settlement which is closed, then there would be several other settlements in other public undertakings and that there would be a chain reaction. Therefore, we were advised to consider the demand when we negotiate the next settlement. This was the point which the Government was making. Then, the workers gave a strike call on 20th July, 1992. And throughout the 19th night, we had negotiations and we found a solution. We said that whatever is the amount the 15 months dues—we would pay to all employees as advance which we will settle later. And it was a recoverable advance. We said that they should take this advance and we are not going to recover it till the new settlement is reached. We could not give it as HRA. This was offered to all employees which they accepted. They signed the settlement. After two days the workers changed their stance and backed out of the settlement which was signed in the presence of the Deputy Labour Commissioner and all that, that evening on 23rd, at 7 O' Clock, they went on a flash strike.

Now that was a very unsafe situation because we deal with a large number of hazardous chemicals and one just cannot leave the plant like that. And some of them, who were in-charge like the Boiler Attendants. They just walked out. People left burners open in laboratories and walked out which was something unbelievably extreme. The officers were there. We asked the officers to come in. But the officers were prevented from

coming in. Some of them were even roughed up. We had a most unlikely situation in IPCL. With great difficulty a few officers could come in. And in the plant there were few officers. It was a situation which is very serious because to shut down the plant we need atleast 8-10 hours time because the temperature are up to 1200°C and the minimum temperature is minus 104 °C. When you deal with heavy pressure, high temperature with variations and hazardous chemicals, any leakage could cause a chain reaction. We thought about the plan to shut-down, but we needed people. We somehow smuggled in a few officers and when we knew that even at 6 O'Clock shift buses were not likely to come and we would not have any reinforcement we were left with no option but to go for a lock-out because we were not given opportunity even to close down the plant. And safe shut-down in the case of petrochemical units is a long process. We still managed to have a safe shut-down after taking a lot of pains; otherwise we would have been in the gravest danger."

5.17 The Committee wanted to know how the company allowed the situation to escalate, IPCL in a written reply stated:—

"The root casue was inter-union rivalry and immature leadership of the two agitating unions in resorting to unjustifiable, unreasonable and illegal flash strike, exposing the plants to totally unsafe and hazardous condition not only to the plants, persons working around but also the community at large in the vicinity. These two unions not only forcibly pulled out the operative workmen but also prevented others from attending their work including the officers and workmen in the third shift on 23.7.1992. In the larger interest of safety of plants, its equipments and the community at large, there was no other option but to go by the advice of the operating people to declare "Lock-out" effective from 06.00 hrs. of July 24, 1992."

5.18 Enquired about the reasons for Government not accepting the workers' demand regarding HRA payment, a representative of DCPC replied:—

"Whenever there has to be a wage settlement, it has to be referred to BPE and whatever they permit, ultimately that is made applicable. As far as this House Rent Allowance decision was concerned, when we received representation from the IPCL, we referred it to the BPE and we were going by what the BPE had stated."

5.19 DCPC stated in a post evidence reply that the quantum of extra amount that would have been necessary to pay by way of HRA to the non-supervisory staff from 1.7.90 instead of 1.10.1991 would be Rs.46 lakhs.

5.20 The Committee pointed out that the value of production loss as a result of the strike was as much as Rs.14 crores while the amount involved in the dispute regarding HRA payment was just about Rs.46 lakhs.

Enquired as to whether the matter could not have been resolved amicably without escalating the situation a representative of DCPC stated in reply:—

“You are very right that seeing the financial stakes involved one would say that the situation should have been avoided. The point of principle that was involved in this case was that once a settlement had been reached which specifically laid down that they will not reopen any demand during the currency of the agreement, if they raised that demand again and if it was accepted, then it will open the doors for similar situations in other undertakings also for such type of matters. We must admit that the Department of Public Enterprises must have seen it from that angle and, therefore they were very firm in taking the view that this should not be accepted.”

(c) *Ancillaries*

5.21 Nagothane Complex had conducted a study to determine various items in which ancillaries can be established in and around Nagothane. One area that was identified as a continuously required one was packaging material. Hence, it was decided to develop ancillary for manufacturing Valve Type Bags for PP and LDPE and Gussetted Film Roll for LLDPE/HDPE and Wire and Cable in and around Nagothane.

