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PETROLEUM & PETRO-CHEMICALS
STATISTICS

1979-80

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DEPARTMENT OF PETROLEUM
MINISTRY OF PETROLEUM, CHEMICALS & FERTILIZERS
GOVERNMENT OF INDIA
NEW DELHI

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P R E F A C E

The present publication is the fourteenth of the annual series brought out by Economics & Statistics Division which attempts to present detailed up-to-date petroleum & petro-chemicals statistics relating to Indian Economy and other relevant international statistics. Some basic national petroleum statistics have also been presented both in terms of financial year as well as calendar year, the former to meet the requirements of national Planning & administration and the latter to meet our various obligations to U.N. and other international bodies and for purposes of maintaining historical continuity. Apart from including usual tables we have added some new tables relating to: (i) Gross production of energy by various sources in India over the year upto 1979-80; (ii) Crude Oil exports by OPEC member countries; (iii) World Oil production, consumption and relative deficit/surplus in each region/country; (iv) Oil revenues of OPEC member countries upto 1979; (v) Prices of Polyster & Filament Yarn, (vi) World production of Textile Fibres and relative role of natural and synthetic fibres. In the section dealing with financial statistics we have added " A quick review of financial performance of undertakings under Department of Petroleum during 1979-80 based on provisional data". We have also included some 'late additions highlights' on various aspects of Petroleum Industry. It is hoped that officers and executives in various Ministries of the Government of India, Planning Commission/Oil Co-ordination Committee and other organisation associated with the development of Oil Industry would find this publication useful.

2. While we have taken all possible care to ensure accuracy in presentation of data contained in various tables, we would welcome suggestions of our readers for rectification of any error or ommission noticed by them.

Economics & Statistics Division,
Department of Petroleum

September, 1980.

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PART - I
PETROLEUM STATISTICS

I. HIGH-LIGHTS OF INDIAN PETROLEUM INDUSTRY - 1979-80.

1. An Indian Petroleum Delegation led by Secretary (Petroleum) visited Iran from 4th to 8th May, 1979 for negotiations in regard to resumption of crude oil supplies. As a result, contract were entered into with the National Iranian Oil Co., covering the import of approximately 2.6 million tonnes during the period May-December, 1979.

2. A Team led by the Union Minister for Petroleum which visited USSR signed a Protocol on the 1st June, 1979 for Indo-Soviet Co-operation in the field of oil exploration, etc.

3. A Team consisting of Oil & Natural Gas Commission (ONGC) officials and representatives of the Ministries of Finance and Petroleum visited Tanzania and held discussions with the Tanzanian Petroleum Development Corporation (TPDC) on a joint venture proposed between the ONGC and the TPDC for oil exploration.

4. During the visit of the Minister for Petroleum to USSR, a contract was concluded on the 29th May, 1979 covering supplies of an additional quantity of 60,000 tonnes of crude oil from the Soviet Union to India during 1979 in exchange for rice of equivalent value. This quantity was in addition to an existing contract which provides for supplies of 1.5 million tonnes of crude oil from USSR during 1979.

5. The formal Government sanction to the setting up of an additional Coking Unit at the Barauni Refinery (IOC) at an estimated expenditure of Rs. 23.89 crores with a foreign exchange component of Rs.4.30 crores was issued on 28th May, 1979.

6. Two Bills, viz. (i) The Kosangas Company (Acquisition of Undertaking) Bill, 1979 and (ii) The Parel Investments and Trading Private Limited and Domestic Gas Private Limited (Taking over of Management) Bill, 1979, regarding acquisition/take-over of the said Undertakings by Hindustan Petroleum Corporation Ltd. on 28.5.1979 which were passed by the Lok Sabha on 30.4.1979 and by the Rajya Sabha on 15.5.1979, received the assent of the President on 26.5.1979.

7. An Indian Petroleum Delegation visited Lagos from 9.8.1979 to 15.8.1979 for negotiating a Contract for crude supply from Nigeria. As a result, a Contract was concluded on the 15th August, 1979 between the Indian Oil Corporation and the Nigerian National Petroleum Corporation covering the import of a total quantity of 4.2 million barrels of Nigerian crude upto 30th September, 1980 at the rate of 10.000 bbl. a day commencing 1st August, 1979. This opened up an additional source of crude oil supply.

8. The Government announced increases in the prices of almost all petroleum products with effect from August, 17, 1979. This decision was taken in the wake of the increases in the prices of crude oil by OPEC and other petroleum products in the world market. The salient features of the price increase, excluding impact of sales tax, octroi and other State levies if any, were as follows :

(i) The prices of both Kerosene and High Speed Diesel Oil(HSDO) were increased by 17 paise per litre. Subsequently, w.e.f. 11.9.1979 this was reduced and the effective increase was only about 10 paise per litre.

(ii) Light Diesel Oil (LDO) was increased by 32 paise per litre and Motor Spirit (Petrol) by 35 paise per litre.

(iii) The prices of Fuel Oil and LSHS used for purposes other than the fertilizer industry were increased by 32 paise per litre. The price of Naphtha for non-fertilizer uses was increased by Rs.1.47 per kilogram.

(iv) Aviation Turbine Fuel (ATF) price was raised by 74 paise per litre and that of Bitumen by 20 paise per kilograms.

(v) The price of Liquified Petroleum Gas (Cooking Gas) was increased by Rs.5 per cylinder of 15 kilograms.

(vi) In respect of a number of other special products such as Benzene, Jute Batching Oil, Raw Petroleum Coke, Carbon Black Feed-Stock, Phenol Extract, Aromax and Solvents, an increase of 25 per cent over their selling prices was ordered.

(vii) Naphtha, Fuel Oil and Low Sulphur Heavy Stock (LSHS) used as feedstock for the fertilizer industry and lubricants of various grades were left untouched. Feed-stocks for fertilizer industry were exempted from price increase to prevent any escalations in the prices of fertilizers in the interest of agricultural production.

9. On 16th August, it was decided by the Government to permit additional Excise Duties levied in March 1979 on Kerosene, HSDO, Motor Spirit and LPG to be treated as price increases.

10. An Indian Petroleum Delegation visited Baghdad from 23.9.1979 to 27.9.1979 for discussions with Iraq National Oil Corporation regarding supply of Crude Oil and Petroleum Products.

11. The ONGC discovered oil in a new structure in the South-East of Bombay.

12. A Working Group under the chairmanship of Shri Satish Chandran, Adviser (Energy), Planning Commission appointed in March 1979 to inter alia recommend the most economic and optimal utilisation of offshore gas submitted its reports to Government in August, 1979.

13. Consequent upon increases in the prices of additives with effect from 1.7.1979 and 15.9.1979, the basic ceiling selling prices of various grades of automotive lubricating oils were increased with effect from 13.11.1979 ranging from Rs.4/- to Rs.316/- per KL.

14. While drilling a well by the ONGC in the Narasapur structure in Andhra Pradesh, at a depth of 4,035 metres high pressure gas was struck and a blow out occurred.

15. Natural Gas was struck by the ONGC in the offshore structure called Mid-Tapti. In the Godavari offshore structure also indication of gas were found.

16. Drilling, production and transportation of crude oil in the Eastern Region was disturbed/suspended towards the end of the year due to agitations in Assam.

II. CHRONOLOGY OF SOME IMPORTANT EVENTS IN THE HISTORY OF PETROLEUM INDUSTRY IN INDIA

(A) EXPLORATION AND PRODUCTION

(i) Assam Oil Company

1825: The earliest recorded reference of oil in India is found in the diaries of early explorers who penetrated into the thick jungles of upper Assam.

1866: Mr. Goodenough, a member of the Calcutta firm of Mckillop Steward & Co., took notice of oil shows in Assam and in November secured rights over a large tract of land on both sides of the Buri Dihing river and came to upper Assam to begin systematic drilling.

1867: On 26th March, Mr. Goodenough struck oil at Maktum near Margherita at a depth of 118 ft. (36 metres).

1889: In September, the Assam Railways and Trading Company began drilling for oil near their station at Borbhil and in 1890 discovered oil at a depth of 662 ft. (202 metres). This field came to be known as Digboi.

1899: Drilling for oil in Digboi proved to be successful and the A.R.& T., Company formed a new Company to look after their oil interests which was named as the Assam Oil Company Ltd. The Burmah Oil Company, who were exploring for oil in Burma and in Assam since 1915 acquired the oil interests of the Budarpore Oil Company. This Company produced small quantities of oil from Budarpur in the Surma Valley of Assam. Maximum production was one thousand barrels per day in 1920 which dropped to 170 barrels per day (23.6 tonnes per day) in 1931. The field was abandoned in 1933.

1921: The Burmah Oil Company took over control of the Assam Oil Company which was then producing about 400 barrels per day (55 tonnes per day) of crude oil. It brought in much needed technical know-how, financial backing and up-to-date equipment. As a result, the production improved to 1000 barrels per day (138.9 tonnes per day) by 1925 and to 3000 barrels per day (416.7 tonnes per day) by 1930.

1938: The Burmah Oil Company carried out seismic surveys at Nahorkatiya in Upper Assam to locate the best suitable site for drilling.

1948: Oil was struck in the eastern sector at Digboi.

1952: A site for drilling was selected on the banks of the Buri Dihing river at Nahorkatiya in Upper Assam.

1953: First trial water injection was carried out in the Digboi field.

1956: A site for drilling was selected near Moranhat in Sibsagar District. The well was drilled to 4190 metres which struck oil.

1957: Gas Injection (Secondary Recovery Scheme) was started in Digboi Oilfield.

1966: Formation Fracturing was carried out, for the first time in India, in Digboi fields.

1969: In December, drilling of wells was again started in Digboi oilfield.

1970: Secondary recovery techniques such as gas injection and water flooding were used in the Digboi oilfield and the feasibility to use thermal recovery method was also studied.

1971: The drilling of wells started in 1969 was completed with 14 wells in Digboi oilfield.

1972: Water Injection (Secondary Recovery Scheme) was successfully used in the Digboi oilfield.

(ii) Oil India Limited

1959: In February, Oil India was incorporated as Oil India Private Ltd. with 66 2/3 per cent Burmah Oil Company and 33 1/3 per cent Government of India participation.

1961: On 27th July, the Second Supplemental Agreement was signed by which it became a joint venture in equal partnership between the Government of India and the Burmah Oil Company.

1962: On 1st January, a separate organisation with head-quarter at Duliajan was set up.

On 7th March, the 16 inch sector of pipeline system was commissioned.

On 26th April, pumping of regular supplies of crude oil to the Gauhati Refinery started.

On 13th October, a dual completion well first of its kind in India, was completed at Nahorkatiya.

1963: On 8th March, seismic surveys in the Dum Duma petroleum exploration licence area commenced.

In February, the 14 inch sector of pipeline from Gauhati to Barauni was operationally ready.

In April, crude oil conditioning plant, first of its kind in the world, was commissioned at Duliajan.

On 14th February, the first deviated well was drilled by the Company.

The first two exploratory wells in the Dum Duma petroleum exploration licence area were spudded in.

1964: on 30th June, crude oil deliveries to the Barauni Refinery were commenced.

1965: Gas supplies to the thermal plant of the Assam State Electricity Board were started.

Pressure maintenance operations commenced with crestal gas injection into the gascap of a major oil pool in Nahorkatiya.

1966: Water injection was started in Nahorkatiya for pressure maintenance.

Digital computers were pressed into service for solving problems connected with underground reservoirs.

1967: All arrangements for starting drilling operations in NEFA were finalised.

1968: Drilling started in Ningru Petroleum Exploration Licence areas in NEFA.

1969: Kusijan well No. 2 was completed as an oil producer in Dum Duma area.

1970: Kusijan Well No. 3 was completed as a gas producer in Dum Duma. Regular oil production commenced from Jusijan well No. 2.

Gas injection for pressure maintenance was started at Moran field.

One of the steam drilling outfits commissioned in 1953, crossed its million foot mark of drilling.

1971: Reservoir Engineering capability of the organisation was increased by the acquirement of a 3 Dimension 3 Phase reservoir simulation computer programme from Mc Cord Associates Inc. of U.S.A.

Installation of 29 gas compressors under the Integrated Gas scheme was completed at Nahorkatiya and Moran oilfields.

Oil was struck at Jorajan in the Dum Duma Mining Lease area.

The Memorandum of Association of the Company was amended to enable it to undertake extraction and scale of Liquified Petroleum Gas(LPG) from natural gas produced from its fields.

1972: Oil was discovered in a new structure at Tarajan and Jorajan well No.1 was completed as a successful oil producer.

1973: Jorajan wells 2 and 3 were completed as successful oil producers.

Commercial gas accumulation was discovered in Eocene beds of Tengakhat area.

Oil was discovered in a new area at the eastern edge of Hugrijan Mining Lease (NHK well 262 in Nagajan).

1974: Jorajan well Nos. 4 & 5 were completed as successful oil producers.

Exploratory drilling in Arunachal Pradesh was intensified through the commencement of drilling at Kharsang well No.2 and statisfactory progress of preparatory work for drilling at Manabum well No.1. A new deep drilling rig was acquired for intensification of drilling deep exploratory wells in Arunachal Pradesh.

Steps were taken in hand to expand, in stages, the capacity of Oil's pipeline to transport more of ONGC crude oil (upto 2.25 m.t.) to the Eastern sector refineries.

1975: First aerial rope-way across the Noa Dihing River in Arunachal Pradesh was commissioned.

Pilot polymer flood project was initiated.

Reservoir engineering (log interpretation) consultancy service in Kuwait was successfully executed.

Pipeline consultancy agreement with Engineering Projects India Limited was entered into.

Work on Pipeline expansion Project Phase-III-A was commenced.

Construction work started on the new 30 MV power station at Duliajan to meet the power requirements of new projects undertaken/contemplated.

1976: "Kharsang 3, a shallow well drilled near Kharsang 2 was the first successful well in Arunachal Pradesh.

On 2nd April, Manabum-I was spudded in difficult hill country across the Noa Dihing River.

1977: A Project for recovery of higher hydrocarbons from Associated Natural Gas was successfully commissioned.

Digital Field system V, an advanced seismic equipment was purchased for carrying geophysical survey work.

The two 14.45 mega watt gas turbine Generating sets were erected and commissioned successfully at Duliajan.

The 212 Km. long main pipeline loops between Jorhat and Bongaigaon was completed.

1978: Oil India launched their first offshore exploration project in Mahanadi area.

1979-80: Started pumping crude oil to the Bongaigaon and Petro-Chemicals Ltd. (BRPL).

Bay Exploration Project (BEP) was set up in Bhubaneshwar, Orissa to coordinate all offshore and onshore exploration matters in Mahanadi Basin, and arrangements were made for the requisite contractual services including charter-hire of an offshore drilling rig.

Spudded in the first of the 3-wells in the Company's maiden (Rs.27 crores) offshore exploration programme in the Mahanadi Basin, Bay of Bengal, on January 30, 1980.

1979-80: (Contd.) In June, the quantity of power offtake from OIL's captive gas turbines to Assam State Electricity Board (ASEB) was increased to 8000 kilowatts and met the entire power requirements of the area under ASEB's Bordubi, Digboi and Margherita sub-stations.

Kumchai well No. 1 in Arunachal Pradesh in the Compnay's 551 sq.kms. of Petroleum Exploration Licence Area was drilled to a depth of 5459.6 metres (17,912 ft) and thus became Oil India's deepest well. At this depth, however, a multiplicity of downhole problems made further drilling impossible.

An agreement for setting up a liquefied petroleum gas(LPG) plant at Duliajan was signed in March 1980, with M/s Industrial Consulting Bureau Ltd. (ICBL).

Oil India (OIL) acquired a sophisticated Mega seismic Computer from a reputed American firm for the processing of its seismic data.

(iii) Oil & Natural Gas Commission

1947+ 1953: Reconnaissance and detailed geological Mapping were done in parts of Punjab, Himachal Pradesh, Kutch, Andaman and Nicobar Islands and Cambay by the Geological Survey of India.

1955: In September-October, a delegation visited the USSR and other European countries to study the Oil Industry.

In October, the Oil & Natural Gas Directorate was formed under the Ministry of Natural Resources and Scientific Research.

In December, Soviet Oil experts in exploration arrived in India.

1956: During April and May, airborne magnetic surveys of parts of Western Rajasthan and the Indo-Gangatic Plains were made by the Canadian experts under the Colombo Plan.

In August, the Oil & Natural Gas Commission was set up.

1957: In April, first well was spudded in.

1958: In May, gas was struck at Jwalamukhi.

In July, first well at Cambay was spudded in.

In September, Oil was struck in Cambay.

1959: In October, ONGC attained the status of a statutory body.

1960: In May, oil was struck at Ankleshwar and drilling was commenced in Assam.

In December, oil was discovered at Rudrasagar structure in Assam.

1961: In June, oil was struck in Kalol.

In September, trial production of crude oil from the Ankleshvar oilfield was started. An agreement was signed with the French Petroleum Institute for exploration in Rajasthan.

1962: The first special train of oil tank wagons left Ankleshvar for Bombay.

In December, a contract was concluded with SNAM of ENI group of Italy for drilling wells in Uttar Pradesh.

1963: In January, offshore seismic surveys started in the Gulf of Cambay.

Drilling commenced in two structures, in Gujarat and Assam.

A contract was concluded with the C.G.G. of France for for carrying out seismic exploration in Jaisalmer, oil was struck in Sanand in Gujarat.

Oil was sturck in 'Nawagam' in Gujarat.

The contract was concluded with RUDIS, a mining and industrial association of Yugoslavia for drilling wells in Assam. Another contract was signed with SNAM of ENI Group of Italy for drilling wells in Punjab area.

1964: In February, a contract was entered into with a French Company FORASOL for carrying out structural drilling operations in Jaisalmer.

By March, ONGC completed drilling of 200 wells.

In June, two contracts were signed for carrying out offshore seismic surveys with the help of the specially equipped Soviet Ship Akademic Arkhangolskiy in the Gulf of Cambay and off the Madras coasts and other areas.

In August, E.N.I. started drilling at Mohand in Uttar Pradesh and oil was discovered in 'Lakwa' structure in Assam.

In September, the Soviet ship started its operations.

In October, SNAM started drilling at Janauri in Punjab.

In December, production and supply of gas from Cambay to the Dhuwaran Thermal Power Station was commenced and drilling of a new structure, in Assam was started.

1965: By March, the ONGC completed drilling of 300 wells.

In September, supply of associated gas from Ankleshwar to Uttran Thermal Power Station was started.

In October, oil was struck at Kathana in Gujarat.

Drilling commenced on six structures in Gujarat during the year.

1966: Traces of oil and gas were found in Karaikal. Two structures in Gujarat and one in West Bengal were spudded in.

1967: In January, supplies of crude oil from Kalol oilfield in Gujarat were sent to the Gujarat Refinery.

In March, the first phase of trial production at Nawagam oilfield in Gujarat was inaugurated.

In May, the Water Injection Scheme for Ankleshwar oilfield in Gujarat started functioning.

By August, the ONGC completed drilling of 500 wells.

In November, the ONGC completed the drilling of one million metres.

One structure each in Tamil Nadu and Assam was spudded in.

1968: In January, trial production of crude from Kosamba field in Gujarat was started.

In March, the National Iranian Oil Company, declared the oil find in the Rostam structure in the Persian Gulf as a commercial discovery, ONGC's share was one-sixth of the crude produced.

In April, oil was discovered at Geleki, a new structure in Assam.

In June, oil was struck in Kadi and Bakrol structures in Gujarat.

In July, the 17.5 Kms. cross country crude oil pipeline connecting the Lakwa oil field of the Commission with the Oil India Pipeline at Moran was commissioned and regular production from the Lakwa oilfield was started. The first indigenous seismic unit was commissioned and the Commission also designed and fabricated a seismic amplifier, with about 98 per cent indigenous components.

Trial production from Kadi oil field in Gujarat was started.

In August, the rate of production from Kalol and Nawagam oil fields in Gujarat was stepped up.

By September, ONGC completed the drilling of 600 wells.

In October, rate of oil production from Anklesvar and Nawagam oilfields of Gujarat was stepped up. Trial production from Dholka oilfield in Gujarat was started.

In November, trial production from Kathana oilfield in Gujarat was started.

Drilling at nine structures in Gujarat, three in Assam and one in Tamil Nadu was started.

1969: In March, the 15th Kms. Kalol-Sabarmati pipeline was commissioned. Six structures in Gujarat and one in Nagaland were spudded in.

By June, ONGC completed drilling of 700 wells.

In August, production from Rostam field in the Persian Gulf was commenced. (The first of the seven blocks of the fixed platform meant for drilling India's first offshore well was launched.

1970: Drilling on fourteen new structures in Gujarat four in Assam and one each in J&K, Cauvery Basin and Gulf of Cambay (Aliabet Island) was started.

In March, oil was struck at Borholla in Assam and in April ONGC completed drilling of 800 wells.

In October, gas was struck at Dabka, a new structure in Gujarat.

1971: An agreement to supply gas from Kalol to M/s Mahendra Mills and M/s Navjivan Mills was finalised.

Drilling of India's first offshore well on shallow-waters was also completed.

A contract for procurement of a mobile self-elevating self-propelled jack-up type platform was signed. The first offshore well drilled at Aliabet, showed the presence of oil. An agreement to supply gas to the IFFCO was signed.

In April/May, service contract with the OISA for the drilling in Bombay area was signed.

On 12th May, Nawagam-Koyali Sector of the Kalol-Nawagam-Koyali Pipeline was commissioned. An agreement for supply of associated gas from Kalol to M/s Metro Woods and Engineering works was signed.

On 16th June, supply of gas to Naharhabi Tea Estate from Lakwa field was commenced.

By July, ONGC completed drilling of 900 deep wells. A high power committee headed by Shri K.D.Malaviya, former Minister of Mines & Fuel was set up by Govt. of India to look into the functions and organisation of ONGC and suggest the ways and means to improve its functioning.

In August, Kalol-Nawagam Sector of the Kalol-Nawagam Koyali pipeline was inaugurated. Oil was discovered in new structure "Amguri" in Assam.

In September, gas was discovered in Baola, a new structure in Gujarat.

In November, oil was discovered in Santhol, a new structure in Gujarat.

In December, oil was discovered in Indrora, a new structure in Gujarat.

Eight new structures in Gujarat and three in Tamil Nadu were taken up for drilling during the year.

1972: In February, gas was struck in North Balol in North Gujarat and oil in Dabka structure in Baroch district in Gujarat.

In March, supply of associated gas from Kalol field to M/s Navjeevan Mills was commenced.

In July, petro-graphic and Geochemical Laboratories were commissioned at Madras. Oil was struck at Linch in Gujarat. Supply of associated gas to M/s Mahindra Mills-Kalol from Kalol field and to Baroda Municipal Corporation from Ankleswar field was commenced. Water injection

1972: (Contd) in Horizon-XII in Lakwa was commissioned. A bronze Shield, an award of the Invention and Promotion Board was presented by the President of India to ONGC for indigenously developing Air-Tube-Clutch assembly, in collaboration with M/s Banket and Brake lining and Engineering firm of Dehra Dun.

In September, supply of associated gas to three private firms, viz. M/s Metro Wood Works, M/s Melamine and Fibres and M/s Calico Printing Company from Kalol field was commenced.

Drilling at ten new structure in Gujarat and one in Tripura was started during the year.

1973: In January, ONGC completed drilling of 1000th deep well.

On 17th February, an agreement was signed by ONGC with M/s Geophysical Service International, S.A. Dallas, Taxas, USA, for conducting about 2800 kms. of offshore seismic reflection work.

On 24th February, a protocol was signed by Mr. D.A.Takoov, Dy.Minister for Oil, USSR and Secretary to the Govt. of India, Ministry of P&C, on development of oil industries in the public sector in India for 1973-78 and forecast for the period 1978-83.

In March, the self-propelled, self-elevating Jacking type of mobile drilling platform "Sagar Samrat" got made to order in Japan was handed over to ONGC at Hiroshima, Japan.

On 8th April, a draft for service contract awarded by the Iraq National Oil Company(INOC) to the ONGC was signed by Dr.Abdullah Sayyas, Vice-President of INOC and Chairman, ONGC. Under the terms and conditions the ONGC will render technical and commercial services to the INOC as a general contractor.

In June, at Baramura well in Tripura, a good flow of gas was observed during an open hole drill stem testing. Supply of associated gas from Kalol field to M/s Bharat Vijay Mills was commenced.

In July, the presence of oil was observed in a well on the Charali structure in Assam during an open hole drill stem test.

In October, drilling was commenced on the first offshore deep well on Tarapur structure in the Arabian sea adjoining the Gulf of Cambay.

One of ONGC's Diesel Mechanic working in Central Workshop at Baroda, was awarded Rs.3000/- as a National Award declared by the Govt. of India for developing valve lapping machine for lapping the valve and of Internal Combustion engines. It was the second highest award given to any inventory on the occasion of Independence Day.

Drilling was started at five new structures in Gujarat, three in Assam and one in Tamil Nadu during the year.

1974: During March, 'Geoflex' was introduced as energy source for the first time by seismic crew in Iraq operations. On 24th March, the supply of gas to IFFCO was started for purging the line and test run.

During June, a new structure viz. Asjol was decalred as oil bearing well head installation at Santhol-4 were also commissioned.

In July, ONGC completed drilling of 1100th well.

In August, regular production from Geleki oilfield, Assam was commenced. The Sanand-GGS and gas line from Sananad GGS to Kalol CTF were also commissioned.

Sanand GGS, Kalol CTF oil pipeline was commissioned and well head installation at Linch was commissioned.

In October, precision gravity surveys were introduced for the first time.

Drilling operations were commenced at three new structures in Gujarat during the year.

1975: In January, North Kadi GGS-cum-CTF was commissioned.

During February, Balol in Gujarat was put on sustained production. Oil was struck in a well drilled on Sanao Khurad structure in Gujarat.

During March, pipeline to carry oil from Sobhasan, North Kadi and South Kadi fields to Koyali Refinery was commissioned. Gas supplies to Bhaba Atomic Research Centre was commenced.

Central workshop, Baroda, completed manufacture of a prototype work over rig of 28-tonnes capacity, which was hitherto imported.

During June, gas was struck at Baramura in Tripura. New workover rig Azinamash was commissioned in Ahmedabad.

In July, gas supplies from Geleki oilfield to Geleki Tea estate was commenced.

During August, gas supplies from Geleki oilfield to Sibbari Tea estate was commenced.

During September, gas supplies from Geleki field to Darshilla Tea Estate was commenced. Two drilling ships spudded wells in Bombay High main offshore structure in the Arabian sea.

In October, gas supplies to Mehsana Dairy was commenced. Sobhasan GGS-cum-CTF and Lakwa CTF were commissioned.

In December, presence of oil was indicated in a well drilled on Nandasan structure in Gujarat. Drilling was commenced on one new structure in Meghalaya, four in Assam, three in Gujarat and one in J & K.

1976: In January, gas supplies to M/s Gujarat Glass Factory from Kosamba field were commenced.

In February, oil was struck in a well drilled on Bhandut structure in Gujarat.

Gas supplies were commenced to Gujarat Industrial Development Corporation from Nawagam fields.

'Shenandhah' a jack up drilling unit commenced drilling operations in offshore areas in the Arabian Sea.

Production was started from two wells of Bombay-High(Main) offshore structure.

Rudrasagar-Lakwa oil pipeline was commissioned.

Drilling was started at Songo-Songo Islands in Tanzania by ONGC under a contract.

In July, oil was discovered in a well drilled at North Kathana structure in Gujarat.

In September, Geleki-Dikhu Junction oil pipeline was commissioned.

The approval of the Government for Rs.4.82 crores was received for setting up of an Institute of Reservoir Studies at Ahmedabad to perform general research and development work, to conduct necessary amount of basic research and reservoir studies, to design and supervise actual field pilot tests, and also to render advice to operations personnel in reservoir engineering and related studies.

Gettysburg, a new drilling unit chartered by ONGC spudded its first well in the Arabian sea.

Two new Group Gathering Stations were commissioned in Assam.

Presence of oil was indicated in a well drilled at Demulgaon structure in Assam.

Drilling was commenced on six new structures in Gujarat, one each in Assam, Rajasthan, J&K, Pondicherry, West Bengal and five structures in offshore area in the Arabian Sea.

1977: In January, a new Rumanian rig 3 IH-2 spudded its first well at Gharali structure in Assam. Well platform 'D' in Bombay-High(Main) offshore field was commissioned.

In February, a new Rumanian rig 4IH-1 spudded the first well at Ramshahr structure in Himachal Pradesh.

Oil was struck at Padras in Gujarat in the month of March and gas supplies to Macheypore Tea Estate in Assam were commenced from Geleki field.

In April, a new Rumanian rig (third in the series) 3IH-3 spudded the first well at Lakhmani structure in Assam. Oil trunk pipeline between Sanand-15 to SIP-34 in Gujarat was commissioned.

In May, gas was discovered in Matwan structure in Gujarat.

1977: (Contd.) In July, a new 4IH-2 Rumanian rig spudded its first well on Chargola structure Cachar district of Assam.

In September, GGS-4 at Rudrasagar, GGS-2 and CTF at Geleki in Assam were commissioned.

New workover rig P-80-3 commissioned in Assam. Well-head installation at Jhalora in Gujarat was commissioned.

Oil production from wells of platform 'G' in Bombay-High (Main) was started.

In October, a new American Armco-1320-M spudded its first well on a new structure known as Diamond Harbour in West Bengal.

Oil trunk pipeline between Geleki and Jorhat commissioned.

Oil discovered in Jotana structure in Gujarat.

A new Romanian rig 3IH-4 was commissioned by spudding a well at Geleki structure in Assam.

Drilling was commenced on nine structures in Gujarat, two in Assam, one each in Himachal Pradesh, West Bengal, and twelve in offshore area of Arabian Sea.

1978: In January, Platform 'E' wells in Bombay High (Main) started producing oil and gas was discovered in Sisodra structure in Gujarat during the same month.

In February, gas was discovered in C-2 structure in Bombay Offshore.

In March, oil was discovered in 'Viraj' structure in Gujarat. GGS-V at Lakwa in Assam was commissioned.

In April, new rig E-2000 was commissioned at Narasapur in Andhra Pradesh. A trunk line from Lakwa GGS-V to junction point of Rudrasagar-Lakwa trunk line was commissioned.

In May, oil was discovered in West Sobhasan structure in Gujarat.

In June, gas was discovered in Walner structure in Gujarat.

Platform 'F' at Bombay High (Main) was commissioned. Gas trunk line of 26" dia between platform 'F' at Bombay High (Main) and Uran Shore terminal was commissioned. Oil trunk line of 30" dia between platform 'F' at Bombay(Main) field to Uran Shore terminal for a total length of 203 kms. was commissioned.

In July, gas supply was commenced from offshore Bombay to Tata Thermal Power Station(TEC) Trombay. Oil feeder line from Uran Terminal to Trombay was commissioned.

In August, gas was discovered on new structures Gajera and West Matwan both in Gujarat.

Gas supply from Bombay-High field was commenced to Rashtriya Chemicals and Fertilizers Ltd., Bombay.

In October, supplies of gas from Nawagam field were commenced to M/s Calico Dyeing and Printing Company.

1978: In November, an electrical new American rig 1320-UE-2 (Contd.)was deployed at Gejalia.

In December, Platform 'B' in Bombay High was commissioned. Oil production from Offshore Bombay touched a level of one lakh barrels per day on 31st December. Gas was struck in B-55 structure in offshore Bombay.

Drilling was commenced on eight structures in Gujarat, one each in Uttar Pradesh, Andhra Pradesh, Assam & Tripura, nine structures in offshore area of Arabian Sea, two in offshore Madras coast and one in offshore Kerala coast.

1979: Drilling at four new structures in Gujarat, four in Assam, one in West Bengal and nine in offshore was started.

In March, oil was discovered in a new structure in offshore at the first well drilled on this structure.

In April, oil was discovered at 'Pansar' in Gujarat and in a new structure in Offshore areas. Also oil production was commenced from Charali field in Assam.

In June, oil production was commenced from Amguri field in Assam.

In September, oil production was commenced from Matwan field in Gujarat.

In November, drillship 'Polerin' charted on hire commenced drilling operations in offshore areas.

In December, a new rig BU-80-4 was commissioned.

1980: In February, Diamond Harbour well in West Bengal was drilled down to a record depth of 5555 metres in this country oil production from Siswa field of Gujarat was commenced.

In March, another drillship 'Fredrick Burg' chartered on hire commenced drilling operation in offshore.

During the first three months (Jan-March) drilling at three new structures in offshore areas and one each structure in Gujarat and Assam was started.

(iv) Hydrocarbons India Limited

1964: ONGC obtained a concession from the Govt. of Iran for prospecting and producing oil in Persian Gulf.

1965: An agreement dated 17th January 1965 was entered into between National Iranian Oil Company, ONGC (India), PPCO (USA) and AGIP of Italy. Incorporated as a Private Limited Company, wholly owned subsidiary of ONGC. ONGC assigned its right and liabilities under this agreement.

1969: Oil struck in 'R' structure and commerciality of field declared in that structure called Rostam field.

1969: In September, first Rostam crude oil tanker containing (Contd.)India's share was loaded and sold to Spain.

1970: Another field called Rakhsh field was discovered and commercial production commenced.

1975: Became a Public Company by virtue of Section 43A(1A) of the Companies Act, 1956, and name changed to Hydrocarbons India Limited. Assigned ONGC's rights, interests and liabilities in the contract dated 22nd August, 1973 entered into with Iraq National Oil Company.

1976: The assignment of the contract with Iraq National Oil Company for exploratory drilling in Iraq in favour of HIL was annualled ab-initio by ONGC.

1977: An agreement on Tax, Additional Payment and royalty, stipulating payment of income tax and additional payment at the rate of 55% and 30% respectively on net profit arrived at after allowing a discount of 7% on posted price and payment of Royalty @ 20%on the posted price of crude oil exported, was signed.

A £ 40 million project for water injection of Rakhah field to step up production from secondary recovery was cleared by the parties of Joint venture.

1978: Work on Rakhsh Water Injection Scheme was started. Decision regarding Water Injection in Rostam field was also taken.

During October-December, there was some dislocation in production/despatches due to strikes and political situation in Iran.

1979: The company along with other Secondary Party partners was not permitted to lift its share of oil during the year. The Second Party decided to initiate discussions with the First Party,i.e. National Iranian Oil Company regarding terms for cancellation of the Joint Structure Agreement.

(v) Indo-Stanvac Oil Exploration Project

1954: In April, the Indo-Stanvac Oil Exploration Project started exploration activities in partnership with the Government of India on a 75 : 25 basis covering a concession area of 10,000 sq. miles in West Bengal.

1959: The exploration project was abandoned after drilling 10 wells in the West Bengal basin all of which proved dry.

(B) REFINERIES

(i) The Digboi Refinery, Digboi

1893: The Assam Railways and Trading Company erected a small refinery at Margherita to refine the crude oil found at Makum and Digboi. This refinery was the first of its kind in the Indian sub-continent and operated for a few years. It has since changed its venue from Margherita to Digboi in its subsequent expansion and growth.

1900: The construction of a new refinery at Digboi was started by the Assam Oil Company Ltd.

1901: The Digboi Refinery went on stream.

1923: The entire refinery was rebuilt, and the refinery capacity was also enlarged.

1926: Two product pipelines were laid between Digboi and Tinsukia.

1932: An Edeleanu plant for giving Sulphur Dioxide treatment to Kerosene was installed and brought into commission.

A Dubbs plant for "Cracking" process was installed.

1934: Foster Wheeler Crude Oil distillation unit was installed.

1938: Bitumen plant was installed.

1940: Lummus-Crude oil distillation unit was installed.

1950: A plant for fabrication of steel barrels was installed.

1953: Gasoline extraction plant was commissioned.

1954: Foster Wheeler, Lube Oil Distillation unit was installed, which was the first of its kind to be installed in India.

Refinery was linked up with two pipelines for the receipt of crude oil and gas from Nahorkatiya oilfield.

1956: A new pipeline for the pumping of white oils to Tinsukia installed; one of the oil lines was replaced by a new one.

1970: Improvements in process techniques were introduced for the out turn of better quality lubricating oils.

1971: First phase of the project for the improvement in refrigeration capacity of wax treating plant and the rejuvenation of Edeleanu plant for increasing production of Superior Kerosene were completed.

1972: To supplement the cooling water demand of the refinery a three cell induced draught RCC cooling tower was commissioned.

The oil 4 Red oil line for pumping furnace oil from Digboi to Tinsukia was replaced by a new 6 line.

1973: For increasing the production of Superior Kerosene, an additional electric power driven SO2 Compressor was installed in the Edeleanu plant.

1975: To supplement the cooling water demand of the refinery an additional three cell induced draught RCC cooling tower was commissioned.

1976: Two new J.T. Boilers were commissioned for improving steam generation.

1977: A new product-carbon black feed-stock was introduced.

(ii) Burmah-Shell Refineries Ltd. / Bharat Petroleum Corporation Limited, Bombay.

1903: The Asiatic Petroleum Company entered the Indian market.

1921: The Burmah Oil Company entered the Indian market.

1928: On 6th January, Burmah-Shell came into existence.

1951: Refinery Agreement was signed towards the end of this year.

1953: In February, site development was commenced.

1955: On 30th January, Refinery came on stream and processed 1.8 million tonnes of crude in the year.

In June, Bitumen production was commenced.

1956: Commenced production of LPG and Motor Spirit MT-80.

Duty protection on Motor Gasoline was surrendered with effect from 1st October.

1957: In February, Aviation Turbine Fuel production was started.

In September, platforming unit was commissioned.

1959: Duty protection on High Speed Diesel, Light Diesel Oil, Furnace Oil and Bitumen was surrendered from 1st July.

1961: Regular production of Jute Batching oil commenced from February.

1962: Processing of Ankleshwar crude together with Iranian Light crude was started.

1963: MT-80 Sub-zero and Inferior Kerosene were also added to the range of products.

1965: In March, SBP Unit was commissioned to produce SBP 55/115.

In August, gas supply by pipeline to FCI was commenced.

In September, 93 Octane Motor Spirit was manufactured for the first time.

1966: Commenced production of CBFS, Mineral Turpentine and Hexane.

1967: In March, production of Avgas 100/130 was started.

1968: In March, 6 pipeline for delivery of naphtha to NOCIL was commissioned.

In May, Ankleshwar crude receipts were stopped.

1969: Achieved a refinery capability of 5.25 million tonnes per annum.

1970: Pioneered the formation of the "Technical Development Committee for Indigenous Materials" for the Petroleum, Petro-Chemicals and fertilizer industries in the country.

1973: Processing of Government crude was commenced.

1974: In May, "Export House", status was accorded.

Established a Fuel Advisery Cell for promoting fuel economy by users.

1976: On 24th January, the refinery caompany was taken over by the Govt. of India and the assets of Burmah-Shell in India were merged with those of the nationalised company to form Bharat Refineries Limited.

Set up centre for technology (centech) to serve the development needs of BRL and HPCL refineries initially.

1977: Commenced production of Low Sulphur Heavy Stock(LSHS).

In August, the company was given its permanet name, Bharat Petroleum Corporation Ltd. (BPCL).

1978: In July, the refinery started receiving Bombay High crude by pipelines.

1979-80: Processed eleven different crudes, the highest in any year.

(iii) Esso Standard Eastern Inc./Hindustan Petroleum Corporation Ltd.(Fuel Refinery)

1951: In November, an agreement was signed between Govt. of India and the Standard Vacuum Oil Company to set up an oil refinery at Trombay, Bombay.

1952: In July, the Standard-Vacuum Refining Company of India Ltd. was incorporated.

1954: On 29th July, the Stanvac refinery went on stream.

1956: Stanvac exported Motor Gasoline.

1957: The duty protection on Motor Gasoline was given up by the Company. Stanvac started HHS fuel supplies to the adjoining Tata Trombay Thermal Power Station.

1958: Stanvac started manufacturing LPG and JBO.

1959: Stanvac started manufacturing asphalt and cooperated in setting up the Standard Barrels manufacturing factory which started supplying asphalt drums to refinery.

1960: In September, Stanvac started exporting Indian expertise and 4 employees were sent to Philippines as set-up Advisers to new refinery.

In November, duty protection on other petroleum products was also surrendered.

1961: Stanvac exported Asphalt.

1962: In April, Corporate name was changed to Esso Standard Refining Company of India Ltd.

On 16th November, processing of indigenous Ankleshwar crude was commenced. Esso Standard manufactured for the first time in India SBP Spirit and Hexane.

1964: Started export of Naphtha.

1965: Started manufacturing for the first time in India-FDA grade JBO Mineral Turpentine.

Started supplying raw material naphtha to enable starting of new Trombay Fertilizer plant of FCI.

1966: Started raw material naphtha feedstock supplies to the new petrochemicals plant of Carbide Chemicals Company.

1967: Started manufacturing Industrial Asphalts.

1968: Started manufacturing for the first time in India, speciality products (CS-330) and petroleum Ether to substitute imports.

1969: Started supplying feedstocks to the new Lube India Ltd. Refinery.

1970: Started manufacturing, for the first time in India, of Propane.

Staff was completely Indianized in October after departure of the last expatriate.

Manufactured Carbon Black Feedstock.

1973: Pontone & Rubber processing oil were manufactured and IOC crude was processed on refinery processing fee basis.

1974: On 15th March, the Govt. of India acquired the entire Marketing assets of Esso Eastern Inc. in India and 74% interest in Esso Standard Refining Company of India Ltd. and Lube India Ltd. On 15th July, the market assets were vested in Esso Standard Refining Company and the two companies were merged to form Hindustan Petroleum Corporation Ltd.

1975: In August, lightering operations were commissioned for the first time in India for better utilisation of 87,000 DWT tankers.

Successfully handled LPG spiked crude to maximise LPG production.

Commenced reprocessing of LSHS for Koyali Bottoms) increasing middle distillates production.

Completed a record 2.6 million manhours without a disabling injury.

1976: On 1st October, Govt. of India acquired the balance 26% equity shares held by Esso and thus HPCL became a fully owned Government Company.

Produced a trial batch of Heptance for IPCL.

Produced for the first time 'Insectol' which is a Carrier for insecticides. Earlier, this was being brought in Bombay region from Assam Oil Refineries.

Set up a centre for technology (CENTECH) in collaboration with Bharat Refineries Ltd. to serve the interests of refineries in the allied fields. Research & Development, design and operations.

Facilities for VPS/Cat debottlenecking project being installed.

In view of Bombay High crude processing at Bharat Refineries Ltd. installation of number of facilities for integration of operation at HPCL and BRL were commenced.

1977: Number of facilities installed for integration of operations with BPCL were commissioned.

1978: On 18th January, Secondary Processing facilities to match fractionating capacity of 3.5 million tonnes per annum were commissioned.

1979: In August, commercial processing of Waxy distillates from Bharat Petroleum Corporation's refinery was started.

1980: In February, for the first time a consignment of 1000 tonnes of imported LPG was received in the refinery.

(iv) Caltex Oil Refining (India) Ltd./Hindustan Petroleum Corporation Ltd., Visakhapatnam.

1953: In March, an agreement was reached between the Govt. of India and Caltex (India) Ltd. to establish a refinery on the East Coast of Vizag.

1955: In February, the Caltex Oil Refining (India) Ltd. was incorporated.

1957: In April, the refinery went on stream at Visakhapatnam. Exports of Mogas and Fuel oil were undertaken in the same year.

1959: In October, the duty protection on Motor Gasoline was surrendered.

1963: In April, duty protection on other products was surrendered.

In May, manufacturing of LPG commenced.

1964: Started export of Naphtha.

1969: Exported Asphalt.

1973: During November-December, processing of IOC crude on processing fee basis was commenced.

1975: In June, purchase of crude oil from IOC was commenced. The crude oil was transported by World Bank Tankers and transhipped into smaller vessels for discharge into Refinery storage tanks.

1976: In November, the first trial cargo of Bombay High crude was processed.

On 30th December, the Govt. of India acquired 100% shares of Caltex Oil Refining (India) Ltd.

1977: The modification of the refinery to permit processing of 0.5 MTPA of Bombay High crude was started.

1978: On 9th May, Caltex Oil Refining Company was amalgamated with Hindustan Petroleum Corporation Ltd.

1979: Refinery expansion project for increasing crude processing capacity to 4.5 million tonnes per annum was submitted to the Government.

(v) Indian Oil Corporation (Refinery Division)

(a) Barauni Refinery, Barauni, Bihar

1961: In June, a contract was signed with M/s Tiajpromoxport, Moscow for the design and supply of equipment and the supervision of erection and operation of the Barauni Refinery.

1964: In July, the first unit of the Barauni Refinery went on stream.

1966: In February, the second stage was commissioned.

1967: In November, the third stage comprising of Lube Oil complex was completed.

1969: On 21st January, the expansion of refinery was completed. Construction of the coke calcination plants started.

1971: In June, Government approval for revamping of Barauni Refinery for processing of imported crude and expansion of refinery capacity was obtained.

In November, the erection of coke calcination plant was completed and test review was conducted.

Sale of Phenol extract and slack wax was started.

1972: In December, processing of imported crude was started.

1974: In July, trial production of rubber extender Oil(higherto imported) was started and two wagon load of the same were despatched for the first time to M/s Synthetics & Chemicals Ltd., Bareilly, for evaluation and plant trials at their end.

In September, Naphtha pipeline to FCI was commenced.

1975: In view of expected idling of dewaxing unit due to decrease in sale of 800 pale lube oil ex-Barauni, an important scheme of producing middle distillates components in dewaxing unit was introduced.

1977: In February, the movement of LSHS for consumption of Haldia Refinery was started.

1979: From 27th December, crude supplies were stopped due to agitations in Assam.

1980: From 2nd January, refinery had to be shut down for want of crude oil.

(b) Gauhati Refinery, Gauhati, Assam

1962: On 1st January, the Gauhati Refinery went on stream.

1964: In October, Gauhati-Siliguri pipeline was commissioned.

1969: In November, production of ATF was commenced.

1971: In March, production of LPG was started.

1976: Naphtha production and offtake were started during April.

1977: In March, regular despatches of LSHS to Chandrapura Thermal Power Station of Assam State Electricity Board was started.

In May-June, major modifications repair jobs to the main fractionating column of the coking unit were taken up after 15 years of operation.

1979-80: Refinery suffered frequent interruptions in its operations towards the end of the year due to disturbed conditions in the Eastern Region.

(c) Gujarat Refinery, Jawahar Nagar, Gujarat

1963: The technical report on setting up of the Gujarat Refinery was accepted and an agreement for supply of equipment from USSR was signe.d

1965: In October, the first one million tonne unit was commissioned.

1966: In May, the second million tonne unit was commissioned.

1967: On 28th September, the third million tonne unit for the expansion of refinery capacity from 2 to 3 million tonne was commissioned.

1968: On the 17th December, the Udex Plant was commissioned at the Gujarat Refinery for the extraction of Benzene and Toluene from reformed Naphtha.

1969: In July, a pilot plant was set up and commissioned at the Gujarat Refinery by the IIP to conduct investigations for the extraction of protein from petroleum.

1974: In October, two new 10,000 crude oil tanks were commissioned.

1975: LSHS despatches to HPCL were started on 8th June and are continuing on regular basis.

Facility for loading of LSHS in trucks was commissioned during July.

Horton sphere for LPG was commissioned on 18th August, this has helped in increasing the storage capacity for this product.

1977: In January, the despatches of LSHS to Bassain - a newly set-up installation were started.

In July, the first supply of Naphtha to IPCL's cracker plant was made.

In October-November, Atmospheric Distillation Unit(AU-IV), Visbreaker, Naphtha and Kero Merox Units put up under the project.

"Gujarat Refinery expansion facilities", were started.

1978: In March, supplies of special cut kerosene, i.e. LABFS as a feedstock to IPCL, Baroda were started.

1979: In February, Vaccum distillation Unit and Bitumen Unit were started under the expansion scheme.

In September, processing of Bombay High crude was started.

1980: In order to optimise the processing capacity of old distillation units, processing of imported crude was undertaken in February for a short period.

(d) Haldia Refinery, Haldia, West Bengal

1967: In September, the decision to set up a refinery with French and Rumanian collaboration under the charge of Indian Oil Corporation was taken up by the Govt. of India.

1969: Contracts for design supplies and rendering of technical assistance were executed separately with M/s Technip/Ensa of France and M/s Industrial expert of Rumania.

1970: Contract for fabrication and erection of all welded storage tanks awarded and work commenced in June.

In November, construction work on first phase of Refinery Township was commenced.

1971: During January, the construction of Process Unit foundation and other civil works were started.

During November, work of erection of equipment, machinery, piping and structures for the fuel part of the refinery was commenced.

1972: In February, construction of Refinery Township - second phase was started.

In March, work of erection of equipment, machinery, piping and steel structures for the lube was taken up.

In May, electrical works in power plant process units and off-sites was commenced.

During October, instrumentation work for fuel part of the refinery was started.
In December, LPG, SK and ATF upliftments were started.

1974: In August, crude distillation unit went on trial runs.

In December, naphtha pretreater Catalytic reforming and kero hydrodesulpharisation units were commissioned.

In October, HSD and FO despatches were started.

1975: The refinery went into commercial production on 1st January. Visbreaking unit was commissioned on 8th October. Production of JBO and MTC products was started.

1st Naphtha export parcel of 17 thousand tonnes was loaded in the tanker on 22nd May.

1976: Vaccum distillation and Bitumen units were put on stream during June.

Furfural Extraction Unit was commissioned in July.

Propane Deasphalting Unit was commissioned in August.

Bitumen drum filling station was commissioned and drum filling was commissioned during October.

1977: In January, solvenet dewaxing and Hydrofinishing Units were started.

In March, despatches of Lube Base Stocks including bright stocks premium grade lube oil hitherto imported were commenced.

In July, FDASBO production was started.

1979: In October, pipelines for supply of feed-stock to Haldia Fertilizers and F.O. to bunkering installations at Haldia were commissioned.

(e) Mathura Refinery, Mathura

1973: In July, a Protocol on economic and technical cooperation between India and USSR in the construction of Mathura Refinery was signed.

In September, a contract for deputation of Soviet specialists for preparing Memorandum of Instructions was signed between Indian Oil Corporation and NEFTECHIMPROMEXPORT, Moscow.

In December, a contract for preparation of Detailed Project Report Analysis of crude oil, supply of equipment/material deputation of Soviet Specialists for rendering technical assistance in setting up the refinery was signed.

On 2nd October, the foundation stone was laid.

1974: In January, process design engineering agreement was signed with UOP for fluid catalytic cracker and five Merox Units.

In May, process design engineering agreement signed with IIP/IFP for Diesel, HSD and catalytic reformer with pretreater units.

In March, a letter of intent was issued to M/s BHEL for design, supply and erection of the power plant on a turn key basis.

In November, an agreement was signed for pollution control studies with M/s Techmeco of Italy.

1975: On 19th April, a team of Soviet Specialists arrived for review/scrutiny of the detailed project report.

On completion of DPR discussions, a DPR Acceptance Protocol was signed between IOC and Neftechimpromexport.

Government decision regarding the revised schedule for Mathura Refinery, i.e. Mechanical Completion by December, 1979 and commissioning by April, 1980 received.

A contract for supply of equipment and materials and technical assistance was signed in Moscow with M/s NEFTECHIMPROMEXPORT.

1976: The first shipment of USSR equipment was received in June.

Contracts for stage A of the first phase of Township awarded in January.

Contract awarded in respect of construction of Radial Well in Yamuna river for water supply in April.

In July, contract awarded for site grading, roads and storage tank foundations.

In November, contracts awarded for civil and Structural works for power plant building.

1977: A number of contracts for different jobs were awarded during the year.

In December, a detailed project report and the revised cost estimates were submitted to the Government for approval, Government's approval for selection of the Sulphur Recovery Unit was also received during that month. The Expert Committee constituted by Government to advise IOC on environmental (impact) of Mathura Refinery submitted its report to the Government in the month of December.

1978: In May, the detailed Project Report and Revised Cost estimates were approved by the Government.

1979-80: Upto the end of March, the project achieved overall progress of 81%.

(vi) Cochin Refineries Ltd., Cochin

1963: On 27th April, the formation agreement was entered into between the Government of India, Phillips Petroleum Co. of U.S.A. and Duncan Brothers & Company Limited, Calcutta for setting up a Refinery in the South.

1963: On 6th September, Cochin Refineries Ltd. was registered.

1966: On 23rd September, the Refinery was inaugurated.

1968: The Formation Agreement of 27th April, 1963 was modified and expansion of the Refinery capacity was agreed to.

1973: In August, expansion programme of the Refinery was completed.

1979: On 5th December, Govt. of India approved the secondary processing scheme for CRL.

On 5th December, the Refinery completed third, one million manhours' without a loss time accident.

(vii) Madras Refineries Ltd., Manali, Madras.

1965: In December, the Madras Refineries Ltd. was incorporated as a joint venture of the Government of India, The National Iranian Oil Company and AMOCO.

1966: In November, a contract was awarded to M/s Snam Progetti for construction of the refinery.

1967: In January, the ground breaking ceremony took place.

In April, the construction and erection of the refinery was started.

1969: First crude oil tanker arrived.

In June, the first batch of products were delivered to IOC.

In September, the refinery was formally inaugurated.

1972: In September, New Oil Jetty for bearthing tankers in fair weather was available.

1973: Received first prize under Shram Vir National Safety Awards for highest reduction in accident frequency ratio among Petroleum Refineries. New products like Rubber Processing Oils, Ink Oil and Axle Oil were developed.

Asphalt was exported to Indonesia for the first time.

Exported lubricating oil base stock to Bangladesh for the first time.

All the three prizes under Shram Vir National Awards in Accident Prevention among Refineries were awarded.

Achieved ninth position in All India ranking amongs public sector undertakings on the basis of value of sales.

1975: Fuel consumption was reduced by 10% which resulted in annual saving of about one crore rupees.

1976: Throughput of 2.60 million tonnes achieved against (design) capacity of 2.5 million tonnes.

1977: MRL was declared the Runner up for National Shram Vir Award Scheme for the longest Accident for record for 1976 amongst Petroleum Refineries in India.

1978: In November, licence and engineering services agreements for paraffix wax plant were executed with M/s Union Oil Company of California, U.S.A.

1980: On 20th March, Union Cabinet decided to double Madras Refinery capacity from its present 2.8 million tonnes per annum to 5.6 million tonnes per annum with matching facilities for secondary processing.

(viii) Bongaigaon Refinery & Petro-chemicals Ltd., Assam

1974: On 20th February, the company was registered under Companies Act, 1956 in the State of Assam, with an authorised capital of Rs.50 crores.

The work on various aspect of the refinery was entrusted to M/s Engineers India Limited and process design completed indigenously for the first time.

Feasibility Report of K.T.U. was prepared and submitted to the Ministry.

1975: Clearance for K.T.U. was obtained. Clearance of Public Investment Board was obtained for coker unit.

1976: Preliminary work was in progress.

1977: KTU Civil work started in June and DCU/CCU Civil work in October.

In November, the share capital of the company was increased to Rs.100 crores.

1978: In April, mechanical completion of crude distillation unit was over.

1979: In January, first Module of Power Plant was commissioned.

In February, Crude Distillation Unit went on stream.

On 2nd March, first Rake Carrying Petroleum products rolled out of the refinery.

1979-80: The Commercial Production of Crude Distillation Unit(CDU) was commenced from 1st April, 1979.

In December, Mechanical Completion of Kerosene Treating Unit (KTU) was over.

The process engineering for all the Refinery Units under construction was also completed and fabrication and erection of coke chambers for delayed coker unit was completed in December.

The first module of Captive Power Plant was inaugurated.

Completion of Steam Blowing of boiler 2, Hydrolic testing of boiler No. 3 and Acid cleaning of lube oil and governing oil pipe for the captive power plant was carried out.

(C) MARKETING

(i) Burmah-Shell/Bharat Petroleum Corporation Ltd., Bombay.

1903: The Asiatic Petroleum Company entered in Indian market.

1921: The Burmah Oil Company entered the Indian market.

1928: On 6th January, Burmah-Shell came into existence.

1956: Burmah-Shell started the use of special tank-wagons for transportation of Bitumen. In May, Indian flag vessel Desh Sewak was chartered.

1965: Burmah Shell started use of special tank wagons for transportation of LPG.

1968: Burmah Shell introduced locally developed HDPE containers for packing lubricants.

1972: Burmah Shell commissioned a prototype aluminium alloy tank lorry for MS/HSD delivery to retail outlets.

1974: Burmah Shell established a Fuel Advisory Cell for promoting fuel economy through export advice to fuel users.

1976: On 24th January, the Burmah Shell Refineries Ltd. was taken over by the Govt. of India and the Indian assets and liabilities of Burmah-Shell were merged with those of the nationalised Company to form Bharat Refineries Ltd.

1977: In August, the nationalised Company was given its permanent name - Bharat Petroleum Corporation Limited.

1980: In February, LPG was imported for the first time in tankers.

(ii) Esso Standard Eastern Inc./Hindustan Petroleum Corporation Limited (Marketing Operations).

1882: Esso's predecessor Company in India, Standard Oil Company of New York, commenced supply of Kerosene.

1931: Standard Vacuum Oil Company was formed with the merger of Standard Oil Company of New York and Vaccum Oil Company.

1933: On 7th September, Standard Vaccum Oil Company started operations in India.

1958: Marketing of LPG for domestic use was started in Bombay.

1962: On April 1, Esso came to India. Standard Vaccum Oil Company was reorganised and named as Esso Standard Eastern Inc. which is solely owned by the Standard Oil Company, New Jersey.

1965: On 15th September, an agreement was signed between the Government of India and Esso Standard Eastern on a 50:50 partnership for the construction of a jointly owned lubricating base oil refinery at Bombay.

1970: On 11th February, Lube India Limited was formally commenced for producing lubricating oil base stocks from feedstock supplied by ESRC.

1971: On 1st January, corporate name was changed to Esso Eastern Inc.

1974: On 15th March, the Government of India acquired the entire market assets of Esso Eastern Inc. in India and 74% interest in Esso Standard Refining Company of India Ltd. and the Lube India Ltd.

On 15th July, the market assets were vested in Esso Standard Refining Company and the two companies were merged to form Hindustan Petroleum Corporation Ltd.

The Fuel Refinery completed 20 years in July. Foreign exchange saved since 1954 has been more than Rs.175 crores.

1975: For the first time in India, in August lightering operations were commissioned to better utilise the 87,000 DWT tankers owned by the Shipping Corporation of India.

Started sale of Vijai De-lume scooters manufactured by Scooters India Ltd. through company-owned service stations at Bombay, Madras and New Delhi.

Axle oil handling facilities installed at Mahul Terminal began supplies of Axle oil medium and heavy to railways in bulk and 205 litre drums.

1976: On 1st October, Government of India acquired the balance 26% equity shares held by Esso and thus HPCL became a fully owned Government Company with effect from 1st October.

Marketing of turbine oil blends and rubber processing oil (heavy) commenced.

1977: Under the rural marketing programme, the total number of Multi-purpose distribution centres moved upto 89 and those of Farm Fuel Centres to 20.

1978: On 9th May, an order for amalgamating Caltex Oil Refining (India) Ltd. with Hindustan Petroleum Corporation Ltd. was issued by the Company Law Board.

1979: On 31st March, Cat Debottlenecking Project was completed.

On May 26, the Govt. of India acquired the undertaking of Kasangas Company. On the same day, the Government vested the right, title and interest and liabilities of the undertaking of Kosangas to HPCL. The Government also took-over the management of the Undertakings of the Parcel Investments and Trading Company Private Ltd., and the

1979: (Contd.) Domestic Gas Private Ltd. and appointed HPCL as 'Custodian' of these undertakings with the acquisition of these undertakings, HPCL assumed the direct responsibility of serving nearly eight lakh LPG consumers in the country.

Retail outlets in several urban and rural areas were geared to promote the national Family Welfare Programme.

(iii) Caltex (India) Limited/Hindustan Petroleum Corporation Limited, Visakhapattanam.

1937: Caltex started its operations in India by taking over the business of Texas Company (India) Ltd.

1959: In October, Caltex chartered an Indian Flag tanker 'Desh Bandhu' for crude service. Desh Deep for offshore movement of its products.

1964: In April, Caltex chartered the Indian Flag tanker 'Desh Bandhu' for crude service.

1972: In response to a request from Government of India, 'Desh Bandhu' was initially surrendered by Caltex for a period of one year.

1973: The release of 'Desh Bandhu' was extended.

1974: The release of 'Desh Bandhu' was further extended to cover the balance period under charter to Caltex.

1976: On 22nd November, an agreement was signed between Govt. of India and the principals of Caltex for purchase of 100% shares of Caltex Oil Refining (India) Ltd. and acquisition of assets & liabilities of Caltex (India) Ltd. in relation to its undertakings in India. This was made effective by promulgation of an Ordinance on 30th December transferring 100% shares of CORIL and assets and liabilities of Caltex (India) Ltd. to a new Government Company.

1977: Three multi-purpose distribution centres were commissioned during the year and marketing of 'Exide' batteries and 'Nutan Stove' (in Delhi Region only) was commenced through retail outlets.

1978: On 9th May, Caltex Oil Refining Company of India Ltd. was amalgamated with Hindustan Petroleum Corporation Limited.

(iv) Indian Oil Corporation Ltd. (Marketing Division)

1959: On the 30th June, the Indian Oil Company Ltd. was formed. Agreements were signed with Sojuneftexport, the Soviet Oil Export Organisation for importing Kerosene and HSD.

1960: In July, first import tanker was received from USSR at Bombay installation.

1961: In October, first retail outlet at Cochin was commissioned.

1962: In February, first shipment of petroleum products to Bhutan was made.

In May, first inland installation at Siliguri to receive products directly from the Gauhati Refinery by product pipeline was commissioned.

1963: In April, first shipment of petroleum products to Nepal was made.

1964: On 1st September, the Indian Oil Corporation Ltd. was formed with the merger of the Indian Refineries Ltd. and the Indian Oil Company.

In October, supplies to defence commenced.

1965: During May, bunker fuel oil supplies to the Indian Navy started.

During November, supplies to first civil customer in field of civil aviation were made.

On 22nd October, introduced LPG from Barauni Refinery under the trade name of INDANE in Calcutta market.

1967: On 6th January, exported Motor Gasoline to Thailand.

During July, first INDANE distributorship was offered under rehabilitation programme for ex-servicemen.

1968: On 6th May, bitumen to Ceylon was exported for the first time.

In September, first LPG bottling plant at Shakurbasti was established.

During October, first tanker at the new port of Haldia was loaded.

1969: On 30th April, LPG was introduced in Assam.

On 25th August, LPG was introduced in Southern India.

LPG to an industrial consumer at Ernakulam was supplied.

In August, first LDO barrel outlet was commissioned at an interior location namely Mehmedabad, for ensuring adequate and timely supplies of fuel at controlled prices for diesel engines for agricultural operation. As at the end of 1971, IOC increased this facility to 280 barrel outlets and 2 pump outlets spread all over the country.

Two new products, viz. Benzene and Toluene were added to the marketing list of POL products of IOC.

On 24th October, a Subsidiary Company of IOC under the name of India Oil International Ltd. was incorporated at New Delhi which will be trading in Nepal also.

Handled more than 50% of the total petroleum trade of the country.

1969: In July, marketing of products from Madras Refinery were (Contd.) commenced.

1970: On 12th January, majority interest in IBP was acquired by purchasing 60% equity.

On 4th April, Indian Oil's new blending plant at Madras was commissioned with all modern facilities to produce quality lubricants for the entire industry demand in the Southern Region. This is the largest plant in the country (140,000 tonnes/year capacity) and is entirely owned by IOC.

On 5th July, the first retail outlet was commissioned at Coimbatore under the scheme of employment to unemployed graduates.

In October, first Indane dealership was offered at Chingelpet, Tamil Nadu under the scheme of offering employment to unemployed graduates.

1971: During April, a gaint 45 Kl. Avnrefueller, which was designed and developed by IOC and fabricated indigenously was commissioned.

Lube Oil imports on an industry basis were channelised exclusively through IOC.

In December, first export shipment of petroleum products to Bangla Desh was made.

1972: In January, scheme for the award of dealerships to rehabilitate-war affected defence personnel was introduced.

During March, supplies of crude oil to the Chittagong Refinery of Bangla Desh were arranged and offloading of the crude tanker in mid stream by lighters at Chittagong was done.

In April, drum plant at Madras started production of barrels for lubes and drums for bitumen.

In August, majority interest in IBP was sold to the President of India in accordance with the Presidential directive. As such, IBP ceased to be a subsidiary Company of IOC.

During September, premium grade lube with indigenous formulations under the brand name 'SERVO' were introduced.

1973: In July, marketing of LPG produced at Cochin Refinery commenced bulk bitumen sales from Madras Refineries were commenced by deliveries to Tamil Nadu Highways Department.

In August, Petroleum business of Indian Oil International was taken over by the Nepal Oil Corporation as percorders of the Government of India.

1974: In July, agreement with MOBIL in blending/marketingof premium lubricants of MOBIL brands terminated and was replaced by range of premium servo brands of lubricants.

During August, a liquidator of India Oil International Ltd. a wholly owned subsidiary was appointed and the Company is under shareholders voluntary liquidation.

1974: (Contd.) A programme for educating the consumers towards improving fuel efficiency in their respective plant was launched. A group of IOC officers were trained in collaboration with the National Productivity Council and the Energy Conservation Division of DGTD.

During December, two new products were added in products range by marketing Jute Batching Oil and Rubber Extender Oil.

1975: In August, LPG Bottling Plant at Kanpur was commissioned.

In November, eighty retail outlets were developed as Multi-purpose distribution centres.

Besides, petroleum products essential commodities for farmers are made available in these centres.

The entire requirements of Axle oils was met by indigenous production. Till 1974, this was being imported.

1976: Laid stress in fulfilling social objectives such as fuel conservation studies to save foreign exchange, developing multipurpose distribution centres in the rural areas. Concentrated in the development of customer services and exports. Exported bitumen to new markets such as Vietnam, Burma and Dubai.

Commissioned a retail outlet at Leh at an altitude of 125,000 feet, perhaps the highest located retail outlet in the world.

In February, IOC and Castrol, U.K. entered into a technical assistance and collaboration agreement.

Refuelling systems for Jumbo Jets in Calcutta commissioned.

During January-June, IOC introduced LPG in the States of Manipur, Tripura, Orissa, Mizoram and Nagaland.

In November, Indian Oil International was dissolved.

Launched a unqiue one month crash programme at Jamkhed, Ahmednagar district for the training of twenty Gram Savikas in First Aid, Family Planning, Immunisation, Safe Drinking Water Projects, Village Health Centre, Cattle Breading Safety, precautions at homes (proper use of lanterns, stoves, deoyas) basic hygiene and sanitation, child care & nutrition & prohibition as a part of services to the rural population.

In December, pipeline facilities at Goa Port commissioned.

1977: On 14th February, IOC's paid up capital was increased from Rs.71.18 crores to Rs.82.18 crores. Further, on 22nd February, the authorised capital of the company increased from Rs.85 crores to Rs.150 crores.

With the export of 16,000 MT of HVI base stock to Sri Lanka in May 1977 and 45 MT to Sharjah IOC successfully penetrated the international lube oil market which was the monopoly of major international oil companies.

1977: (Contd.) Several new multi-purpose distribution centres were opened by IOC for the benefit of the rural sector. A rural market survey was also undertaken to identify and meet the needs of the farmers in rural areas.

LPG Bottling Plant at Kanpur was completed.

An improved kerosene wick stove 'Nutan' developed by Indian Oil's Research & Development Centre, was put out for sale.

1978: A lube godown, the first of its kind in the country, was opened at Pimpri to ensure easy availability of products to the growing number of industries in the industrial belt near Pune.

In March, a new depot at Kapri near Nagpur was commissioned. Future growth of retail outlets companywise was also rationalised and the New Sales Plan came to be adopted.

In April, Centralised use of EPC's computer for processing of Industry's Consumption Zone studies was introduced.

In May, one more Divisional office at Raipur was opened.

In September, Government's approval was received for Hydrant Refuelling system at the new international airport in Bombay and the work on the project was commenced.

Resitement of Bangalore depot was taken on hand, and construction of thenew depot was nearing completion.

LSHS supply to Koradi power house near Nagpur was commenced.

For the first time, a study was undertaken on HSD consumption by the Railways and several conservation measures were suggested, which would result in a huge saving.

IOC signed an agreement with Cheoran International Oil Co., USA for reciprocal arrangements for the supply of Marine Lubricants meeting international specifications to Indian and foreign flag vessels at Indian and foreign ports.

Containerised service for major consumers was introduced to avoid pilferage and contamination of products.

1979: In February, feasibility report for marketing of LPG during 1978-79 to 1982-83 was approved by the Government. According to this proposal 17.54 lakh customers will be enrolled during the same period, and the sale of LPG is expected to increase from 201,000 M.T. to 462,000 M.T. Further, in order to ensure availability of Kerosene at fair price in remote and far flung hilly areas, IOC launched at scheme of opening Taluka Kerosene Depots. The first such depot awas opened at Rishikesh in U.P. Marketing of products from Bongaigaon Refinery and Bitumen ex-Cochin Refinery (after a lapse of almost 4 years) was also commenced during the month of February.

1979: (Contd.) In March, the dealership policy was oriented to rehabilitate physically handicapped persons, by offering dealerships to such persons. The first retail outlet under this scheme was commissioned. Marketing of Bitumen, produced for the first time by Gujarat Refinery, was also commenced during the same month.

1980: In November, as part of import substitution efforts, arrangements for manufacture of certain proprietory brands of greases for cement plants were made.

1980: In February, the project report for pipeline installations at Delhi, Ambala and Jullundar, a part of Mathura-Jullundar Pipeline Project, was approved by the Government.

A mini-bottling plant for LPG marketing was commissioned at Bangalore.

(D) LUBE PLANTS

(i) Lube India Limited/Hindustan Petroleum Corporation Limited (Lube Refinery).

1965: On 15th September, lube refinery agreement was signed by the President of India and Esso Eastern Inc. on a 50:50 partnership for construction of ajointly owned lubricating base oil refinery at Bombay.

1966: On 4th April, the Company was incorporated.

1969: Refinery went on stream and the first shipment of lubricating oil base stocks was made on 31st December to Esso and Indian Oil Corporation Ltd.

1973: Company obtained an industrial licence for manufacture of carbon black feed-stock.

CBFS licence was enhanced to 110 thousand tonnes.

Company made experimental batches of 150 turbine oil base stock.

1974: Axle oil to substitute imports was manufactured for the first time.

In March, Govt. of India acquired 74% interest in this Company.

On 15th July, the Company was merged to form Hindustan Petroleum Corporation Ltd.

1975: The Lube Refinery commenced commercial production of Rubber Process Oil.

Turbine oil base stocks (10,000 MT/p.a.) produced on a commercial scale.

1977: During October-November, crude pre-heat optimization project was completed during turn around. This project improved the crude pre-heat recovery, resulting in fuel saving.

Completed four years of safe operations without a lost time injury - a record in the history of lube refinery.

1979: Expansion project envisaging additional production of 74,000 M.T. of high viscosity index lube base stock was under way.

(ii) Lubrizol India Limited

1965: On 2nd December, the Formation Agreement was signed between theGovt. of India and the Lubrizol Corporation of U.S.A.

1966: On 20th July, Lubrizol India Ltd. was registered in the state of Maharashtra.

1967: In early 1967 land was acquired and in the month of October construction work was started.

1968: On 26th November, the plant was mechanically commissioned and production was commenced.

1969: On 16th January, the plant was formally inaugurated.

1971: On 26th March, entire management including the Managing Director was Indianised.

1972: In February, the ground breaking for construction of the new plant (Phase II Stage I) was started.

1973: On 31st October, the plant (Stage I of Phase II) was commissioned.

1974: In December, work on execution of new plants (Stages II and III of Phase II) was started.

1976: In September, Industrial licence for increasing licenced capacity for Chemical Additives from 6000 tonnes to 10,000 tonnes per annum was granted by the Govt.

1977: In March, Stage II of Phase II was commissioned.

In May, Stage III of Phase II was commissioned.

On 21st May, the plants were formally inaugurated.

1978: In March, industrial licences for enhancement of the licenced capacities for chemical additives from 10,000 tonnes to 15,000 tonnes and Engine Oil Dispersant Intermediate Components from 4000 tonnes to 6000 tonnes per annum were issued by the Government.

1979: On August 25, a new Technology Transfer Agreement and Trade Marks Agreement were signed between the Lubrizol Corporation, USA and Lubrizol India Limited, replacing the earlier Technical Service Agreement and Trade Marks Agreement which formed a part of the Formation Agreement of December 1965. Under the new Technology Transfer Agreement, which is for an initial term of 8 years, Lubrizol Corporation will provide formulation technology as also R & D assistance for the manufacture of Chemical Additives. As a consequence the Formation Agreement has also been suitably modified.

1980: On January 25, the foreign equity participation was brought down from 49 to 40% and Government of India's holding was raised from 51 to 60%.

(iii) Indian Oil Blending Limited

1962: On 16th November, distributorship agreement was signed between Indian Oil Corporation Ltd., Bombay and Mobil Petroleum Co.Inc., New York, as a result of which Indian Oil Blending Ltd. was established for manufacturing lubricating oils of Mobil and other Brands, with financial participation in the new company by Mobil Petroleum Co.Inc.

1963: On 25th March, Indian Oil Blending Ltd. was incorporated as a Public Limited Company under the Companies Act, 1956 at Bombay, with an authorised capital of Rs.20 lakhs, out of which 10 lakhs were contributed by Indian Oil Corporation Ltd. and Rs.10 lakhs by Mobil Petroleum Co.Inc. in Dollars.

1964: In May, two plants at Bombay and Calcutta were commissioned and trial runs were started with the installed capacities of 64,000 kls for Bombay and 32,000 kls for Calcutta plants per annum of Lubricating oils.

1966: On 1st November, a supplementary agreement was signed between Indian Oil Corporation Ltd. and Mobil Petroleum Co.Inc. for the construction of Grease Manufacturing Plant attached to the lube plant at Bombay. The authorised capital was increased to Rs.40 lakhs from Rs.20 lakhs and the increase of Rs.20 lakhs was also contributed equally by Indian Oil Corporation Ltd. and Mobil Petroleum Co. Inc. the capital contributed by Mobil Petroleum Co.Inc. being in U.S. Dollars.

1967: On 7th May, the Grease Plant was commissioned with an installed capacity of 5 million Pounds per annum.

1968: On 19th July, a Supplemental and Amendatory Agreement was signed between Indian Oil Corporation Ltd. and Mobil Petroleum Co.Inc. for technical assistance by Indian Oil Blending Ltd. for operating a Lube Blending Plant at Madras to be set up by Indian Oil Corporation Ltd.

1971: During the year 1971-72, the Company imported and installed at Bombay Laboratory one 900 Model Perkin-Elmer Gas Chromatograph and one 290-B Atomic Absorption Spectrophoto meter. Both these instruments are for research and development and are mainly to be used for import substitution programme.

1972: The licensed capacities were enhanced to 150 thousand kls. and 10 million pounds of grease for Bombay Plant and 100(thousand kls. of lubes for Calcutta Plant.

1974: The collaboration agreements between Indian Oil Corporation Ltd. and Mobil Petroleum Inc. of New York were terminated with effect from 19.7.1974 and the 50% of shareholdings of Mobil in Indian Oil Blending Ltd. were taken over by Indian Oil Corporation as a result of which Indian Oil Blending Ltd. became a wholly-owned subsidiary of Indian Oil Corporation Ltd.

1975: A Clay Treatment Plant was put on trial runs at Calcutta to process critical bearing lubricants with high demulsibility characteristics for steel mills.

1978: Facilities for manufacturing Hydraulic Brake Fluids at Bombay plant were put up and a Diesel Generating set was installed at Calcutta to overcome frequent power problems.

III. GROWTH OF PETROLEUM INDUSTRY IN INDIA

('000' Tonnes)

Year	Crude Oil		Petroleum Products	
	Production	Refineries Crude Charged	Production	Consumption*
1960	451	6091	5747	7964
1961	513	6440	6090	8570
1962	1078	7003	6584	9536
1963	1652	8138	7650	10387
1964	2212	8932	8428	11478
1965	3022	9754	9113	12356
1966	4647	12030	11283	12990
1967	5667	14430	13452	14133
1968	5853	16096	14923	15871
1969	6723	17495	16239	17371
1970	6809	18459	17172	18816
1971	7185	19588	18225	20706
1972	7373	19672	18198	22675
1973	7198	20518	19089	23726
1974	7490	20783	19241	23023
1975	8283	21835	20368	23541
1976	8659	22762	21188	24897
1977	10185	24430	22795	26570
1978	11271	25626	23877	28894
1979	12841	28153	26360	31076(P)

Contd.....

Rs./Crores

Year	IMPORTS			Exports/ Re-exports
	Crude	Products	Total	
1960	40.6	41.0	81.6	4.61
1961	39.3	47.6	86.9	3.76
1962	38.7	51.5	90.2	3.85
1963	41.8	54.8	96.6	5.50
1964	42.6	53.8	96.4	4.84
1965	40.4	44.7	85.1	3.92
1966	56.1	52.0	108.1	8.76
1967	79.6	39.0	118.6	14.23
1968	93.9	40.7	134.6	8.25
1969	94.0	38.2	132.2	10.77
1970	102.4	30.5	132.9	5.72
1971	139.9	43.5	183.4	2.55
1972	144.2	56.7	200.9	8.94
1973	244.6	88.0	332.6	5.77
1974	899.4	209.9	1109.3(R)	19.37
1975	992.0	199.5	1191.5(R)	13.83
1976	1145.6	219.7	1365.3(R)	7.60
1977	1258.9	273.0	1531.9(R)	6.50
1978	1243.9	414.1	1658.0(R)	4.20
1979	1786.8	705.7	2492.5(R)	19.61

* Including Refinery Fuel
P. = Provisional.
(R) = Revised figures but still subject to firming up by the Oil companies.

GROWTH OF PETROLEUM INDUSTRY IN INDIA

('000' Tonnes)

Financial Year	Crude Oil		Petroleum Products	
	Production	Refineries crude charged	Production	Consumption*
1960-61	448(e)	6130	5777	8285
1965-66	3473	10233	9561	12437
1970-71	6822	18379	17110	19135
1971-72	7299	20042	18639	21299
1972-73	7321	19328	17830	22978
1973-74	7189	20958	19495	23574
1974-75	7684	21094	19603	23302
1975-76	8448	22283	20829	23673
1976-77	8898	22995	21432	25396
1977-78	10763	24898	23219	26990
1978-79	11633	25974	24193	29719
1979-80	11768	27470	25826	30966(P)

Contd ....

(Rs./crores)

Financial Year	IMPORTS			Exports/Re-Exports
	Crude	Products	Total	
1960-61	39.2	39.8	79.0	4.40(e)
1965-66	39.6	40.7	80.3	4.39
1970-71	106.7	29.9	136.6	4.67
1971-72	147.0	46.9	193.9	3.91
1972-73	146.4	60.6	207.0	8.16
1973-74	416.4	124.5	540.9	8.09
1974-75	917.0	195.0	1112.0(R)	17.46
1975-76	1051.8	204.3	1256.1(R)	13.96
1976-77	1175.9	248.2	1424.1(R)	6.89
1977-78	1246.2	305.3	1551.5(R)	5.69
1978-79	1251.2	430.0	1681.2(R)	4.11
1979-80	2186.9	1025.0	3211.9(R)	28.69

* = Including Refinery Fuel.
(P) = Provisional
(e) = Estimated
(R) = Revised figures but still subject to firming up by the Oil Companies.

IV. PETROLEUM ENERGY IN INDIA

(Petroleum Energy in India : 1975 - 1979)
(Calendar Year)

PRODUCTS.	AVAILABILITY				
	1975	1976	1977	1978	1979 (P)
1.	2.	3.	4.	5.	6.
	IN ORIGINAL UNITS (Million Tonnes)				
Kerosene	2.99	3.26	3.50	4.03	4.04
A. T. F.	0.91	0.97	1.02	1.17	1.19
H. S. D.	6.78	6.87	7.61	8.36	9.72
L. D. O.	0.88	1.09	1.19	1.24	1.28
Fuel Oils	5.93	5.55	5.99	6.31	7.15
Others*	2.81	2.99	3.17	3.44	3.44
TOTAL	20.30	20.73	22.48	24.55	26.82
	IN MILLION TONNES OF COAL EQUIVALENT UNITS.				
Kerosene	5.98	6.52	7.00	8.06	8.08
A. T. F.	1.82	1.94	2.04	2.34	2.38
H. S. D.	13.56	13.74	15.22	16.72	19.44
L. D. O.	1.76	2.18	2.38	2.48	2.56
Fuel Oils	11.86	11.10	11.98	12.62	14.30
Others*	5.62	5.98	6.34	6.88	6.88
TOTAL	40.60	41.46	44.96	49.10	53.64
	IN MILLION TONNES OF COAL REPLACEMENT UNITS.				
Kerosene	23.92	26.08	28.00	32.24	32.32
A. T. F.	6.84	7.29	7.65	8.74	8.93
H. S. D.	60.99	61.79	68.52	75.23	87.48
L. D. O.	7.92	9.81	10.69	11.18	11.52
Fuel Oils	11.86	11.10	11.97	12.62	14.30
Others*	14.43	15.46	16.26	17.85	15.20
TOTAL	125.95	131.53	143.09	157.86	169.75

PRODUCTS.	CONSUMPTION.				
	1975	1976	1977	1978	1979 (P)
	IN ORIGINAL UNITS (Million Tonnes)				
Kerosene	3.03	3.28	3.52	3.92	3.88
A. T. F.	0.89	0.94	1.02	1.13	1.16
H. S. D.	6.59	6.96	7.58	8.32	9.56
L. D. O.	0.87	1.03	1.15	1.22	1.28
Fuel Oils	5.80	5.66	5.84	6.37	6.93
Others*	2.86	3.00	3.19	3.39	3.48
TOTAL	20.04	20.87	22.30	24.35	26.19
	IN MILLION TONNES OF COAL EQUIVALENT UNITS				
Kerosene	6.06	6.56	7.04	7.84	7.76
A. T. F.	1.78	1.88	2.04	2.26	2.32
H. S. D.	13.18	13.92	15.16	16.64	19.12
L. D. O.	1.74	2.06	2.30	2.44	2.56
Fuel Oils	11.60	11.32	11.68	12.74	13.86
Others*	5.72	6.00	6.38	6.78	6.84
TOTAL	40.08	41.74	44.60	48.70	52.38
	IN MILLION TONNES OF COAL REPLACEMENT UNITS.				
Kerosene	24.24	26.24	28.16	31.36	31.04
A. T. F.	6.68	7.05	7.65	8.48	8.62
H. S. D.	59.31	62.64	68.22	74.88	86.04
L. D. O.	7.83	9.27	10.35	10.98	11.52
Fuel Oils	11.60	11.32	11.68	12.74	13.86
Others*	14.79	15.52	16.36	17.45	17.65
TOTAL	124.45	132.04	142.42	155.89	168.46

P = Provisional. * = Includes LPG, Gasolines, Refinery Gas and Refinery Fuel. @ = Based on conversion factors adopted by FPC 1974.