5.22 In the selection of existing or new entrepreneurs and allotment of items, other things being equal, local entrepreneurs were given preference including such technically competent and entrepreneurially suitable employees/ex-employees of IPCL itself. IPCL has stated that the B.P.E. Guidelines on this subject were observed in the entire process.

5.23 Ancillary status was reportedly awarded to the following four manufacturers/processors who are all local i.e. Nagothane based:—

1. M/s. Easy Sealing Bags Pvt. Ltd.
2. M/s. Schon Plastic
3. M/s. Saurabh Plastics
4. M/s. Nitin Despande

All these entrepreneurs have reportedly agreed for the following two conditions:

- (a) To establish/shift their manufacturing base in the safe zone of Nagothane Complex.
- (b) To employ locals/PAPs in their organisation.

IPCL has stated that of the above four, first two have started initial trial production and have supplied to IPCL. The other two have not yet set up any infrastructure facilities.

5.24 IPCL stated in a written reply that no small scale industries or ancillary are run by project affected person (PAP) at present.

5.25 Enquired about the progress made in development of ancillary industries, the CMD, IPCL stated during evidence:—

“In areas like Baroda where we are already very well settled the development of ancillary industries, which we had to start in the ‘seventies’ has picked up now. There are enough industrial estates. They are able to meet the standards, particularly bags which is our major requirement and they are able to effect the supplies.

In an area like Nagothane where such industrial infrastructure facilities are not developed, it will take some time to develop such infrastructure establishment of small ancillaries which can meet their requirements there. We have already got four units, to whom we have given the ancillary status. Two of them have come up faster and they are in a position to meet our requirements and within a short time about eight persons will be able to supply us the necessary ancillaries.”

(d) *Social responsibilities*

5.26 Enquired about the social responsibilities discharged by IPCL, the CMD, IPCL stated in evidence:—

“Apart from our normal commercial responsibilities which are well laid down, there is a social responsibility for the area where we are located and to the community where we are serving. Both are, on a general philosophy accepted. Efforts are being made for implementing this philosophy. But there are certain areas where we have been working for generation of employment for the nearby areas. To some extent, the benefit goes to the community which is around. We try to help in terms of educational facilities and other cultural and social benefits which are possible. Of course, all this is subject to the resources available which we are able to make on year to year basis. At Baroda, we are a little well settled down and the town is developed much more and our involvement in terms of growing facilities is on a diminishing scale.”

5.27 Explaining the steps taken by IPCL in Nagothane area in regard to discharge of social responsibility, IPCL stated in a written reply as follows:—

The Company has undertaken a socio-economic study of 20 villages in the vicinity of 10 km from Nagothane Complex.

In order to understand the development needs of and opportunities available to the rural population a survey was undertaken with following broad objectives.

- Study of socio-economic status of rural population around Nagothane Complex.
- Identify needs and scope for training as well as income generation activities with more emphasis on tribal families around Nagothane Complex.
- Suggest income generation activities to raise the income level of rural families.

In concurrence of the above study a trust named MGCC Complex Area Development Research Foundation, Nagothane was registered on 19.6.1992 to initiate various activities during the current year. Preparatory work done so far includes the following:—

- (1) Rapport building dialogues
- (2) Extensive meeting
- (3) Development activities like mango grafting, soap making, self help saving group, Supply of seedlings, Distribution of Kitchen Garden Vegetable Seed
- (4) Dairy development programmes.

For the year 1992-93 an amount of Rs. 19 lakhs have been earmarked for the purpose. The amount will be made available to the trust MGCC Area Development Research Foundation. The activities targeted for by the trust in the annual plan includes the following:—

- (i) Training, educational and promotional tours,
- (ii) Input supply material,
- (iii) Health care programme,
- (iv) Water resource development, and
- (v) Post training support etc.