PETROLEUM ENERGY IN INDIA: 1975-76 TO 1979-80
(Financial Year)

PRODUCTS	AVAILABILITY				
	1975-76	1976-77	1977-78	1978-79	1979-80(P)
1.	2.	3.	4.	5.	6.
	IN ORIGINAL UNITS (Million Tonnes)				
Kerosene	3.15	3.28	3.73	3.96	4.08
A. T. F.	0.93	0.98	1.08	1.18	1.16
H. S. D.	6.89	7.04	7.91	8.46	9.98
L. D. O.	0.94	1.09	1.22	1.25	1.31
Fuel Oils	5.97	5.74	5.84	6.56	7.11
Others*	2.88	3.05	3.29	3.42	3.35
TOTAL	20.66	21.19	23.07	24.83	26.99
	IN MILLION TONNES OF COAL EQUIVALENT UNITS				
Kerosene	6.30	6.56	7.46	7.92	8.16
A. T. F.	1.86	1.96	2.16	2.36	2.32
H. S. D.	13.78	14.08	15.82	16.92	19.96
L. D. O.	1.88	2.18	2.44	2.50	2.62
Fuel Oils	11.74	11.42	11.68	13.12	14.22
Others*	5.76	6.10	6.58	6.84	6.70
TOTAL	41.32	42.30	46.14	49.66	53.98
	IN MILLION TONNES OF COAL REPLACEMENT UNITS.				
Kerosene	25.20	26.24	29.84	31.68	32.64
A. T. F.	6.97	7.35	8.10	8.85	8.70
H. S. D.	62.01	63.36	71.19	76.14	89.82
L. D. O.	8.46	9.81	10.98	11.25	11.79
Fuel Oils	11.74	11.42	11.68	13.12	14.22
Others*	14.89	15.83	16.78	17.72	17.63
TOTAL	129.27	134.01	148.57	158.76	174.80

PRODUCTS.	CONSUMPTION				
	1975-76	1976-77	1977-78	1978-79	1979-80(P)
	IN ORIGINAL UNITS (Million Tonnes)				
Kerosene	3.10	3.32	3.63	3.95	3.87
A. T. F.	0.90	0.96	1.04	1.15	1.14
H. S. D.	6.59	7.11	7.74	8.64	9.71
L. D. O.	0.88	1.08	1.16	1.22	1.24
Fuel Oils	5.78	5.73	5.84	6.67	6.87
Others*	2.89	3.03	3.27	3.42	3.35
TOTAL	20.14	21.23	22.68	25.05	26.18
	IN MILLION TONNES OF COAL EQUIVALENT UNITS.				
Kerosene	6.20	6.64	7.26	7.90	7.74
A. T. F.	1.80	1.92	2.08	2.30	2.28
H. S. D.	13.18	14.22	15.48	17.28	19.42
L. D. O.	1.76	2.16	2.32	2.44	2.48
Fuel Oils	11.56	11.46	11.68	13.34	13.74
Others*	5.78	6.06	6.54	6.84	6.70
TOTAL	40.28	42.46	45.36	50.10	52.36
	IN MILLION TONNES OF COAL REPLACEMENT UNITS				
Kerosene	24.80	26.56	29.04	31.60	30.96
A. T. F.	6.75	7.20	7.80	8.63	8.55
H. S. D.	59.31	63.99	69.66	77.76	87.39
L.D.O.	7.92	9.72	10.44	10.98	11.16
Fuel Oils	11.56	11.46	11.68	13.34	13.74
Others*	15.01	15.68	16.70	17.70	17.38
TOTAL	125.35	134.61	145.32	160.01	169.18

P = Provisional. * = Includes LPG, Gasolines, Refinery Gas and Refinery Fuel.
@ = Based on conversion factors adopted by FPC-1974.

V. EXPLORATION AND PRODUCTION

Reserves of Crude oil and Natural Gas in India*

Crude oil-Million Tonnes
Natural Gas-Billion Cubic Metres

Year	ON - SHORE								OFF-SHORE		Grand Total	
	Gujarat		Assam		Rajasthan		Total		Bombay-High			
	Crude Oil.	Natural Gas.	Crude Oil.	Natural Gas.	Crude Oil.	Natural Gas.	Crude Oil.	Natural Gas	Crude Oil	Natural Gas	Crude Oil.	Natural Gas.
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1966	62.73	23.09	90.27	40.06	-	-	153.00	63.15	-	-	153.00	63.15
1967	65.88	24.65	88.96	42.60	-	-	154.84	67.25	-	-	154.84	67.25
1968	64.92	21.80	76.08	41.54	-	-	141.00	63.34	-	-	141.00	63.34
1969	59.80	22.90	72.51	42.70	-	-	132.31	65.60	-	-	132.31	65.60
1970	56.38	19.66	71.46	42.82	-	-	127.84	62.48	-	-	127.84	62.48
1971	51.08	18.84	62.70	43.45	-	-	113.78	62.29	-	-	113.78	62.29
1972	52.28	16.88	72.90	45.25	-	0.38	125.18	62.51	-	-	125.18	62.51
1973	49.45	16.35	77.87	49.71	-	0.38	127.32	66.44	-	-	127.32	66.44
1974	48.45	16.18	76.05	51.30	-	0.38	124.50	67.86	-	-	124.50	67.86
1975	45.72	15.72	84.41	65.24	-	0.43	130.13	81.39	13.77	6.28	143.90	87.67
1976	45.79	16.41	81.99	61.41	-	0.44	127.78	78.26	147.68	106.62	275.46	184.88
1977	45.62	16.20	82.28	63.75	-	0.44	127.90	80.39	175.28	148.08	303.18	228.47
1978	47.49	15.66	78.50	63.62	-	0.43	125.99	79.71	221.04	186.15	347.03	265.86
1979	45.34	15.80	82.81	63.35	-	0.43	128.15	79.58	226.29	264.64	354.44	344.22

* Proved and Indicated balance recoverable reserves.

Note:- For AOC and OIL the figures relate to 1st January of each year but in the case of ONGC the data pertains to 1st October upto the year 1973 and there after to 1st January of each year.

NUMBER OF DEEP DRILLING RIGS IN THE COUNTRY

YEAR	O. N. G. C.		O.I.L.	A. O. C.	TOTAL
	ONSHORE	OFFSHORE			
1.	2.	3.	4.	5.	6.
1960-61	10	-	4	-	14
1961-62	23	-	4	-	27
1962-63	31	-	4	-	35
1963-64	43	-	4	-	47
1964-65	43	-	4	-	47
1965-66	46	-	4	-	50
1966-67	50	-	4	-	54
1967-68	50	-	4	-	54
1968-69	50	-	4	1	55
1969-70	50	-	4	1	55
1970-71	55	-	4	1	60
1971-72	55	-	4	-	59
1972-73	55	-	4	-	59
1973-74	55	1	4	-	60
1974-75	55	1	4	-	60
1975-76	56	3	3	-	62
1976-77	59	5	4	-	68
1977-78	65	3	4	-	72
1978-79	68	4	4	-	76
1979-80	69	5	4	-	78

NUMBER OF WELLS AND METERAGE DRILLED BY O.N.G.C. AND O.I.L. FROM 1970 - 71 TO 1979 - 80.

YEAR	O.N.G.C.				O.I.L.		TOTAL ONGC & OIL	
	ONSHORE		OFFSHORE					
	Wells (Nos.)	Metres drilled '000'	Wells (Nos.)	Metres drilled '000'	Wells (Nos.)	Metres drilled '000'	Wells (Nos.)	Metres drilled '000'
1.	2.	3.	4.	5.	6.	7.	8.	9.
1970-71	90	169	-	-	14	48	104	217
1971-72	56	131	-	-	12	46	68	177
1972-73	71	115	-	-	13	41	84	156
1973-74	64	140	1	4	12	43	77	187
1974-75	96	193	3	3	10	31	109	227
1975-76	107	228	15	29	13	36	135	293
1976-77	100	206	24	59	8	32	132	297
1977-78	86	174	31	67	19	73	136	314
1978-79	67	159	20	43	17	62	104	264
1979-80	69	138	26	59	15	48	110	245

STATUS OF WELLS (AS ON 1st APRIL OF EACH YEAR

(Numbers)

Company	Oil	Gas	Dry	Under Test	Injec-tion.	Others	Total
1.	2.	3.	4.	5.	6.	7.	8.
A. Assam Oil Company							
1970	380	19	-	-	10	588	997
1971	377	7	-	-	8	606	998
1972	381	7	-	-	4	609	1001
1973	367	7	-	-	5	622	1001
1974	370	7	-	-	5	619	1001
1975	377	7	-	-	5	612	1001
1976	380	6	-	-	5	610	1001
1977	404	8	-	-	6	583	1001
1978	415	10	-	-	6	570	1001
1979	416	10	-	-	6	569	1001
1980	417	10	-	-	6	568	1001
B. Oil India Ltd.							
1970	216	12	29	24	7	-	288
1971	229	14	29	21	9	-	302
1972	233	15	31	22	13	-	314
1973	239	17	32	24	15	-	327
1974	247	18	33	23	18	-	339
1975	250	18	34	27	20	-	349
1976	251	20	34	32	25	-	362
1977	250	21	36	37	26	-	370
1978	264	21	37	40	27	-	389
1979	266	23	39	47	31	-	406
1980	273	26	40	48	34	-	421
C. Oil & Natural Gas Commission							
1970	442	63	191	76	20	-	792
1971	488	63	225	84	22	-	882
1972	516	71	246	79	26	-	938
1973	528	74	275	104	28	-	1009
1974	555	78	298	114	29	-	1074
1975	605	79	320	140	29	-	1173
1976	695	85	334	152	29	-	1295
1977	763	91	378	158	29	-	1419
1978	844	101	422	140	29	-	1536
1979	886	111	461	135	30	-	1623
1980	951	125	487	125	32	-	1718
Total (A+B+C)							
1970	1038	94	220	100	37	588	2077
1971	1094	84	254	105	39	606	2182
1972	1130	93	277	101	43	609	2253
1973	1134	98	307	128	48	622	2337
1974	1172	103	331	137	52	619	2414
1975	1232	104	354	167	54	612	2523
1976	1326	111	368	184	59	610	2658
1977	1417	120	414	195	61	583	2790
1978	1523	132	459	180	62	570	2926
1979	1568	144	500	182	67	569	3030
1980	1641	159	527	173	72	568	3140

STATE WISE ACHIEVEMENT OF GEOLOGICAL FIELD PARTIES SINCE INCEPTION UPTO MARCH, 1980.

STATE:	Geological Surveys						
	Detailed (Sq. Kms.)	Semi-detailed (Sq. Kms.)	Traversing (line Kms.)	Reccomnaissance mapping (Sq. Kms.)	Special studies (Sq. Kms.)	Geo/ Neo-tectonic- Survey (Sq.Kms.)	Reccornaitory traversing Line (Kms.)
1.	2.	3.	4.	5.	6.	7.	8.
Andhra Pradesh (including Tamil Nadu & Kerala	3879	20089	1090	26904	-	396035	3300
Andaman & Nicobar.	608	CH =10300 2947	607	2281			
Assam(Including Tripura,Mizoram)	7592	1044+					
Arunachal Pradesh & Meghalay)		CW = 640 804	153 8648	4637			650
Gujarat(including Kutch/Maharashtra & Madhya Pradesh	140 8258	17604 41955	2952	13948	2926	-	-
Bihar	-	1259	64	-	-	-	-
Himachal Pradesh	-	1134+	-	-	-	-	-
Jammu & Kashmir		RM200	-	-	-	-	-
Orissa	1764	7676	1772	6513	70	-	-
Punjab(Including H.P.)	9710	+CH=372 9224	4863	4568	1489	-	382
U.P.	4658	10738	2089	1213	4170	-	-
West Bengal	912	4237	477	2397	-	5400	-
Rajasthan	3584	25082	1547	11790	-	-	-
Nepal	194	8446	1087	-	-	-	-
Pondicherry							
Kerala							
Nagaland	25	345	706	-	-	-	167
Bhutan	-	1821	95	290	-	-	-
Total ONGC	41324	154405 +CH=10672 RM= 200 CW= 640	26150	73641	8655	401435	4499

Note: The number of shallow drilling parties at the end of March '80 was 39, wells drilled 227 and Meterage drilled 42913.

2. CW = Stands for compilation work, RM = stands for Road Mapping and CH = stands for checking.
3. Achievements fo Arunachal Pradesh and Tripura has been included in Assam prior to 1976-77.
4. In case of Oil India Ltd., no geological surveys were undertaken.

STATE WISE ACHIEVEMENT OF GEOPHYSICAL FIELD PARTIES SINCE INCEPTION UPTO MARCH, 1980.

(PROVISIONAL)

STATE	DEPARTMENTAL Line Kms.	Contract Line Kms.	Total Line Kms.
1.	2.	3.	4.
A. ON LAND			
1. Andhra Pradesh	7441+R=74	-	7441+R=74
2. Andaman & Nicobar	-	-	-
3. Assam(including Tripura, Mizoram, Arunachal Pradesh & Maghalaya).	13708+R=8 +C=629 (576.86)	- (2708.0)	13708+R=8 +C=629 (3284.86)
4. Gujarat (including Kutch Maharashtra & M.P.)	43943+C=395	-	43943 +C=395
5. Bihar	2091	-	2091
6. Himachal Pradesh	622+R=133	-	622+R=133
7. Jammu & Kashmir	1937	-	1937
8. Tamil Nadu	9617+R=78	-	9617+R=78
9. Orissa	1631	-	1631
10. Pubjab and H.P	4451+R=274	-	4451+R=274
11. Uttar Pradesh	12040	-	12040
12. West Bengal	14925	-	14925
13. Rajsthan	3452	2106	5558
Total On Land ONGC	115858+R=567 +C=1024	2106	117964+R=567 +C=1024
OIL	(576.86)	(2708)	(3284.86)
B. OFFSHORE - ONGC	77373 +214Rep.Work	53485 +R=9	130858 +214Rep.work
OIL-ORISSA(Bay Exploration project (-)		(3178)	(3178)
Total Offshore (ONGC)	77373 +214 Rep.work	53485 +R=9	130858 +214 Re.work
OIL	(-)	(3178)	(3178)
Total A+B	193231+R=567 +C=1024 +214 Rep.work	55591 +R=9	248822 +R=567+C=1024 +214=Rep.work
	(576.86)	(5886)	(6462.86)

R = Stands for Refraction and C = Stands for Convertional.

Figures in parenthesis relate to OIL.

STATE WISE ACHIEVEMENT OF DRILLING SINCE INCEPTION UP TO MARCH, 1980.

(Provisional)

STATE	Drilling '000' Mts DEPARTMENTAL Wells	DEPARTMENTAL Meterage	CONTRACT Wells	CONTRACT Meterage
	2.	3.	4.	5.
Andhra Pradesh(including Kerala)	-	-	-	-
Andaman & Nicobar, Assam (including Tripura, Mizoram, Arunachal Pradesh and Mehgalaya & W.B.)	351 (421+3P)	1180 (1392)	-	-
Gujarat (including Kutch/ Maharashtra & Madhya Pradesh	1192	1995	-	-
Bihar	1	3	1	5
H.P.(included in Punjab)	-	-	-	-
Tamil Nadu & Pondicherry	18	41	-	-
Jammu & Kashmir	3	7	-	-
Orissa	-	-	-	-
Punjab (Including H.P.)	8	23	2	10
Uttar Pradesh	3	9	1	5
Rajasthan	10	13	6	11
Kerala	-	-	-	-
Offshore (Bombay High) Aliabet West Others Off the Coromandal Coast Gulf of Cambay Kutch off/ Strait the Arabian Sea- Mouth of Ganges and Mahanadi Gulf of Mannar/off the Kerala Coast	122	266	(1P)	(2)
TOTAL O.N.G.C.	1708 (421+3P)	3541 (1392)	10 (1P)*	31 (2)

* - The P refers to well still in the drilling phase as on 31.3.1980.
Figures in Parenthesis relate to OIL.

COMPANY WISE PRODUCTION OF CRUDE OIL IN INDIA

(CALENDAR YEAR)

('000 'tonnes)

Year	ON - SHORE				OFFSHORE	Grand	Cumulative
	AOC	OIL	ONGC	Total	ONGC	Total	Production.
1.	2.	3.	4.	5.	6.	7.	8.
Upto 1947	5826	-	-	5826	-	5826	5826
1948	255	-	-	255	-	255	6081
1949	258	-	-	258	-	258	6339
1950	259	-	-	259	-	259	6598
1951	269	-	-	269	-	269	6867
1952	263	-	-	263	-	263	7130
1953	269	3	-	272	-	272	7402
1954	278	30	-	308	-	308	7710
1955	272	75	-	347	-	347	8057
1956	307	89	-	396	-	396	8453
1957	277	163	-	440	-	440	8893
1958	214	226	-	440	-	440	9333
1959	202	248	-	450	-	450	9783
1960	179	272	-	451	-	451	10234
1961	184	319	10	513	-	513	10747
1962	188	556	334	1078	-	1078	11825
1963	184	805	663	1652	-	1652	13477
1964	170	1274	768	2212	-	2212	15689
1965	158	1742	1122	3022	-	3022	18711
1966	149	2143	2355	4647	-	4647	23358
1967	134	2752	2781	5667	-	5667	29025
1968	117	2771	2965	5853	-	5853	34878
1969	112	3074	3537	6723	-	6723	41601
1970	107	3070	3632	6809	-	6809	48410
1971	98	3146	3941	7185	-	7185	55595
1972	93	3183	4097	7373	-	7373	62968
1973	84	3102	4012	7198	-	7198	70166
1974	72	3080	4338	7490	-	7490	77656
1975	68	3087	5128	8283	-	8283	85939
1976	63	3092	5276	8431	228	8659	94598
1977	58	3120	5569	8747	1438	10185	104783
1978	55	2697	5551	8303	2968	11271	116054
1979	47	2848	5539	8434	4407	12841	128895

COMPANYWISE PRODUCTION OF CRUDE OIL IN INDIA
(FINANCIAL YEAR BASIS)

('000' Tonnes)

Year	ONSHORE			Total On Shore	Offshore	Grand Total	Cumulative Production since inception
	AOC	OIL	ONGC		ONGC		
1.	2.	3.	4.	5.	6.	7.	8.
1965-66	151	1895	1427	3473	-	3473	19915
1966-67	148	2217	2538	4903	-	4903	24818
1967-68	128	2836	2821	5785	-	5785	30603
1968-69	117	2848	3084	6059	-	6059	36662
1969-70	112	3079	3627	6819	-	6819	43481
1970-71	104	3084	3634	6822	-	6822	50303
1971-72	97	3159	4003	7299	-	7299	57602
1972-73	90	3131	4100	7321	-	7321	64923
1973-74	82	3079	4028	7189	-	7189	72112
1974-75	71	3079	4534	7684	-	7684	79796
1975-76	66	3103	5279	8448	-	8448	88244
1976-77	62	3085	5345	8492	406	8898	97142
1977-78	57	3113	5519	8689	2074	10763	107905
1978-79	53	2671	5599	8325	3310	11633	119538
1979-80	40	2315	5091	7346	4422	11768	131306

PRODUCTION OF NATURAL GAS

(Million Cubic Metres)

Year	Calendar Years			Year	Financial Years		
	Onshore	Offshore	Total		Onshore	Offshore	Total
1.	2.	3.	4.	5.	6.	7.	8.
1971	1509	-	1509	1971-71	1535	-	1535
1972	1564	-	1564	1972-73	1565	-	1565
1973	1674	-	1674	1973-74	1713	-	1713
1974	1918	-	1918	1974-75	2041	-	2041
1975	2310	-	2310	1975-76	2367	-	2367
1976	2410	28	2438	1976-77	2380	48	2428
1977	2565	161	2726	1977-78	2610	229	2839
1978	2430	340	2770	1978-79	2425	386	2811
1979	2550	532	3082	1979-80	2223	541	2764

STATE-WISE UTILISATION OF NATURAL GAS IN INDIA.

(Million Cubic Metres)

YEAR	ASSAM.			GUJARAT			Total on-Shore	Off Shore	GRAND TOTAL
	Internal Use*	A.G.C.	Total Assam	UPH/ DPH/JPM	GSFC & BI.	Total Gujarat			
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
CALENDAR YEARS									
1970	188.76	156.79	360.05	142.51	173.89	316.40	676.45	-	676.45
1971	192.92	171.28	381.27	180.50	184.31	383.33	763.60	-	763.60
1972	290.94	189.41	496.95	213.80	189.51	430.03	926.98	-	926.98
1973	297.97	198.57	515.59	187.98	179.56	397.37	912.96	-	912.96
1974	293.05	221.09	538.71	197.83	178.36	471.07	1009.78	-	1009.78
1975	339.08	254.09	621.03	302.22	192.67	631.52	1252.55	-	1252.55
1976	372.33	444.05	845.73	171.24	221.57	667.05	1512.78	-	1512.78
1977	397.67	470.17	902.38	187.73	239.81	728.52	1630.90	-	1630.90
1978	362.10	492.90	888.15	180.05	233.12	719.84	1607.99	122.84	1730.83
1979	397.79	510.30	942.11	166.21	220.63	644.76	1586.87	337.21	1924.08
FINANCIAL YEARS									
1970-71	195.79	163.04	368.34	147.33	177.91	330.68	699.02	-	699.02
1971-72	204.54	176.24	397.07	191.78	185.54	394.53	791.60	-	791.60
1972-73	308.51	189.28	514.27	210.78	190.27	429.94	944.21	-	944.21
1973-74	283.20	199.31	502.82	184.47	167.35	383.09	885.91	-	885.91
1974-75	310.30	227.02	561.82	203.30	187.87	538.42	1100.24	-	1100.24
1975-76	341.86	290.21	660.67	216.75	192.05	634.81	1295.48	-	1295.48
1976-77	379.21	421.60	874.31	172.73	235.56	679.42	1553.79	-	1553.79
1977-78	397.34	466.86	899.05	186.15	287.76	723.16	1622.21	-	1622.21
1978-79	368.12	507.76	908.89	177.12	234.14	726.10	1634.99	196.54	1831.53
1979-80	325.51	407.01	766.59	162.50	218.31	643.23	1409.82	362.82	1772.64

* = Including the Gas returned to Natural Reservoirs and Gas used by OIL & AOC for field operation etc.

AGC = Assam Gas Company, UPH = Uttaran Power House, DHP = Dhuwaran Power House.

GSFC = Gujarat State Fert. Co., BI = Baroda Industries. JPM = Jayant paper mills.

VI. REFINING

PETROLEUM REFINING CAPACITY IN INDIA.

(Million Tonnes per Annum)

REFINERY	Capacity as on 1.3.1980.	Expansion under Implementation.	Likely date for completion.
1.	2.	3.	4.
Refineries in Operation.			
Public Sector.	31.30		
1. B. R. L. Bombay	6.25		
2. C. R. L. Cochin	8.30	-	
3. H.P.C.L. Vizag	1.50	-	
4. H.P.C.L. Bombay	3.50	-	
5. I.O.C. Barauni	3.30		
6. I.O.C. Gauhati	0.85	-	
7. I.O.C. Haldia	2.50	-	
8. I.O.C. Koyali	7.30	-	
9. M.R.L. Madras	2.80	-	
10. B.R.P.L. Assam	1.00	-	
Private Sector.			
11. A.O.C. Digboi	0.50	-	
Total Capacity	31.80	-	
Refinery Under Construction.			
Mathura Refinery.	6.00	6.00	1981-82.

Refinery Crude Throughput and Production of Petroleum Products

('000' Tonnes)

Year	Crude throughput			Production		
	Public Sector	Private Sector	TOTAL (2+3)	Public Sector	Private Sector	TOTAL (5+6)
1.	2.	3.	4.	5.	6.	7.
		Financial Years				
1960-61	-	6130	6130	-	5777	5777
1961-62	60	6524	6584	11	6184	6195
1962-63	300	6964	7264	274	6627	6901
1963-64	554	7920	8474	493	7492	7985
1964-65	1005	8005	9010	842	7636	8478
1965-66	1966	8267	10233	1733	7828	9561
1966-67	4166	8547	12713	3741	8141	11882
1967-68	6783	8022	14805	6257	7512	13769
1968-69	8088	8459	16547	7457	7932	15389
1969-70	10087	7825	17912	9250	7342	16592
1970-71	10820	7559	18379	9965	7145	17110
1971-72	11575	8467	20042	10623	8016	18639
1972-73	11565	7763	19328	10575	7255	17830
1973-74	11616	9342	20958	10647	8848	19495
1974-75	15572	5522	21094	11572	8031	19603
1975-76	17045	5238	22283	15895	4934	20829
1976-77	21694	1301	22995	20203	1229	21432
1977-78	24364	534	24898	22712	507	23219
1978-79	25450	524	25974	23692	501	24193
1979-80	27062	408	27470	25435	391	25826
		Calendar Years				
1960	-	6091	6091	-	5747	5747
1961	-	6440	6440	-	6090	6090
1962	241	6762	7003	193	6391	6584
1963	470	7668	8138	407	7243	7650
1964	911	8021	8932	778	7650	8428
1965	1549	8205	9754	1328	7785	9113
1966	3476	8554	12030	3186	8097	11283
1967	6359	8071	14430	5814	7638	13452
1968	7707	8389	16096	7085	7838	14923
1969	9514	7981	17495	8736	7503	16239
1970	10994	7465	18459	10132	7040	17172
1971	11198	8390	19588	10293	7932	18225
1972	11838	7834	19672	10835	7363	18198
1973	11484	9034	20518	10522	8567	19089
1974	15107	5676	20783	13935	5306	19241
1975	16723	5112	21835	15602	4766	20368
1976	21163	1599	22762	19669	1519	21188
1977	23903	527	24430	22297	498	22795
1978	25096	530	25626	23372	505	23877
1979	27649	504	28153	25874	486	26360

Refinery-wise Crude Run And Total Production (NET) Of Pol Products.

('000' Tonnes)

Year	AOC	ESR/ BPCL	ESSO/ HPCL	CORIL/ HPC(VIZ)	GAUHATI	BARAUNI
	1.	2.	3.	4.	5.	6.
1960.61						
Total Production	416	2731	1772	858	-	-
Crude Run	446	2879	1904	901	-	-
1965-66						
Total Production	479	3743	2552	1053	721	613
Crude Run	488	3989	2672	1118	804	753
1970-71						
Total Production	452	3333	2275	1085	631	1996
Crude Run	476	3541	2367	1175	686	2191
1975-76						
Total Production	489	3438	2635	1007	762	2722
Crude Run	527	3630	2830	1081	827	2949
1976-77						
Total Production	509	3566	2622	944	764	2692
Crude Run	535	3778	2791	1011	841	2882
1977-78						
Total Production	507	4285	2702	1208	748	2857
Crude Run	534	4512	2897	1304	817	3060
1978-79						
Total Production	501	4472	2624	1221	745	2474
Crude Run	524	4693	2800	1329	825	2661
1979-80						
Total Production	391	4615	2926	1000	604	2176
Crude Run	408	4821	3133	1099	646	2285

REFINERY-WISE CRUDE RUN AND TOTAL PRODUCTION(net) (NET) OF POL PRODUCTS.

('000' Tonnes)

YEAR	GUJARAT	HALDIA	CRL	MRL	BR&P	TOTAL
	7.	8.	9.	10.	11.	12.
1960-61						
Total Production	-	-	-	-	-	5777
Crude Run	-	-	-	-	-	6130
1965-66						
Total Production	400	-	-	-	-	9561
Crude Run	409	-	-	-	-	10233
1970-71						
Total Production	3208	-	2346	1784	-	17110
Crude Run	3463	-	2498	1982	-	18379
1975-76						
Total Production	3859	1295	2187	2435	-	20829
Crude Run	4107	1348	2294	2690	-	22283
1976-77						
Total Production	3898	1633	2541	2263	-	21432
Crude Run	4145	1862	2646	2504	-	22995
1977-78						
Total Production	3896	1853	2804	2359	-	23219
Crude Run	4129	2096	2933	2616	-	24898
1978-79						
Total Production	4937	1967	2719	2496	37	24193
Crude Run	5251	2213	2862	2759	57	25974
1979-80						
Total Production	6352	2313	2731	2564	154	25826
Crude Run	6708	2492	2866	2822	190	27470

Refinery Production - 1976 to 1979

('000' Tonnes)

Product	Production				% Variation	
	1976	1977	1978	1979	1978/1977	1979/1978
1. Light Distillates	3804	3966	4210	4645	+6.2	+10.3
of which						
L.P. Gas	354	377	401	416	+ 6.4	+ 3.7
Naphtha	2012	2093	2162	2533	+ 3.3	+17.2
Mogas	1314	1370	1526	1569	+11.4	+ 2.8
SBP Spirits/Hexane	50	48	47	55	- 2.1	+17.0
2. Middle Distillates	11066	11875	12316	13564	+ 3.7	+10.1
of which						
ATF/Jet A-1	972	1020	1166	1176	+14.3	+ 0.9
Kerosene	2607	2488	2414	2651	- 3.0	+ 9.8
M.T.O.	81	84	99	101	+17.9	+ 2.0
H.S.D.	6214	6989	7283	8261	+ 4.2	+13.4
L.D.O.	1094	1187	1242	1258	+ 4.6	+ 1.3
J.B.O.	83	82	77	75	- 6.1	- 2.6
3. Heavy Ends	6318	6954	7351	8151	+ 5.7	+10.9
of which						
F.O.	3377	3421	3359	3922	- 1.8	+16.8
LSHS	1197	1658	2050	2354	+23.6	+14.8
H.H.S.	205	163	87	10	-46.6	-88.5
Total Fuel Oils	4779	5242	5496	6285	+ 4.8	+14.4
Lubes Oils	340	404	488	481	+20.8	- 1.4
Bitumen	884	959	1025	1027	+ 6.9	+ 0.2
Pet. Coke*	151	162	128	128	-21.0	-
Wax	48	49	55	69	+12.2	+25.5
4. Total Production	21188	22795	23877	26360	+ 4.7	+10.4
5. Crude Run	22762	24430	25626	28153	+ 4.9	+ 9.9

* Includes production of Calcined Pet. Coke.

Pattern of Refinery Production

(Percentages)

Products	1960	1965	1970	1975	1978	1979
Light Distillates@	17.2	17.0	16.4	16.1	16.4	16.5
Middle Distillates	42.4	42.2	46.2	48.2	48.1	48.2
Heavy Fuel Oils	27.0	26.8	23.0	22.8	21.4	22.3
Bitumens	6.6	5.6	4.1	3.2	4.0	3.7
Lubes	0.4	0.4	1.3	1.6	1.9	1.7
Others	0.8	1.4	2.1	1.4	1.4	1.2
Total Production	94.4	93.4	93.1	93.3	93.2	93.6
RBF & Losses/ Inventories	5.6	6.6	6.9	6.7	6.8	6.4
Crude Throughput	100	100	100	100	100	100
@ Includes Gases	0.1	1.1	1.0	1.5	1.6	1.5

Refinery Production During 1976-77 to 1979-80.

('000' Tonnes)

Products	Production				% Variation	
	1976-77	1977-78	1978-79	1979-80	1978-79 / 1977-78	1979-80 / 1978-79
1. LIGHT DISTILLATES	3819	4051	4295	4460	+6.0	+3.8
of which						
L.P. Gas	363	383	403	406	+5.2	+0.7
Naphtha	1986	2120	2262	2415	+6.7	+6.8
Mogas	1340	1423	1515	1513	+6.5	-0.1
SBP Spirits/ Hexane	53	49	43	56	-12.2	+30.2
2. MIDDLE DISTILLATES	11233	12079	12476	13080	+3.3	+4.8
of which						
ATF/Jet A-1	982	1077	1177	1108	+9.3	-5.9
Kerosenes	2581	2450	2514	2536	+2.6	+0.9
M.T.O.	82	89	97	112	+9.0	+15.5
H.S.D.	6399	7129	7350	7975	+3.1	+8.5
L.D.O.	1087	1224	1227	1230	+0.2	+0.2
J.B.O.	83	79	75	80	-5.1	+6.7
3. HEAVY ENDS	6380	7089	7422	8286	+4.7	+11.6
of which						
F.O.	3256	3454	3425	4088	-0.8	+19.4
LSHS	1279	1770	2131	2252	+20.4	+5.7
H.H.S	193	108	88	12	-18.5	-86.4
Total Fuel Oils	4728	5332	5644	6352	+5.9	+12.5
Lube Oils	368	413	490	487	+18.6	-0.6
Bitumen	945	992	962	1103	-3.0	+14.7
Pet.Coke*	163	155	122	128	-21.3	+4.9
Wax	48	55	57	54	+3.6	-5.3
4. Total Production	21432	23219	24193	25826	+4.2	+6.7
5. Crude Run	22995	24898	25974	27470	+4.3	+5.8

* Includes Calcined Petroleum Coke.

Pattern of Refinery Production

(Percentages)

Products	1960-61	1965-66	1970-71	1975-76	1978-79	1979-80
Light Distillates@	17.1	17.3	16.4	16.3	16.5	16.2
Middle Distillates	42.3	42.4	46.6	48.3	48.1	47.6
Heavy Fuel Oils	26.8	26.5	22.3	22.8	21.7	23.1
Bitumens	6.9	5.5	4.4	3.1	3.7	4.0
Lubes	0.4	0.4	1.3	1.6	1.9	1.8
Others	0.7	1.3	2.1	1.4	1.3	1.3
Total Production	94.2	93.4	93.1	93.5	93.2	94.0
REF/Losses/ Inventories	5.8	6.6	6.9	6.5	6.8	6.0
Crude Throughput	100	100	100	100	100	100
@ Includes Gases	0.1	1.1	1.0	1.6	1.7	1.5

VII. CONSUMPTION/ SALES.

TOTAL CONSUMPTION OF PETROLEUM PRODUCTS

(Incl. Sales to Nepal*, Sikkim, Bhutan and Bunkers/ International Air Lines)

Qty. '000' Tonnes

YEAR	TOTAL Consumption	% age Growth	Year	TOTAL Consumption	% age Growth
1.	2.	3.	4.	5.	6.
	CALENDAR YEAR			FINANCIAL YEAR	
1948	2657	- 2.9	1948-49	2774e	+ 2.1
1949	3125	+17.6	1949-50	3174e	+14.4
1950	3319	+ 6.2	1950-51	3485e	+ 9.8
1951	3888	+17.1	1951-52	3851e	+10.5
1952	3741	- 3.8	1952-53	3785e	- 1.7
1953	3916	+ 4.7	1953-54	3948e	+ 4.3
1954	4089	+ 4.4	1954-55	4270e	+ 8.2
1955	4817	+17.8	1955-56	4920e	+15.2
1956	5229	+ 8.6	1956-57	5376e	+ 9.3
1957	5819	+11.3	1957-58	5894e	+ 9.6
1958	6117	+ 5.1	1958-59	6291e	+ 6.7
1959	6812	+11.4	1959-60	7100e	+12.9
1960	7964	+16.9	1960-61	8285	+16.7
1961	8570	+ 7.6	1961-62	8724	+ 5.3
1962	9536	+11.3	1962-63	9838	+12.7
1963	10387	+ 8.9	1963-64	10671	+13.5
1964	11478	+10.5	1964-65	11700	+ 9.7
1965	12356	+ 7.6	1965-66	12437	+ 6.3
1966	12990	+ 5.1	1966-67	13348	+ 7.3
1967	14133	+ 8.8	1967-68	14397	+ 7.9
1968	15871	+12.3	1968-69	16305	+13.3
1969	17371	+ 9.5	1969-70	17797	+ 9.2
1970	18816	+ 8.3	1970-71	19135	+ 7.5
1971	20706	+10.0	1971-72	21299	+11.3
1972	22675	+ 9.5	1972-73	22978	+11.3
1973	23726	+ 4.6	1973-74	23574	+ 2.6
1974	23025	- 3.0	1974-75	23302	- 1.2
1975	23541	+ 2.2	1975-76	23673	+ 1.6
1976	24897	+ 5.8	1976-77	25396	+ 7.3
1977	26570	+ 6.7	1977-78	26990	+ 6.3
1978(R)	28894	+ 8.7	1978-79(R)	29719	+10.1
1979(P)	31076	+ 7.6	1979-80(P)	30966	+ 4.2

Notes:- Includes Refinery fuel from 1960/1960-61 onwards. Prior to that Refinery fuel consumption is not available.

* - Excludes Sales to Nepal from 1975/ 1975-76 onwards.

P - Provisional. e:- Estimated. (R) = Revised.

Product-wise Consumption/Sales of Petroleum Products During the Years 1976, 1977, 1978 & 1979.

Qty. '000' Tonnes

Products	1976	1977	R 1978	P/R 1979	% Variation Col.4 / Col.3	% Variation Col.5 / Col.4
1. Light Distillates	3966	4229	4419	4592	+4.5	+3.9
L.P. Gas	359	385	402	415	+4.4	+3.2
Naphtha	2137	2319	2388	2536	+3.0	+6.2
Mogas	1308	1370	1472	1419	+7.4	+1.3
SBP/Hexane	52	50	47	52	-6.0	+10.6
Others	110	105	110	98	+4.8	-10.9
2. Middle Distillates	12395	13458	14791	16075	+9.9	+8.7
Kerosene	3284	3525	3912	3880	+11.0	-0.8
ATF/Jet A-1	942	1016	1129	1148	+11.1	+1.7
HSD	6957	7580	8316	9565	+9.7	+15.0
LDO/MDO(excl.MLO)	1028	1146	1219	1237	+6.4	+1.5
JBO	76	75	78	77	+4.0	-1.3
MTO	76	82	94	100	+14.6	+6.4
Others	32	34	43	68	+26.5	+58.1
3. Heavy Ends	7262	7492	8202	8925	+9.5	+8.8
(a) Fuel Oils(Total)	5661	5845	6372	6935	+9.0	+8.8
FO/TDO	4229	4034	4202	4543	+4.2	+8.1
LSHS	1405	1784	2079	2373	+16.5	+14.1
HHS	27	27	89	19	+229.6	-78.7
(b) Lubes & Greases	452	462	518	564	+12.1	+8.9
(c) Bitumen/Asphalt	829	878	986	1026	+12.3	+4.1
(d) Petroleum Coke	171	149	145	182	-2.7	+25.5
(e) Wax	46	48	54	75	+12.5	+38.9
(f) Others	103	110	127	143	+15.5	+12.6
TOTAL (1+2+3)	23623	25179	27412	29592	+8.9	+8.0
Refinery Fuel@	1274	1391	1482	1484	+6.5	+0.1
GRAND TOTAL	24897	26570	28894	31076	+8.7	+7.6

@ = RBF, Lube Refinery Fuel & TPS Fuel.

R = Revised.

P/R= Provisional/revised.

Product-wise Consumption Sales of Petroleum Products During the Years 1977-78, 1978-79 And 1979-80

Qty. '000' Tonnes

Product	1976-77	1977-78	1978-79 (R)	1979-80 (P/R)	% Variation Col.4 Col.3	% Variation Col.5 Col.4
(1.)	(2.)	(3.)	(4.)	(5.)	(6.)	(7.)
1. Light Distillates	4042	4228	4583	4456	+ 8.4	-2.8
L.P. Gas	368	391	408	405	+ 4.3	-0.7
Naphtha	2196	2290	2515	2429	+ 9.8	-3.4
Mogas	1316	1391	1499	1480	+ 7.8	-1.3
SBP/Hexane	53	47	48	53	+ 2.1	+10.4
Others	109	109	113	89	+ 3.7	-21.2
2. Middle Distillates	12655	13771	15172	16191	+10.2	+6.7
Kerosene	3222	3634	3952	3867	+ 8.8	-2.2
ATF/Jet A-1	956	1041	1154	1140	+10.9	-1.2
HSD	7106	7736	8638	9712	+11.7	+12.4
LDO/MDO/excl.MLO	1082	1164	1216	1228	+4.5	+1.0
JBO	77	75	70	85	- 6.7	+21.4
MTO	78	85	94	103	+10.6	+9.6
Others	34	36	48	56	+33.3	+16.7
3. Heavy Ends	7404	7540	8486	8879	+12.5	+4.6
a)Fuel Oils (Total)	5733	5839	6668	6873	+14.2	+3.1
FO/TDO	4220	3958	4395	4582	+11.0	+4.3
LSHS	1499	1847	2189	2274	+18.5	+3.9
)HHS	14	34	84	17	+147.1	-79.8
b)Lubes & Greases	454	478	544	556	+13.8	+2.2
c)Bitumen/Asphalt	882	908	943	1072	+ 3.9	+13.7
d)Petroleum Coke	175	146	155	173	+ 6.2	+11.6
e) Wax	48	55	56	67	+ 1.8	+19.6
f) Others	112	114	120	138	+ 5.2	+15.0
Total (1+2+3)	24101	25539	28241	29526	+10.6	+4.6
Refinery Fuel @	1295	1451	1478	1440	+ 1.9	-2.6
GRAND TOTAL	25396	26990	29719	30966	+10.1	+4.2

@ = RBF, Lube Refinery Fuel & TPS Fuel.

R = Revised

P/R = Provisional/Revised.

Seasonal Indices of the Sales/Consurption of major Petroleum Products in India.*

Month	M.S.	A.T.F.	Kerosene	H.S.D.	L.D.O.	F.O.	FO/LSHS	BITUMEN
April	8.14	8.22	7.61	8.43	7.90	8.06	7.96	8.33
May	9.06	7.99	7.63	8.91	7.96	8.12	8.14	8.33
June	8.48	7.65	7.61	8.10	6.98	8.08	8.03	8.34
Qrt.Total:	25.68	23.86	22.85	25.44	22.84	24.26	24.13	25.00
July	8.11	7.80	7.82	7.46	6.12	8.37	8.15	8.33
August	7.72	7.93	8.04	6.95	6.97	8.45	8.19	8.33
September	7.88	8.13	8.27	7.38	7.63	8.31	8.27	8.34
Qrt.Total:	23.71	23.86	24.13	21.79	20.72	25.13	24.61	25.00
October	8.05	8.76	8.57	8.02	9.00	8.36	8.32	8.33
November	8.17	8.54	8.86	8.61	9.98	8.41	8.42	8.33
December	8.77	8.75	9.39	9.25	10.00	8.68	8.82	8.34
Qrt.Total:	24.99	26.05	26.82	25.88	28.98	25.45	25.56	25.00
January	8.43	8.74	9.26	9.08	9.82	8.45	8.74	8.33
February	8.59	8.37	8.35	8.48	8.40	7.99	8.10	8.33
March	8.60	9.12	8.59	9.33	9.24	8.72	8.86	8.34
Qrt.Total	25.62	26.23	26.20	26.89	27.46	25.16	25.70	25.00
T O T A L:	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Note: * Based on data from 1972-73 to 1978-79 excluding 1973-74.

SALES/CONSUMPTION AND MARKET PARTICIPATION OF OIL COMPANIES IN INDIA.

Qty. '000' Tonnes.

YEAR		I.O.C.	B/Shell/ BPCL	Esso/ HPCL	Caltex/ HPCL(VMU)	Others	TOTAL
1.		2.	3.	4.	5.	6.	7.
1960-61 (E)	S/C	38	3722	2302	1270	653	7985
	%	0.5	46.6	28.8	15.9	8.2	100
1965-66 (E)	S/C	2812	4270	2816	1390	629	11917
	%	23.6	35.8	23.6	11.7	5.3	100
1970-71	S/C	9212	4219	2538	1279	664	17912
	%	51.4	23.6	14.2	7.1	3.7	100
1971-72	S/C	10959	4153	2717	1316	926	20071
	%	54.6	20.7	13.5	6.6	4.6	100
1972-73	S/C	12788	4085	2620	1185	1038	21716
	%	58.9	18.8	12.1	5.4	4.8	100
1973-74	S/C	13745	3985	2392	1095	1129	22346
	%	61.5	17.8	10.7	4.9	5.1	100
1974-75	S/C	14363	3184	2510	972	1076	22105
	%	65.0	14.4	11.4	4.4	4.8	100
1975-76	S/C	14525	3151	2647	932	1192	22447
	%	64.7	14.0	11.8	4.2	5.3	100
1976-77	S/C	15321	3775	2809	974	1222	24101
	%	63.6	15.7	11.6	4.0	5.1	100
1977-78	S/C	15721	4217	3083	1146	1372	25539
	%	61.5	16.5	12.1	4.5	5.4	100
1978-79	S/C	17223	4601	3488	1348	1581	28241
	%	61.0	16.3	12.3	4.8	5.6	100
1979-80(P)	S/C	17784	4968	3768	1393	1613	29526
	%	60.2	16.8	12.8	4.7	5.5	100

P = PROVISIONAL. E = ESTIMATED.

DELIVERIES* MADE TO INTERNATIONAL/COASTAL BUNKERS FROM 1970-71 AND 1975-76 TO 1979-80 (P)

(Qty. '000 Tonnes)

PRODUCTS.	1970-71	1975-76	1976-77	1977-78	1978-79	1979-80(P)
Shipping International Bunkers						
F. O.	207.9	137.2	166.9	171.3	110.1	134.7
H. S. D.	6.4	11.4	19.9	27.2	26.5	17.7
L. D. O.	20.0	39.5	50.4	45.8	53.8	62.9
TOTAL	234.3	188.1	237.2	244.3	190.4	215.3
Coastal Bunkers						
F. O.	196.9	178.3	153.1	135.2	128.2	120.2
H. S. D.	22.4	25.9	32.2	34.1	43.7	41.4
L. D. O.	21.6	28.1	26.0	27.2	26.2	26.5
TOTAL :-	240.9	232.3	211.3	196.5	198.1	188.1
Total Bunkers.						
F. O.	404.8	315.5	320.0	306.5	238.3	254.9
H. S. D.	28.8	37.3	52.1	61.3	70.2	59.1
L. D. O.	41.6	67.6	76.4	73.0	80.0	89.4
TOTAL :-	475.2	420.4	448.5	440.8	388.5	403.4

* = Excluding Sales to foreign bunkers on KNPC account by I.O.C.

P = Provisional.

State-wise consumption of selected Petroleum Products- 1979-80 @

('000 tonnes)

State/Union Territory	ATF	MS	SKO	HSD	LDO	F.O. (Reg.)	LSHS/ HHS	NAPH-THA	LPG	BITU-MEN
A. STATES										
Andhra Pradesh	31	76	289	864	52	232	-	63	26	63
Assam	32	30	106	163	24	62	26	-	3	13
Bihar	4	59	201	465	78	202	133	85	9	33
Gujarat	26	113	370	662	320	465	1069	507	30	133
Haryana	19	33	64	289	35	228	-	-	8	31
H.P.	neg.	5	14	41	1	4	-	-	1	12
Jammu & Kashmir	10	13	25	79	6	2	-	-	2	26
Karnataka	19	102	212	507	20	196	-	139	11	45
Kerala	14	86	123	339	12	229	52	212	8	31
Madhya Pradesh	3	52	186	584	11	124	-	8	10	70
Maharashtra	471	263	775	1287	269	924	704	329	144	157
Manipur	-	5	7	16	2	-	-	-	neg.	1
Meghalaya	-	6	6	14	neg.	neg.	-	-	neg.	1
Nagaland	-	6	4	9	neg.	neg.	-	-	neg.	1
Orissa	5	22	69	168	6	85	83	66	2	15
Punjab	46	84	133	569	40	198	113	-	7	43
Rajasthan	26	44	116	529	44	63	-	128	5	55
Sikkim	neg.	2	3	2	-	neg.	-	-	neg.	1
Tamil Nadu	43	114	326	905	49	966	-	429	33	83
Tripura	1	2	8	10	neg.	neg.	-	-	neg.	1
Uttar Pradesh	51	114	349	1059	166	238	neg.	258	30	91
West Bengal	83	103	346	712	98	312	96	115	21	73
TOTAL (A)	884	1334	3732	9273	1233	4530	2276	2339	350	979
Adjustment	+1	-9	-3	-77	-37	-211	+15	-134	+4	+4
B. UNION TERRITORIES										
A&N Islands	1	1	1	11	neg.	1	-	-	-	4
Arunachal Pradesh	neg.	2	2	7	neg.	-	-	-	-	1
Chandigarh	18	9	8	18	3	5	-	-	3	17
Delhi	231	127	103	369	24	104	-	-	47	48
Dadra & Nagar Haveli	-	neg.	-	1	-	-	-	-	-	-
Goa, Daman & Diu	5	9	14	77	4	152	-	224	neg.	7
Mizoram	-	3	2	5	-	neg.	-	-	neg.	10
Pondicherry	-	2	7	22	1	1	-	-	1	2
Total (B)	255	153	137	510	32	263	-	224	51	89
C. OUTSIDE TERRITORIES										
Bhutan	neg.	2.	1	6	-	neg.	-	-	neg.	-
GRAND TOTAL (A+B+C)	1140	1480	3867	9712	1228	4582	2291	2429	405	1072

Note:(1) Figures represent despatches from depots situated in various States.(ii) Consumption in International Bunkers have also been included.

neg. = Negligible, @ Provisional, including International Bunkers.

Estimated State-wise per capita sales/consumption of **major POL products (excluding International Bunkers)

(Kgs.)

States/ Territories	1976-77	1977-78	1978-79*	1979-80*
A. States				
Andhra Pradesh	26.9	30.2	31.6	33.7
Assam	26.3	26.6	27.2	23.9
Bihar	16.6	18.7	19.0	19.3
Gujarat	83.6	86.9	107.2	116.1
Haryana	48.4	50.2	52.8	59.1
Himachal Pradesh	16.4	16.8	18.2	19.1
Jammu & Kashmir	21.2	24.3	24.8	28.6
Karnataka	31.6	29.8	36.4	36.4
Kerala	46.4	51.3	40.3	43.0
Madhya Pradesh	18.9	18.5	19.9	20.5
Maharashtra	84.4	85.7	89.6	88.7
Manipur	21.0	24.0	26.0	22.5
Meghalaya	20.6	21.1	23.3	21.5
Nagaland	32.5	35.6	36.8	30.0
Orissa	16.5	16.2	17.8	20.1
Punjab	48.7	67.2	73.6	79.5
Rajasthan	26.9	29.6	32.5	31.7
Sikkim	30.0	42.4	37.5	32.4
Tamil Nadu	47.7	45.7	56.7	63.3
Tripura	14.5	15.4	14.6	11.1
Uttar Pradesh	21.2	21.9	23.3	23.1
West Bengal	32.1	32.3	33.4	36.2
B. Other Areas				
Chandigarh	243.8	260.4	218.4	177.6
Delhi	154.4	162.2	178.9	184.4
Goa(incl.Damen,Diu, Dadra & Nagar Haveli)	353.4	378.8	377.1	416.7
Others	77.4	83.2	119.7	82.1
TOTAL ALL INDIA@	41.3	43.1	46.7	47.8

Estimated per capita consumption of selected petroleum products - 1976-77 to 1979-80.

(Kgs.)

Product	1976-77	1977-78	1978-79	1979-80*
Naphtha	3.6	3.7	4.0	3.8
M.S.	2.2	2.2	2.4	2.3
SKO	5.5	5.9	6.2	6.0
HSD	11.6	12.4	13.6	15.0
LDO	1.7	1.8	1.9	1.9
F.O.(Regular)	6.7	6.1	6.9	7.1
LSHS/HHS	2.5	3.0	3.6	3.5
Total all-India © Sales Consumption	41.3	43.1	46.9	47.8

Notes: Based on Expert Committee's population projections as on 1st July each year. * Provisional. ** Includes Mogas, Kerosene, ATF, HSD, LDO, Fuel Oils, LPG GAS, Naphtha and Bitumen.
© All-India actual consumption of all products incl. Ref. fuel.

ESTIMATED SECTOR-WISE CONSUMPTION OF SELECTED PETROLEUM PRODUCT

SECTOR	1977 - 78 Consumption ('000 'Tonnes)	1977 - 78 % to Total	1978 - 79 Consumption ('000 'Total)	1978 - 79 % to Total
1.	2.	3.	4.	5.
NAPHTHA				
1. Fertilizers	1870	81.7	1925	76.5
2. Petrochemicals	413	18.0	582	23.1
3. Others	7	0.3	11	0.4
TOTAL	2290	100	2515	100
L. P. G.				
1. Domestic	316	80.8	330	80.9
2. Commercial	17	4.4	18	4.4
3. Industry	56	14.3	59	14.5
4. Others	2	0.5	1	0.2
TOTAL	391	100	408	100
REFINERY GAS				
1. Industry	12	100	4	100
2. Power Generation	-	-	-	-
3. Others	-	-	-	-
TOTAL	12	100	4	100
LSHS/HHS				
1. Iron & Steel	289	15.4	428	18.8
2. Power Generation	1592	84.6	1842	81.1
3. Others	Neg.	-	3	0.1
TOTAL	1881	100	2273	100
H. S. D. O.				
1. State Transport (Incl.Municipal Transport)	868	11.2	940	10.9
2. Other Road Transport (Incl. Agr. Retail Trade)	5277	68.2	5887	68.2
3. Railways	780	10.1	797	9.2
4. Bankers	61	0.8	70	0.8
5. Miscellaneous	750	9.7	944	10.9
TOTAL.	7736	100	8638	100
L. D. O.				
1. Power	85	7.3	62	5.1
2. Bunkers	73	6.3	80	6.6
3. Rest Incl. Agr.& Small Scale industries.	1006	86.4	1074	88.3
TOTAL	1164	100	1216	100

ESTIMATED SECTOR-WISE CONSUMPTION OF SELECTED PETROLEUM PRODUCTS (Contd).

SECTOR.	1977 - 78 Consumption ('000 Tonnes)	% to Total	1978 - 79 Consumption ('000 Tonnes)	% to Total
1.	2.	3.	4.	5.
	FUEL OILS			
1. TRANSPORT :-				
(i) Railways	52	0.9	54	0.8
(ii) Waterways	307	5.3	238	3.6
a) Coastal & Inland Bunkers	135	2.3	128	1.9
b) International Bunkers	172	3.0	110	1.7
(iii) Others	18	0.3	21	0.3
TOTAL TRANSPORT	377	6.5	313	4.7
2. Agriculture/Plantation	139	2.4	133	2.0
3. Power Generation	1834	31.4	2191	32.8
4. Iron & Steel	487	8.3	648	9.7
5. Textile & Fibre	518	8.9	504	7.5
6. Cement	35	0.6	34	0.5
7. Ceramics & Glass	153	2.6	158	2.4
8. Chemicals & Allied Industries.	771	13.2	832	12.5
9. Fertilizers	541	9.3	644	9.7
10. Aluminium	119	2.0	148	2.2
11. Sugar	47	0.8	46	0.7
12. Mining & Querrying	171	2.9	237	3.6
13. Engineering	225	3.9	237	3.6
14. Others(Incl. DGS & D)	422	7.2	543	8.1
TOTAL :	5839	100	6668	100

* = F.O. Includes T.D.O., L.S.H.S. and H.H.S.
@ = Estimated on the basis of sector-wise distribution available for the calendar year 1977 and 1978.

ESTIMATED SECTOR-WISE CONSUMPTION OF SELECTED PETROLEUM PRODUCTS(Contd.)

Sector	1977-78 Consumption ('000'tonnes)	% to Total	1978-79 Consumption ('000'Tonnes)	% to Total
	W A X			
1. Candle Manufacturing	17.4	31.4	18.3	32.9
2. Water Proffing	5.8	10.5	5.8	10.4
3. Match Industry	6.9	12.4	5.9	10.6
4. Paper Waxing	4.6	8.3	4.1	7.4
5. Hard Board	neg.	neg.	0.1	0.2
6. Miscellaneous uses.	20.8	37.4	21.4	38.5
Total :	55.5	100	55.6	100

GRADE-WISE CONSUMPTION/SALES OF LUBES

Sector	1977-78 Consumption ('000'tonnes)	% to total	1978-79 Consumption ('000'Tonnes)	% to total
(a) Total Lube Oils				
1. Automotive Oils	264.5	50.3	287.6	54.6
HVI	254.3	48.3	286.3	54.4
MVI	9.9	1.9	1.3	0.2
LVI	0.3	0.1	neg.	-
2. Industrial Oils	261.9	49.7	238.8	45.4
Total :	526.4	100	526.4	100
(b) Industrial Oils				
1. Spindle Oil	5.5	2.1	3.7	1.6
2. Transformer oil	20.1	7.7	0.3	0.1
3. Rly/Other Axle oil	14.3	5.5	11.7	4.9
4. Cylinder Oil	10.8	4.1	13.4	5.6
5. Turbine/Hydraulic oil	35.7	13.6	45.0	18.8
6. Other Spl. Oil	101.9	38.9	80.2	33.6
7. Misc. Grades	73.6	28.1	84.5	35.4
Total :	261.9	100	238.8	100

CONSUMPTION OF DIESEL OIL IN INDIAN RAILWAYS DURING 1960 - 61 TO 1978- 79.

YEAR	No. of Diesel Locomotives	Consumption of Diesel Oil (In Kls.)	Consumption per Diesel Locomotive (In Kls.)
1.	2.	3.	4.
1960-61	181	62771	346.8
1961-62	228	59444	260.7
1962-63	349	98481	282.2
1963-64	486	182328	375.2
1964-65	621	245633	395.5
1965-66	727	310813	427.5
1966-67	776	365582	471.1
1967-68	892	427126	478.8
1968-69	996	486084	488.0
1969-70	1091	536301	491.6
1970-71	1169	569025	486.8
1971-72	1288	626983	486.8
1972-73	1431	667414	466.4
1973-74	1610	683140	424.3
1974-75	1702	720047	423.1
1975-76	1731	797610	460.8
1976-77	1903	867330	455.8
1977-78	2025	949077	468.7
1978-79	2126	960545	451.8

Source:- For Col. 2 & 3 Indian Railways Report and Accounts 1978 - 79.

Industry/Plant-wise Consumption of Naphtha

(Qty. '000' Tonnes)

Category and Plant	Calendar years 1977	1978	1979(P)	Financial year 1977-78	1978-79	1979-80(P)
I. Fertilizer Plants						
Madras Ferts.Ltd.	205.4	210.3	217.2	199.2	223.2	189.5
FCI - Durgapur	120.0	71.3	110.8	104.8	84.8	114.4
FCI - Gorakhpur	100.5	103.9	91.7	101.4	104.0	74.7
FCI - Sindri	13.1	13.0	3.4	13.2	10.1	2.8
FCI - Barauni	97.9	92.7	96.9	95.0	101.3	82.6
FCI - Nangal	1.2	Neg.	-	1.2	Neg.	-
FCI - Patna	-	-	-	-	1.0	-
SFC - Kota	137.3	125.0	130.6	134.2	134.6	125.7
IEL - Kanpur	195.2	175.3	202.5	181.9	203.9	173.5
HSL - Rourkela	65.1	62.7	57.7	65.2	54.9	62.5
GSFC - Baroda	89.0	84.4	99.5	88.8	87.1	98.3
FACT - Cochin	104.4	96.9	127.4	101.1	108.8	118.2
GAC - Goa	191.9	182.6	196.5	194.1	193.6	197.1
IFFCO - Phulpur	-	-	6.4	-	-	16.7
IFFCO - Kalol	62.6	63.7	58.0	59.2	70.6	57.5
MFFL - Mangalore	98.9	134.4	155.4	98.0	151.5	137.5
SPIC - Tuticorin	175.3	189.1	201.1	195.2	164.5	231.5
EID Perry Ltd.-Madras	8.9	9.1	8.1	8.9	9.2	7.4
FACT - Alwaye	76.6	77.1	73.3	78.1	72.8	74.7
FCI - Bombay	84.2	76.9	30.7	83.2	70.1	23.1
Coromandal Ferts., Vizag.	68.8	73.1	70.7	66.9	76.7	62.5
Sub-Total(Fertilizers)	1896.3	1841.5	1937.7	1869.6	1922.7	1850.2
II. Petrochem Plant						
PRC - Sahupuram	9.0	0.9	-	7.7	-	-
HOC - Rasayani	2.6	3.4	3.0	2.8	3.3	3.0
IPCL - Baroda	65.8	173.0	279.0	73.5	221.3	266.0
NOCIL - Bombay	230.2	265.8	232.1	243.0	256.2	228.1
FCI-Trombay(Methanol) FCI-Bombay(Methanol)	42.4	40.5	13.8	40.7	34.3	12.2
UCIL - Bombay	67.7	52.8	61.8	45.6	66.9	62.7
Sub-Total(Petrochem)	417.7	536.4	589.7	413.3	582.0	572.0
III. Others						
HSL - Bhilai	4.6	10.3	9.0	6.8	10.7	7.7
Wymen Gardens - Bombay	0.3	-	-	0.3	Neg.	-
Sub-Total (Others)	4.9	10.3	9.0	7.1	10.7	7.7
GRAND TOTAL (I+II+III)	2318.9	2388.2	2536.4	2290.0	2515.4	2429.9

P = Provisional.

Source = IOC's Industry Performance Review.

Plants/Customer-wise Offtakes of LSHS/HHS.

('000' Tonnes)

Plants/Customer	1977-78	1978-79	1979-80(P)
1. POWER			
ASEB, Chandrapura	34.4	39.5	25.3
BTPS, Barauni	43.8	34.5	30.0
GEB, Gandhinagar	56.3	96.2	49.8
GEB, Ukai	38.4	70.4	92.4
GEB, Dhuwaran	661.0	661.0	633.1
GEB, Kalol	-	1.3	-
MSEB, Koradi	-	1.0	-
Tata Thermal Bombay	455.0	448.2	572.0
AEC, Ahmedabad	2.6	45.3	57.2
Sub-Total	1291.5	1397.4	1259.8
2. FERTILIZERS/PETROCHEMICALS.			
FCI, Nangal	19.0	82.4	110.3
NCL, Bhatinda	1.0	9.9	9.0
FCI, Sindri	-	-	55.0
HFC, Barauni	2.0	7.6	7.1
IFFCO, Kalol	36.0	39.6	31.6
IPCL, Baroda(GA) / IPCL, Baroda(GO)	27.4	64.4	87.1
GSFC, Baroda	13.8	17.9	20.2
RCF, Bombay	22.3	20.7	2.0
EFL, Panipat	-	1.1	-
FACT, Cochin Divn.	-	8.8	51.2
NOCIL, Bombay	-	-	-
Sub-Total	121.5	252.4	373.5
3. STEEL PLANTS			
TISCO, Jamshedpur	79.8	99.9	57.1
HSL, Rourkela	99.4	107.2	79.3
DSP, Durgapur	84.6	105.4	91.9
Sub-Total	263.8	312.5	228.3
4. OTHERS			
Gujarat	45.5	65.2	92.2
Bombay	158.7	245.7	336.3
Sub-Total	204.2	310.9	428.5
GRAND TOTAL	1881.0	2273.2	2290.1

P = Provisional

STATE-WISE FUEL CONSUMPTION IN GAS TURBINE & DIESEL POWER STATIONS IN INDIA- 1977-78 (Provisional)

STATE/ UNION TERRITORY.	Gas Turbine & Diesel Power Stations		
	Oil Consumption (KL)	Generation (M KWH)	Average Oil Consumption (Lit/KWH) Generated
1.*	2.	3.	4.
Andhra Pradesh	769	[illegible] (1)	[illegible]
Assam	768	330.20 (1)	0.58
Bihar	128	0.35	0.37
Gujarat	10	103.03	0.33
Haryana	45	0.15	0.30
Himachal Pradesh	43	0.12	0.36
Jammu & Kashmir	164	0.63	0.26
Karnataka	-	-	-
Kerala	-	-	-
Madhya Pradesh	48	0.04	1.20
Maharashtra	-	-	-
Manipur	3573	11.91	0.30
Meghalaya	512	1.04	0.49
Nagaland	205	0.46	0.44
Orissa	-	-	-
Punjab	2535	8.16	0.31
Rajasthan	1683	3.37	0.50
Sikkim	600	1.92	0.31
Tamil Nad u	-	-	-
Tripura	514	1.44	0.36
Uttar Pradesh	99(833) (3)	0.30(2.75) (4)	0.33
West Bengal	4278	12.82	0.33
D. V. C.	-	-	-
Central Govt., Projects	-	-	-
UNION TERRITORIES.			
A & N Islands	2891	7.51	0.38
Arunachal Pradesh	1699	5.31	0.32
Chandigarh	33	0.10	0.33
D & N Haveli	-	-	-
Delhi	612	1.93	0.32
Goa Daman & Diu	-	-	-
Lakshadweep	383	0.74	0.51
Pondicherry	-	-	-
Mizoram	825	2.36	0.35
ALL INDIA TOTAL	21539	532.93	0.34

(1) = Includes 336.20 Mn. KWH Generated by Gas Turbine.
(2) = Includes 103.03 Mn. KWH Generated by Gas Turbine.
(3) = Includes 833. KL of Diesel Oil Consumed by Gas Turbine.
(4) = Includes 2.75 Mn. KWH Generated by Gas Turbine.

STATE-WISE FUEL CONSUMPTION IN STEAM POWER STATIONS IN INDIA: 1977-78 (Provisional).

STATE/ UNION TERRITORY.	Steam Power Stations				Gross Generation (M.KWH)	Average heatinput in (K.Cal/ KWH.) Generated
	Coal (Tonnes)	F.Oil (KL)	Natural & other Gaseous fuel (Cu.Metres/ Mn.Tonnes	Heat input (K.cal x 10^9)		
1.	2.	3.	4.	5.	6.	7.
Andhra Pradesh	2053314	3449 (3988)	-	9609.91	3145.60	3055
Assam	-	44903 (46855)	41.40	825.87	250.45	3298
Bihar	1660617	23427(a) (24702)	-	8757.92	2535.25	3454
Gujarat	1638935 (12603)	676915 (54842)(d) (6810)	133.12	18204.16	5710.39	3188
Haryana	419234	5904 (2804)	-	2425.14	603.12	4021
Himachal Pradesh	-	-	-	-	-	-
Jammu & Kashmir	8943	2526	-	69.97	10.74	6515
Karnataka	-	-	-	-	-	-
Kerala	-	-	-	-	-	-
Madhya Pradesh	3824871	36380 (441131)(b)	-	15985.06	4873.52	3280
Maharashtra	4112507	36803 (6471)	-	23245.47	8198.27	2835
Manipur	-	-	-	-	-	-
Meghalaya	4560	-	-	33.74	2.15	15693
Nagaland	-	-	-	-	-	-
Orissa	467438	-	-	2120.23	669.06	3169
Punjab	462069	11288 (3249)	-	2317.68	808.33	2867
Rajasthan	49955	--	-	277.53	30.90	8982
Sikkim	-	-	-	-	-	-
Tamil Nadu	1239035	62544 (4305)	-	6371.98	1851.86	3441
Tripura	-	-	-	-	-	-
Uttar Pradesh	465503	53496 (52275)	-	23320.89	6111.84	3816
West Bengal	3262252	23209 (38191)	-	18383.78	5045.50	3643
D.V.C.	2962619	18020(16326)	-	14687.85	4903.84	2995
Central Govt. Projects.	740617	153791	-	12100.52	3800.68	11472
Union Territories.						
A & N Islands	7730(c)	101	-	30.98	0.69	44898
Arunachal Pradesh/ Chandigarh/D&N Haveli/Goa, Daman & Diu/Lakshadweep/Pondicherry/Mizoram	-	-	-	-	-	-
Delhi	1295026	**12202 @	-	6985.52	2004.58	3485
ALL INDIA TOTAL	23857195	1164958	174.52	165754.30	50553.77	3279

(a) Includes 46855 of LSHS used in steam power stations.
(b) Includes 441131 of HHS LSHS used in steam power stations.
(c) Wood fuel. ** Includes 2734063 MTs of Lignite. (Figures in brackets are of diesel Oil consumed in steam power stations). (d) Includes 54842 of LSHS used in steam power stations. @ Includes 152829 LDO used in steam power stations.

VIII. FOREIGN TRADE

IMPORTS OF CRUDE OIL AND PETROLEUM PRODUCTS

(Qty. '000 Tonnes)
(Value : Rs. crores)

Year	Products		Crude Oil		TOTAL	
	Qty.	Value	Qty.	Value	Qty.	Value
			Calendar Year			
1955	2071	N.A.	3052	24.3	5123	N.A.
1960	2032	41.0	5723	40.6	7755	81.6
1965	2880	44.7	6811	40.4	9691	85.1
1970	970	30.5	11565	102.4	12535	132.9
1971	1932	43.5	12688	139.9	14620	183.4
1972	3257	56.7	12310	144.2	15567	200.9
1973	3735	88.0	13443	244.6	17178	332.6
1974	2949	209.9	13973	899.4	16922	1109.3
1975(R)	2291	199.5	13600	992.0	15891	1191.5
1976(R)	2293	219.7	13883	1145.6	16176	1365.3
1977(R)	2664	273.0	14548	1258.9	17212	1531.9
1978(R)	3916	414.1	14892	1243.9	18808	1658.0
1979(R)	3926	705.7	15380	1786.8	19306	2492.5
			Financial Year			
1955-56(E)	2005	N.A.	3231	25.7	5236	N.A.
1960-61	2217	39.8	5709	39.2	7926	79.0
1965-66	2537	40.7	6844	39.6	9381	80.3
1970-71	1084	29.9	11683	106.7	12767	136.6
1971-72	2147	45.9	12951	147.0	15098	193.9
1972-73	3525	60.6	12084	146.4	15609	207.0
1973-74	3548	124.5	13873	416.4	17421	540.9
1974-75	2648	195.0	14016	917.0	16664	1112.0
1975-76	2218	204.3	13624	1051.8	15842	1256.1
1976-77(R)	2624	248.2	14048	1175.9	16672	1424.1
1977-78(R)	2879	305.3	14507	1246.2	17386	1551.5
1978-79(R)	3878	430.0	14657	1251.2	18535	1681.2
1979-80(R)	4478	1025.0	16119	2186.9	20597	3211.9

N.A. = Not Available. (E) = Estimated.
(R) = Revised figures but still subject to firming up by the oil companies.

**

IMPORTS OF CRUDE OIL AND PETROLEUM PRODUCTS DURING 1977/1977-78 TO 1979/1979-80

Qty : '000' Tonnes
Value : Rs. crores.

Item	1977 Qty.	1977 Value	1978 Qty.	1978 Value	1979* Qty.	1979* Value
A. Crude Oil	14548	1258.9	14892	1243.9	15380	1786.78
B. Petroleum Products						
I. Light Distillates	259	31.4	369	41.0	171	37.49
1. Naphtha	229	25.4	340	35.2	149	28.84
2. Others	30	6.0	29	5.8	22	8.65
II. Middle Distillates	1640	184.8	2693	309.2	2813	550.48
1. Kerosene Superior	1016	119.4	1617	193.3	1362	263.77
2. H.S.D.	624	65.4	1076	115.9	1427	284.22
3. L.D.O.	-	-	-	-	24	2.49
III. Heavy Ends	765	56.8	854	63.9	942	117.74
1. Furnace Oil	743	50.6	813	50.7	880	93.77
2. Lubes	22	6.0	33	9.1	51	17.42
3. Waxes	0.3	0.2	8	4.1	13	6.55
Total(B)	2664	273.0	3916	414.1	3926	700.71
Grand Total (A+B)	17212	1531.9	18808	1658.0	19306	2487.49

	1977-78 Qty.	1977-78 Value	1978-79 Qty.	1978-79 Value	1979-80* Qty.	1979-80* Value
A. Crude Oil	14507	1246.2	14657	1251.2	16119	2186.93
B. Petroleum Products						
I. Light Distillates	290	33.5	319	37.3	168	45.25
1. Naphtha	260	27.6	301	33.6	131	29.30
2. Others	30	5.9	18	3.7	37	15.95
II. Middle Distillates	2056	230.8	2593	317.2	3504	864.07
1. Kero. Superior	1281	149.7	1449	181.3	1491	364.09
2. H.S.D.	775	81.1	1120	133.4	1936	478.61
3. L.D.O.	-	-	24	2.5	77	21.37
III. Heavy Ends	533	41.0	966	75.5	806	115.65
1. Furnace Oil	512	35.3	912	57.9	741	87.14
2. Lubes	19	5.0	44	12.5	52	19.99
3. Waxes	2	0.7	10	5.1	13	8.52
Total(B)	2879	305.3	3878	430.0	4478	1024.97
Grand Total (A+B)	17386	1551.5	18535	1681.2	20597	3211.90

* Provisional & Excludes products obtained under crude processing arrangement at Aden Refinery.

** Revised figures but still subject to firming up by the oil companies.

TOTAL EXPORTS OF PETROLEUM PRODUCTS SINCE 1955/1955 - 56

Qty. = Tonnes
Value(f.o.b.) =Rs. Crores

YEAR	Quantity Calendar years	Value	YEARS	Quantity Financial year	Value
1.	2.	3.	4.	5.	6.
1955	215967	3.55	1955-56	255898	3.94
1960	225061	4.61	1960-61	221790	4.40
1965	344680	3.92	1965-66	403274	4.39
1966	729704	8.76	1966-67	759585	9.42
1967	1057000	14.23	1967-68	1050030	14.59
1968	558166	8.25	1968-69	633941	8.95
1969	738867	10.77	1969-70	685769	9.26
1970	412309	5.72	1970-71	322425	4.67
1971	151631	2.55	1971-72	135799	3.91
1972	109313	8.94	1972-73	125773	8.16
1973	154990	5.35	1973-74	161210	8.05
1974	202409	19.37	1974-75	174850	17.46
1975	165669	13.83	1975-76	169815	13.96
1976	81764	7.66	1976-77	73582	6.89
1977	59223	6.50	1977-78	47440	5.69
1978	42949	4.20	1978-79	44300	4.11
1979	58694	14.94	1979-80	108290	24.02

e = Estimated.

Exports/Re-exports of Petroleum Products From 1976 to 1979 and 1976-77 to 1979-80

Qty. '000' Tonnes
Value- f.o.b. Rs. Crores

Product	1976 Qty.	1976 Value	1977 Qty.	1977 Value	1978 Qty.	1978 Value	1979 Qty.	1979 Value
1.	2.	3.	4.	5.	6.	7.	8.	9.
Light Ends								
Naphtha	-	-	-	-	36.2	3.30	54.0	14.42
Others	-	-	-	-	-	-	Neg.	0.02
Total (1)	-	-	-	-	36.2	3.30	54.0	14.44
Others								
F.O.	-	-	-	-	-	-	-	-
Base Oil	-	-	9.7	1.67	3.4	0.59	-	-
Asphalt/Bitumen	78.8	6.93	49.5	4.83	3.4	0.31	4.7	0.50
Wax	3.0	0.67	-	-	-	-	-	-
Total (2)	81.8	7.60	59.2	6.50	6.8	0.90	4.7	0.50
Total POL Products (1+2)	81.8	7.60	59.2	6.50	43.0	4.20	58.7	14.94

Products	1976-77 Qty.	1976-77 Value	1977-78 Qty.	1977-78 Value	1978-79 Qty.	1978-79 Value	1979-80 Qty.	1979-80 Value
Light Ends								
Naphtha	-	-	-	-	36.2	3.30	88.3	24.00
Others	-	-	-	-	-	-	Neg.	0.02
Total (1)	-	-	-	-	36.2	3.30	88.3	24.02
Others								
F.O.	-	-	-	-	-	-	-	-
Base Oil	-	-	13.1	2.27	-	-	-	-
Asphalt/Bitumen	71.6	6.45	34.3	3.42	8.1	0.81	-	-
Wax	2.0	0.44	-	-	-	-	-	-
Total (2)	73.6	6.89	47-4	5.69	8.1	0.81	-	-
Total POL Products (1+2)	73.6	6.89	47.4	5.69	44.3	4.11	88.3	24.02

EXPORT EARNINGS DURING THE YEAR 1977-'78 TO 1979-80.

(Qty. '000 'Tonnes) Value Rs./Crores.

CATEGORY/PRODUCTS.	1977-78		1978-79		1979-80	
	Qty.	Value	Qty.	Value	Qty.	Value
1.	2.	3.	4.	5.	6.	7.
1. SALES TO BUNKERS.						
(a) Shipping Bunkers						
International Foreign Flag.	123	10.03	75	6.58	71	13.74
International Indian Flag.	121	10.55	115	10.87	146	26.06
Coastal Foreign Flag.	1	0.11	6	0.65	26	3.10
T O T A L (a)@	245	20.69	196	18.10	243	42.90
(b) International Airlines. (excl. Air India)	433	69.50	510	82.62	467	181.06
(c) C.C.P. Bunkers.	1	0.05	Nil	Nil	Nil	Nil
TOTAL (1)	679	90.24	706	103.72	710	223.96
2. EXPORTS OF POL PRODUCTS.						
Export of Naphtha	-	-	36	3.30	88	24.00
Export of Asphalt.	34	3.42	8	0.81	-	-
Export of Base Oils	13	2.27	-	-	-	-
Export of Wax	-	-	-	-	-	-
Export of Other Products	-	-	-	-	neg.	0.02
T O T A L (2)	47	5.69	44	4.11	88	24.02
GRAND TOTAL (1 + 2)	726	95.93	750	107.83	798@@	247.98

* = Provisional, @ = Excluding Sales of Marine Lubricants.
@@ = Excluding Supplies to Nepal and Exported directly from Aden Refy.

INDIA'S REVENUE FROM HIL CRUDE

Y E A R	Qty. '000 'Tonnes.	Value Rs./ Crores.
1974	654	38.59
1975	567	41.96
1976	410	32.14
1977	465	38.96
1978	371	29.36

Note: No lifting since October/November, 1978.

TREND IN INDIA'S OVERALL TRADE BALANCE AND TRADE BALANCE WITH OPEC COUNTRIES.

(Rs. Crores)

YEAR	INDIA'S OVERALL TRADE					INDIA'S TRADE WITH OPEC COUNTRIES					% of India's trade with OPEC to India's Total Trade	
	Exports	Imports	Balance of Trade	% Variation over preceding year Export	Imports	Export	Imports	Balance of trade	% Variation over Preceding year Export	Import	Export	Imports
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1970-71	1535	1634	- 99	8.6	3.3	99	126	- 27	-	-	6.4	7.7
1971-72	1608	1825	-217	4.8	11.3	76	182	-106	(-) 23.2	44.4	4.7	10.0
1972-73	1971	1867	+104	22.6	2.3	94	200	-106	23.7	9.9	4.8	10.7
1973-74	2523	2955	-432	28.0	58.3	187	532	-345	98.9	166.0	7.4	18.0
1974-75	3329	4519	-1188	32.0	52.9	507	1100	-593	171.1	106.8	15.2	24.3
1975-76	4043	5265	-1222	21.4	16.5	629	1165	-536	24.1	5.9	15.6	22.1
1976-77	5142	5074	+ 72	27.3	(-) 3.6	709	1197	-488	12.7	2.7	13.8	23.6
1977-78	5404	6025	- 621	5.0	18.7	703	1321	-618	(-) 0.8	10.4	13.0	21.9
1978-79	5726 6459	6789 9022	-1063	6.0	12.7	745	1361	-616	6.0	3.0	13.0	20.0
1979-80* (April-June)	1550	1698	- 148	21.8	12.2	187	456	-269	23.0	36.5	12.1	26.9
1980-81	7100	12600	Estimates likely									

*= Provisional. % = of variation over the corresponding period in the preceding year.

Sources:- Ministry of Commerce.

6704 12330 June 1981 Press Note

INDIA'S FOREIGN EXCHANGE RESERVES.
(1970 - 71 TO 1979 - 80)

Year	S.D.R.s Million	GOLD (Rs. Crores)	Foreign Exchange (Rs. Crores)
1.	2.	3.	4.
1970-71	148.9	182.53	438.12
1971-72	247.7	182.53	480.38
1972-73	246.5	182.53	478.90
1973-74	244.9	182.53	580.78
1974-75	234.9	182.53	610.50
1975-76	202.8	182.53	1491.70
1976-77	187.4	187.80	2862.99
1977-78	161.6	193.09	4499.75
1978-79	364.9	219.50	5219.86
1979-80(P)	513.0	224.70	5163.70

(P) = PROVISIONAL.

INDIA'S POL IMPORTS AS A PROPORTION OF ITS TOTAL EXPORTS.

(Rs./Crores)

YEAR	P. O. L. Imports	INDIA'S Total Exports	%of P.O.L. Imports to total Exports
1.	2.	3.	4.
1970-71	137	1535	8.9%
1971-72	194	1608	12.1%
1972-73	207	1971	10.5%
1973-74	541	2523	21.4%
1974-75	1112	3329	33.4%
1975-76	1256(R)	4043	31.1%
1976-77	1424(R)	5142	27.7%
1977-78	1552(R)	5404	28.7%
1978-79	1681(R)	5726	29.4%
1979-80(P)	3212(R)	6135	52.4%

* - Provisional, Source:- R.B.I. Monthly Bulletine.
(R) - Revised but still subject to firming up.

IX. MAN POWER EMPLOYED

MANPOWER EMPLOYED IN THE PETROLEUM INDUSTRY IN INDIA

(Number)

CATEGORY	1970	1975	1978	1979	1980
1.	2.	3.	4.	5.	6.
1. Exploration and Production	26051	27067	29667	30390	31413
2. Refining*	10715	12327	13643	14417	15334
3. Marketing	20362	19072	18833	19255	19920
4. Others:-					
1. IOC (Pipeline)	487	724	1081	1196	1312
2. ONGC (Pipeline)	346	233	228	235	411
3. OIL (Pipeline)	443	431	482	490	492
4. I.I.P.	588	676	714	714	754
5. E. I. L.	N.A.	1940	2768	2613	2661
TOTAL	1864	4004	5272	5229	5630
GRAND TOTAL	58992	62470	67415	69291	72297

CATEGORY-WISE MANPOWER EMPLOYED IN THE PETROLEUM INDUSTRY IN INDIA

(Number)

CATEGORY.	1970	1975	1978	1979	1980
1.	2.	3.	4.	5.	6.
1. Exccutive/ Managerial	4793	6461	7540	7823	9311
2. Supervisory	6205	6659	8005	7001	6512
3. Clerical	11457	11723	12213	12688	12403
4. Workmen	36437	37611	39629	41774	44057
5. Total	58892	62454	67387	69286	72283
6. Expatriates/Foreign- Experts	100	16	28	5	14
GRAND TOTAL	58992	62470	67415	69291	72297

Note :- 1. Staff Employed as on 1st April of each year.
2. Total does not include staff Employed on contract basis.
3. *Including IOC Head Office, Regional Office and R & D Centre.

CATEGORY WISE MANPOWER EMPLOYED@ IN VARIOUS SECTOR OF PETROLEUM INDUSTRY IN INDIA

(Number)

CATEGORY.	1970	1975	1978	1979	1980
1.	2.	3.	4.	5.	6.
EXPLORATION AND PRODUCTION					
1. Executive/ Managerial	1765	1967	2777	2899	3394
2. Supervisory	2774	3538	3036	1991	1994
3. Clerical	3764	3538	3674	3783	3795
4. Workmen	17704	18013	19364	21712	22216
5. Total	26007	27056	29651	30385	31399
6. Expatriates/Foreign Experts	44	11	16	5	14
GRAND TOTAL	26051	27067	29667	30390	31413
PETROLEUM REFINING*					
1. Executive/ Managerical	5258	818	1163	1184	2055
2. Supervisory	1076	1313	1584	1640	1050
3. Clerical	1219	1568	1641	1768	1791
4. Workmen	7857	8626	9246	9815	10438
5. Total	10677	12325	13634	14417	15334
6. Expatriates/ Foreign Experts	38	2	9	-	-
GRAND TOTAL	10715	12327	13643	14417	15334
MARKETING.					
1. Executive/ Managerial	2367	3519	3155	3210	3318
2. Supervisory	2081	910	1411	1558	1591
3. Clerical	6220	5870	5838	5820	5820
4. Workmen	9680	8770	8429	8667	9191
5. Total	20348	19069	18833	19255	19920
6. Expatriates/ Foreign Experts	14	3	-	-	-
GRAND TOTAL	20362	19072	18833	19255	19920

@= Data relates to the number of persons directly employed by various oil companies as on 1st April of each year, Staff Employed on contract basis is m not covered.

*= Includes IOC's Head Office, Regional office and R&D Centre.

X. P R I C E S

WHOLESALE PRICE INDICES OF

Petroleum products, Petro-based Industries and other Energy Items.

(1970 - 71 = 100)

	1972-73	1973-74	1974-75	1976-77	1977-78	1978-79	1979-80
1.	2.	3.	4.	5.	6.	7.	8.
I. Petroleum Products.							
1. Petrol	121.6	178.6	272.1	285.0	286.4	299.1	361.3
2. Diesel Oil	105.9	119.5	194.3	213.9	214.0	HSD 164.0	186.5
						LDO 269.1	329.8
3. Kerosene	114.9	113.1	187.7	229.6	229.9	235.0	266.1
4. F. O.	113.3	150.7	308.4	429.7	429.9	432.6	529.9
5. Aviation Spirit.	125.4	173.9	288.4	297.1	297.8	309.6	431.7
6. Pet. Crude & Natural Gas	142.0	317.1	686.5	740.3	787.6	802.9	1384.0
II. Petro-based Industries.							
1. Lubricating Oil	99.0	135.8	311.7	314.2	314.2	309.6	319.6
2. Nylon & Terene Mixed	98.9	104.7	125.1	120.6	116.3	110.4	131.6
3. Benzene	106.1	125.7	440.7	384.9	385.2	388.2	480.3
4. Nitrogenous Fertilizers	104.7	109.5	191.4	186.2	181.1	178.6	171.7
5. Insecticides	111.6	131.6	200.3	232.4	232.2	236.9	272.2
6. Syn. Detergents.	105.2	105.7	161.0	172.2	170.0	177.2	230.4
7. Polystyrene	101.0	121.8	262.1	260.5	244.8	252.4	252.1
8. Polyethelene Moulding Powder	105.4	122.8	184.2	187.7	189.1	192.6	228.9
9. PVC Compounds	104.3	132.2	136.4	178.1	177.3	184.1	222.6
10. PVC sheets	98.2	129.8	187.7	153.2	160.3	163.6	196.0
11. Syn. Resins n.e.s.	99.8	121.3	177.2	141.6	178.8	179.0	199.8
12. Syn. Fibre	101.4	106.2	154.1	154.5	126.5	132.5	150.2
13. Syn. Rubber	100.0	100.0	100.0	100.8	106.6	109.6	138.3
14. Polythene films.	108.8	131.2	216.7	201.6	203.1	203.1	248.6
15. Carbon Black	99.6	99.6	242.8	246.6	248.0	268.2	347.4
16. Plasticizers.	104.6	103.1	240.1	190.3	193.4	200.1	269.5
III. Other Energy Items.							
1. Electricity	105.7	111.3	137.2	171.6	182.5	209.1	225.6
2. Coke	134.7	136.4	182.1	213.1	214.0	224.3	262.8
3. Coal	110.8	121.7	143.8	197.6	198.8	212.2	299.5
IV. All Commodity Index.							
All Commodities	116.2	139.7	174.9	176.6	185.8	185.8	217.6

Source: Monthly Bulletins of Index Numbers of Wholesale Price Indices brought out by the Office of the Economic Adviser, Min. of Industry.