PART—B

CONCLUSIONS/RECOMMENDATIONS OF THE COMMITTEE

1. IPCL is a dominant constituent of the petrochemical industry which has great significance for the economic growth of our country. The company has been making profit. However, the profit has declined substantially during the last three years. The capacity utilisation is poor in respect of some products. There is also excess capacity in some cases. There has been delay and huge cost over-run in implementation of projects. The Xylene expansion project has become unviable. There were process problems in some of the new plants. The Baroda Complex faced a flash strike in July, 1992 which resulted in substantial production loss. The performance of Nagothane Complex is not satisfactory as yet. There was stoppage of operations in the complex for a long period due to a mishap. The complex is yet to achieve stabilisation. The Committee recommend that taking note of the recommendations contained in this report, IPCL should initiate urgent steps to effect improvement in the overall performance of the company.

2. The Committee are distressed that the average realisation from Government's disinvestment of 20% of its equity holding in the company was as low as Rs. 65 per share while IPCL in a subsequent offer of share to the public could realise a premium of Rs. 150 per share on a face value of Rs. 10/-. This reflects poorly on the Government's ability to conceptualise and organise such sales. This also leaves room for suspicion as to whether there were irregularities in the sales of share by Government. The Committee recommend that if there is any necessity in future to disinvest share of Government companies, Government should review its strategy in order to gain the best realisable price.

3. With the offer of shares to the public, the ownership of the company stands diffused. The Committee note that Government will however retain its control with its majority shareholding in the company. Wider ownership of the company's shares has rendered IPCL answerable to a large community of shareholders. This would obviously necessitate change in managerial policies and practices. The Committee would await the steps taken by the company on this direction. The Committee suggest that induction of professionally qualified non-official directors on the Board of Directors should be considered keeping in view the need to professionalise the management to meet the new challenges in the fast changing economic environment.

4. IPCL is in the process of transition from single location operation to multi-location, multi-product organisation having sizeable growth plan.

IPCL has rightly voiced the need for reviewing the division of responsibilities among directors and restructuring the Board of Directors. There is also a need to reorganise the head quarters of the company and to delegate more powers to Nagothane Complex to enable speedy decision on the spot. The Committee stress that these matters should be considered and appropriate measures taken with a sense of urgency to make IPCL's operations effective and efficient.

5. The Committee note that amongst about 20 manufacturers of major petrochemicals products in the country, IPCL's share at present in capacity is about 50% for polymers and 33% overall in all products. It is heartening to note that due to expansion programmes and new complex/capacities being implemented by 1990—97. IPCL's market share for polymers will be sustained at about 50% level and will increase to 36% overall for all products with a production capacity of 12.4 lakh tonnes for major petrochemical products from three complexes at Baroda, Nagothane and Gandhar. The Committee hope that IPCL will sustain its efforts to continue to be the leader of Indian petrochemical industry and to take its rightful place in the international group of high performing petrochemical companies.

6. The Committee are concerned to note that the country's first grass-root gas based mega petrochemicals complex at Nagothane has run into a variety of difficulties. The cost of the complex shot-up from the original estimate of Rs. 1167 crores to Rs. 1635 crores registering a steep increase of Rs. 468 crores. In spite of huge cost escalation, IPCL expects to achieve a greater internal rate of return of 25% as against the original anticipation of 13.9% due to fortuitous rise in product prices. The project suffered a delay ranging from 12 to 27 months in completion/commissioning of most of the projects in the complex. The project faced feed-stock constraint at the time of commissioning necessitating switching over of the feed-stock from C2/C3 to LPG. There was stoppage of operations for fairly a long period following a major accident in the Complex. There are still difficulties in stabilisation of production. The capacity utilisation expected is just 40% in 1992-93. The Committee desire that the problems should be overcome early and the complex made viable soon.

7. There were four Baroda based projects viz. (i) polypropylene Copolymer; (ii) Bicomponent Acrylic Fibre; (iii) Xylene Expansion and (iv) Gas Turbine Power plant each costing over Rs. 50 crores completed during the last five years. The company has slipped up badly in adhering to time schedule of these projects. There was delay ranging from 9 to 24 months in completion/commissioning of these projects. There was 25% cost-over-run in the case of Xylene Expansion. Increase in project cost coupled with uneconomic input prices appears to have made this project economically unviable. The Committee hope that the company will exercise greater care in future to see that Feasibility

Reports are reliable and the cost estimates realistic. The Committee desire that efforts should be made to break even on Xylene project soon.