BASIC SELLING SELLING PRICES (EX-STORAGE) OF PETROLEUM PRODUCTS AS ON 8-6-1980.

PRODUCTS	Selling Unit.	Koyali/ Bombay	Cochin	Madras	Vizag.	Gauhati/ Barauni/ Digboi/ Haldia.	Calcutta	Kandla	Okha	Goa.
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. Av. Gas 100/130	KL	4974.81	-	4991.45	-	5001.03	5001.03	4971.72	-	4969.54
2. Av. Gas 115/145	KL	5063.51	-	5080.34	-	5089.42	5089.42	-	-	5058.33
3. Av. Gas 73 on	KL	4840.67	4837.17	4847.52	4840.12	4862.74	4862.74	4839.38	-	-
4. A. T. F.	KL	3216.85	-	3236.21	3229.64	3235.04	3235.04	3219.45	3219.48	3216.71
5. Motor Spirit 83	KL	4538.07	4535.09	4546.90	4539.47	4561.11	4561.11	4537.37	-	4533.12
6. Motor Spirit 93	KL	4693.48	4690.36	4702.27	4694.84	4716.94	4716.94	4692.63	-	4688.45
7. H.S.D.O.	KL	1959.55	1958.93	1970.98	1964.69	1971.75	1993.68	1998.41	2008.84	1992.58
8. S. K. O.	KL	1294.93	1297.45	1305.35	1302.73	1309.51	1330.32	1329.31	1341.73	1325.49
9. L. D. O.	KL	1856.97	1856.33	1871.46	1862.19	1869.57	1869.57	1858.24	-	1855.54
10. F.O.(Non Fert.Use)	KL	1859.06	1858.33	1873.78	1865.39	1872.81	1897.12	1901.16	1913.87	1896.37
11. Bitumen St. Grade										
a) Bulk	MT	1825.85	1825.85	1825.85	1825.85	1825.85	1850.85	-	-	-
b) Pocked	MT	2110.91	2110.91	2110.91	2110.91	2110.91	2138.41	2174.23	2179.11	2197.36
12. Naphtha for Non-Fert.*	MT	2692.00	2692.00	2692.00	2692.00	2692.00	2734.22	2745.87	2754.13	2752.47
13. Naphtha for Fert*	MT	1071.31	1070.11	1087.48	1077.63	1086.36	1128.58	1125.92	1133.83	1129.57
14. J. B. O.*	MT	1679.42	1679.42	1679.42	1679.42	1679.42	1705.68	-	-	-
15. SBP Spirit 55/115*	KL	2785.56	2785.56	2785.56	2785.56	2785.56	2814.72	2822.38	2828.48	2817.51
16. SBP Spirit 64/69*	KL	2961.36	2961.36	2961.36	2961.36	2961.36	2989.40	2996.76	3002.82	2992.08
17. Solvent 1425*	KL	2785.56	2785.56	2785.56	2785.56	2785.56	2814.72	2822.38	2828.48	2817.51
18. Hexane*	KL	2961.36	2961.36	2961.36	2961.36	2961.36	2989.40	2996.76	3002.82	2992.08
19. M. T. O. 140/205*	KL	1774.26	1774.26	1774.26	1774.26	1774.26	1794.42	1808.17	1830.42	1804.40
20. M.T.O. Laws*	KL	1855.96	1855.96	1855.96	1855.96	1855.96	1876.13	1889.89	1902.15	1886.12
21. L.P.G. Domestic Use	MT	1965.98	1969.48	1980.16	1976.80	1985.00	-	-	-	-
22. L.P.G.Industrial Use	MT	2442.81	2442.81	2442.81	2442.81	2442.81	-	-	-	-
23. F. O.(Fert. Use)	KL	829.06	828.33	843.78	835.39	842.81	867.13	871.16	883.87	866.37

* * Prices shown against these items are exclusive of customs/excise duties chargeable extra at applicable rates.

Price Build-up of Selected Petroleum Products
As on 1-4-1980

(Rs/KL)

	Bombay	Calcutta	Delhi	Madras	Kanpur
	MOTOR SPIRIT 83 ON				
Ex. MI Rate/BCSP	3888.07	3911.11	3888.07	3896.90	4101.98
State Surcharge	-	10.00	-	35.00	-
Rail Freight/Siding/ Shunting Charges	-	-	156.10	-	-
RPO Charges	11.36	11.36	11.36	11.36	-
Delivery Charges beyond Free Delivery Zone	-	2.88	-	-	-
RPO Surcharge	15.00	15.00	15.00	15.00	-
Bombay Octroi, Surcharge Entry tax etc.	28.50	-	-	-	30.00
Total	3942.93	3970.35	4070.53	3958.26	4131.98
Sales Tax	433.72	397.04	284.94	241.50	330.56
Dealers Commission	50.00	50.00	50.00	50.00	50.00
Gross Retail Selling Price	4426.65	4417.39	4405,47	4249.76	4512.54
Retail Selling Price Rs/litre	4.43	4.42	4.41	4.25	4.52
	HIGH SPEED DIESEL OIL				
Ex MI Rate/BCSP	1309.55	1343.68	1309.55	1320.98	1398.61
State Surcharge/SSB Terminal	-	1.00	4.68	35.00	-
Rail Freight/siding/S.Charges	-	-	113.79	-	-
RPO Charges/FDZ Charges	7.27	7.27	7.27	7.27	-
Delivery charges beyond Free Delivery Zone	-	2.88	-	-	-
RPO Surcharge	20.00	20.00	20.00	20.00	-
Bombay Octroi Surcharge	18.50	-	-	-	20.00
Entry Tax	-	20.00	-	-	-
Total	1355.32	1394.83	1455.29	1383.25	1418.61
Sales Tax	121.98	181.33	101.87	178.50	170.23
Dealers Commission	20.00	20.00	20.00	20.00	20.00
Gross Retail Selling Price	1497.30	1596.16	1577.16	1581.75	1608.84
Retail Selling Price Rs/litre	1.50	1.60	1.58	1.59	1.61

Contd..../-

PRICE BUILD-UP OF SELECTED PETROLEUM PRODUCTS AS ON 1-4-1980 (Continued)

(Rs/KL)

	BOMBAY	CALCUTTA	DELHI	MADRAS	KANPUR
1.	2.	3.	4.	5.	6.
SUPERIOR KEROSENE OIL					
Ex. MI Rate/Depot.	1308.43	1330.32	1417.89	1305.35	1366.30
State Surcharge	-	-	-	35.00	-
Sales Tax & Addnl. Cst. etc.	-	66.52	42.54	112.59	109.30
Transportation Charges	24.33	11.23	17.00	12.23	30.00
Leakage	-	2.50	-	14.53	9.00
Loading/Unloading Handling	-	-	-	2.00	-
Gowdown Charges	-	-	-	2.00	-
B. D. A.	-	2.50	-	-	2.00
Handling/ Leakage	-	13.50	-	-	4.00
Dealers Commission	19.00	8.00	7.70	7.70	8.00
Retailers Profit	31.00	19.26	54.95	53.00	0.05@
Retailers Transportation	-	34.67	-	-	0.01@
Retail Selling Price Rs./KL.	1382.76	1486.00	1540.08	1544.40	1528.50
Retail Selling Price Rs./Ltr.	1.39	1.49	1.54	1.55	1.59
F U R N A C E O I L.					
Ex. MI Rate	1209.06	1247.12	1340.04	1223.78	NO
State Surcharge	-	[illegible]	-	35.00	R
Octroi Surcharge/ Entry Tax	18.47	20.00*	-	-	E T
Sales Tax	61.38	76.03	93.80	100.70	A I
Surcharge on Sales Tax	-	-	[illegible]	5.04	L
Total Rs./KL	1288.91	1343.15	1433.84	1364.52	SA- LE

@ - Rs./Litre

* - Entry Tax

PRICE BUILD-UP OF SELECTED PETROLEUM PRODUCTS AS ON 1-4-1980 (Contd.)

Rs./KL

	BOMBAY	CALCUTTA	DELHI	MADRAS	KANPUR
L I G H T D I E S E L O I L					
Ex. MI Rate	1206.97	1219.57	1328.75	1221.46	1348.83
Octroi Surcharge	13.50	-	-	-	-
Entry Tax	-	30.00	-	-	-
State Surcharge	-	-	-	35.00	-
Sales Tax	61.02	161.14	93.01	170.00	161.86
Surcharge on Salestax	-	-	-	8.50	-
Handling Charges	-	-	2.75	-	-
Leakage	-	-	14.22	-	-
B. O. A.	-	-	4.95	-	-
Transportation@	-	30.00@	14.00	-	-
Dealers Commission	-	30.00	6.60	-	-
Total Rs./KL.	1281.49	1450.71	1465.28	1434.96	1510.69
Retail Selling Price	Rs./Litre	1.46			

@= Inclusive of Leakage and Handling Charges.

L I Q U I F I E D P E T R O L E U M G A S.					(Rs./15 kg) @ Cylinder
Ex. Storage Point	27.92	29.78	29.49	29.70	29.78
Octroi	0.30	0.78	0.18	-	0.60
Freight	(-)0.06	4.15	5.37	-	4.30
Under/Over Recovery	0.53	0.33	(-) 0.34	1.61	-
Billable Rate Exclusive Tax	28.69	30.11	34.80	31.31	34.68
Local Delivery Charges	0.44	-	0.30	0.39	-
Sales tax	1.46	4.52	1.76	2.11	2.77
Selling Rate to Distributor	30.59	39.56	36.86	33.81	37.45
Distributors Commission	3.37	3.37	3.37	3.37	3.37
Retail Selling Price	33.96	42.93	40.23	37.18	40.82

@ = Price for Bombay relates to Cylinder containing 14.2 Kg. of L.P.G.

PRICE BUILD-UP OF PETROLEUM PRODUCTS AS ON 1-4-1980 (Contd)

(Rs./KL)

1.	BOMBAY 2.	CALCUTTA 3.	DELHI 4.	MADRAS 5.	KANPUR 6.
A.T.F. (DOMESTIC AIR LINES)					
Ex. MI	2116.85	2135.04	2116.85	2136.21	2116.85
Rail Freight	-	-	106.84	-	113.91
Local Levies	13.50	30.00	15.00	-	10.00
Airfield Surcharge	24.44	24.44	24.44	24.44	41.94
Total	2154.79	2179.48	2263.13	2160.65	2282.70
Sales Tax	495.70	544.87	158.42	220.50	182.62
Posted Airfield Price	2650.39	2724.35	2421.55	2381.15	2465.32
A.T.F. (INTERNATIONAL AIRLINES@)					(Rs./KL)
Ex MI	2116.85	2135.04	2238.69	2136.21	
LessDuty	333.52	333.52	333.52	333.52	
Duty Free Price	1783.33	1801.52	1905.17	1802.69	
Plus Concessional Duty	24.60	24.60	24.60	24.60	
Airfield Surcharge/PPA	24.44	24.44	24.44	24.44	
Adhoc Surcharge	1300.00	1300.00	1300.00	1300.00	
Total	3132.37	3150.56	3254.21	3151.73	
Sales Tax	939.71	787.64	227.79	220.50	
Posted Airfield Price	4072.08	3938.20	3482.00	3372.23	

@ = For supplies to scheduled International Airlines
Sales Tax is Exempted.

XI. EXCISE/CUSTOMS DUTIES AND SALES TAX.

Realization of Excise & Custom Duties From Crude Oil and Petroleum Productss

(Rs.Crores)

Products	ACTUALS					1979 -80 (RE) (June 80)	1980 -81 (BE) (June 80)
	1970 -71	1973 -74	1975 -76	1977 -78	1978 -79		
A. Excise Duties							
1. Mogas	173	307	404	441	496	519	510
2. Kerosene Oil	121	141	161	161	159	159	131
3. Refined Diesel Oils & Vap. Oil	232	291	300	338	367	395	326
4. Diesel (Oil)Nos.	23	23	21	25	22	23	24
5. Furnace Oil	33	30	49	41	39	39	39
6. Asphalt/Tar	9	16	11	15	14	16	17
7. Blended or Compounded Lubes & Greases	-	18	45	44	-	-	-
8. Pet. Products (Others)	17	47	46	82	191	209	210
9. Calcined Pet. Coke	-	1	3	2	2	4	4
TOTAL (A)	608	874	1040	1152	1290	1364	1261
B. Customs Duties							
1. Petroleum Crude	-	-	13	12	12	16	17
2. Mogas	5	8	9	8	9	10	9
3. Kerosene Oil	10	33	37	61	78	90	78
4. Batching Lubricating & other Mineral oils	9	15	21	13	24	34	24
5. HSD & Vap. Oil	1	18	26	28	57	109	111
6. Indl. Fuel Oil	5	22	9	5	10	15	15
TOTAL (B)	30	96	115	127	190	274	254
GRAND TOTAL	638	970	1155	1279	1480	1638	1515

Figures rounded to nearest crore.

SOURCE:- Budget papers of the Central Government.

Percentage Share of Central Excise on POL to Total Central Excise and to Net National Products

Year	Net National Product. Rs./ crores	Central Excise Rs./ crores	Central Excise on POL Rs./ crores	Central Excise as % of NNP(%)	Central Excise on POL as % of NNP (%)	Central Excise on POL as % of Total central excise %
1	2	3	4	5	6	7
1960-61	13263	416	101	3.1	0.8	24.3
1965-66	20637	898	261	4.4	1.3	29.1
1970-71	34235	1759	608	5.1	1.8	34.6
1971-72	36573	2061	708	5.6	1.9	34.4
1972-73	40270	2324	767	5.8	1.9	33.0
1973-74	50424	2602	874	5.2	1.7	33.6
1974-75	59083	3231	1011	5.5	1.7	31.3
1975-76	61644	3845	1040	6.2	1.7	27.1
1976-77	66885	4221	1110	6.3	1.7	26.3
1977-78	74794	4448	1152	5.9	1.5	25.9
1978-79	80090	5367	1290	6.7	1.6	24.0

SOURCE: i) Government of India, Economic Survey for N.N.P.

ii) Budget paper of Central Government.

COMPOSITE INCIDENCE OF EXCISE AND CUSTOM DUTIES ON PETROLEUM PRODUCTS

YEAR	Consumption of P.O.L. products (excl.RBF) ('000 'MTS)	Central Excise duty realisation Rs./Crores	Customs Duties realisation Rs./Crores	Total Central Excise & Customs duties Rs./Crores	Composite incidence of excise & Customs duties Rs./MT
1.	2.	3.	4.	5.	6.
1960-61	7985	101.07	22.32	123.94	155.22
1965-66	11917	261.18	83.00	344.18	288.81
1970-71	17912	608.18	29.73	637.91	356.14
1971-72	20071	708.39	63.37	771.76	384.51
1972-73	21715	761.42	86.01	853.43	393.01
1973-74	22346	873.85	96.03	969.88	434.03
1974-75	22105	1010.57	95.86	1106.43	500.53
1975-76	22447	1039.51	115.49	1155.00	514.55
1976-77	24101	1110.00	112.00	1222.00	507.05
1977-78	25539	1152.00	127.00	1279.00	500.80
1978-79	28241	1290.00	190.00	1480.00	524.06
1979-80(P)	29526	1364.00	274.00	1638.00	554.77

(P) Provisional

ROYALTY AND OIL DEVELOPMENT CESS PAID BY THE OIL COMPANIES SINCE 1969 -70

Rs./Lakhs

YEAR	Royalty				Oil@ Decelopment Cess
	Onshore				
	Gujarat	Assam*	Offshore	Total	
1969-70	361	323	-	684	-
1970-71	366	337	-	703	-
1971-72	462	344	-	806	-
1972-73	610	511	-	1121	-
1973-74	545	552	-	1097	-
1974-75	613	591	-	1204	3081
1975-76	659	671	-	1330	5007
1976-77	1325	1136	156	2617	5289
1977-78	1817	1972	860	4649	6395
1978-79	1858	1788	1349	4995	6859
1979-80	1582(E)	1503(E)	1857(E)	4942(E)	6716#

* = Royalty in respect of O.I.L. & A.O.C. included under this column pertain to calendar years.

@ = Oil Development cess was levied w.e.f. 23.7.1974.

(E) = Estimated (royalty on crude oil production)

\# = ONGC figures for condensates & Eastern region are upto Mar'80 (1st fortnight) & Dec. 79 respectively.

Excise Duty Element Included in Selling Prices of Bulk Refined Petroleum Products.

(In Rupees)

Products	Unit	w.e.f. 1.3.79	w.e.f. 17.8.79	w.e.f. 11.9.79	w.e.f 8.6.80
Avgas 100/130	KL	2702.43	2214.89	2214.89	2214.89
" 115/145	KL	2700.50	2213.32	2213.32	2213.32
" 73	KL	2701.60	2214.21	2214.21	2214.21
MS - 83	KL	2703.25	2215.56	2215.56	2215.56
MS - 93	KL	2704.90	2216.92	2216.92	2216.92
A.T.F.	KL	493.10	402.56	402.56	333.52@
S.K.O.	KL	493.20	402.63	333.59	333.59@
H.S.D.	KL	493.95	399.15	330.00	330.00@
L.D.O.	KL	74.15*	153.96	153.96	153.96
F.O.(Fert.Use)	KL	125.82	125.82	125.82	125.82
F.O.(Non-Fert.use)	KL	125.82	125.82	125.82	125.82
Bitumen(Bulk)	MT	157.55	110.30	110.30	110.30
Bitumen(Packed)	MT	157.55	157.55	157.55	157.55
LPG(Domestic)		400.00	262.50	262.50	262.50
LPG(Indl.)		400.00	262.50	262.50	262.50
Naphtha(Fert.use)	KL	4.50**	4.50	4.50	4.50
Naphtha(For Non.Fert. use)	KL	26.50**	26.50	26.50	26.50

* Concession of Excise Duty on L.D.O. was withdrawn w.e.f. 17.3.79 and duty because Rs. 153.96 per KL from that date.

** Duty at 15°C
w.e.f. = with effect from

@ Revision effective from 11.9.79

EXCISE AND CUSTOM DUTIES IN THE BASIC CELLING SELLING PRICES (BCSP) EX-STORAGE POINT EFFECTIVE 8 - 6 - 1980

PRODUCT.	Selling Unit.	Ex-Storage Point (Bombay) Rs.	Excise/ Customs duties Rs.	Col. 4 as % of Col. 3
1.	2.	3.	4.	5.
Av. Gas 100/130 octane	KL	4974.81	2214.89	44.5
Av. Gas 115/145 octane	KL	5063.51	2213.32	43.7
Av. Gas 73 octane.	KL	4840.67	2214.21	45.7
A. T. F.	KL	3216.85	333.52	10.4
Motor Spirit 83	KL	4536.07	2215.56	48.8
M. S. 93	KL	4693.48	2216.92	47.2
H. S. D. O.	KL	1959.55	330.00	16.8
S. K. O.	KL	1294.93	333.59	25.8
L. D. O.	KL	1856.97	153.96	8.3
F. O.(Non Fertilizers)	KL	1859.06	125.82	6.8
F. O. (For Fertilizers)	KL	829.06	125.82	15.2
Bitumen St. Grade(Bulk)	MT	1825.85	110.30	6.0
Bitumen St. Grade(Packed)	MT	2110.91	157.55	7.5
Naphtha for non fert.	MT	2692.00*		
Naphtha for Fert.	MT	1071.31*		
J. B. O.	MT	1679.42*		
SBP Spirit 55/115	KL	2785.56*		
SBP Spirit 64/69	KL	2961.36*		
Solvent 1425	KL	2785.56*		
Hexane.	KL	2961.36*		
M. T. O. 140/205	KL	1774.26*		
M. T. O.(Laws.)	KL	1855.96*		
L. P. G. Domestic Use.	MT	1965.98	262.50	13.4
L. P. G. Industrial Use.	MT	2442.81	262.50	10.7

* - Prices shown against these products are exclusive of Customs/Excise duties chargeable extra at applicable rates.

SALES TAX RATES @ FOR PETROLEUM PRODUCTS.
AS ON 1 - 4 - 1980.

PRODUCTS.	ANDHRA PRADESH	ASSAM	BIHAR	CHAND-IGARH	DELHI	GOA DAMAN & DIEU
1.	2.	3.	4.	5.	6.	7.
Aviation Spirit	14.29%	11 P/L	16%	15 P/L	7%	12%
Aviation Turbine Fuel	11.74%	11 P/L	16%	15 P/L	7%	12%
Motor Spirit	13.00%	30 P/L	9%	15 P/L	7%	12%
H. S. D.	11.74%	11 P/L	17%	10 P/L	7%	12%
L. D. O.	11.74%	11 P/L	14%	6%	7%	12%
M. L. O.	11.74%	7%	9%	6%	7%	6%
S. K. O.	4.72%	3 P/L	7%	6%	3%	4%
I. K. O.	4.72%	2 P/L	5%	6%	3%	4%
F. O.	4.72%	7%	9%	6%	7%	6%
M. T. O.	4.72%	7%	9%	6%	7%	-
Lubes	6.96%	10 P/L	9%	6%	7%	6%
Gresses	6.96%	11 P/Kg	9%	6%	7%	6%
Petroleum Naphtha	6.96%	7%	9%	6%	7%	6%
Bitumen	4.72%	7%	9%	6%	7%	6%
Petroleum Coke	4.00%	4%	4%	-	4%	4%
Indian (LPG)	5.82%	7%	9%	6%	5%	-
Transformer Oil	4.72%	7%	9%	6%	7%	-
Tins and Containers	4.72%	6%	9%	6%	7%	-
H. B. Fluid	4.72%	10 P/L	9%	6%	7%	-

* = L. P. G. in Bulk 4.46%
L. P. G. in Containers 5.46%

SALES TAX RATES FOR PETROLEUM PRODUCTS AS ON 1 - 4 - 1980.

PRODUCTS.	GUJARAT	HARYANA	HIMACHAL PRADESH	JAMMU & KASMIR	KERALA.	MADHYA PRADESH
1.	2.	3.	4.	5.	6.	7.
Aviation Spirit	Bonded 30%* D.Paid 9%*	12 PPL	7 PPL	12 PPL	+12%	+12%
A. T. F.	Bonded 20%* D.Paid 30%*	12 PPL	7 PPL	8% *	8%	+12%
Motor Spirit	12%*	15 PPL	7 PPL	4%*	15%	+13.50%
H. S. D.	12%	12 PPL	7 PPL	8%	20%	+13.50%
L. D. O.	5%	4.08%	4.4%	8%*	20%	+13.50%
M. L. O.	5%	7%	4.4%	8% *	4%	+ 5%
S. K. O.	3%	7%	4.4%	4% *	4%	+ 5%
I. K. O.	3%	7%	4.4%	4%	4%	+ 5%
F. O.	4 %	7%	4.4%	8% *	5%	+ 5%
M. T. O.	5.%	7%	4.4%	8% *	4%	+10%
Lubes	6%	7%	4.4%	8% *	7%	+10%
Greases	5%	7%	4.4%	8% *	7%	+10%
Petroleum Naphtha	5%	7%	4.4%	8% *	5%	
Bitumen	5%	7%	7.7%	5% *	4%	+10%
Petroleum Coke	4%*	4%	4%	4%	4%	4%
Indane (L.P.G.)	12%	7%	4.4%	exempted	15%	+12%
Transformer Oil	5%	7%	7%	8%	7%	
Tins and Containers	4%	7%	7.7%	8% *	4%	+ 5%
H. B. Fluid	9%	7%	7.7%	8%	7%	+10%

* 5% Surcharge on Tax. + 10% on Tax additional Surcharge.

SALES TAX RATES FOR PETROLEUM PRODUCTS

AS ON 1 - 4 - 1980

PRODUCTS	MAHARASTRA	KARNATAKA	MANIPUR	NAGA-LAND	ORISSA	POND. CH. ERRY.
1.	2.	3.	4.	5.	6.	7.
Aviation Spirit	Bonded 3% D.Paid 9%	12.50% + 10% S/C	20 PPL	8 PPL	13%	3%
A. T. F.	Bonded 30% D.Paid 23%	16% + 10% S/C	20 PPL	8 PPL	10%	3%
Motor Spirit	11%	12.50% + 10% S/C	20 PPL	8 PPL	10%	3%
H. S. D.	9%	16% + 10% S/C	15 PPL	7 PPL	13%	3%
L. D. O.	5%	16% + 10% S/C	15 PPL	7 PPL	13%	3%
M. L. O.	5%	4% + 10% S/C	6%	5%	7%	2½%
S.K. O.	Exempted	4% + 10% S/C	3%	3 PPL	7%	Exempt
I. K. O.	Exempted	4% + 10% S/C	3%	2 PPL	Exempt	Exempt
F. O.	5%	8% + 10% S/C	6%	5%	7%	2½%
M. T. O.	5%	-	6%	-	7%	-
Lubes	5%	8% + 10% S/C	6%	9 PPL	10%	3%
Greases	5%	8% + 10% S/C	6%	9 PPL	10%	3%
Petroleum Naphtha	5%	4% + 10% S/C	6%	-	7%	-
Bitumen	5%	8% + 10% S/C	6%	5%	7%	-
Petroleum Coke	4%	4%	4%	4%	4%	4%
Indane (L.P.G.)	5%	8% +10% S/C	6%	5%	7%	-
Transformer Oil	5%	8% + 10% S/C	-	-	-	-
Tins and Container	8%	8% + 10% S/C	-	5%	7%	-
H. B. Fluid	8%	8% + 10% S/C	-	5%	-	-

+ 10% Surcharge on Tax.

SALES TAX RATES@ FOR PETROLEUM PRODUCTS AS ON 1 - 4 - 1980.

PRODUCTS.	PUNJAB	RAJASTHAN	TAMIL-NADU	UTTAR-PRADESH	WEST BENGAL
1.	2.	3.	4.	5.	6.
Aviation Spirit	15 PPL	12%	21 PPL	8%	9%
A. T. F.	7.14%	12%	21 PPL	8%	25%
Motor Spirit	15 PPL	15%	23 PPL	8%	9.9%
H. S. D.	10 PPL	12½%	17 PPL	12%	13%
L. D. O.	6.12%	12½%	17 PPL	12%	13%
M. L. O.	7.14%	8%	8%	4%	8.02%
S. K. O.	6.12%	8%	8%	5%	5%
I. K. O.	6.12%	8%	8%	5%	Exempted
F. O.	/-	8%	8%	4%	6%
M. T. O.	7.14%	12%	8%	8%	8.04%
Lubes	6.12%	8%	8%	5%	8.04%
Greases	6.12%	8%	8%	5%	8.04%
Petroleum Naphtha	7.14%	8%	8%	8%	8.04%
Bitumen	7.14%	8%	8%	8%	8.04%
Petroleum Coke	4%	4%	4%	4%	4%
Indane (L.P.G.)	6.12%	8%	8%	8%	15%
Transformer Oil	7.14%	8%	4%	8%	8.04%
Tins and Containers	6.12%	8%	4%	6%(For Non-Govt.) 5%(For Govt.)	8.04%
H. B. Fluid	7.14%	8%	8%	8%	8.04%

IN ADDITION TO THE SALES TAX PAYABLE THE FOLLWING TAX AMOUNTS ARE ALSO PAYABLE/RECOVERABLE

1. HARYANA	: Surcharge at 15% on Sales Tax on all products under Sales Tax Act is payable. This is recoverable.
2. MADHYA PRADESH	: The Sales Tax rates are inclusive of Surcharge levies.
3. PUNJAB	: Additional Tax at 2% of the Sales Tax on products under General Sales Tax Act is payavle and is recoverable.
4. WEST BENGAL	: Surcharge @ 10% abolished effective 1.4.79 and a new turnowver tax @ 1% or ½% as the case may be on the gross turnover of the bill introduced. This is non-recoverable.
5. KERALA	: Surcharge at 8% of Sales Tax is payable, but the same is not recoverable from the market. Additional S.Tax @ 10% of S.Tax is also payable which is recoverable on our sales.
6. J & KASHMIR	: Surcharge at 5% of Sales Tax is payable but the same is not recoverable from the market. This applies to dealers whose turnover exceeds Rs. 2,50,000/-.
7. MAHARASHTRA	: Additional Sales Tax @ 6% of tax is payavle but the same is not recoverable from the market. This does not apply to Kerosene.
8. KARNATAKA	: Additional tax @ 10% of Sales Tax is payable and is not recoverable from the market. Surcharge at 10% on tax (recoverable on the invoice) is also payable w.e.f. 1.4.79.
9. TAMIL NADU	: Surcharge at 5% on Tax is also payable which is recoverable. Additional Sales Tax at 0.7% of that taxable turnover is also payable which has to be borne by seller i.e. not recoverable.
10. GUJARAT	: Additional Sales Tax at 6% on Sales Tax in respect of products under Gujarat Sales Tax Act and Motor Spirit Tax Act is payable . This is recoverable.
11. ORISSA	: Additional Sales Tax at ½% of invoice value is payable on all products. This is recoverable effective 1.4.79. Additional S.Tax @ 5% abolished effective 1.4.79.
12. UTTAR PRADESH	: A surcharge levy of 1% on the taxable turnover is also payable. This sales tax rates indicated includes this levy also.
13. GOA, DAMAN & DIU	: Additional S.Tax @ 10% of S.Tax is payable which is not recoverable on our sales.
14. ANDHRA PRADESH	: Surcharge at ¼% per rupees of taxable turnover. This applies to all products. This is includes in the S.Tax rates indicated and it is recoverable.

XII. TANKER AND FREIGHT RATES

Tonnage of Indian Tanker Fleet (DWT in '000)

Year *	Oil Tanker		Ore/Oil Carrier		Total	
	No.of Tankers	DW Tonnage	No. of Ships.	D.W. Tonnage	No. of Ships.	D.W. Tonnage
1	2.	3.	4.	5.	6.	7.
			(A) Coastal Tankers			
1966	3	37.3	-	-	3	37.3
1967	4	60.4	-	-	4	60.4
1968	5.	75.0	-	-	5	75.0
1969	5	75.0	-	-	5	75.0
1970	5	74.1	-	-	5	74.1
1971	5	74.1	-	-	5	74.1
1972	4	58.0	-	-	4	58.0
1973	3	47.9	-	-	3	47.9
1974	5	80.7	-	-	5	80.7
1975	9	137.6	-	-	9	137.6
1976	9	137.6	-	-	9	137.6
1977 £	9	137.2	-	-	9	137.2
1978 £	8	126.8	-	-	8	126.8
1979 £	9	132.9	-	-	9	132.9
			(B) Overseas Tankers			
1966	5	221.2	3	61.8	8	283.0
1967	5	227.4	3	61.8	8	289.2
1968	5	229.8	5	144.6	10	374.4
1969	6	317.5	6	186.0	12	503.5
1970	7	409.9	9	381.5	16	791.4
1971	7	409.9	10	467.0	17	876.9
1972	8	427.6	10	467.0	18	894.6
1973	9	449.7	10	659.7	19	1109.4
1974	14	826.8	12	952.2	26	1779.0
1975	20	1542.8	11	877.2	31	2420.0
1976	22	1840.6	14	1237.4	36	3078.0
1977 £	23	1871.1	14	1237.8	37	3108.9
1978 £	23	1871.1	17	1573.4	40	3444.5
1979 £	22	1850.6	17	1573.4	39	3424.0
			(C) All Tankers			
1966	8	258.5	3	61.8	11	320.3
1967	9	287.4	3	61.8	12	349.2
1968	10	304.8	5	144.6	15	449.4
1969	11	392.5	6	186.0	17	578.5
1970	12	484.0	9	381.5	21	865.5
1971	12	484.0	10	467.0	22	951.0
1972	12	485.6	10	467.0	22	952.6
1973	12	497.6	10	659.7	22	1157.3
1974	19	907.5	12	952.2	31	1859.7
1975	29	1680.4	11	877.2	40	2557.6
1976	31	1978.2	14	1237.4	45	3215.6
1977 £	32	2008.3	14	1237.8	46	3246.1
1978 £	31	1997.9	17	1573.4	48	3571.3
1979 £	31	1983.5	17	1573.4	48	3556.9

* As on 31st December, of each year. £ DWT in Metric Tonnes

Source: Ministry of Shipping & Transport

INDIAN TANKER FLEET AS ON 1.4.1980.

Owner	Name of the Ship	DWT Tonnes (M. Tonnes)	Year of Build
1. Shipping Corporation of India (35)	1. Maharashi Dayanand*	123450	1978
	2. Vishvesvaraya	16450	1973
	3. Sarojini Naidu	16440	1975
	4. Bhagat Singh	16540	1974
	5. Rafi Ahmed Kidwai	24439	1975
	6. Jai Narayan Vyas	24529	1975
	7. Aurobindo	24411	1976
	8. Kolandia	24490	1976
	9. Desh Bandhu	36790	1964
	10. Lajpat Rai	49337	1965
	11. Gargi	58739	1963
	12. Jawaharlal Nehru	87170	1969
	13. Lal Bahadur Shastri	87170	1970
	14. Satyamurti	89351	1975
	15. Vivekananda	89371	1974
	16. Netaji Subhash Bose	89392	1973
	17. Lokmanya Tilak	89411	1975
	18. B.R. Ambedkar	89454	1974
	19. Chhatrapati Shivaji	89490	1974
	20. Rajendra Prasad	115723	1975
	21. Zakir Hussain	115853	1975
	22. Kanchanjunga	276755	1975
	23. Koyali	276800	1976
	24. Dadabhai Naoroji	24400	1977
	25. Bhaskara*	21941	1965
	26. Chanakya*	21962	1965
	27. Leelavati*	21962	1965
	28. Nailadila*	86890	1971
	29. Bellary*	86959	1970
	30. Barauni*	87200	1970
	31. Vallabhabhai Patel*	113920	1977
	32. Moti lal Nehru	114086	1973
	33. Vallathol	114152	1976
	34. Abul Kalam Azad*	114340	1974
	35. Maharashi Karve*	123450	1978
2. Great Eastern Shipping Co. (5)	36. Jag Laadki*	103124	1972
	37. Jag Laxmi*	121423	1976
	38. Jag Leela*	125085	1976
	39. Jag Jyoti	17892	1968
	40. Jag Prakash	25480	1974
	41. Jag Priya	32878	1975
3. Varun Shipping Co. Ltd.(2)	42. Arya Doot	20968	1960
	43. Meghdoot	6102	1973
4. Essar Bulk Carriers Ltd.(1)	44. Nand Kala	6703	1972
5. Sagar Line (India) Pvt. Ltd.(1)	45. Sagar Tarni	712	1965
6. Scindia Steam Nav. Co. Ltd. (1)	46. Walchand*	104750	1973
7. Ratnakar Shipping Co. (1)	47. Ratna Jayashree	60252	1966

* Ore/Oil Bulk Carriers.

Source:- Ministry of Shipping & Transport.

SHARE OF TRAFFIC IN PETROLEUM PRODUCTS IN THE TOTAL TRAFFIC HANDLED AT MAJOR PORTS DURING 1965-66 TO 1979-80.

(Million tonnes)

NAME OF THE PORT.	YEAR	TOTAL TRAFFIC	P.O.L. TRAFFIC	P.O.L. AS % AGE OF TOTAL TRAFFIC AT THE PORT.
1.	2.	3.	4.	5.
Calcutta	1965-66	9.84	1.53	15.6
	1969-70	6.89	1.55	22.5
	1973-74	6.33	1.97	31.1
	1977-78	7.55	3.41	42.2
	1978-79	7.98	3.92	49.1
	1979-80	8.56	4.59	53.6
Bombay	1965-66	18.12	9.35	51.6
	1969-70	15.04	8.60	57.2
	1973-74	18.46	11.05	59.9
	1977-78	16.90	9.86	58.3
	1978-79	15.60	7.83	50.2
	1979-80	16.57	7.84	47.3
Madras	1965-66	4.87	0.93	19.1
	1969-70	6.44	2.24	34.8
	1973-74	7.75	3.47	44.8
	1977-78	8.07	3.47	43.0
	1978-79	9.57	3.63	37.9
	1979-80	10.37	4.10	39.5
Cochin	1965-66	2.87	1.04	36.2
	1969-70	4.79	3.56	74.3
	1973-74	3.72	2.50	67.2
	1977-78	5.17	3.81	73.7
	1978-79	5.47	3.84	70.2
	1979-80	5.45	3.87	71.0
Kandla	1965-66	2.51	0.93	37.1
	1969-70	2.11	0.98	46.4
	1973-74	3.12	1.60	51.3
	1977-78	3.82	2.75	72.0
	1978-79	5.87	4.37	74.4
	1979-80	7.27	5.80	79.8
Vishakhapatnam	1965-66	4.38	2.01	45.9
	1969-70	8.30	1.94	23.4
	1973-74	7.95	1.93	24.3
	1977-78	9.69	1.74	18.0
	1978-79	10.05	1.94	19.3
	1979-80	10.23	1.94	19.0

SHARE OF TRAFFIC IN PETROLEUM PRODUCTS IN THE TOTAL TRAFFIC HANDLED AT MAJOR PORTS DURING 1965-66 TO 1979-80.

(Million Tonnes)

NAME OF THE PORT	YEAR	TOTAL TRAFFIC	P.O.L. TRAFFIC	P.O.L. AS % AGE OF TOTAL TRAFFIC AT THE PORT.
1.	2.	3.	4.	5.
Murmugao	1965-66	7.86	0.09	1.1
	1969-70	9.03	0.15	1.1
	1973-74	14.34	0.55	4.5
	1977-78	11.28	0.62	5.5
	1978-79	10.80	0.64	5.9
	1979-80	14.50	0.73	5.0
Parad-ip	1965-66	-	-	-
	1969-70	1.75	--	-
	1973-74	2.29	-	-
	1977-78	2.74	-	-
	1978-79	2.17	-	-
	1979-80	2.31	-	-
Port of Tutic-orin.	1977-78	0.63	0.35	55.6
	1978-79	1.06	0.32	30.2
	1979-80	2.41	0.44	18.3
Port of Manga-lore.	1977-78	0.38	0.20	52.6
	1978-79	0.87	0.19	21.8
	1979-80	0.90	0.21	23.3
Grand Total	1965-66	50.46	15.88	31.5
	1969-70	54.35	19.02	35.0
	1973-74	63.96	23.07	36.1
	1977-78	66.23	26.21	39.6
	1978-79	69.44	26.68	38.4
	1979-80	78.57	29.52	37.6

Source:- Ministry of Shipping & Transport (PT) Figure for 1979-80 are Provisional.

COASTAL MOVEMENT OF PETROLEUM PRODUCTS.

(Quantity moved to Indian Ports)

('000' tonnes)

YEAR	I/F	F/F	TOTAL	ESTIMATED FREIGHT PAID* Rs.MILLION.
1968	754.71	2442.61	3197.32	60.04
1969	1089.76	1941.68	3031.44	54.20
1970	1131.23	1695.36	2826.59	65.79
1971	1190.04	1656.50	2846.54	82.79
1972	1452.89	1138.18	2591.07	75.50
1973	1477.73	1168.25	2645.98	86.97
1974	1640.71	1055.64	2696.35	136.59
1975	2191.35	177.62	2368.97	117.52
1976	2060.77	20.65	2081.42	84.63
1977	2342.19	-	2342.19	101.37
1978	2823.67	-	2823.67	146.06

N.B. I/F = Indian Flag Vessels. F/F = Foreign Flag Vessels.
* = Includes Freight paid on Demurrage and Dead Freight Paid.

AVERAGE FREIGHT RATES FROM RASTANURA TO INDIAN PORTS (WORLD SCALE FLAT RATES ADJUSTED TO AFRA VARIATIONS)

($ / Long ton)

n ANNUAL AVERAGE.	General purpose 16500-24999 dwt.	Medium Range 25000-44999 dwt.	L. R. I. 45000-79999 dwt.	L R II 80000-159999 dwt.	VLCC* 160000-319999 d.-wt.	ULCC 320000-549999 dwt.
1.	2.	3.	4.	5.	6.	7.
		RASTANURA TO BOMBAY				
1972	1.93	1.71	1.35	1.16		
1973	3.00	2.60	1.94	1.60		
1974	3.78	3.21	2.16	1.74	1.41	
1975	3.30	2.86	1.91	1.44	1.30	
1976	3.46	3.07	2.01	1.49	1.31	
1977	4.02	3.04	1.98	1.45	1.27	
1978	4.35	3.26	2.02	1.50	1.26	
1979	7.50	5.89	3.66	2.37	1.54	1.44
		RASTANURA TO MADRAS				
1972	3.03	2.67	2.11	1.82		
1973	4.64	4.03	2.98	2.67		
1974	5.72	4.86	3.27	2.63	2.13	
1975	5.14	4.59	3.06	2.31	2.09	
1976	5.44	4.82	3.16	2.34	2.06	
1977	6.54	4.94	3.22	2.36	2.06	
1978	7.10	5.33	3.30	2.45	2.05	
1979	12.38	9.72	6.04	3.90	3.54	2.38
		RASTANURA TO CALCUTTA.				
1972	3.72	3.28	2.59	2.24		
1973	5.72	4.96	3.68	3.29		
1974	7.03	5.97	4.02	3.23	2.62	
1975	6.31	5.64	3.76	2.83	2.57	
1976	6.97	6.17	4.05	2.99	2.64	
1977	8.10	6.13	3.99	2.93	2.56	
1978	8.77	6.57	4.08	3.02	2.58	
1979	14.98	11.76	7.31	4.73	3.08	2.88

XIII. GENERAL

Retail Outlets in India As On 1st Juanuary of Each Year

(Numbers)

Year	Nos.	B/Shell BPCL	ESSO/ HPCL	Caltex/ HPCL(VMU)	IOC	IBPC	AOC	Total
1968	Nos.	3683	1955	1437	1516	229	119	8939
	%	41.2	21.9	16.1	16.9	2.6	1.3	100
1969	Nos.	3700	1948	1396	2131	223	124	9522
	%	38.8	20.5	14.7	22.4	2.3	1.3	100
1970	Nos.	3577	1922	1392	2655	233	129	9908
	%	36.1	19.3	14.0	26.8	2.4	1.4	100
1971	Nos.	3583	1928	1384	2967	249	144	10255
	%	35.0	18.8	13.5	28.9	2.4	1.4	100
1972	Nos.	3535	1923	1384	3129	297	150	10418
	%	33.9	18.5	13.3	30.0	2.9	1.4	100
1973	Nos.	3478	1920	1372	2374	391	155	10590
	%	32.8	18.1	13.0	30.9	3.7	1.5	100
1974	Nos.	3262	1887	1359	3349	442	164	10463
	%	31.2	18.0	13.0	32.0	4.2	1.6	100
1975	Nos.	3173	1868	1206	3546	480	163	10436
	%	30.4	17.9	11.6	34.0	4.6	1.5	100
1976	Nos.	3157	1872	1201	3583	578	164	10555
	%	29.9	17.7	11.4	33.9	5.5	1.6	100
1977	Nos.	3183	1916	1200	3804	654	166	10923
	%	29.2	17.5	11.0	34.8	6.0	1.5	100
1978	Nos.	3241	1965	1198	4049	781	168	11402
	%	28.4	17.2	10.5	35.5	6.9	1.5	100
1979	Nos.	3288	1991	1201	4155	928	173	11731
	%	28.0	17.0	10.2	35.4	7.9	1.5	100
1980	Nos.	3296	3198@		4234	930	173	11831
	%	27.9	27.0		35.8	7.9	1.4	100

Note :- 1. % = Percentage

2. = The data excludes Consumers retail outlets.

@ = Includes HPCL (VMU).

State-wise Distribution of Retail Outlets, Multi-purpose/ Farm Fuel Centres, LDO/SKO Dealers and LPG Distributors as on 1.1.1980.

(Numbers)

State/Union Territory	Retail outlets	Multi-purpose Distribution Centre	Farm Fuel Centre	LDO/ SKO dealers	LPG distri-butors
1.Andhra Pradesh	929	32	9	528	87
2.Assam	244	13	-	389	10
3.Bihar	669	38	22	299	35
4.Gujarat	777	54	4	306	112
5.Haryana	380	22	20	122	17
6.Himachal Pradesh	46	2	1	17	1
7.Jammu & Kashmir	90	1	19	21	20
8.Karnataka	760	25	5	263	61
9.Kerala	585	20	1	227	23
10.Madhya Pradesh	710	34	5	295	57
11.Maharashtra	1272	60	9	437	293
12.Manipur	11	-	-	22	1
13.Meghalaya	29	-	-	21	1
14.Nagaland	13	-	-	11	2
15.Orissa	240	24	11	166	21
16.Punjab	776	26	60	212	14
17.Rajasthan	611	39	15	215	10
18.Sikkim	7	1	1	7	1
19.Tamil Nadu	1043	41	6	422	75
20.Tripura	22	-	-	53	1
21.Uttar Pradesh	1449	93	30	556	54
22.West Bengal	826	49	49	382	92
23.A.N.Islands	1	-	-	1	1
24.Arunachal Pradesh	10	-	-	10	-
25.Chaindigarh	10	-	-	9	5
26.D.N.Haveli	1	-	-	-	-
27.Delhi	228	-	14	59	78
28.Goa,Daman & Diu	62	1	-	15	13
29.Mizoram	4	-	-	9	1
30.Pondicherry	19	-	-	8	1
31.Bhutan	7	-	1	2	-
Total	11831	575	282	5084	1086

STATEWISE NUMBER OF DOMESTIC CONSUMERS OF LPG AS ON 31.3.1980

(Number of LPG Connection)

NAME OF THE STATE/ UNION TERRITORY	I.O.C.	B.P.C.L.	H.P.C.L.	TOTAL
1.	2.	3.	4.	5.
1. Andhra Pradesh	56,953	8,456	132,556	197965
2. Assam	25,387	-	-	25387
3. Bihar	97,518	-	5575	103093
4. Gujarat	223,191	57,333	57,255	337779
5. Haryana	52,788	-	1,116	53,904
6. Himachal Pradesh	5,338	-	-	5,338
7. Jammu & Kashmir	-	-	19,460	19,460
8. Karnataka	65,124	5,394	51,637	122155
9. Kerala	58,412	-	-	58412
10. Madhya Pradesh	87,132	8,821	64,530	160483
11. Maharashtra	-	450,224	445,153	895377
12. Manipur	1,263	-	-	1263
13. Meghalaya	3,130	-	-	3130
14. Nagaland	2,400	-	-	2400
15. Orisa	17,026	-	19,395	36421
16. Punjab	47,105	-	8,000	55105
17. Rajasthan	44,119	-	7,180	51299
18. Sikkim	1,204	-	-	1204
19. Tamil Nadu	211,888	-	1,433	213321
20. Tripura	1,128	-	-	1128
21. Uttar Pradesh	270,630	-	-	270630
22. West Bengal	136,750	-	36,399	173149
23. Chandigarh (U.T.)	22,670	-	4,087	26757
24. Delhi (U. T.)	238,140	47,251	28,130	313521
25. Goa (U.T.)	-	3,160	8,990	12150
26. Mizoram (U.T.)	1,077	-	-	1077
27. Pondicheerry (U.T.)	5,641	-	-	5641
GRAND TOTAL	16,76,034	5,80,639	8,90,896	31,47,569

Crude Oil & Product Pipelines in India as on 1.4.1980 .

Pipelines	Owned by	Lenth in KMS	Diametres in inches
(1)	(2)	(3)	(4)
I. Crude Pipeline (Onshore)			
Digboi Oilfield- Digboi Refinery	AOC	12.5	6"
Digboi Oilfield - Digboi Refinery	AOC	10.4	4"
Nahorkatiya - Gauhati	OIL	504	16"
Nahorkatiya - Digboi	OIL	35	8"
Gauhati - Barauni	OIL	866	14"-16"
Ankleshwer - Koyali	ONGC	94.8	16"
Kalol _ Nawagam	ONGC	48.8	12"
Nawagam - Koyali	ONGC	77.6	14"
Sanand - Kalol	ONGC	12.5	8"
Sobhashan - North Kadi	ONGC	20.2	8"
North Kadi - Kalol	ONGC	35.6	12"
Jhalora - Sanand	ONGC	9.5	8"
Lakwa - Moran	ONGC	17.5	12"
Rudrasagar - Lakwa	ONGC	37.5	8"
Geleki - Dhikhow	ONGC	18.9	8"
Geleki - Jorhat	ONGC	48.4	14"
Salaya - Viramgam	IOC	275	28"-42"
Viramgam - Koyali	IOC	141	18"
Total Crude Pipelines (Onshore)		2265.2	
II. Crude Pipeline (Offshore)			
Platfor 'F' to Uran (Bombay High)	ONGC	202.3	30"
Uran - Trombay	ONGC	22.8	36"
Total Offshore (II)		225.1	
III. Product Pipelines			
Digboi Refinery - Tinsukia	AOC	34	6"
Digboi Refinery - Tinsukia	AOC	39	6"
Digboi Refinery - Tinsukia	AOC	34	4"
Gauhati - Siliguri	IOC	425.85	8-5/8"
Barauni - Kanpur	IOC	668.78	12-3/4"
Koyali - Ahmedabad	IOC	115.70	8-5/8"
Haldia - Mourigram - Rajbandh	IOC	268.58	12-3/4"
Haldia - Barauni	IOC	524.83	12-3/4"
Total Product Pipelines		2111.74	
IV. Gas Pipelines (Onshore)			
Cambey - Dhuvaran	ONGC	24.9	14"
Ankleshwer - Uttaran	ONGC	37.5	16"
Ankleshwer - Baroda	ONGC	96.6	14"
Nawagam - Calico Mills	ONGC	22.2	8"
Sanand - Kalol	ONGC	12.6	6"
Kalol - IFFCO	ONGC	2.6	8"
Kalol - IFFCO	ONGC	2.6	12"
Sobhashan - Dudh Sagar Dairy	ONGC	9.1	8"
Total Gas Pipelines (Onshore)		208.1	
V. Gas Pipelines (Offshore)			
Platfor 'F' to Uran	ONGC	202.0	26"
Uran to Trombay	ONGC	23.8	18"
TOTAL OFFSHORE (V)		225.8	
GRAND TOTAL (I TO V)		5034.94	

: 111 :
: 34 :

GROSS PRODUCTION OF ENERGY BY VARIOUS SOURCES IN INDIA

Year	Coal & Lignite			Hydro-carbon			Power (Million KWH)			
	Coal (M.T.)	Lignite (M.T.)	Total (M.T.)	Natural Gas (Mn.cu.m.)	Crude Petroleum ('000 MT)	Total domestic@ petroleum products ('000 MT)	Thermal	Hydel	Nuclear	Total
1960-61	55.67	0.05	55.72	-	448	6077	9100	7837	-	16937
1965-66	67.73	2.57	70.30	507	3473	10081	19641	16734	-	36375
1970-71	72.95	3.39	76.34	1445	6822	18333	28162	25248	2417	55827
1971-72	72.42	3.72	76.14	1535	7299	19867	31713	28024	1189	60926
1972-73	77.22	2.89	80.11	1565	7321	19092	36217	27196	1133	64546
1973-74	78.17	3.32	81.49	1713	7189	20724	35321	28972	2396	66689
1974-75	88.41	2.94	91.35	2041	7684	20800	40109	27875	2206	70190
1975-76	99.66	3.05	102.71	2367	8448	22055	43303	33302	2626	79231
1976-77	104.02	4.01	105.03	2428	8898	22732	50245	34836	3252	88333
1977-78	101.00	3.59	104.59	2839	10763	24670	52495	37961	1740	92196
1978-79	101.97	3.27	105.24	2811	11633	25671	53420	47138	2770	103328
1979-80	103.87	3.00	106.87	2764	11768	27258*	57155	45494	2876	105525

@ Includes R.B.F. * Provisional.

Source : i) Central Electricity Authority and Economic Survey.
ii) Coal Statistics - Coal Controller's Organisation, Department of Energy.
iii) Deptt. of Petroleum, "Indian Petroleum & Petrochemicals Statistics".

XIV. INTERNATIONAL PETROLEUM STATISTICS
ESTIMATED WORLD CRUDE OIL AND GAS RESERVES (As on 1.1.1980)

Country	Crude Oil Billion(10^9) Tonnes	% of Total	Natural Gas, Trillion(10^{12}) Cubic feet	% of Total
1. TOTAL WESTERN HEMISPHERE	12.3	14.0	424.0	16.5
Of which : USA	3.6	4.1	194.0	7.5
Venezuela	2.5	2.8	42.8	1.7
Ecuador	0.2	0.2	4.0	0.2
Canada	0.9	1.0	85.5	3.3
Mexico	4.3	4.9	59.0	2.3
Argentina	0.3	0.3	15.2	0.6
2. TOTAL AFRICA	7.8	8.9	210.4	8.2
Of which : Libya	3.2	3.6	24.0	0.9
Algeria	1.2	1.4	132.0	5.1
Nigeria	2.4	2.7	41.4	1.6
Egypt	0.4	0.5	3.0	0.1
Gabon	0.1	0.1	0.1	neg.
Tunisia	0.3	0.3	6.0	0.2
3. TOTAL MIDDLE EAST	49.6	56.4	740.3	28.8
Of which : Saudi Arabia	22.4	25.5	93.2	3.6
Kuwait	9.0	10.2	31.0	1.2
Iran	8.0	9.1	490.0	19.0
Iraq	4.3	4.9	27.5	1.1
Neutral Zone	0.9	1.0	5.0	0.2
Abu Dhabi	3.8	4.3	19.0	0.7
4. TOTAL EUROPE	3.2	3.6	135.4	5.3
Of which : West Germany	0.07	0.1	6.4	0.2
United Kingdom	2.11	2.4	25.0	1.0
Netherlands	0.01	neg.	59.5	2.3
Italy & Sicily	0.09	0.1	3.5	0.1
Norway	0.79	0.9	23.5	0.9
Yugoslaviya	0.04	0.1	1.0	0.04
5. TOTAL ASIA & PACIFIC	2.7	3.1	128.2	5.0
Of which : Indonesia	1.3	1.5	24.0	0.9
Australia	0.3	0.3	31.0	1.2
India	0.4	0.5	9.3	0.4
Pakistan	0.03	neg.	15.8	0.6
Brunei	0.25	0.3	7.7	0.3
Malaysia	0.4	0.5	17.0	0.7
6. TOTAL FREE WORLD	75.6	86.0	1638.2	63.7
7. TOTAL COMMUNIST WORLD	12.3	14.0	935.0	36.3
Of which : Russia	9.2	10.4	900.0	35.0
China	2.7	3.1	25.0	1.0
Hungry (Others)	0.4	0.5	10.0	0.3
TOTAL WORLD	87.9	100	2573.2	100

Source : Oil & Gas Journal, December 31, 1979.
1 tonne = 7.3 per barrel. neg. = Negligible.

WORLD ESTIMATED CRUDE OIL PRODUCTION - 1977-1979 a)

(Thousand Tonnes)

Country	1977	1978	1979	% change 1978/79	% share 1979
North America	528402	556197	565000	+ 1.6	17.3
USA £	457119	481461	479000	- 0.5	14.7
Canada £	71283	74736	86000	+15.0	2.6
Caribbean Area	188499	200993	223300	+11.1	6.9
Venezuela *	116605	115734	125000	+ 8.0	3.8
Mexico	52797	66436	80000	+20.4	2.5
Trinidad	11843	11854	11500	- 3.0	0.4
Guatemala	N.A.	43	125	+190.7	
Colombia	7139	6774	6500	- 4.0	0.2
Cuba	115	115	115	-	
Barbados	N.A.	37	60	+62.2	
Other Latin America	45065	51109	55950	+ 9.5	1.7
Argentina	21772	22945	24500	+ 6.8	0.8
Ecuador *	8742	9730	10750	+10.5	0.3
Brazil	8051	8285	8500	+ 2.6	0.3
Peru	3940	7722	9850	+27.6	0.3
Bolivia	1588	1587	1250	-21.2	
Chile	972	840	1100	+31.0	
Middle East	1134320	1089851	1131700	+ 3.8	34.8
Saudi Arabia * b)	458450	421975	510000	+20.9	15.7
Iran *	282224	260850	145000	-44.4	4.5
Iraq *	122091	128925	175000	+35.7	5.4
Kuwait *b)	99412	108905	130000	+19.4	4.0
Abu Dhabi *	79797	70015	70000	-	2.2
Egypt	21034	24440	27500	+12.5	0.8
Qatar *	21017	23415	25000	+ 6.8	0.8
Dubai *	15963	18495	18150	- 1.8	0.6
Oman	16882	15524	14750	- 5.0	0.5
Syria	10632	10008	8500	-15.1	0.3
Bahrain	2787	2656	2500	- 5.9	
Turkey	2684	2887	2900	+ 0.5	0.1
Israel	N.A.	700	1750	+150.0	
Sharjah *	1347	1056	650	-38.4	
Africa	284533	276055	305250	+10.6	9.4
Nigeria *	103301	93995	114000	+21.3	3.5
Libya *	99540	96205	101000	+ 5.0	3.1
Algeria *	54623	58780	60500	+ 2.9	1.9
Gabon *	11219	10600	10000	- 5.7	0.3
Angola	8643	8198	9000	- 9.8	0.3
Tunisia	4262	4897	5400	+10.3	0.2
Congo	1819	1610	2000	+24.2	
Zaire	1126	1145	1050	- 8.3	
Others	N.A.	625	2300		
West Europe	64259	83972	110450	+ 3.5	3.4
U.K.	37879	54006	79000	+46.3	2.4
Norway £	13717	16800	18000	+ 7.1	0.6
West Germany £	5409	5056	4800	- 5.1	0.1
Austria £	1789	1815	1825	+ 0.6	0.6
Netherlands £	1596	1520	1550	+ 2.0	

..../-

(Thousand tonnes)

Country	1977	1978	1979	% change 1978/79	% share 1979
West Europe (Contd.)					
Italy £	1122	1473	1725	+17.1	
France £	1037	1890	2000	+ 5.8	
Spain	1224	980	1100	+12.2	
Denmark £	486	432	450	+ 4.2	
Far East	136225	139586	143375	+ 2.7	4.4
Indonesia *	83772	82415	80000	- 2.9	2.5
Australia £	20213	20876	21000	+ 0.6	0.6
India	10185	11271	12841	+13.9	
Malaysia	9150	10840	13000	+19.9	0.4
Brunei	10303	10980	12000	+ 9.3	0.4
Burma	1300	1410	1500	+ 6.4	
Japan	592	542	450	-17.0	
Pakistan	495	448	500	+ 2.5	
Taiwan	215	245	245	-	
Others	N.A.	559	1839	+229.0	
Non-Communist Area	2381303	2397763	2535025	+ 5.7	78.0
Western Hemisphere	761966	808299	844250	+ 4.5	26.0
Eastern Hemisphere	1619337	1589464	1690775	+ 6.4	52.0
Of which :					
OPEC Countries	1558103	1501095	1575050	+ 4.9	48.4
USSR & E.Europe	573588	595511	608170	+ 2.1	18.7
USSR	550000	572500	585000	+ 2.2	18.0
Rumania	14650	13724	13500	- 1.6	0.4
Yugoslavia	3950	4077	4100	+ 0.6	0.1
Hungary	2190	2200	2050	- 6.8	
Albania	1900	2000	2000	-	
Poland	450	450	450	-	
East Germany	200	200	200	-	
Czechoslovakia	135	120	120	-	
Bulgaria	123	240	250	+4.2	
China	94000	104050	108000	+ 3.8	3.3
WORLD TOTAL	3048891	3097324	3251195	+ 5.0	100

* OPEC Members.

£ OECD figure for 1978 (crude oil and natural gas liquids). Government figures are preferred for U.K. and Spain.

a) Liquid hydrocarbons, comprising crude oil plus gas condensates and other natural gas liquids. Estimated at 3.5 million barrels/day for 1979 (up from 3.15 million b/d in 1978). NGL accounted for about 125 million tonnes or 4% of world production.

b) Including share of production from the partitioned zone (formerly Neutral zone).

c) Gas condensate only.

Source : Petroleum Economist.

WORLD NET PRODUCTION OF NATURAL GAS

(Million Cubic Metres)

Country	1973	1975	1976	1977	1978	% share 1978
North America	729645	656903	651851	638984	629708	42.9
U.S.A.	88334	87486	86858	73346	70208	4.8
Canada	641311	569417	564993	565638	559500	38.1
Caribbean Area	32030	32935	34066	39280	42621	2.9
Venezuela*	13025	12751	13587	14830	14411	1.0
Mexico	15341	16534	16365	20500	24060	1.6
Trinidad and Tobago	1822	1784	2225	1700	1800	0.1
Colombia	1842	1866	1889	2250	2350	0.2
Other Latin America	13739	14550	14698	14489	14619	1.0
Argentina	6729	7692	7334	7570	7200	0.5
Ecuador*	28	31	31	40	40	neg.
Brazil	254	700	547	560	750	0.1
Peru	968	991	991	800	900	0.1
Bolivia	1638	1702	1749	1760	1900	0.1
Chile	4104	3406	4017	3730	3800	0.2
Cuba	14	25	25	25	25	neg.
Others	4	3	4	4	4	neg.
Middle East	36011	40659	42291	45222	47966	3.3
Saudi Arabia*	4531	5663	6796	8000	9484	0.7
Iran*	19706	21834	21504	20991	19465	1.3
Iraq*	1210	1654	2107	1600	1700	0.1
Kuwait*	5268	5204	5577	5961	6260	0.4
UAE*	1732	1656	1937	3898	5768	0.4
Egypt	88	45	380	500	800	0.1
Syria	198	209	221	200	200	neg.
Baharain	1602	2077	2178	2360	2710	0.2
Qatar*	1580	2209	1476	1607	1479	0.1
Others	96	108	115	105	100	neg.
Africa	16501	21383	24841	25508	30850	2.1
Nigeria*	303	402	632	500	380	neg.
Libya*	10909	10835	13779	15751	15421	1.1
Algeria*	4745	9532	9933	8634	13878	1.0
Gabon*	283	262	169	177	165	neg.
Angola	65	65	57	100	100	neg.
Tunisia	114	212	214	240	300	neg.
Congo	16	7	15	16	16	neg.
Morocco	65	57	42	90	90	neg.
Others	1	1	-	-	-	-
West Europe	145845	170885	179739	182019	186705	12.7
U.K.	28838	36074	37275	40398	38150	2.6
Norway	-	-	-	2579	12702	0.9
Germany(F.R.)	19909	18106	18634	19200	20230	1.4
Austria	2190	2262	1957	2393	2369	0.2
Netherlands	70642	90853	97302	94800	90200	6.1
Italy	15319	14562	15640	12931	13128	0.9
France	7410	7358	7092	7697	7865	0.5
Belgium	55	51	34	50	50	neg.
Yugosalivia	1329	1553	1730	1900	1940	0.1
Turkey	69	65	74	70	70	neg.
Others	4	1	1	1	1	neg.

...Continued

Country	1973	1975	1976	1977	1978	% share 1978
Asia & Far East (except China)	22420	27838	32998	40244	45735	3.1
Afganistan	3115	2800	2543	3000	3000	0.2
Australia	4099	5026	5929	6240	6870	0.5
Bangladesh	906	934	991	600	600	0.1
Brunei	2879	6071	8462	8840	8800	0.6
Burma	153	159	153	200	200	neg.
India	913	998	1523	2090	2100	0.2
Indonesia*	805	2328	2347	5662	10877	0.7
Japan	2904	2436	2493	2804	2619	0.2
Malaysia	538	566	640	530	420	neg.
Newzeland	264	324	876	2328	2149	0.1
Pakistan	4400	4647	5200	5850	5800	0.4
Taiwan	1444	1549	1841	2100	2300	0.1
Non-Communist Areas	996191	965153	980484	985746	998204	68.0
Western Hemisphere	775414	704388	700615	692753	686948	46.8
Eastern Hemisphere	220777	260765	279869	292993	311256	21.2
Of which :						
OPEC Countries	64125	74361	79875	87651	99328	6.8
OPEC % share of world	4.9	5.5	5.7	6.1	6.8	
USSR and East Europe	283393	340795	372795	397700	424920	28.9
USSR	236326	289000	321000	346000	372000	25.3
Albania	190	204	204	200	200	neg.
Bulgeria	222	111	110	40	20	neg.
Czechoslovakia	1042	929	937	700	900	neg.
G.D.R.	7012	7358	7929	8460	8500	0.6
Hungary	4821	5182	6084	6600	6500	0.5
Poland	6027	5963	6697	6950	7800	0.5
Romania	27753	32048	29834	28750	29000	2.0
China	26901	39644	45307	45000	46000	3.1
WORLD TOTAL	1306485	1345592	1398586	1428446	1469124	100

* OPEC countries.

Source : OPEC Annual Statistical Bulletin, 1978.

CRUDE OIL PRODUCTION* IN OPEC MEMBER COUNTRIES

(Million Tonnes)

OPEC COUNTRIES	1970	1973	1975	1977	1978	1979
1.	2.	3.	4.	5.	6.	7.
Algeria	49	51	48	55	59	60
Ecuador	Neg.	10	8	9	10	11
Gabon	5	8	11	11	10	10
Indonesia	42	66	65	84	82	80
Iran	191	293	268	282	261	145
Iraq	77	99	111	122	129	175
Kuwait	139	138	94	99	109	130
Libya	160	105	71	100	96	101
Nigeria	53	100	89	103	94	114
Qatar	18	27	21	21	23	25
Saudi Arabia	178	365	344	458	422	510
U. A. E.	37	74	82	97	90	89
Venezuela	195	179	125	117	116	125
T O T A L	1144	1515	1337	1558	1501	1575

Source:- B.P. Statistical Review/OPEC Annual Statistic Bulletins.

CRUDE OIL EXPORTS* BY OPEC MEMBER COUNTRIES.

(Million Tonnes)

OPEC COUNTRIES	1970	1973	1975	1977	1978
1.	2.	3.	4.	5.	6.
Algeria	48.7	49.7	43.9	51.7	50.2
Ecuador	Neg.	9.8	7.3	6.9	6.1
Gabon	4.2	6.0	10.3	9.0	8.7
Indonesia	31.3	50.6	49.7	66.3	63.4
Iran	165.5	263.8	233.5	243.4	220.1
Iraq	74.8	96.3	102.9	108.4	119.2
Kuwait	129.0	132.1	90.2	81.2	88.1
Libya	165.6	108.7	71.6	97.2	92.7
Nigeria	52.5	98.9	85.7	101.5	91.4
Qatar	18.1	28.5	21.4	20.5	24.0
Saudi Arabia	160.8	350.7	330.0	430.4	385.3
U. A. E.	34.7	76.1	83.1	99.5	90.8
Venezuela	121.7	106.2	73.6	66.1	62.2
T O T A L	1006.9	1377.4	1203.2	1382.1	1302.2

Source:- OPEC Annual Statistical Bulletin - 1974 & 1978.

*- Conversion:- 1 Mn.Tonnes/Year = 20,000 bbl/days.

Productivity of Producing Wells in Selected Fields in the World-1979.

Country	Field	Discovery date	Depth (Metres)	Wells Flowing	Wells Pumping	Daily average first 6 month 1979 (000 bbl)	Gravity (APP)	T/W/D
Algeria	All fields Since	1956	458-3834	-	1260*	1241	35.7 50.8	127
Libya	Gialo	1961	671-1922	6	207	252	35.7	159
	Waha	1960	2013	-	52	126	36.0	325
	Bu Attifel	1968	4240	25	-	160	41.0	831
	Intisar D	1967	2867	12	7	162	39.5	1119
	Defa	1969	1647-1800	22	45	193	35.6	388
	Nasser	1959	1678-2318	8	110	103	38.0	116
Iran	Onshore fields	since 1923	610-3721	363	9	2388	24.3-43.0	873
	Offshore: Sassan	1965	2288-2470	6	19	N.A.	34.0	N.A.
	Rostam	1966	2135	3	19	11	34.4	68
	Ardeshir	1969	854	47	-	35	27.0	105
	Darius	1961	3355	13	-	19	34.0	198
	Fercidoon	1966	2135	29	-	53	28.5	257
Iraq@	All fields since	1909	854-3813	250	N.A.	3300	27.7-42.5	1779
Saudi Arabia	Onshore: Abqaic	1940	2040	53	-	667	37.0	1677
	Ghawar	1948	2111	356	-	5096	34.0	1941
	Offshore: Berri	1964	2532	31	-	537	34.0	2349
	Safaniyah	1951	1956	154	-	1314	27.0	1209
	Zuluf	1965	1769	32	-	557	32.0	2388
Burma	@All fields since	1902	30-2135	170	275	30	36.0-40.5	9
India	Onshore (Total)	1890	92-3958	656	1210	120	18-48	13
	Offshore (")	1974	1350	20		96	38.9	634
Indonesia	Onshore: Bangko	1970	458	-	49	51	34.2	141
	Minas	1944	732	-	254	337	35.2	179
	Offshore: Attaka	1970	2288	48	10	102	43.0	226
	Handil	1974	2301	59	-	167	31.3	390

t/w/d = Tonne/Well/Day. @ = Estimated.

* = Flowing, Pumping and shut-in wells including wells used for injection purposes.

Source : Oil & Gas Journal, December 31, 1979

WORLD OIL REFINING CAPACITIES AT END 1979 AND 1978.

Million Tonnes Per Annum.

COUNTRY/AREA.	Refining Capacities		Share of Total	Percentage Change Over	Annual Average.
	1979	1978	1979	1979/78	1974/79
1.	2.	3.	4.	5.	6.
U. S. A.	874	865	21.8%	+ 1.1%	+ 3.3%
Canada	115	117	2.9%	- 1.1%	+ 2.8%
Total North America	989	982	24.7%	+ 0.8%	+ 3.2%
Latin America					
Argentina	33	33	0.8%	-	- 1.2%
Brazil	61	61	1.5%	-	+ 3.8%
Mexico	84	76	2.1%	+ 11.2%	+ 18.2%
Netherlands Antilles	42	42	1.0%	-	+ 0.8%
Trinidad	23	23	0.6%	-	+ 0.3%
Venezuela	72	72	1.8%	-	- 0.4%
Other Latin America	138	133	3.4%	+ 4.0%	+ 3.8%
Total Eastern Hemisphere	1453	1440	11.2%	+ 3.1%	+ 4.0%
Total Western Hemish	1442	1442	35.9%	+ 1.5%	+ 3.4%
Western Europe Belgium	51	51	1.3%	- 0.9%	+ 1.8%
France	170	171	4.3%	- 0.8%	+ 0.7%
Italy	209	209	5.2%	-	+ 1.6%
Netherlands	90	90	2.3%	-	- 1.4%
Spain	74	69	1.8%	+ 7.3%	+ 8.2%
United Kingdom	123	125	3.1%	- 2.1%	- 3.6%
West Germany	151	154	3.8%	- 1.5%	+ 0.4%
Other Western Europe	154	165	3.9%	- 6.3%	+ 6.8%
Total Western Europe	1022	1034	25.7%	- 1.2%	+ 1.3%
Middle East Bahrain	12	12	0.3%	-	+ 9.5%
Iran	52	52	1.3%	-	+ 9.5%
Iraq	14	11	0.3%	+ 22.8%	+ 8.5%
Kuwait	29	29	0.7%	-	+ 2.0%
Neutral Zone	4	4	0.1%	-	+ 0.8%
Saudi Arabia	32	32	0.8%	-	+ 6.4%
Southern Yemen	7	7	0.2%	-	- 2.2%
Other Middle East	120	100	3.0%	+ 40.0%	+ 11.7%
Total Middle East	179	169	4.5%	+ 6.5%	+ 6.2%
Africa	114	89	2.5%	+ 28.0%	+ 12.6%
South Asia	41	41	0.9%	-	+ 2.7%
South East Asia					
Indonesia	27	27	0.7%	-	+ 5.1%
Singapore	52	52	1.3%	-	-
Other South East Asia	192	184	2.4%	+ 9.5%	+ 8.5%
Total South East Asia	171	163	4.4%	+ 4.9%	+ 5.0%
Japan	263	263	6.6%	-	+ 1.0%
Australasia	40	39	1.0%	+ 1.9%	+ 1.4%
U.S.S.R., E.Europe & China	730	698	18.5%	+ 4.6%	+ 5.3%
Total Eastern Hemisphere	2560	2494	64.1%	+ 2.6%	+ 3.3%
World(excl.U.S.S.R., E. Europe & China	3272	3218	81.5%	+ 1.7%	+ 2.9%
WORLD	4002	3916	100.0%	+ 2.2%	+ 3.4%

Source:- B.P. Statistical Review of the World Oil Industry 1979.

WORLD NATURAL GAS CONSUMPTION

(Million Tonnes Oil Equivalent)

Country/Area	1973	1974	1977	1978	1979	Yearly Change 1979 over 1969	Yearly Change 1979 over 1974
U.S.A.	572.3	555.1	502.3	504.2	498.8	-1.2%	-2.1%
Canada	41.8	4.2	45.9	47.3	49.2	+5.2%	+3.1%
Total North America	614.1	597.3	548.2	551.5	548.0	-0.8%	-1.7%
Latin America	36.5	37.8	39.6	42.3	44.0	+2.6%	+3.1%
Total E. Hemisphere	650.6	635.1	587.8	593.8	592.0	-0.5%	-1.4%
W. Europe: Austria	3.4	3.7	4.2	4.4	4.3	+7.2%	+3.1%
Belgium & Luxembourg	8.2	9.8	10.1	9.9	10.5	+14.8%	+1.4%
Denmark	-	-	-	-	-	-	-
Finland	-	0.4	0.7	0.8	0.8	*	+16.6%
France	15.7	17.2	20.4	20.9	23.3	+10.6%	+6.3%
Greece	-	-	-	-	-	-	-
Iceland	-	-	-	-	-	-	-
Rep. of Ireland	-	-	-	-	-	-	-
Italy	14.4	15.8	21.6	22.5	22.9	+7.5%	+7.7%
Netherlands	32.2	32.1	33.4	32.6	32.9	+9.4%	+0.5%
Norway	-	-	-	-	-	-	-
Portugal	-	-	-	-	-	-	-
Spain	1.0	1.3	1.4	1.5	1.4	+32.7%	+2.4%
Sweden	-	-	-	-	-	-	-
Switzerland	0.2	0.4	0.6	0.7	0.7	*	+15.9%
Turkey	-	-	-	-	-	-	-
United Kingdom	26.1	31.8	36.9	37.9	41.2	+21.5%	+5.3%
West Germany	27.0	32.5	38.9	41.7	45.9	+17.4%	+7.1%
Yugoslavia	1.7	2.3	1.7	1.7	1.6	+9.0%	-6.9%
Cyprus/Gibraltar/ Malta	-	-	-	-	-	-	-
Total Western Europe	129.9	147.3	169.9	174.6	185.5	+13.2%	+4.7%
Middle East	24.1	27.6	28.8	30.1	30.0	+10.2%	+1.7%
Africa	3.2	3.6	6.9	8.3	9.0	+20.5%	+20.0%
South Asia	8.0	7.9	9.4	9.7	6.4	+3.0%	-4.1%
South East Asia	3.6	4.3	4.6	7.9	7.9	+14.7%	+12.9%
Japan	5.3	7.0	13.0	17.0	22.1	+25.0%	+25.7%
Australasia	3.9	4.6	7.4	7.8	8.4	+42.2%	+12.8%
U.S.S.R.	198.8	210.8	271.2	289.2	307.0	+7.8%	+7.8%
Eastern Europe	42.1	46.0	58.4	60.0	61.5	+7.4%	+6.0
China	12.5	17.5	30.0	33.0	66.8	+42.7%	+30.8%
Total Eastern Hemisphere	431.4	476.6	599.6	637.6	704.6	+10.8%	+8.1%
World(excl. USSR, E.Europe & China)	828.6	837.4	827.8	849.2	861.3	+2.1%	+0.6%
WORLD	1082.0	1111.7	1187.4	1231.4	1296.6	+4.0%	+3.1%

* Greater than 300%.

Source : B.P. Statistical Review - 1979.

WORLD OIL CONSUMPTION

(Million Tonnes)

Country/Area	1973	1974	1977	1978	1979	Yearly Change 1979 over 1969	Yearly Change 1979 over 1974
U.S.A.	818.0	782.6	865.9	888.8	862.9	+2.6%	+2.0%
Canada	83.7	84.8	85.6	86.9	89.9	+2.7%	+1.2%
Total North America	901.7	867.4	951.5	975.7	952.8	+2.6%	+1.9%
Latin America	163.7	171.3	193.4	201.4	211.8	+5.3%	+4.3%
Total Western Hemisphere	1065.4	1038.7	1144.9	1177.1	1164.6	+3.0%	+2.3%
Western Europe							
Austria	11.8	10.6	11.1	12.0	12.4	+4.2%	+3.2%
Belgium & Luxembourg	31.5	28.1	28.0	29.0	29.4	+1.6%	+0.9%
Denmark	17.9	16.0	16.6	16.1	16.1	-0.2%	+0.1%
Finland	13.3	11.6	12.5	12.5	13.3	+3.4%	+2.8%
France	127.3	121.0	114.6	119.0	118.1	+3.6%	-0.5%
Greece	10.0	9.4	10.8	11.7	11.9	+6.8%	+4.9%
Iceland	0.7	0.6	0.6	0.6	0.6	+1.3%	+0.5%
Republic of Ireland	5.4	5.4	5.7	6.0	6.2	+5.5%	+3.1%
Italy	103.6	100.8	96.1	99.8	101.2	+2.7%	+0.1%
Netherlands	41.3	35.4	37.6	37.5	38.5	+1.6%	+1.7%
Norway	8.6	7.7	8.9	8.7	9.0	+1.9%	+3.1%
Portugal	6.3	6.6	7.1	7.4	7.7	+7.2%	+3.2%
Spain	39.1	41.1	45.5	47.0	47.3	+6.8%	+2.9%
Sweden	29.4	27.1	28.1	26.7	28.4	+0.6%	+0.9%
Switzerland	14.7	13.0	13.1	13.4	12.9	+1.4%	-0.2%
Turkey	12.4	12.5	16.6	15.3	15.2	+8.0%	+4.0%
United Kingdom	113.2	105.3	92.0	94.0	94.1	-0.3%	-2.2%
West Germany	149.7	134.3	137.1	142.7	146.9	+2.3%	+1.8%
Yugoslavia	11.3	11.5	13.9	14.8	15.8	+10.1%	+6.6%
Cyprus/Gibraltar/ Malta	1.4	1.3	1.4	1.5	1.5	+4.0%	+3.1%
Total Western Europe	748.9	699.3	697.3	715.7	726.5	+2.5%	+0.8%
Middle East	62.2	67.1	68.9	83.3	74.8	+4.7%	+2.2%
Africa	49.5	50.4	58.0	61.4	63.5	+5.0%	+4.7%
South Asia	31.3	29.6	34.5	37.1	36.7	+3.3%	+4.4%
South East Asia	77.6	79.2	95.8	105.5	116.9	+8.2%	+8.1%
Japan	269.1	258.9	260.4	262.7	265.4	+4.6%	+0.5%
Australasia	34.8	35.8	38.0	37.6	38.0	+3.1%	+1.2%
USSR	325.7	358.5	399.6	419.2	441.0	+6.3%	+4.2%
Eastern Europe	75.1	77.5	96.2	98.9	101.1	+7.6%	+5.5%
China	53.8	61.9	82.0	84.7	91.1	+16.2%	+8.0%
Total Eastern Hemisphere	1728.0	1718.2	1840.7	1906.1	1955.0	+4.7%	+2.6%
World (excl. USSR, E.Europe & China)	2338.8	2259.0	2407.8	2480.4	2486.4	+3.3%	+1.9%
WORLD	2793.4	2756.9	2985.6	3083.2	3119.6	+4.0%	+2.5%

Source : B.P.Statistical Review - 1979.

MAIN PRODUCT CONSUMPTION (INCLUDING BUNKERS)

(Million Tonnes)

Country/Area	1973	1974	1977	1978	1979	Yearly Change 1979 over 1969	Yearly Change 1979 over 1974
U.S.A.							
Gasolines	312.7	300.2	329.5	338.3	323.4	+2.1%	+1.5%
Middle Distillates	200.7	195.5	224.2	232.1	230.2	+3.3%	+3.3%
Fuel Oil	148.3	137.8	160.8	158.4	147.8	+3.8%	+1.4%
Others	156.3	149.1	151.4	160.0	161.5	+1.3%	+1.6%
Total	818.0	782.6	865.9	888.8	862.9	+2.6%	+2.0%
Canada							
Gasolines	26.7	27.7	29.8	31.7	33.4	+4.7%	+3.8%
Middle Distillates	26.2	26.7	26.8	27.0	28.0	+2.4%	+1.0%
Fuel Oil	17.4	17.2	15.8	15.6	15.9	+0.3%	-1.5%
Others	13.4	13.2	13.2	12.6	12.6	+1.8%	-1.2%
Total	83.7	84.8	85.6	86.9	89.9	+2.7%	+1.2%
Western Europe							
Gasolines	132.6	129.7	132.8	148.2	148.9	+4.3%	+2.8%
Middle Distillates	248.7	222.2	244.3	252.6	255.7	+3.7%	+2.8%
Fuel Oil	269.9	255.7	227.1	224.0	227.5	+0.7%	-2.3%
Others	97.7	91.7	93.1	90.9	94.4	+2.0%	+0.7%
Total	748.9	699.3	697.3	715.7	726.5	+2.5%	+0.8%
Japan							
Gasolines	42.8	41.3	44.6	45.7	46.3	+6.2%	+2.3%
Middle Distillates	50.9	50.6	55.7	60.2	62.0	+8.8%	+4.2%
Fuel Oil	142.6	135.7	128.9	124.5	123.6	+2.6%	-1.8%
Others	32.8	31.3	31.2	32.3	33.5	+1.5%	+1.3%
Total	269.1	258.9	260.4	262.7	265.4	+4.6%	+0.5%
Australasia							
Gasolines	11.3	11.8	12.9	13.3	13.5	+4.1%	+2.8%
Middle Distillates	8.5	9.2	10.8	10.6	10.7	+5.0%	+3.2%
Fuel Oil	10.2	10.1	9.1	8.8	8.9	+1.2%	-2.3%
Others	4.8	4.7	5.2	4.9	4.9	+1.1%	+0.1%
Total	34.8	35.8	38.0	37.6	38.0	+3.1%	+1.2%
Rest of World(excl. USSR, E.Europe & China)							
Gasolines	70.4	75.6	79.8	83.9	89.0	+5.3%	+3.3%
Middle Distillates	113.8	126.6	153.4	162.6	166.0	+7.0%	+5.6%
Fuel Oil	145.9	141.2	163.2	173.6	178.6	+5.0%	+4.8%
Others	54.2	54.2	64.2	68.6	70.1	+4.4%	+5.3%
Total	384.3	397.6	460.6	488.7	503.7	+5.6%	+4.9%
World(excl.USSR, E.Europe & China)							
Gasolines	596.5	586.3	629.4	661.1	654.5	+3.4%	+2.2%
Middle Distillates	648.8	630.8	715.2	745.1	752.6	+4.5%	+3.6%
Fuel Oil	734.3	697.7	704.9	704.9	702.3	+2.6%	+0.1%
Others	359.2	344.2	358.3	369.3	377.0	+2.5%	+1.8%
Total	2338.8	2259.0	2407.8	2480.4	2486.4	+3.3%	+1.9%

Source : B.P. Statistical Review - 1979.

World oil production, consumption and relative deficit/surplus in each region/country during 1979 and 1973.

(Million Tonnes)

Country/Region	1979		Deficit-Surplus+	% extent of dependence.	1973		Deficit-Surplus+	% extent of dependence
	Production.	Consumption.			Production.	Consumption.		
1.	2.	3.	4.	5.	6.	7.	8.	9.
North America (including Canada)	569.1	952.8	-383.7	-40.3	621.3	901.7	-280.4	-31.1
Latin America	280.0	211.8	+68.2	32.2	272.1	163.7	+108.4	66.2
West Europe	115.9	726.5	-610.6	-84.1	22.6	749.0	-726.4	97.0
Middle East	1076.4	74.8	+1001.6	1339.0	1047.1	64.6	+982.5	-1520.1
Africa	324.4	63.5	+ 260.9	410.9	290.6	47.5	+243.1	- 511.8
South East Asia (excluding India)	109.6	122.6	- 13.0	-10.6	82.0	77.6	+ 4.4	- 5.7
India	11.8	31.1	- 19.3	-62.1	7.4	23.7	- 16.3	- 68.8
Japan	0.5	265.4	-264.9	-99.8	0.7	269.1	-268.4	- 99.7
Australasia	21.9	38.0	- 16.1	-42.4	18.5	34.8	- 16.3	- 46.8
USSR	586.0	441.0	+145.0	32.9	421.0	317.7	+103.3	32.5
Eastern Europe	20.0	101.0	- 81.0	-80.2	19.2	76.7	- 57.5	- 75.0
China	106.1	91.1	+ 15.0	16.5	40.0	37.6	+ 2.4	6.4
Total	3221.7	3119.6	+102.1	3.3	2844.1	2773.2	+ 70.9	2.6

Source : B.P. Statistical Review on World Oil Industry - 1979.