8. From the preceding paragraphs, it may be observed that though the project monitoring system has been redesigned on the recommendations of the Committee in 1986-87, the project implementation and operation still leaves much to be desired. The project execution and performance of Nagothane Complex and Baroda based projects indicates that there are still serious functional deficiencies in the matter of project implementation and operation. The Committee desire that IPCL should take effective steps to remove them.

9. A gas based cracker complex at Gandhar at a cost of Rs. 3485 crores with a commissioning schedule in the first quarter of 1996-97 is under implementation by IPCL. Besides this, three expansion projects in Nagothane Complex and three in Baroda Complex have also been undertaken by the Company. It should be ensured that these projects are completed in time and within the estimated cost. The Committee desire that there should be an effective monitoring to apply on course correction promptly both at the Corporate and Ministry level.

10. The Committee noticed that in a number of cases, the project approval by Government took more than one year. The Committee are distressed that cost of the delay in decision making in terms of cost escalation and denial of timely benefit to the economy is seldom realised. Under the existing guidelines the appraising agencies and administrative Ministries are expected to arrive at a decision regarding a project within six months. The Committee hope that delay in project approval by Govt. would be avoided in future.

11. A fire accident that occurred in November, 1990 in the outside Battery Limit (OSBL) unit of Gas Cracker plant in Nagothane caused the death of 32 persons. This also resulted in stoppage of operations causing production loss to the tune of Rs. 299 crores. The company was also saddled with an additional cost by way of interest burden, etc. to the extent of about Rs. 72 crores. It transpired during the Committee's examination that failure of the plate pin exchanger in the OSBL at the nozzle of a weld joint caused the mishap and that IPCL failed to carry out 100% radiography of all weld joints. IPCL simply went by an Engineering Code which prescribes that a minimum 10% of the weld joints be radiographed and checked. The Committee fail to understand how IPCL a company of long standing failed to take the elementary precaution of checking all weld joints to safeguard against defects in a hazardous equipment such as this which involves loss of human life. There should not have been such failures under any circumstances. The Committee desire that this kind of negligence should never be allowed to repeat in future.

12. The Committee note that petrochemical industry is hazardous by nature and inspite of the best of safety measures adopted by the industry

the possibility of a disaster cannot be ruled out. The Committee's examination has brought to light the deaths occurred due to an accident in the complex. It is quite possible that many such deaths might have occurred in the area due to some other hazardous industries which might have gone unnoticed. The need for creation of adequate medical facilities near the industry to meet such eventualities cannot therefore be over emphasised. The Committee in this connection note that IPCL management had mooted an idea of having a large hospital in association with other neighbouring industries such as RCF, HOC and other private industries located at such a site and area that it is easily approachable by all the industries in the district including those in Patalganga area. The Committee would urge that IPCL should translate this idea into reality soon.

13. Though 18 months have elapsed since submission of the report in October, 1991 by a high power Committee which was appointed by the Government to enquire into the causes of the accident, the report has not been laid on Parliament. The report was not forthcoming in spite of repeated requests. Government is stated to be still in the process of finalising its views on the report. The delay is intriguing. The Committee require that the Government should take a view on the report without any further loss of time and lay the report in the next session of Parliament.

14. The Committee find that the capacity utilisation in Xylene, Monethylene Glycol, Acrylates and Dry Spun Acrylic Fibre (DSAF) plants of Baroda Complex was considerably low during the last three years. This is attributed to lower demand, feed stock limitations and process problems. The Committee have been informed that process problems have now been resolved and steps are being taken to overcome feed stock constraints. The Committee desire that the possibility of exporting the products facing domestic demand constraints should be explored and optimum capacity utilisation ensured.