Country-wise Imports & Exports of Crude Oil & POL Products-1979.

(Million Tonnes)

Country/Area	Imports		Exports	
	Crude	Products	Crude	Products
1.	2.	3	4.	5.
U. S. A.	320.2	99.6	11.6	14.2
Canada	29.8	0.9	13.3	9.3
Latin America	125.3	9.5	81.8	106.8
Western Europe	598.7	48.4	14.2	11.6
Middle East	2.5	6.7	962.8	46.8
North Africa	3.0	4.8	155.9	7.9
West Africa	0.6	4.2	128.9	2.5
East and South Africa	22.1	2.0	-	0.6
South Asia	18.6	5.7	-	2.1
South East Asia	79.1	18.9	76.4	15.6
Japan	244.1	31.5	-	0.4
Australasia	11.2	7.4	-	1.1
U.S.S.R.,E.Europe & China	24.9	1.0	49.8	38.0
Destination not known*	14.6	16.3	-	-
T O T A L	1494.7	256.9	1494.7	256.9

* Includes changes in the quantity of Oil in transit, transit-losses, minor movements not otherwise shown, unidentified military use, etc.

Source:- BP statistical review of the world oil industry 1979.

Country-wise Export of Crude Oil by Main OPEC Producers-1978.

(Tonnes)

Country	Algeria	Indonesia	Iran*	Iraq	Kuwait	Libya	Nigeria	Qatar	Saudi Arabia	UAE*	Venezuela
North America	28.5	21.7	29.3	NA	0.8	38.6	37.2	2.2	69.8	13.9	20.3
of which											
Canada	0.2	-			-	-	-	-	-	-	9.4
USA	28.3	21.7			0.8	38.6	37.2	2.2		13.9	10.9
Latin America	2.6	7.7	22.2	NA	3.9	3.2	14.7	1.3	19.0	2.1	35.2
of which											
Argentina	-	-			-	-		-			neg.
Bahamas	-	-			-	0.5		-			-
Brazil	0.5	-			3.5	0.8		0.1			1.0
Puerto Rico	-	-			-	-		-			4.0
Trinidad & Tobago	-	6.0			-	0.3		-			neg.
Netherlands Artillies	-	-			-	-		1.2			21.7
Western Europe	17.6	1.2	91.9	NA	36.5	48.4	37.3	10.8	149.6	34.7	6.0
of which											
France	4.8	0.3			2.8	5.0	8.9	4.5		10.0	0.7
Germany (F.R.)	8.7	-			0.7	10.1	6.9	0.2		4.5	0.6
Italy	0.9	-			8.9	19.9	2.6	1.6		1.6	0.8
Netherlands	0.5	0.9			9.5	2.3	12.1	2.8		11.9	0.5
Spain	1.0	-			1.2	5.4	-	-		-	1.9
U.K.	0.5	-			9.9	1.3	3.4	0.7		3.6	1.1
Eastern Europe	1.0	-	-	NA	1.1	2.5	-	-	-	1.0	-
Middle East	-	-	-	NA	1.1	-	-	-	13.0	-	-
of which:											
Bahrain	-	-			-	-	-	-		-	-
Jordan	-	-			-	-	-	-		-	-
Lebanon	-	-			-	-	-	-		-	-
Yemen	-	-			0.4	-	-	-		-	-
Africa	0.3	-	-	NA	0.2	-	2.2	0.9	1.9	0.8	0.5
Asia & Far East	0.2	32.1	62.1	NA	43.2	0.1	-	8.8	127.2	29.3	0.3
of which:											
Japan		28.4			24.2	0.1	-	5.8		26.2	0.3
Korea (Rep.)		-			7.5	-	-	-		-	-
India		-			-	-	-	-		-	-
Malaysia & Singapore		1.3			2.3	-	-	-		-	-
Pakistan		-			-	-	-	-		-	-
Phillipines		1.6			1.7	-	-	-		-	-
Taiwan		-			6.8	-	-	-		-	-
Thailand		-			-	-	-	2.3		-	-
Oceania	-	0.7	-	NA	1.3	-	-	-	4.8	0.3	-
of which:											
Australia	-	0.7			1.1	-	-	-		0.3	-
New zealand	-	-			0.2	-	-	-		-	-
Unspecified	-	-	37.9	-	-	-	-	-	-	-	-
TOTAL	50.2	63.4	243.4	119.2@	88.1	92.8	91.4	24.0	385.3	82.1	62.3

* Data pertains to year 1977 @ = Break up not available .
Conversion = 1 mm. Tonne/yr. = 20,000 bbl/day.

Source :- OPEC Annual Statistical Bulletin 1978.

OIL REVENUES OF MAIN OPEC MEMBER COUNTRIES

(Billion Dollar)

OPEC Member Countries	1972	1974	1977	1978	1979	%Change 1978-79
1.	2.	3.	4.	5.	6.	7.
	Gross Oil Revenues					
Saudi Arabia	3.1	22.6	38.6	34.6	57.7	+ 67
Iraq	0.6	5.7	9.8	9.6	23.4	+144
Iran	2.4	17.5	21.6	20.9	20.8	-
Kuwait	1.7	7.0	7. 9	8.0	16.0	+100
Qatar	0.3	1.6	2.0	2.0	3.8	+ 90
U.A.E.	0.5	5.5	9.0	8.0	12.8	+ 60
Algeria	0.7	3.7	4.3	4.6	8.8	+ 91
Libya	1.6	6.0	8.9	8.6	16.3	+ 90
Nigeria	1.2	8.9	9.6	8.2	16.1	+ 96
Venezuela	1.9	8.7	6.1	5.6	12.0	+114
Indonesia	0.4	3.3	4.7	4.8	8.1	+ 69
T O T A L	14.4	90.5	122.5	114.9	195.8	+ 70
	Revenues per Barrel of Exports				($/bbl)	
Saudi Arabia	1.44	7.28	11.75	11.70	17.00	+ 45
Iraq	1.51	8.68	12.20	10.96	19,44	+ 77
Iran	1.36	8.41	11.83	12.73	23.74	+ 86
Kuwait	1.36	7.99	14.00	10.44	18.26	+ 75
Qatar	1.45	8.79	13.70	10.99	20.88	+ 90
U.A.E.	1.43	8.87	12.33	12.18	19.48	+ 60
Algeria	1.88	11.28	10.72	11.47	21.95	+ 91
Libya	1.97	10.97	12.19	11.78	22.33	+ 90
Nigeria	1.87	11.08	13.15	12.48	21.02	+ 68
Venezuela	1.72	8.51	8.36	8.08	16.44	+103
Indonesia	1.24	7.53	8.59	9.39	17.09	+ 82
T O T A L	1.53	8.49	11.53	11.41	19.02	+ 67

KEY CRUDE OIL PRICE POSTINGS AROUND THE WORLD.

($ /bbl)

CRUDE.	GRAVITY	1970		1971		1972	1973		
		Pre.Nov.14	Nov.14	Feb.15	June.1	Jan. 20	Jan. 1.	April.1	June.1
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
Arab. Light	34	1.80	1.80	2.180	2.285	2.479	2.591	2.742	2.898
Arab. Berri	39			2.255	2.360	2.554	2.666	2.817	2.973
Arab. Medium	31	1.590	1.680	2.085	2.187	2.373	2.482	2.626	2.776
Arab. Heavy	27	1.470	1.560	1.960	2.064	2.239	2.345	2.481	2.623
Iran Light	34	1.790	1.790	2.170	2.274	2.467	2.579	2.729	2.884
Iran.Heavy	31	1.630	1.780	2.125	2.228	2.417	2.527	2.674	2.826
Iran. Darius	34	1.630	1.630	2.160	2.264	2.456	2.567	2.716	2.871
Kuwait.	31	1.590	1.680	2.085	2.187	2.373 b)	2.482	2.626	2.776
Abu-Dhabi:-									
Umm Shaif	37	1.860	1.860	2.225	2.331	2.529	2.642	2.796	2.955
Murban	39	1.880	1.880	2.235	2.341	2.540	2.654	2.823	2.968
Zakum	40						2.687		
Iraq (Basrah)	35	1.720	1.720	2.155	2.259	2.451	2.562	2.711	2.865
Qatar(Marine)	36	1.830	1.830	2.200	2.305	2.501	2.614	2.766	2.923
(Dukhan)	40	1.930	1.930	2.280	2.387	2.590	2.705	2.862	3.025
Oman	34						2.634		
MEDITERRANEAN & AFRICAN CRUDES.									
Iraq Kirkuk	36	2.210	2.410 j)		3.211f)	3.402	3.484	3.712	3.921
Libyan Light	40	2.230	2.530i)		3.447f)	3.673	3.777	4.024	4.252
Nigerian Heavy	26	2.280	2.280i)		3.104f)	3.068a)	3.440	3.659	3.868
,,					3.087h)	3.328e)			
,,					3.070k)	3.306g)			
,,						3.291h)			
Nigerian Light	37	2.420	2.420i)		3.212f)	3.176a)	3.561	3.787	4.003
					3.195h)	3.446c)			
					3.178k)	3.424g)			
						3.409h)			
VENEZUELAN CRUDES.									
Tia Juana	26	2.0114	2.0114	2.016	2.590e)	2.901a)	3.0596	3.355d)	
Tia Juana	31	2.193	2.193	2.198	2.665e)	2.035a)	3.215	3.575d)	
Oficina	35	2.339	2.339	2.344	2.725e)	3.211a)	3.362	3.768d)	

a) Effective Jan. 1. b) Effective Jan. 2. c) Effective Feb. 15. d) Effective March 13 f) Eff.Mar.20
g) Effective April 1. h) Effective July 1. i) Effective Sept.1 j) Effective Sept. 9. K) Eff.Oct.1.
e) Effective March 18.

Contd./-

KEY CRUDE OIL PRICE POSTINGS AROUND THE WORLD.

($ / bbl)

CRUDE	GRAVITY	1973 July-1.	August-1	Oct.-1.	Oct.-16	Nov.-1.	Dec.-1.	1974 Jan. 1	Nov. 1
1.	2.	3.	4.	5.	6.	7.	8.	9.	10
Saudi Arabia									
Arab. Light	34	2,955	3,066	3.011	5.119	5.176	5.036	11.651	11.251
Arab Berri	39	3.030	3.141	3,086	5.682	5.741	5.596	12.351	11.951
Arab. Medium	31	2.830	2.936	2.884	4.903	4.957	4.822	11.561	11.161
Arab. Heavy	27	2.674	2.755	2.725	4.633	4.684	4.557	11.441	11.041
Iran.									
Iran. Light	34	2.940	3.050	2.995	5.341	5.401	5.254	11.875	11.475
Iran. Heavy	31	2.881	3.989	2.936	4.991	5.046	5.006	11.635	11.235
Iran. Darius	34	2.927	3.037	2.983	5.071	5.127	4.988	11.616	11.216
Kuwait									
Kuwait.	31	2.830	2.936	2.884	4.903	4.957	4.822	11.545	11.145
Abu Dhabi									
Umm Shaif.	37	3.013	3.126	3.110	5.537	5.599	5.446	12.086	11.686
Murban	39	3.026	3.140	3.144	6.045	6.113	5.944	12.636	12.236
Zakum	40			3.185	5.965	6.031	5.864	12.566	12.165
Iraq Basrah	35	2.921	3.031	2.977	5.061	5.117	4.978	11.672	11.272
Qatar									
Marine	36	2.980	3.092	3.037	5.503	5.563	5.412	12.013	11.613
Dukhan	40	3.084	3.200	3.143	5.834	5.899	5.737	12.414	12.014
Oman Oman	34			3.058	5.738			12.298	12.298
MEDITERRANEAN & AFRICAN CRUDES									
Iraq Kirkuk	36	4.070	4.223	4.243	7.213	7.293	7.096	13.647	13.247
Libyan Light	40	4.416	4.582	4.604	8.925	9.061		15.768	15.768
Nigerian Heavy	26	3.997	4.148	4.147	8.072 l)	8.163		14.481	11.453
Nigerian Light	37	4.135	4.291	4.287	8.310	8.404		14.691	11.663
VENEZUELAN CRUDES.									
Tia Juana	26		3.7667	4.0951)	4.2332k)	6.569	6.7697	11.797	12.333 f)
Tia Juana	31		4.0137	4.36851)	4.5108k)	6.871	7.070	12.097	12.647 f)
Oficina	35		4.2306	4.5092l)	4.7546k)	7.1105	7.3124	12.337	12.898 f)

i) Effective Sept. 1 k) Effective Oct. 1. l) Effective Oct. 30 f) w.e.f. July-1.

KEY CRUDE OIL PRICE POSTINGS AROUND THE WORLD.

($/ bbl)

CRUDE	GRAVITY	1975 Jan.1	1975 Oct.1	1976 June.1	1977 Jan.1	1977 July.1	1978 Jan. 1	1979 Jan.1.
1.	2.	3.	4.	5.	6.	7.	8.	9.
Arab Light	34		12.376		13.000	13.660		14.343
Arab. Barri	39		12.768		13.420	14.220		15.118
Arab. Medium	31		12.184	12.129	12.570	13.250		13.856
Arab. Heavy	27		11.978	11.871	12.230	12.920		13.453
Iran. Light	34		12.495		13.774			14.462
Iran. Heavy	31		12.360	12.258c) 12.183d)	13.430			14.043
Iran. Darius	34		12.344					
Kuwait	31		12.151		13.301			
Abu-Dhabi(Umm Shaif)	37	11.446	12.575		13.200	14.020		14.820
Murban	39	11.686	12.815		13.440	14.260		15.160
Zakum	40	11.586	12.715		13.340	14.160		15.060
Iraq Basrah	35		12.400 b)			13.624		
Qatar Marine	36		12.540		13.979			14.806
Qatar Dukhan	40		12.740		14.183			15.086
Oman	34				13.677@			
			MEDITERRANEAN & AFRICAN CRUDES					
Iraq Kirkuk	36		16.060		18.250			
Libyan	40		13.499	13.610g) 13.780h)	14.609	14.534e)	14.443f) 14.318e)	15.073
Nigerian	26		13.709	13.820g) 13.990h)	15.291	15.523e)	15.182f) 14.943e)	15.732
Nigerian	37							
			V E N E Z U E L A N C R U D E S					
Tia Zuana	26		13.436	13.828g)				
Tia Zuana	31		14.091	14.133g)				
Oficina	35	14.402	14.402	14.302g)				

@ Effective Feb.,1. c) Effective Feb. 14, d) Effective June 9, e) Effective April 1.
f) Effective Jan.,1. g) Effective July,1. h) Effective Oct.,1. b) Notional Price.

Official Selling Prices of Key OPEC Crudes

($ bbl)

Crude	Gravity	1974 Nov.1	1975 Jan.1	1975 Oct.1	1976 June 1	1976 July 1	1976 Oct.1	1977 Jan.1	1977 July 1	1978 Jan.1	1978 April 1
Arab Light	34	10.463		11.510				12.090	12.704		
Arab Berri	39	11.114		11.874				12.480	13.225		
Arab Medium	31	10.380		11.331	11.280			11.690	12.323		
Arab Heavy	27	10.268		11.140	11.040			11.370	12.016		
Iran Light	34	10.67		11.62				12.81			
Iran Heavy	31	10.45		11.49	11.40(a)	11.33(b)		12.49			
Kuwait	31	10.365		11.300	11.230			12.370		12.270	
Abu Dhabi Umm Shaif	37	10.868	10.645	11.695				12.280	13.040		
" Murban	39	11.379	10.868	11.918				12.500	13.260		
" Zakum	40	11.313	10.775	11.825				12.410	13.170		
Iraq Basrah	35	10.48		11.53		11.43		12.58			
Qatar Marine	36	10.80		11.66				13.00			
Qatar Dukhan	40	11.17		11.85				13.19			
MEDITERRANEAN & AFRICAN CRUDES											
Iraq Kirkuk	36					11.65		12.77			
Libyan Light	40			12.32		12.62		13.92	14.20(c)	13.97	13.85
Nigerian Light	37			12.70		13.10	13.25	14.31	14.61(c)	14.31	14.10
"	26					12.55	12.52	13.71		13.66	13.55
VENEZUELAN CRUDES											
Tia Zuana	26				11.12(d)						
Tia Zuana	31				12.30(d)						
Oficina	35				12.80(d)						

(a) Effective Feb. 14
(b) Effective June 9
(c) Effective April, 1
(d) Effective Jan. 1

Official Selling Prices of Key OPEC Crudes.

($ bbl)

Crude	Gravity	1979 Jan.1	1979 Apr.1	1979 July 1	1979 Oct.1	1979 Nov.1	1979 Dec.1	1980 Jan.1	1980 Feb.1	1980 Apr.1	1980 May 1	1980 July 1
Arab Light	34	13.339	14.548	18.00(a)	24.00			26.00		28.00		
Arab Berri	39	14.060	16.470	21.324(a)	24.721			27.52		29.52		
Arab Medium	31	12.886	14.052	17.547(a)	23.547			25.45		27.45		
Arab Heavy	27	12.511	13.643	17.172(a)	23.172			25.00		27.00		
Iran Light	34	13.45	15.87	22.00	23.50		28.50		31.00	35.50		
Iran Heavy	31	13.06	15.44	19.90	22.77		27.77		30.27	34.00		
Kuwait	31	12.83	15.20	19.49	21.43	25.50		27.50			29.50	31.50
Abu Dhabi UmShaif	37	13.780	16.88	21.36		27.36		29.36			31.36	
" Murban	39	14.190	17.10	21.56		27.56		29.56			31.56	
" Zakum	40	14.010	17.01	21.46		27.46		29.46			31.46	
Iraq Basrah	35	13.293	15.696	19.96	21.96	23.96	25.96	27.96			29.96	31.96
Qatar Marine	36	13.77	16.85	21.33		27.23		29.23			31.23	
Qatar Dukhan	40	14.03	17.04	21.42		27.42		29.42			31.42	33.42
Oman	34	13.94		22.00			30.20					
MEDITERRANEAN & AFRICAN CRUDES												
Iraq Kirkuk	36	13.52	15.95	21.25	22.18		26.18	28.18			30.18	32.18
Libyan Light	40	14.69	18.25	23.45	26.22(b)		29.95	34.67			36.67	37.00
Nigerian Medium	26	14.23	17.50	22.00		24.77	29.70			33.42	35.42(e)	35.75
" Light	37	14.80	18.50	23.47		26.24(c)	29.97			34.69	36.69(e)	37.02
INDONESIAN CRUDES												
Sumatra Light	34	13.90	15.85	21.12		23.50(c)	25.50	27.50	29.50(f)			
VENEZUELAN CRUDES												
Tia Juana	26	13.36	15.76						26.78(d)			29.88
Tia Juana	31	14.22	16.70						28.90(d)			33.00
Oficina	34	14.69	17.21						30.75(d)			34.85

(a) Effective June 1
(b) Effective Oct. 15
(c) Effective Nov. 16.
(d) Effective 6th Feb.
(e) Effective 22nd May.
(f) Effective 4th Feb.

LOWEST POSTED PRICES OF POL PRODUCTS AT BANDAR ABBASHAHR

PRICE AS ON	Light Distillates (US ¢ /US Gallon)				
	Avgas 115/145	Avgas 100/130	Avgas 73	Octane 93	Octane 83
1.1.68	16.0	14.7	12.7	9.3	7.3
1.1.69	"	"	"	"	"
1.1.70	"	"	"	9.0	7.1
1.1.71	"	"	"	"	"
1.1.72	16.9	15.6	13.7	9.9	8.0
1.1.73	17.2	15.9	14.1	10.2	8.3
1.1.74	24.3	23.0	21.0	17.3	15.4
1.1.75	50.6	48.6	47.5	35.9	34.0
1.1.76	53.0	51.3	51.0	38.3	36.4
1.1.77	53.0	51.0	48.0	38.3	36.4
1.1.78	58.5	56.5	53.5	41.2	39.0
1.1.79	64.0	61.0	-	44.0	40.5
1.1.80	-	-	-	79.3	76.0
1.4.80	-	-	-	96.3	92.5
1.7.80	-	-	-	99.7	95.5
6.8.80	-	-	-	104.3	100.5

PRICE AS ON	Middle Distillates (US ¢ /US Gallon)				
	Turbine fuel 58F	Kerosene	Diesel Indext. 53-57	Indl. Diesel (¢/bbl.)	Others Light Fuel (¢/bbl.)
1.1.68	9.5	8.9	6.8	2.70	1.52
1.1.69	"	"	"	"	1.50
1.1.70	"	"	6.6	2.62	1.42
1.1.71	"	"	"	2.70	1.50
1.1.72	10.4	9.8	7.5	3.20	1.95
1.1.73	10.7	10.1	7.8	3.32	2.07
1.1.74	18.6	18.3	15.7	6.16	3.75
1.1.75	33.7	33.4	30.8	12.11	10.05
1.1.76	36.7	36.4	33.6	12.86	10.80
1.1.77	36.7	36.4	33.6	12.86	10.50
1.1.78	39.6	39.2	36.5	14.35	11.85
1.1.79	43.5	42.5	40.5	-	11.15
1.1.80	77.5	76.5	73.0	.	22.35
1.4.80	96.0	93.5	88.5	-	25.05
1.7.80	106.0	105.0	98.0	-	24.10
6.8.80	108.0	105.5	100.5	-	24.10

RETAIL PRICES INCLUDING DUTY AND TAXES OF SOME SELECTED PRODUCTS IN DIFFERENT COUNTRIES AS ON 31.7.1979.

(US $/USG)

COUNTRY	Regular Gasolines				House Hold Kerosene			
	Consumer Price	Tax	Vat	Import Duty	Consumer Price	Tax	Vat	Import Duty
North America								
Canada	.71	.23	x	None	.83	None	x	None
Mexico	.47	.16	x	None	.09	x	x	None
United States	.91	.14	None	None	.61	None	None	None
Central South America and Caribbean								
Argentina	1.14	x	x	10%	.86	x	x	10%
Brazil	1.55	.42	x	x	.95	.08	x	x
El Salvador	1.25	x	x	None	.60	x	x	None
Venezuela	.13	.01	x	None	.09	Neg.	x	None
Europe								
Austria	2.02	.79	+18%	.07	2.95	.66	+8%	.03
Belgium	2.27	.30	x	.98	.95	.04	x	.08
Denmark	2.80	1.30	x	.47	1.38	x	x	.23
France	2.43	64.3%	x	x	1.31	45%	x	x
West Germany	2.09	.94	+12%	6%	7.51	.94	+12%	6%
Italy	2.44	1.35	+14%	6%	.87	0.08	+14%	6%
Netherlands	2.18	x	18%	.92	1.25	x	18%	.19
U.Kingdom(London)	2.16	x	15%	.69	1.01	x	x	.02
Yogoslavia	2.47	1.56	x	x	1.03	.15	x	x
Middle East								
Iran	.54	None	x	None	.13	None	x	None
Israel	2.32	1.03	x	.41	.98	.02	x	.11
Turkey	1.32	.20	x	.78	.79	.13	x	.02
Africa								
Ethiopia	1.38	.23	x	x	1.01	.09	x	x
Kenya	1.78	.46	x	.31	.96	x	x	.07
South Africa	2.43	.10	x	.47	3.00	.12	x	.46
Asia								
Burma	.45	.03	x	None	.32	.02	x	None
India	1.97	7%	x	1.34	.70	3%	x	.24
Indonesia	.61	.12	x	None	.15	.03	x	None
Japan	2.27	.95	x	.04	.87	x	x	.02
Pakistan	x	x	x	x	x	x	x	x
Phillipines	1.06	x	x	x	.70	x	x	x
Singapore	1.29	.59	x	None	1.03	.02	x	None
Sri-Lanka	1.52	x	1%	None	.18	x	1%	None
Thailand	1.38	.06	x	.54	.78	.07	x	.10
Australasia								
Australia	1.34	.22	x	.22	1.13	None	x	None

X = Not Reported or unknown.
Vat = Value added tax is noted where the percentage figure is known; Otherwise any value added tax is included in the tax column figure.

Source : International Petroleum Annual - 1978

RETAIL PRICES INCLUDING DUTY AND TAXES OF SOME SELECTED PRODUCTS IN DIFFERENT COUNTRIES AS ON 31.7.1979.

(US $/USG)

COUNTRY	Distillate Fuel Oil				Motor Lubricating Oil			
	Consumer Price	Tax	Vat	Import Duty	Consumer Price	Tax	Vat	Import Duty
North America								
Canada	x	x	x	x	4.20	7%	x	None
Mexico	.06	x	x	None	1.33	x	x	None
United States	.74	Neg.	None	None	x	x	x	x
Central South America and Caribbean								
Argentina	.56	x	x	x	6.36	x	x	10%
Brazil	x	x	x	x	6.59	1.14	x	x
El Salvador	x	x	x	x	x	x	x	x
Venezuela	x	x	x	x	4.40	.10	x	None
Europe								
Austria	1.12	.14	+8%	.04	16.72	None	18%	.06
Belgium	x	x	x	x	6.97	.95	x	.04
Denmark	1.42	.21	x	.28	10.37	x	x	1.75
France	.97	28.3%	x	x	9.74	20%	x	x
West Germany	1.23	.06	+12%	6%	18.11	.94	+12%	6%
Italy	.94	.09	+14%	3.5%	9.50	.62	+14%	6%
Netherlands	.81	x	excl.	18% .06	x	x	x	x
U.Kingdom(London)	x	x	x	x	4.86	x	15%	.05
Yogoslavia	1.86	.90	x	x	8.75	.89	x	x
Middle East								
Iran	.13	None	x	None	2.68	None	x	None
Israel	.90	.04	x	.08	3.05	.85	x	.20
Turkey	.70	.13	x	.03	8.37	.68	x	.95
Africa								
Ethiopia	.97	.15	x	x	4.21	.20	x	x
Kenya	x	x	x	x	7.10	.23	x	.11
South Africa	2.01	.08	x	.33	7.65	.30	x	.10
Asia								
Burma	.32	.02	x	None	2.27	.02	x	x
India	.55	7%	x	.24	4.88	7%	x	None
Indonesia	.18	.04	x	None	x	x	x	x
Japan	x	x	x	x	17.53	x	x	6%
Pakistan	x	x	x	x	3.85	x	x	x
Singapore	.93	Neg.	x	None	6.45	.38	x	x
Sr-Lanka	.54	x	1%	None	2.95	x	x	x
Thailand	x	x	x	x	4.26	.08	x	.28
Australasia								
Australia	x	x	x	x	6.40	None	x	None

X = Not Reported or unknown.
Vat = Value added tax is noted where the percentage figure is known; Otherwise any value added tax is included in the tax column figure.

Source : International Petroleum Annual - 1978

RETAIL PRICES INCLUDING DUTY AND TAXES OF SOME SELECTED PRODUCTS IN DIFFERENT COUNTRIES AS ON 31.7.1979.

Country	Auto Diesel Fuel (US $/US Gallon)				Bunker 'C' Fuel (US $/bbl)			
	Consumer price	Tax	Vat	Import duty	Con. price	Tax	Vat	Import duty
North America								
Canada	0.76	0.23	X	None	15.04	None	X	None
Mexico	0.15	X	X	None	2.52	X	X	None
United States	0.82	0.14	None	None	17.65	None	None	None
Central South America and Caribbean								
Argentina	0.86	X	X	X	13.30	X	X	X
Brazil	0.87	0.11	X	X	8.77	None	X	X
El Salvador	0.67	X	X	None	17.64	X	X	None
Venezuela	0.09	neg.	X	None	3.18	0.01	X	None
Europe								
Austria	2.11	0.69	+18%	0.04	20.46	None	8%	0.78
Belgium	1.55	0.19	X	0.38	17.41	0.99	X	0.51
Denmark	1.45	0.21	X	0.24	X	X	X	X
France	1.69	54%	X	X	X	X	X	X
West Germany	2.21	0.88	+12%	6%	25.62	2.10	+12%	3.5%
Italy	1.11	0.12	+14%	3.5%	22.67	0.18	+14%	3.5%
Netherlands	1.43	X	18%	0.35	18.60	X	Excl.18%	1.19
United Kingdom	2.26	X	15%	0.77	23.37	X	X	2.31
Yugoslavia	1.88	0.91	X	X	X	X	X	X
Middle East								
Iran	X	X	X	X	21.42	X	X	X
Israel	X	X	X	X	20.16	2.23	X	X
Turkey	0.70	0.13	X	0.03	19.59	2.55	X	X
Africa								
Ethopia	X	X	X	X	23.53	None	X	X
Kenya	1.25	0.11	X	0.20	20.72	None	X	None
South Africa	2.43	0.10	X	0.46	X	X	X	X
Asia								
Burma	X	X	X	X	X	X	X	X
India	0.72	7%	X	0.08	23.10	None	X	None
Indonesia	0.18	0.04	X	None	X	X	X	X
Japan	1.49	0.42	X	0.04	22.89	X	X	0.08
Pakistan	X	X	X	X	X	X	X	X
Phillipines	0.73	X	X	X	X	X	X	X
Singapore	0.63	neg.	X	None	X	X	X	X
Srilanka	0.58	X	1%	None	X	X	X	X
Thailand	0.91	0.04	X	0.10	22.58	X	X	0.01
Australasia								
Australia	1.19	0.22	X	0.22	X	X	X	X

X = Not Reported or unknown. neg. = Negligible.
Vat = Value added tax is noted where the percentage figure is known; otherwise any value added tax is included in the tax column figure.

Source : International Petroleum Annual - 1978.

Posted Airfield Prices of Jet-A.I. Fuel at Major Irternational Airports as on 1.4.79,1.6.79,1.9.79,1.12.79,1.2.80 & 1.6.1980.

(U.S. $ / U.S. Gallon)

Country/Airfields	Prices as on					
	1.4.79	1.6.79	1.9.79	1.12.79	1.2.80	1.6.80
Australia						
Perth	63.00	64.50	79.50	87.00	140.00	121.05
Sydney	63.00	64.50	79.50	87.00	140.00	121.05
Bahrain	76.50	84.57	110.00	126.50	148.33	159.35
Belgium						
Brussels	76.00	92.00	105.00	120.00	152.00	164.00
Egypt						
Cairo	120.00	120.00	147.00	153.00	156.00	155.20
Ethopia						
Addisababa	80.00	105.26*	113.86*	136.48*	153.06*	156.06*
France						
Paris (Orly)	72.03	80.11	103.32	144.29	153.30	151.33
Germany						
Frankfurt	91.76	96.82	109.32	125.25	146.72	157.30
Holland						
Amsterdam (schiphol)	84.47	92.57	111.07	125.00	134.80	143.20
Italy						
Rome (Fimicino)	110.00	122.00	145.00	153.00	178.00	165.00
Kenya						
Nairobi	78.00	89.00*	114.00*	124.99*	139.00	144.00
Lebonon						
Beirut	80.00	120.00	100.00	100.00	185.00	185.00
Malaysia						
Kuala Lumpur	67.00	76.50	86.40	96.00	123.50	137.00
Mauritius						
Plaisance	72.00	82.71	113.96	120.00	140.00	140.00
Singapore						
Paya lebar	65.00	77.50	89.40	114.75*	127.75*	137.00*
Switzerland						
Geneva	98.60	98.60	107.84	123.88	151.88	155.60
U.A.E.						
Abu Dhabi	79.98	89.00	132.00	132.00	165.50	161.74
Shar-jah	76.50	84.37	132.00	132.00	165.50	161.74
United Kingdom						
London(Hea-throw)	140.00	125.00	135.00	156.00	155.00	168.02
Karachi	79.24	79.24	108.35	123.28	148.57	123.28
Kuwait(35.80Fils/Litres)	-	-	-	-	-	-
(42.10Fils/Litres)	56.29	57.80	85.12	102.66	106.41	120.64
New York	65.00	73.50	113.00	122.00	122.00	112.00
Teheran(8.50 rials/Litres)	62.00	62.00	58.10(1)	91.60	91.60	137.89
Tokyo (Narita)	72.00	81.50	100.50	108.20	122.10	127.01
Delhi (Palam)	79.85	87.03	112.26	134.03	140.48	158.74
Bombay	74.78	81.98	107.09	128.86	135.33	153.46

* Less rebate 2.00 U.S.C/US.G.
(1) = Monopoly price.
(2) = Lawful price - Domestic fuel.
(3) = Air India Contract price. P.P not available.

Source : Air India, Bombay.

World - Development of Average Freight Rate Assessment (AFRA).

(Percentages)

	General purpose 16500-24999dwt	Medium range 25000-44999dwt	L.R.1 45000-79999dwt	L.R.1 80000-159999 dwt	VLCC 160000- dwt & above	ULCC 320000 -549999 dwt
Average 1974	211.2	179.4	120.6	97.0	78.6	
Average 1975	139.5	124.8	83.2	62.7	56.9	
Average 1976	132.7	117.6	77.1	57.0	50.3	
Average 1977	151.7	114.7	74.7	54.8	47.9	
Average 1978	155.5	116.5	72.2	53.5	44.8	
1979						
January	209.3	166.3	117.3	72.6	47.4	
February	216.2	167.8	108.9	69.2	47.3	
March	246.3	169.5	108.7	66.5	46.8	
April	254.4	182.8	110.5	70.9	47.2	
May	241.7	188.1	112.0	76.6	49.1	
June	229.8	167.9	106.2	75.2	50.3	
July	240.2	192.2	118.8	76.1	52.0	43.1
August	267.2	225.0	137.7	83.8	54.1	46.5
September	272.6	228.2	146.4	97.1	57.3	48.8
October	289.0	226.3	138.1	96.0	58.9	53.4
November	299.7	244.3	143.5	90.5	59.0	52.1
December	296.3	246.0	147.4	91.7	58.8	50.2
Average 1979	255.2	200.4	124.5	80.5	52.4	49.0
1980 *						
January	267.6	222.9	134.4	83.9	51.3	43.3
February	289.3	265.0	143.3	87.9	53.0	44.7
March	258.9	215.3	130.6	86.4	54.0	45.3
April	255.0	200.0	123.0	81.3	52.4	43.0
May	255.9	198.0	121.3	79.6	49.8	42.4
June	253.4	192.7	114.1	78.6	49.3	40.6

* London Tanker Brokers average freight rate assessments calculated on the basis of rates prevailing during the month ending on the 15th of the month shown, and used by oil companies for pricing prepares during the month.

World Tanker Fleet* by Flag and Ownership at end - 1979

(Million Long Tonnes Deadweight)

Flag	Oil Com-	Pri- vate	Govt.	Others	Total 1979	Total 1978	% Change 1979 over 1978
Liberia	33.9	65.8	-	0.8	102.5	103.4	- 0.9
Norway	0.5	23.9	-	-	24.4	26.7	- 2.3
United Kingdom	17.4	7.0	0.1	0.3	24.8	28.4	- 3.6
Japan	4.0	21.4	-	4.6	30.0	29.3	+ 0.7
U.S.A.	8.4	6.1	1.2	-	15.7	14.4	+ 1.3
Panama	4.8	6.8	-	0.1	11.7	9.6	+ 2.1
France	10.3	5.0	0.1	-	15.4	15.1	+ 0.3
Greece	0.4	21.6	-	-	22.0	18.0	+ 4.0
Other Western Europe	16.3	23.0	-	0.1	39.4	41.3	- 1.9
Other Western Hemisphere	7.6	0.2	0.3	0.1	8.2	8.3	- 0.1
U.S.S.R., Eastern Europe & China.	-	-	9.9	-	9.9	10.4	- 0.5
Other Eastern Hemisphere	9.3	14.1	-	0.5	23.9	23.6	+ 0.3
Total	114.9	194.9	11.6	6.5	327.9	328.5	- 0.6
Fleet as at end 1978	111.6	198.2	12.1	6.6	328.5		
Net change 1979	+3.3	-3.3	-0.5	-0.1	-0.6		

* 10000 dwt and over excluding 47.1 Million dwt Combined Carriers

Source :- BP statistical review of the world oil industry 1979.

Inter-Area Total Oil Movement 1979.

(Million Tonnes)

From \ To	U.S.A.	Canada	Latin America	Western Europe	Africa	South East Asia
	1.	2.	3.	4.	5.	6.
U.S.A.	-	5.3	12.1	5.6	-	0.8
Canada	22.6	-	-	-	-	-
Latin America	125.5	11.9	11.5	14.5	1.2	-
Western Europe	17.5	-	-	-	7.1	-
Middle East	104.6	12.5	74.5	430.6	22.2	86.7
North Africa	64.8	1.0	6.0	89.1	1.0	-
West Africa	58.9	-	19.5	50.0	3.0	-
East and South Africa	-	-	-	-	-	0.6
South Asia	-	-	-	-	-	0.5
South East Asia	25.5	-	1.2	1.2	0.5	-
Japan	-	-	-	-	-	0.4
Australasia	0.4	-	-	-	-	-
U.S.S.R., E. Europe & China	-	-	10.0	56.1	1.7	9.0
Total Imports	419.8	30.7	134.8	647.1	36.7	98.0

Contd/...

From \ To	Japan	Austra-lasia.	Other Eastern Hemisphere	Destination Not known.	Total Exports
(1)	7.	8.	9.	10.	11.
U.S.A.	1.8	0.2	-	-	25.8
Canada	-	-	-	-	22.6
Latin America	0.5	-	7.2	16.3	188.6
Western Europe	-	-	1.2	-	25.8
Middle East	205.2	14.0	44.7	14.6	1009.6
North Africa	0.7	-	1.2	-	163.8
West Africa	-	-	-	-	131.4
East and South Africa	-	-	-	-	0.6
South Asia	0.5	-	1.1	-	2.1
South East Asia	58.2	4.4	1.0	-	92.0
Japan	-	-	-	-	0.4
Australasia	0.7	-	-	-	1.1
U.S.S.R., E. Europe & China	8.0	-	3.0	-	87.8
Total Imports	275.6	18.6	59.4	30.9	1751.6

Source :- BP statistical review of the world oil industry 1979.

1980

WORLD PRIMARY ENERGY CONSUMPTION- 1979

Million Tonnes Oil Equivalent

COUNTRY/AREA.	Oil	Natural Gas	Coal	Water Power	Nuclear Energy	TOTAL
U. S. A.	862.9	498.8	384.1	80.1	72.2	1898.1
Canada	89.9	49.2	21.6	54.2	8.5	223.4
Total North America	952.8	548.0	405.7	134.3	80.7	2121.5
Latin America	211.8	44.0	16.0	46.8	0.8	319.4
Total Western Hemisphere	1164.6	592.0	421.7	181.1	81.5	2440.9
Western Europe						
Austria	12.4	4.3	3.1	6.3	-	26.1
Belgium & Luxembourg	29.4	10.5	10.2	0.1	2.5	52.7
Denmark	16.1	-	4.2	-	-	20.3
Finland	13.3	0.8	3.2	2.7	1.6	21.6
France	118.1	23.3	29.9	14.5	9.6	195.4
Greece	11.9	-	7.5	1.0	-	20.4
Iceland	0.6	-	-	1.4	-	2.0
Republic of Ireland	6.2	-	0.6	0.2	-	7.0
Italy	101.2	22.9	10.0	12.4	1.3	147.8
Netherlands	38.5	32.9	3.4	-	0.9	75.7
Norway	9.0	-	0.5	21.8	-	31.3
Portugal	7.7	-	0.5	2.9	-	11.1
Spain	47.3	1.4	14.5	12.3	1.7	77.2
Sweden	28.4	-	1.8	10.5	3.6	44.3
Switzerland	12.9	0.7	0.5	7.9	2.4	24.4
Turkey	15.2	-	5.5	2.4	-	23.1
United Kingdom	94.1	41.2	76.1	1.3	8.1	220.8
West Germany	146.9	45.9	78.6	4.0	9.6	285.0
Yugoslavia	15.8	1.6	13.9	6.6	-	37.9
Cyprus/Gibraltar Malta	1.5	-	@	-	-	1.5
Total Western Europe	726.5	185.5	264.0	108.3	41.3	1325.6
Middle East	74.8	30.0	@	1.0	-	105.8
Africa	63.5	9.0	58.1	12.5	-	143.1
South Asia	36.7	6.4	74.9	10.7	0.6	129.3
South East Asia	116.9	7.9	47.8	9.5	1.4	183.5
Japan	265.4	22.1	58.6	19.9	14.7	380.7
Australasia	38.0	8.4	29.0	9.4	-	84.8
U.S.S.R.	441.0	307.0	342.5	45.0	12.5	1148.0
Eastern Europe	101.1	61.5	270.0	5.4	3.8	441.8
China	91.1	66.8	410.0	9.0	-	576.9
Total Eastern Hemisphere	1955.0	704.6	1554.9	230.7	74.3	4519.5
World(excl.U.S.S.R., E.Europe & China)	2486.4	861.3	954.1	352.4	139.5	4793.7
WORLD	3119.6	1296.6	1976.6	411.8	155.8	6960.4

@ - Less than 0.05 million tonnes oil equivalent.

Source:- BP Statistical Review of the world Oil Industry 1979.

PART - II

PETRO - CHEMICALS
STATISTICS

CHRONOLOGY OF SOME IMPORTANT EVENTS IN THE PETRO-CHEMICALS INDUSTRY IN INDIA

(A) ORGANIC INTERMEDIATES

(i) Durgapur Project Limited

1955: A State-sponsored Enterprise entitled 'THE DURGAPUR INDUSTRIES BOARD' was constituted with a view to develop an industrial complex at Durgapur under the State Control.

1959: In February, the Second Battery of the Coke Oven Plant was commissioned.

1960: In March, the first Battery of the Coke Oven Plant was commissioned. In June, the first two power generating units were commissioned.

1961: On 6th September, the Durgapur Project Ltd. was incorporated as a Private Limited Company. From 15th September, the Company took over the complex managed previously under departmental control of the Durgapur Industries Board.

1962: The Tar Distillation Plant with the capacity of 100 M.T. Cr. Coal Tar Distillation per day was commissioned in May.

1963: With a view to minimise the smoke nuisense at Calcutta, a Gas-Grid alcng with a gas Compression & Gas Purification Plant was commissioned in July.

1964: In order to meet the increasing demand of power, the Power Station was expanded, two more unit each with the capacity of 75 M.W. were commissioned.

1966: The fifth Power generating unit was commissioned.

1967: The third battery was commissioned on 17th April. To make economic use of high grade coking coal which is scarce in the country, a cyclone type Washery was built and commissioned.