15. The overall capacity utilisation in Baroda complex during the last five years was between 83% and 93%. Though this level of capacity utilisation compares well internationally, the Committee feel that the percentage of utilisation of Baroda Complex could have been still higher but for the feed stock constraint. The loss of production suffered by IPCL due to feedstock shortage in 1990-91 alone was stated to be 11,800 tonnes costing over Rs. 44 crores. With the recent decanalisation of Naphtha and other fuels, IPCL is considering the alternative of importing Naphtha to the extent feasible. For handling imported feedstocks the Company is also reportedly participating in implementation of projects to set up chemical port terminals at Dahej and Nava Sheva. As regards Nagothane Complex which is still in the process of stabilisation, IPCL expects to achieve over 80% capacity utilisation by the end of next year as against 40% in 1992-93. The Committee desire that IPCL should identify the deficiencies in achieving stabilisation in Nagothane Complex and take effective steps to remove them in order to achieve optimum utilisation early.

16. The cost of production of various products has been considerably higher than the standard/budgeted costs during 1988—91 due to high consumption of raw materials, chemicals and utilities coupled with increase in price of raw materials. Energy consumption in most of the plants was also higher than norms in most of the plants. The Committee feel that there is an urgent need to achieve high cost-effectiveness in order to maintain profitability in the intensely competitive market place of the future.

17. It is heartening to note that IPCL is treating the hazardous industrial effluents to acceptable levels and is also carrying out periodic monitoring to assess changes, if any, in the environmental quality. The studies conducted by National Institute of Oceanography following complaints regarding damage to marine life from the effluents of Nagothane Complex have dispelled such fears. The Committee suggest that the fears and doubts on this question in the minds of the people in the neighbourhood should be allayed. It is not clear whether the minimal national standards in quantum limits laid down by the Central Board for Prevention of Air and Water Pollution are met by IPCL. The Committee recommend that in case these are not already met by IPCL, immediate measures should be taken to see that the effluents from IPCL conform to the limits laid down.

18. The Committee note that Raigad District of Maharashtra which has major units of RCF, IIOC, ONGC, Reliance, etc. apart from IPCL experiences high level of pollution. The Committee need hardly emphasise that co-ordinated effort by all these units would be required to ensure that the entire district remains pollution free. The Committee are glad that IPCL has agreed to coordinate efforts in this regard. The Committee would await the steps taken by IPCL in this connection. The Committee desire that Government should take urgent steps to make environment audit a mandatory requirement for all companies and to incorporate this requirement as part of the Companies' Act with a view to ensuring pollution free environment.

19. The R & D Centre of IPCL has been functioning for over 15 years. It is disheartening to learn that IPCL has left it to advanced countries to undertake research on plastics recycling, disposal, etc. and is awaiting the outcome of their research. Without underrating the achievements of the R&D Centre of the Company, the Committee would like to point out that the research should be need based and problem oriented. There is an urgent and imperative need to study the chemical reaction of detergents and synthetic fibre on skin and the question of packaging of edible items on recycled material and such other vital problems involving the health of the people. The Committee would await the outcome of studies in this regard.

20. The Committee are also not impressed by the current level of expenditure, in the R&D activities of IPCL which varied between 6 to 8 crores each year during 1988—92 (after exclusion of investment on a carbon fibre development project during 1989-91). This is obviously insignificant

compared to outlay in R&D in advanced countries. The Committee feel strongly that the R&D outlay should be stepped up consistent with the need to maintain an edge in quality and cost in an emerging competitive situation.

21. The Committee find that the Baroda Complex of IPCL made a profit of over Rs. 290 crores in 1991-92 which is quite impressive. The overall profit of the company in that year was however just Rs. 52 crores primarily due to unsatisfactory performance of Nagothane Complex. The Committee are concerned to note that the overall profit of the company which stood at Rs. 116 crores in 1988-89 came down to touch a low of Rs. 46 crores in 1990-91. As against the profit target of Rs. 200 crores in the current year (1992-93), the achievement in the first half of the year was just Rs. 41 crores. The Committee find that non-stabilisation of Nagothane Complex, decline in international price of petrochemical products, dumping of products, reduction in import duty, etc. have their inevitable impact on IPCL. In order to improve profitability, the Committee urge that IPCL should ensure that the new projects are made viable, capacity utilisation improved, cost reduced and better marketing of products ensured. The Committee would await steps taken in this regard.

22. The high rate of taxes and duties seems to have adverse effect on the IPCL. According to the Eighth Five Year Plan document the prices of most of the petro-chemical products in the country are well above the international levels, partly because of high rates of taxes. The drop in the import duty in respect of MEG and Xylenes in the recent Budget has reportedly rendered production of these items unviable. The Committee feel that there is an urgent need to rationalise taxes and duties on indigenous petrochemical products in consonance with the changes in import duty structure in order to enable Indian petrochemical industry integrate with the global market. Incidentally, the Committee suggest that IPCL should also develop new strategies and promote value added products to maintain profitability.

23. The auditor's report of IPCL for the year 1991-92 has remarked that the internal audit system of the company needs to be strengthened so as to commensurate with the size and nature of its business. IPCL is stated to have since appointed professional auditing firms to do the internal audit of all the regional offices and sales centres. The Committee trust that IPCL will not be found wanting in this regard in future.

24. The Committee are surprised that MOU performance of IPCL has been rated 'Excellent' with a composite score of 1.24 in 1990-91 while the Committee's examination of the company's performance for the year reveals substantial shortfall in achievement of budget targets in respect of gross turnover, value added, profit and gross internal resources, failure of the Nagothane Complex going on stream as planned, stoppage of operations due to a major accident in Nagothane Complex and negligible sales realisation of Rs. 2 crores as against the target of Rs. 488 crores in Nagothane Complex.

On examining the MOUs of IPCL for the last three years, the Committee feel that some thing is basically wrong in the system of MOU target and evaluation. There is no synchronisation of DPR, Plan budget and MOU targets of the Company. Important indicators such as value added, capital investment and labour productivity have not found place in the MOU. There has been replacement of MOU indicators in successive years which defies comparision of MOU performance over the years. Commitments from the government included in MOU are seldom evaluated. The Committee desire that all these deficiencies should be removed in consultation with the Department of Public Enterprises. The Committee feel that MOU score should genuinely reflect total enterprise performance. The Committee would also urge that the details of MOU and the evaluation there against should be disclosed in future in the Annual Report of the Company and of the Administrative Ministry for the information of Parliament and the Public.

25. The Baroda Complex of IPCL faced a flash strike by non-supervisory personnel followed by management's lock out from 23rd to 30th July, 1992 on a relatively insignificant issue of payment of HRA arrears to the tune of Rs. 46 lakhs. What is shocking to the Committee is not the resultant production loss of around Rs. 14 crores which in itself is a matter of serious concern but the manner in which the plants which process highly inflammable and toxic chemicals were exposed to the danger of a catastrophe not only to the plants, persons working around but also the community at large in the vicinity. Fortunately nothing untoward happened. But this speaks volumes of the cordiality that the management enjoyed with its employees and the extent of workers' safety consciousness in handling hazardous plants such as these. The Committee urge that IPCL should give top priority to inculcate safety consciousness among its workers and situation of this kind should never be allowed to repeat under any circumstances. The Committee also desire that Grievances of employees should be resolved amicably in time and industrial peace and harmony assured.

26. The Committee are glad to note that by way of discharging social responsibility IPCL has formed a trust named MGCC Complex Area Development Research Foundation to initiate various development activities in the area and an amount of Rs. 19 lakhs earmarked for the year 1992-93 for the purpose. The Committee in this connection desire that IPCL should work out certain schemes as to how the social responsibility can be discharged to the good of the society especially the poorest among the poor. The Committee in their report on IDBI have laid emphasis in this connection for provision of drinking water, medical facilities etc. The Committee desire that IPCL should attempt to solve the drinking water problem of the district where Nagothane complex is located and take steps in this regard in coordination with IDBI, district and local administration authorities. The Committee is certain that grappling with the people's problems with firmness, willingness & imagination thousands of small and

big industries situated in this district in all sectors including cooperative can help solve people's problems; thus becoming a precedent and example to all not only in the true Gandhian spirit of discharging social responsibility but also in tune with Mahatma's concept of trusteeship.

NEW DELHI;

April 27, 1993

Vaisakha 7, 1915 (Saka)

A.R. ANTULAY,

Chairman,

Committee on Public Undertakings.