1972: The fourth battery of the Coke Oven Plant was commissioned on 26th April.

1975: The construction of an additional power generating unit with the capacity of 110 M.W. was planned and necessary clearance from the Government was obtained for inclusion of the same in the Fifth Five Year Plan Period.

1976: Alum plant was commissioned on 13th January.

1977: In October, an all time record generation of about 105,000 M.W. HRS was achieved.

1978: In September, many equipments had severe damage due to flood.

1979-80: Work for construction of the 6th unit power station was commenced. The expansion work of the water works from 3.5 million gallon (M.G.) capacity per day to 41 M.G. per day was started.

(ii) Durgapur Chemicals Limited

1963: The Company was incorporated on 31st July and Certificate of Commencement of Business was issued.

The assets and liabilities of this project were taken over by the Company with effect from 1st September.

A technical Consultancy Agreement was entered into with Krebs & CIE, Paris, Consulting engineers of international repute for providing technical know-how. Another contract was entered into with them for supply of foreign equipments and machinery under the Indo-French Credit Terms. An agreement with M/s Krebs & CIE India (P) Ltd. is a Company sponsored by M/s Krebs & CID Paris was also entered into for procurement of equipment in India and engineering of utility services.

The construction work of the factory buildings at Durgapur was started.

1966: The construction work of the factory buildings was completed.

1968: In January, Phthalic Anhydride Plant was commissioned.

In April, Caustic Soda/Chlorine plant was commissioned.

1969: In June, Pentachlorophenol Plant was commissioned.

1970: Phenol Plant was finally commissioned after repeated failure of guarantee test in May.

(iii) Hordillia Chemicals Limited

1963: On 1st July, the Company was incorporated.

1964: Agreement was finalised to lease about 300 acres of land at Thana-Belapur Road, Thana(Maharashtra) from Maharashtra Industrial Development Corporation.

1965: An industrial licence for manufacture of various organic chemicals was received.

Agreements were signed with the Distillers Co. Ltd. (now BP Chemicals International Ltd., U.K.) for provision of technical know-how, patent licence fee and engineering services including services as engineering consultants in respect of construction.

Contracts for engineering, technical services and construction of the factory were placed with the Lummus Co., London and the Lummus Co., India.

In October, grading and levelling of the grounds at site was commenced.

1966: Agreements were entered into with Universal Oil Products Company, USA for obtaining exclusive non-transferable licence to use a U.O.P. catalytic con-densation process for the manufacture of Cumene. The same was guaranteed by U.O.P.

1968: On 18th February, the plant was inaugurated. Commercial production of phenol, acetone, diacotone alcohol, phthalic anhydride and phthalates was also commenced.

1972: In November, the licenced capacity of Phthalates was increased to 5000 M.T. per annum.

1973: In January, there was a major fire in the reactor of Phthalic Anhydride plant causing extensive damage.

In December, a new reactor was fabricated indigenously in place of the earlier reactor which was imported and the plant was re-started.

Commenced recovery of crude acetophenone from Phenol Plant for sale.

1974: Through progressive debottlenecking the installed capacity of the phenol plant was increased to 14000 tonnes per annum.

The installed capacity of the Phthalates plant was fully established at 5000 tonnes per annum by installing minor balancing equipment.

1975: Phenolic tar was previously burnt in open pit. The operation was hazardous and pollutive. After prolonged research and development work, phenolic tar in a blend with other by-product streams, was used as a boiler fuel resulting in saving of approximately 1200 tonnes of fuel oil per year.

The Effluent treatment system was modified for effective removal of free oil and reduction in phenol content. Propane gas which was partly flared was wholly utilised for the burner of hot oil furnace.

The installed capacity of phenol plant was again increased from 14000 M.T. year to 14300 M.T./year by installation of balancing equipment.

1976: As a result of successful laboratory scale trials, Phenol content in the effluent was further reduced by dephenolation of waste products.

A second 750 KVA diesel generating set was installed to augment power supply. R & D Laboratory was recognised by Department of Science & Technology.

1977: A second 730 KVA diesel generating set was installed to augment power supply.

1978: A stand by 250 pisg package type boiler, 5000 KVA, 22/11 KV stand-by transformer and 75 tons refrigeration standby units were installed.

1979: A third oxidiser in the Phenol plant was commissioned.

In September, a letter of intent was received for the manufacture of Alpha Methyl Styrene (980 M.T.), Acetophenone (500 M.T.) and Cumyl Phenols (900 M.T.). A pilot scale plant for manufacture of Alpha Methyl Styrene was also successfully commissioned.

(iv) Hindustan Polymers Limited

1961: The Company obtained industrial licence for the manufacture of alcohol and styrene, polystyrene and its co-polymers.

Technical collaboration agreements was finalised for the styrene monomer plant with M/s Universal Oil Products.

1962: Incorporated as Hindustan Polymers Limited.

1964: Collaboration agreements between the Company and BX Plastics Ltd., London for the supply of technical information for the manufacture of polystrene and its co-polymers were executed.

1965: Detailed contracts with Power Gas Corporation Ltd., U.K. and France for fabrication procurement and supply of plant and equipment(imported) for distillary, styrene monomer and polystyrene plants and supervision of erection and commissioning of styrene monomer and polystyrene plants were executed.

Construction of buildings at factory site commenced.

1967: Alcohol distillary commenced production.

1969: Polystyrene plant commenced production.

1972: The management of the Company was taken over by Dr.Charat Ram, Managing Director, Delhi Cloth & General Mills.

1973: Sytrene Plant was commissioned. But the capacity utilisation was low due to technical problems on account of bad and unproven technology for alcohol to ethylene manufacture.

1974: Faced extreme demand recession due to increased cost of petrobased raw materials, etc.

1975: Improved alcohol to ethylene technology partially with own resources.

1978: Technical problems debottlenecking were accomplished by own staff without any foreign help and plant production capacity improved.

The management of the Company was taken over by McDowell & Company.

1979: For the first time company achieved capacity utilisation of 78%.

(v) Indian Organic Chemicals Limited

1960: The Company was incorporated.

1962: The commercial production of Acetic Acid was started.

1964: The Ester Solvent Plant with own know-how started commercial production.

1969: Started indigenously fabricated plant for manufacture of Plasticizers.

Commenced production of Benzyl Chloride and Benzyl Acetate.

1970: Plasticizers Plant was expanded to its full licensed capacity of 10,000 M.T. per annum.

1971: Commenced production of Monochloro Acetic Acid.

1974: Exported Chemicals worth Rs. 43 lakhs.

1975: Expanded Benzyl Chloride capacity to 1,000 M.T. per annum.

1976: Acetic Anhydride Plant was constructed. Exported Ethyl Acetate worth Rs.28 lakhs.

1977: Acetic Anhydride Plant was commissioned.

1979: Letter of intent for Mico bial Auxillaries was received.

(vi) Indian Petrochemicals Corporation Limited

1950: Towards late 1950s Government evinced keen interest in the development of the Petro-chemicals Industry.

1960: A Committee headed by Prof. G.P.Kane submitted its report to Government setting out the main targets for chemical products for the Third and Fourth Plan Periods.

1963: Mr.V.E.Henney submitted his Report to the Government. A Planning Group on Petrochemicals Industries to recommend specific steps for implementation of petrochemical project was appointed by the Government.

The Petrochemicals Division was created as a part of the Oil & Natural Gas Commission to take follow-up action on the recommendations of the Planning Group.

1967: In March, the Petrochemicals Division of ONGC submitted a detailed project report regarding the Gujarat Aromatics Project (GAP) to Government. Based on this Report, investment approval for the Project was obtained.

1968: Collaboration agreements for Aromatics Project were concluded between Govt. of India and Fried Krupp GMBH Chemicanlagenbau of West Germany.

1969: In March, IPCL was incorporated and the Government the agreements in respect of GAP to IPCL.

1970: On 24th January, foundation stone for Gujarat Aromatics Project was laid.

In May, detailed project Report for Gujarat Olefins Project was submitted to the Government.

Foreign collaboration agreement for Naphtha Cracker Unit was signed with M/s Lummus Company Ltd., U.K.

In June, detailed Project Report in respect of Acrylonitrile Project was submitted to the Government.

In September, collaboration agreement with M/s Universal Oil Products Co., U.S.A. in respect of Benzene Extraction Unit was signed.

1971: In May, letter of intent were received for Gujarat Olefins, Acrylonitrile, Acrylic Fibre, Detergent, Alkylate, Ethylene Glycol, Polybutadiene Synthetic Rubber, Polypropylene and Low Density Polyethylene Projects.

1972: On January 29th, foundation stone for Gujarat Olefins Project was laid.

Foreign collaboration agreement for Butadiene Extraction Unit of GOP was signed in June.

Between June and November, foreign collaboration agreements in respect of polypropylene, Ethylene, Glycol Acrylonitrile Acrylic Fibre, Polybutadiene Rubber Low Density Polyethylene and Detergent Alkylate Projects were signed.

1973: In April, commercial production of DMT commenced in the Aromatics Plant.

In August, commercial production of mixed xylene commenced.
In September, commercial production of orthoxylene commenced.

1974: In March, regular production of para-xylene commenced.

Civil construction work on Low Density Polyethylene Project commenced in April.

In May, civil construction work on Ethylene Glycol and Detergent Alkylate Projects commenced.

In June, mechanical erection work for Naphtha Cracker and its offsites commenced.

In July, civil construction work on Polypropylene project commenced.

In September, a cooperative society Petrofils Cooperative Ltd. was formed to take over from IPCL further implementation of Polyester Filament Yarn Project.

In October, civil construction work on Polybutadiene Synthetic Rubber Project commenced.

In October, work on BBH Unit of GOP commenced.

ch, Training Centre was inaugurated.

truction work on Acrylonitrile Project commenced.

In April, civil construction work on Acrylic Fibre Project commenced.

In September, production of C9 Aromatics (a by-product of the Aromatics Plant) commenced.

The work on electrical installation for Naphtha Cracker and its offsites commenced.

1976: In January, mechanical erection of equipment and piping for Low Density Polyethylene Plant commenced.

In February, mechanical erection in the Detergent Alkylate Plant commenced.

Bridge leading to the radial well constructed in the Mahi river bed at Khandi launched.

The first phase of railway siding for handling the incoming machinery and equipment for various project was declared open.

In March, mechanical erection work of BEH Units of Olefins project commenced.

Civil works for R&D Centre completed.

Mechanical erection of the Polybutadiene Rubber Plant commenced in April.

Mechanical erection of equipment and piping work for the Polypropylene Project was also commenced.

Production of DMT in the Aromatics Plant reached its pro-rata installed/licensed capacity in April.

Mechanical erection work for Polybutadiene Rubber and Ethylene Glycol Plants commenced.

33 KV and 6.6 KV Power distribution system for the Olefins and seven downstream projects was commissioned in June.

Construction of radial well No.1 at Mahi river completed with its connecting bridge and commissioned in June.

In September mechanical erection of Acrylonitrile Plant commenced.

Instrumentation erection for Low Density Polyethylene Plant was inaugurated.

Erection of cold box for Air Separation Plant of the Integrated Offsites Project completed.

The textile equipment erection work started in Acrylic Fibre Project in November.

All the three chains of DM water treatment plant in the Integrated Offsites Project commissioned in November.

Mechanical erection work for Acrylic Fibre Plant commenced.

In December work on neutralisation facility for Polypropylene Project commenced by M/s Paramount.

Boiler No.1 for PBR Project completed and commissioned.

Construction of raw water reservoir and sump in UB-II completed and commissioned.

Service Water System of UB-II commissioned for polybutadiene Rubber Project.

Instrumentation erection for the Polypropylene Project commenced.

In December, mechanical erection of Refrigeration Plant for the Polybutadiene Rubber and Acrylic Fibre Plants commenced.

1977: In January, the vertical turbine aerator of the Central Water Treatment Plant and Rs.20 crores Water Systems Project for various plants of IPCL were commissioned.

Flushing and testing of charge gas system, regeneration gas system, cooling water systems of Naphtha Cracker Plant and civil works, for low Density Polyethylene Project was also completed during the month.

In February, letter of intent from DMT Expansion Project was received. Utility Block No.2 of ICP (all the three recirculating cooling water pumps and cooling tower) was commissioned. Trial runs of main DEMAG Air compressor of O2/N2 plant and the DRESSER Air compressor High Purity Nitrogen Plant in ICP were also successfully completed.

In March, propylene compressor of polypropylene Project was erected and instrument erection work for Acrylonitrile and for Acrylic Fibre Project were awarded. N2 / O2 Plant of Integrated Offsites Project was commissioned and trial run completed.

In April, the Gujarat State Safety Award was awarded to IPCL. Civil foundation for all the pumps in PBR Project and construction of cooling tower for Acrylonitrile Project was completed. Insulation work for LAB Project was also started and tender for LAB Plant laboratory building was issued. Air-conditioning of LAB control room building Pre-commissioning activities, checking out systems, identification and hydrotesting of piping loops for LAB Project were taken up.

In May, Technical auditing of the Polybutadiene Rubber Plant was started in association with M/s Polysar's representative, erection of polymer dryer for Acrylic Fibre Project was completed and Caustic line unloading distribution system and DM water distribution system was commissioned in ICP.

In June, pre-commissioning activities on all systems relating to the solvent recovery and storage sections in Polypropylene project and on utility system except stream condensate and the D.M. water system in Polypropylene Project were completed.

Air-conditioning plant for control room building in Polypropylene Project and High Purity Nitrogen Plant for Integrated Offsites Project were commissioned. Technical audit of the Process area in Polybutadiene Rubber Project was also completed. Acid Prooflining work in Acrylic Fibre Project started.

Trial run of DM Water Treatment Plant to test i[t] full load capacity was started in IOP and Process Water T[reat]ment Plant in Integrated Offsites Project were mecha[nic]ally completed.

In July, work on cooling tower in Ethylene Glyc[ol] Project. Tray erection work in all the three towers of P[oly]butadiene Rubber Plant, Control room building air-conditi[oning] system in PBR Project, cooling water recirculation li[ne] instrument air line from IOP to Linear Alkyl B[enzene] Plant and Jalampura radial well for water supply sta[tion].

CHH air compressor erection work for Acrylic F[ibre] Project, Erection and alighnment of instrumentation cor[e] panel for AF Project and process water treatm[ent] plant under IOP Integrated offsite Project commissioned.

In August, letter of intent for manufacture o[f] 500 TPA of Polyvinyl chloride was received. Engineeri[ng] work for EG main plant as well as for ethylene oxide s[tora]ge area and for Linear Alkyl Benzene were generally c[omp]leted.

In September, the Rs.1 crore refrigeration pla[nt] for Polybutadiene Rubber Plant was inaugurated. Enginee[ring] work and BEH units and Polypropylene project was compl[eted]. Ground floor air-conditioning plant in Acrylonitrile [part] completed and was commissioned. Besides this phosphate d[osing] pump for LAB/EG cooling water treatment plant unde[r] [erec]ted Offsites Project and fire Water Pump in IOP w[as] [com]missioned.

In October, in-take of low Sulphur Heavy Stoc[k] (S) for the IPCL boilers from Gujarat Refinery commen[ced] detailed engineering performance guarantee run of DM p[lant] and LAB/EG hydraulic testing of chemicals design system [for] cooling tower for PE/PP was also mechanically complet[ed] the fire fighting system in IOP was commissioned.

In November, the Rs.3 crores refrigeration sys[tem] Integrated Offsites Project was inaugurated. All ci[vil] structural works including additional work for Eth[ylene] Glycol Project completed. Detailed engineering work [for] olybutadiene Rubber Project, Acrylic Fibre Project, [Linear] Alkyl Benzene (LAB) Project, all structual steel w[ork] LAB project and cooling tower for PP/LDPE were c[ompleted].

In December, all process systems except one [Linear] Benzene and Butadiene units flushed and tested. Low p[ressure] steam, Cooling water, instrument air, plant air and [N]2 and commissioned. Contracts for chemicals cleani[ng] units awarded and preparation for chemical cleani[ng] Benzene unit was started. Works like underg[round] equipment erection, aluminium piping and c[ivil] for LDPE Project was completed. Trial run [of] imported Polyethylene and for Hyper Compr[essor] in LDPE project was also successfully com[pleted]. approval for Polyvinyl Chloride, Acrylate [Fibre] Project was received from Government of I[ndia].

1978: In February, the call room of the hydrogen plant in Propylene Plant battery was commissioned and power sub-station for the Acrylic Fibre Plant was inaugurated.

In March, Olefins plant was commissioned and critical power supply scheme for IPCL from Gujarat Refinery was started.

Pyrolysis Gasoline & Hydrogenation Unit was commissioned in April and the Butadiene Extraction unit of Olefins complex was commissioned in May.

In June, the first consignment of carbon black feed-stock was despatched to Gujarat Carbon Ltd. by road tankers.

In July, Ethylene Glycol, Polybutadiene Rubber, Low Density Polyethylene and Polypropylene Plants were commissioned.

In August, Benzene Extraction unit of Olefins complex was started.

In October, two major products, viz. 'Indothene' (Low Density Polyethylene) and 'Koylene' (Polypropylene) were released for sale. The first consignment of Benzene was also despatched to M/s Polychem Ltd., Bombay.

In December, construction work in respect of Acrylonitrile and Acrylic Fibre projects was completed and commissioning activities were started in the Acrylonitrile plant. Foreign collaboration for setting up a Methyl Acrylate Plant was also approved by the Government during the same month.

1979: In January, Nitrogen plant was started and the Acrylonitrile plant was commissioned on 16th January.

On 30th March, the IPCL complex was formally inaugurated by the Prime Minister. Acrylic Plant was also commissioned during the same month due to which the entire Olefins complex went in production.

In May, IPCL won for the second successive year Gujarat State Safety Award. Site grading work for 2 x 12.5 MW Captive Power Plant for IPCL Complex was commenced.

In June, civil construction work for Acrylates 10,000 TPA Project was commenced.

In September, Government of India approved the implementation of Petroleum Resins Project by IPCL and two days Exhibition was also held on the Acrylic Fibre products at IPCL Complex.

In December, production of Ethylene Oxide was commenced in Mono Ethylene Glycol Plant and approval of the Foreign Collaboration agreement in respect of VC/PVC Project was received from the Govt. of India. The Expert Committee on ...ed by the Govt. of India visited IPCL to review ...IPCL R&D Centre.

...tension of validity of letter of intent upto ...pect of DMT Expansion to manufacture 30,000 ...d from the Ministry. Design Conference in ...VC Project was held with process licensors

1980: (Contd) In February, a Saudi Arabian delegation headed by Dr. Abdul Bakar, Rector, Teheran University visited IPCL. Foreign collaboration agreements in respects of VC/PVC Project was taken on record by the Govt. of India.

In March, civil construction work in respect of Time office, ware house and operational building of VC/PVC project was commenced.

(vii) Mysore Petrochemicals Limited

1969: The Company was incorporated on 9th June in the name of Premier Petrochemicals Ltd. but the name was subsequently changed to Mysore Petrochemicals Ltd. on 3rd September 1970. The Project had been promoted by the Karnataka State Industrial Investment & Development Corporation Ltd., Bangalore and Shekhavati Investment Corporation Ltd., Calcutta.

1971: The letter of intent for production of Phthalic Anhydride and plasticizers originally issued in favour of M/s Mysore Acetate and Chemicals Co.Ltd. was transferred to the Company.

1976: On 16th May, commercial production of Phthalic Anhydride was commenced.

1980: To meet with large shortfall in power, one 1100 KVA/11 KV 'SKL' DG set was installed. Besides this, the Company had already installed two other DG sets of 250 and 166 KVA respectively. Necessary steps for implementation of Phthalate Plasticizer Projects and Effluent Treatment/Disposal Scheme were being taken by the Company.

Industrial licence issued to the Company for import of Phthalate Plasticizer was revalidated till end December 1980.

(viii) National Organic Chemicals Industries Ltd.

1961: On 11th May, the Company was incorporated.

1964: In July, various technical collaboration and Engineering Agreement with Companies of Royal Dutch Shell Group of Companies were signed.

In August, industrial licence was granted.

1965: In January, ground was broken for the construction of the complex.

In December, foreign currency loan agreement was signed with Shell Petroleum.

1966: Rupee loan agreement was signed with Indian Financial Institutions and SBI.

1968: In January, NOCIL Petrochemicals Complex was inaugurated.

Installation of naphtha pipe along the Eastern Express Highway was completed.

In March, first Ethylene deliveries to Polyolefins Industries Ltd. took place.

Various plants of the complex such as Glycols Plant, PVC Plant and Solvents Plant were commissioned.

In September, Alcohols Plant and PVC Compounding Unit were commissioned.

In September, Technical Service Laboratory was inaugurated.

In October, a Jetty for bulk exports was completed.

14: Naphtha Pipe Line from Burmah-Shell Refineries to the factory was installed.

1977: Research and Development activities were reorganised.

1978: NOCIL launched a programme for integrated rural development to raise the poverty line in Yavatmat district of Mahrashtra with 2500 families living in backward and draught prone villages.

1980: New site in backward area of Ratnagiri, Maharashtra was selected for Agrochemicals operations.

(ix) Polychem Limited

1965: Company was incorporated.

1957: On 26th May, the Polystrene Plant was brought on steam.

On 16th June, the plant was formally inaugurated.

1958: The facilities for production of High Impact Polystyrene Sheet were commissioned.

1959: The production capacity of the plant was doubled to 12 million lbs (5500 tonnes) per year.

1960: In February, an industrial licence was obtained for establishing a Styrene Monomer plant of 6,800 tonnes/year in Bombay in technical collaboration with the Dow Chemicals Company, USA.

In August, another industrial licence for establishing a 5,450 KL/year Alcohol Distillery in Maharashtra was also received.

1962: The authorised capital was increased from Rs.150 lakhs to Rs.5 crores and subscribed equity capital from Rs.40 lakhs to Rs.56 lakhs.

1963: In August, Styrene Monomer and Alcohol Plants were brought on stream.

1964: The capacity of Styrene and Polystrene plants were increased to 10,000 tonnes per year and that of Alcohol Distillery to 9,090 KL per year.

1967: Started export of substantial quantities of Polystyrene directly.

1968: With the availability of petro-based ethylene and benzene, the capacity of styrene plant was further increased to 14,000 tonnes per annum, without any foreign technical help of collaboration.

1972: A pilot plant for the manufacture of 150 tonnes/year Divinyl benzene Monomer was brought on stream based on the know-how developed by Research & Development work carried on since 1968.

The production of neutral spirit and Indian made Foreign Liquors as well as Country Liquors was started utilising surplus alcohol subsequent to the availability of Petro-ethylene.

1973: During the period 1964 to 1973 the Company increased its equity capital from Rs. 56 lakhs to Rs. 160 lakhs by issue of 'Bonus Shares'.

1974: The production capacity of the Polystyrene Plant was increased to 16,000 tonnes per year.

The Polystyrene Plant received second prize for the reduction in frequency rate of accidents for the period 1972-74 from the Council of Industrial Safety.

An award from the Indian Merchants Chamber for Outstanding Contribution for improvement of Industrial and Labour relations for the year 1974 was also awarded.

The Company received a letter of intent for the manufacture of 2,000 tonnes per year of acrylonitrile Butadiene Styrene (ABS) resins at Koyali in Gujarat State. A pilot plant with a capacity to produce one ton per day of ABS resins was commissioned in November for developing indigenous commercial technology based on bench scale work done by Sri Ram Institute for Industrial Research on the manufacture of ABS resins, for which know-how was purchased through National Research Development Corporation of India.

1975: The Divinylbenzene plant of 150 tonnes/year capacity was built based on self developed technology.

To improve gloss and abrasion resistence and sales appeal of Polystyrene, technology for production of suitable overcoat lacquer (Butylated melamine Formaldehyde lacquer) was developed and sold to N.G. Industries, Bombay for production on commercial basis.

Bench scale technology for making styrene based on exchange resins was developed.

1976: Received a letter of intent for manufacture of Vinyl Acetate Monomer by Ethylene route in Maharashtra State.

Foreign collaboration proposals and import of technology for this project were approved by the Government.

1977: Industrial licence for the manufacture of 2000 MTPA of ABS resigns at Baroda, Gujarat was received.

Contract for detailed engineering for ABS plant was awarded.

Technical collaboration agreement with Bayer A.G., West Germany for Vinyl Acetate Monomer Project was signed.

1978: Equity capital was increased from Rs. 160 lakhs to Rs. 200 lakhs by issue of bonus shares.

1979: Successfully commissioned the 2000 MTPA ABS plant at Baroda.

Capital goods Licensing Committee cleared the import of capital goods for the Vinyl Acetate Monomer Project .

Received an industrial licence for the manufacture of 5000 tonnes per annum Vinyl Acetate Monomer.

Sanction letters of financial assistance for VAM Project was received from financial institution. 50,000 10% Redeemable / Debentures of Rs. 100 each for cash at /Mortgage par were subscribed by members, depositers and associate companies, etc.

(x) Sirsilk Limited

1946: The Company was incorporated.

Collaboration agreement was entered into with M/s Lansils Ltd. of Lancaster, England.

1954: Following plants were commissioned during the year :

1. Bleached cotton linter pulp
2. Cellulose acetate plant
3. Acetic Acid Plant
4. Acetic Anhydride Plant
5. Acetone Plant
6. Acetate Rayon Filament Yarn
7. Ethyl Acetate

Collaboration agreement with M/s Lansils Ltd. of Lancaster, England was terminated.

1955: Weaving unit was commissioned with 480 Looms having yearly production capacity of 95 lakhs metres of Art Silk Fabrics.

1956: Licence for substantial expansion was granted.

1960: Licence was granted for substantial expansion for weaving plant unit.

1964: Yearly installed capacity of the plants was increased.

1965: Installed capacity of the plant was increased.

1966: Production of acetate staple fibre was commenced.

1968: Part of looms were diverted for manufacture of snythetic fabrics.

1974: Research and Development Division and Technical Consultancy Service Unit for rendering Technical know-how and other Engineering services for manufacture of chemicals etc. were established.

1975: Process know-how was offered to manufacture chemicals such as acetone, acetic acid, acetic anhydride etc.

1979: In order to diversify production on Synthetic line latest type of processing mechineries like Hot Air Stenter, Beam Dyeing Machine and Thermo were installed.

(xi) Somaiya Organics (India) Limited

1964: The Company was incorporated on 1st June under the Companies Act, 1956.

1967: The Company acquired a Distillery at Captainganj, Dist. Deoria, U.P. from M/s Godavari Sugar Mills Ltd. who are the promotors of the Company.

1969: In the second quarter of Civil construction work of the factory was commenced.

1970: Erection of Butanol and Butyl acetate plants was completed and trial production was undertaken on 11th November.

1971: The erection of Acetic acid plant was completed and it was commissioned.

1972: A Research & Development Wing was started. After Laboratory trials production of Paraldehyde, a chemical which was till then being imported in the country, was commenced.

1973: A Pilot plant for production of Plasticizers was erected and commissioned.

1974: Factory successfully distilled and manufactured a 'Solvent' by name 'Solvent-72' which could be made available to the Paint Industries at much cheaper rates compared to other solvents of same effectiveness, out of a waste which was till then being drained out.

1974: A third Furance was added in the Main Plant. Trial production of Ethyle acetate was also commenced. Organic chemicals were exported to Japan and Far East countries.

1975: Commercial production of Ethyl acetate was started on a regular basis. Further, installed capacity of Acetic Acid Plant was increased to 5700 tonnes per annum.

1976: Erection work of an independent Mini Plant for production of Paraldehyde and Plasticizers was started.

1978: Installed capacity of Acetic Acid Plant was increased to 7600 tonnes per annum.

(xii) Union Carbide India Limited

1926: Eveready Company (India) Limited started manufacturing flashlight batteries in Calcutta.

1934: The Eveready Company (India) Ltd. was incorporated in India as a Private Company.

1941: National Carbon Company (India) Ltd. was reformed to assume both manufacturing and selling functions. This was a fundamental beginning of the Company in India.

1961: Chemicals and Plastics plant was commissioned in Bombay.

1966: The Company expanded its Chemicals and Plastics operations and set up India's first Petro-chemicals Complex at Bombay.

1977: The Company received letter of intent to increase the Low Density Polyethylene production capacity to 20,000 tonnes per annum. The letter of intent was converted into an Industrial Licence.

The Company received an industrial licence for the manufacture of 5000 tonnes of Pesticides per annum based on Methyl Isocynate at its Agricultural Chemicals Plant at Bhopal.

(xiii) Bongaigaon Refinery & Petrochemicals Ltd.

1974: On 20th February, the Company was registered under Companies Act, 1956 in the State of Assam, with an authorised capital of Rs.50 crores.

1977: In November, the share capital of the Company was increased to Rs.100 crores.

1979-80: The implementation of Xylene and DMT Projects and selection of foreign technology for polyester Fibre plant was under way.

(B) PLASTIC RAW MATERIALS

(i) The Alkali & Chemical Corporation of India Ltd.

1937: The Company was incorporated with a share capital of Rs.35.34 lakhs of which preference capital was of the order of Rs.31.00 lakhs and equity Rs.4.34 lakhs. Out of the equity shares, 1% was held by the Indian public and the balance 99% was held by ICI (India) Private Ltd., a wholly owned subsidiary of ICI (U.K.).

1940: The Company started operations with a caustic soda/chlorine plant at Rishra in West Bengal.

1949: A hydrochloric acid plant with a capacity to produce 2,400 m.t.p.a. was put up at Rishra.

1952: A plant to produce 2,800 KL of nitrocellulose and synthetic paints per annum was installed at Rishra.

The capacity of the caustic soda/chlorine plant was expanded to 5,600 m.t.p.a. of caustic lye on 100% basis and 5200 m.t.p.a. of Liquid Chlorine.

A benzene hexachloride plant with a capacity of 2,600 tonnes was set up at Rishra.

1958: While the scheme for the manufacture of polythene was being implemented the equity share capital of the company was expanded to Rs.310 lakhs by the issue of fresh share capital, at this stage the shares held by the Indian public went up to 24.1% and the remainder 75.9% was being held by ICI (India) Private Ltd.

1959: Polyethylene plant was set up at Rishra.

1963: The Company set up India's first rubber chemicals plant.

The capacity of the caustic soda/chlorine plant was expanded to 7041 m.t.p.a. of caustic lye on 100% basis, and 5814 m.t.p.a. of liquid chlorine.

1965: The capacity of the polythene plant was expanded to 10,000 m.t.p.a. and that of the paints plant to 4,700 kl.p.a.

1966: The capacity of the rubber chemicals plant was expanded from 2250 to 2770 tonnes p.a.

Equity share capital was increased to Rs.434 lakhs by the issue of bonus shares.

1967: The capacity of the IHC Technical plant was expanded to reach a figure of 5,200 m.t.p.a.

1971: A new paints plant with a capacity of 2,370 kl.p.a. was set up at Hyderabad.

1974: An industrial licence for expansion in the capacity of the rubber chemicals plant to 6,000 t.p.a. and 2500 t.p.a. of diphenylamine was received.

Received an industrial licence to put up a pharmaceuticals plant in Madras.

1976: Industrial licence for manufacture of 2500 K.L. per annum of Gramoxane Bipyridilium Herbicide was received and work commenced. Agro-chemicals screening station at Bangalore was also inaugurated.

Expansion work for rubber chemicals was commenced.

Equity holding in the company was diluted.

1977: Production at the formulation unit of the pharmaceuticals plant was commenced.

1978: Production at the Gramoxone and Bulk Drug plants was commenced.

(ii) Ahmedabad Manufacturing & Calico Printing Co. Ltd.

1880: Calico (Textiles) was established at Ahmedabad. The Company is now Public Company with Limited liability. Today it has three Main Divisions - Textiles, Chemicals Plastics and Fibres & Marketing Division and four wholly owned subsidiaries as under :

a) Ilao Limited
b) Rajindra Dyeing & Printing Mills Ltd.
c) Gujarat Nets Ltd.
d) Varma Industrials Ltd. (Subsidiary of Rajindra Dyeing & Printing Mills Ltd.)

1958: The Company obtained two industrial licences for the manufacture of Calcium Carbide and Polyvinyl chloride. By 1961 both licences were implemented at Bombay. The Company obtained permission on the same licence to manufacture PVC fabricated products. This plant was commissioned in 1961.

1959: The Company obtained industrial licence for manufacture of Polyvinyl Alcohol.

The Company obtained industrial licence for manufactures of plastic moulded and extruded articles. The plant was commissioned in 1961 at Bombay.

1960: The Company obtained industrial licence for manufacture of PVC Coated Wires & Cables. The licence was implemented and production started in 1961.

1965: Polyvinyl Alcohol plant commissioned.

1967: The Company obtained industrial licence for effecting substantial expansion of Polyvinyl chloride and its co-polymers.

1972: P.V.C.(Bulk Polymerisation) plant was commissioned.

1976: On 28th February, the Company obtained industrial licence for Polyvinyl pyrrolidon.

1978: Plant for manufacture of Polyvinyl Pyrrolidon was commissioned.

(iii) Bakelite Hylam Limited

1947: On June 18, Hyderabad Laminated Products Limited was incorporated in the Nizam's Dominion of Hyderabad.

1949: Plant from U.K. arrived and erection was started.

1950: Erection of plant and machinery was completed.

1951: Started trial production with imported varnishes of Laminates for panelling.

Managing Agency changed from the promoters, Khan Bahadur Ahmed Alladin & Co. to Best & Company Limited.

1953: Varnishes developed indigenously.

Manufacture of Laminated Wood commenced under the trade mark HYPLY.

1954: Break-even point reached in operations.

1955: Manufacture of higher electrical grade laminate commenced.

1956: 2-shift production started to cater for bulk business from the Railways for pancelling.

1958: Manufacture commenced of Laminates of very high electrical properties as also Asbestos-based Laminates and Decorative Veneers.

1959: Laminate Expansion sanctioned.

Licence received for manufacture and sale of Polyester Resins, Phenolic Resins, and Moulding Materials.

1962: Trial production commenced of Laminates on the new Press.

Trial production of Polyester Resins, Phenolic Resins and Moulding Materials commenced.

1963: Progress in the development of new grades of Polyester Resins, phenolic Resins and Moulding Materials.

1965: Name of Company changed from Hyderabad Laminated Products Limited to Hylam Limited.

1967: First export of Industrial Laminates to Holland.

1968: Industrial Laminates exported to Holland, West Germany, Sweden, U.A.E.

Managing Agency terminated.

1969: Hylam Limited and Bakelite (India) Private Limited merged to form Bakelite Hylam Limited on 4th December.

1970: Expansion taken in hand.

1971: Expansion work on schedule. Press No. 3 installed and production started.

1972: Sophisticated 4-Colour Printing Machine installed for Decorative Papers.

1973: Buildings for Thixotropic Plant and storage of Polyester Resins completed.

New Polyester still installed and production started.

Glass-Epoxy and Cold-punching Laminate Grades developed.

1974: Expansion completed. Two Boilers converted to Coal-firing.

Diesel Generation installed.

1975: Introduced a range of high-quality Insulating Phenolic Varnishes for the Electrical Industry.

1977: Rigid PF Foam was developed in R&D Laboratory of the Company.

1978: Application for an industrial licence for the manufacture of Rigid PF Foam developed in company's R&D Laboratory, was made to the Government.

Effluent treatment plant was established at the factory for pollution control.

A new material, Phenolic Foam Based Marine Board, was developed at company's RID Laboratory, to replace imported asbestors-filled Marine Board used in ship building.

Acquired land at a new site of Jeedimetla in a backward district of Andhra Pradesh to locate new plants for manufacture of PF Foam and Marine Boards.

(iv) Chemicals and Plastics India Ltd.

1961: In May, licence was granted to The India Cements Ltd. to manufacture 6,000 tonnes per annum of PVC resins/compounds.

1962: Company was incorporated.

In November, original licence was changed to the name and style of Chemicals and Plastics India Ltd.

1963: Certificate for commencement of business was issued.

Licence was granted to manufacture 1,500 tonnes per annum of PVC pipes and fittings, other extrusions and mouldings (rigid & flexible) in January.

1967: In May, PVC Plant was inaugurated.

In July, commercial production of PVC resins was commenced.

1969: Production of PVC pipes was commenced.

1970: Industrial Licence was issued for expanding PVC capacity to 20,000 tonnes per annum.

1971: Successful commercial production of gramophone record was compounded.

1972/73: Intermediate stage of expansion in PVC capacity to 13,500 tonnes per annum was completed.

1975: Permission was granted by the State Government to set up a captive distillery for production of industrial alcohol.

In December, Industrial Licence was granted for production of 3,500 tonnes of PVC pipes per annum.

1976: Entered export market for PVC conduits pipes and fittings.

1978: Debottlenecking programme to achieve an initial rated capacity of 16,500 tonnes of PVC resin was commenced.

In October, production of Industrial Alcohol in the cap-tive distillery unit at Krishnagiri was commenced.

Government approval was received for effecting substantial expansion for manufacture of Rigid PVC pipes and fittings, other extrusions and mouldings to an annual capacity of 6,000 tonnes.

1979: Debottlenecking programme to achieve 20,000 tonnes of PVC resins was in progress.

The Company entered into an agreement with the BP Goodrich Co. for the introduction of VCM Technology.

(v) Chemo-Pharma Laboratories Limited

1970: Diversification and expansion programme was undertaken to maintain sufficient diversity of products and product lines. The necessary land was acquired at MIDC Industrial Area, Kalyan Hiwandi Road.

1971: First stage of gradual diversification costing about Rs.20 lakhs was completed with commissioning of plant to manufacture Urea Formaldehyde & Melamine formaldehyde moulding powders.

1972: Commercial production of Urea Formaldehyde & Melamine formaldehyde powders was started.

1975: An improved pullveriser was installed which could pullverise the sheets into fine granules without any increase of temperature.

1976: Manufacturing technology of Indigo Vat Blue was developed in the R&D Department of the Company.

1977: New/improved process of manufacture of Niacinomide IP and Isoniazed IP was developed. Development of Solid Resins of Urea and Melamine for Industrial application was also done.

1978: Manufacture of Indigo, Urea Formaldehyde and Melamine Formaldehyde was suspended due to market conditions.

1979: Manufacturing technology of Analgin and Melronidozoli was developed in the R&D Department of the Company. Process was also tried on pilot scale with satisfactory results.

1980: Manufacturing technology of Trimethoprim was developed in R&D Department of the Company.

(vi) East Anglia Plastics (India) Limited

1956: Incorporated in West Bengal with an authorised capital of Rs.1 crores. Government approval to manufacture Cellulose Acetate Moulding Compound and PVC Compound in technical collaboration with East Anglia Plastics Ltd., U.K. was accorded.

1961: Government modified terms of collaboration with East Anglia Plastics Ltd., U.K. and collaboration agreement was made.

1962: Production of Cellulose Acetate Moulding Compound was commenced.

1963: Further share capital of Rs.85 lakhs was raised. Industrial Licence for manufacture of 1000 tons Phthalate Plasticisers and foreign collaboration arrangement was approved by Govt.

1964: Capital Goods Import Licence for Phthalate Plasticisers was received.

1965: Manufacture of PVC Compound was commenced.

1966: Production of Lighter Phthalates was commenced.

1967: Production of Heavier Phthalates was commenced and Industrial Licence for Plastic Films, Foils and Laminates was received.

1968: Industrial Licence for expansion of capacity of Phthalate Plasticisers to 2000 tonnes was received.

1970: Industrial Licence for expansion of capacity of Phthalate Plasticisers to 5,000 tonnes was received.

1971: Letter of intent for manufacture of Phthalic Anhydride one of the major raw materials for Phthalate Plasticisers was received.

1972: Industrial Licence for Phthalate Plasticisers was endorsed by Government for production upto the installed capacity of 8,500 tonnes.

1973: Production of Plastic Films and Foils was commenced.

1974: Industrial Licence for 6,000 tonnes of Phthalic Anhydride was received.

1975: Letter of intent for production of Malathion was received.

1976: A process for manufacture of Titanium Dioxide from an industrial waste was developed by R&D Laboratory and provisionally patented.

1977: Successful Pilot scale trial of the process for manufacture of Titanium Dioxide including a catalyst or Fertilizer Industry as a by-product was made.

1980: Successful trial of the process of manufacture of Di-ethyl Oxalate an intermediary for Pharaceutical and Dye-stuff was made.

(vii) Indian Plastics Limited

1946: M/s Bestolite Moulding Company of India, a British firm having its factory at Jogeshwari which was taken over in 1944 by BIRLA BROTHERS was named as INDIAN PLASTICS LTD.

1947: The manufacturing work of Phenol Formaldehyde Moulding Powder was started for using the same in its compression moulding section, where mainly Electrical Accessories were being produced. On Injection side, house-hold products in plastics were produced and sold for home consumption.

1948: The manufacture of thermosetting Synthetic Resins for commercial sale was undertaken.

1950: The factory was shifted from Jogeshari to a more spacious site comprising about 29,000 sq.metres at Poisar Bridge Kandivli, Bombay.

Started manufacturing of Valve set Radios with the technical know-how from LEYLAND'S INSTRUMENTS LIMITED, LONDON.

1965: Started manufacture of Urea Formaldehyde Moulding Powder.

1957: Manufacture of Transistor Radios started.

1961: Entered into collaboration agreement with HAMAKAWA ELECTRIC COMPANY LIMITED OF JAPAN for the manufacture of Transistor Radios.

1962: Entered into collaboration agreement for 10 years with BAKELITE GESELISCHAFT MPH, West Germany for the technical know-how for the manufacture of thermosetting moulding Powder-Phenol Formaldehyde, Urea Formaldehyde and Melamine-Formaldehyde and Synthetic Resins for various Industrial applications.

1964: Started the manufacture of Melamine Formaldehyde Moulding Powder.

1967: Research & Development Department was set up and started accepting custom mouldings to meet the specific requirements of the industries in different fields right from development of powder and moulds.

1972: Rayon Spinning Bucket was manufactured from technically know-how developed at R&D Section for the first time in India. This will save the country approximately one crore of rupees in foreign exchange annually.

1976: Through the efforts of R&D Division, many new types of Phenolic Moulding Powders and resins (mainly for import substitution) were formulated and sold.

1977: R&D Laboratory was recognised by the Government of India, Department of Science & Technology.

Licence under IS Spacification 3389 - 965 for U.F. Moulding Powder was received.

Developed many defence stores in Plastics.

1978: Development and Commercialisation of special, P.F.Moulding and M.F.Moulding Powder.

1979: Special P.F.Moulding Powders based on Nylon mica, glass, etc. were launched.

(viii) Mysore Acetate and Chemicals Co. Ltd.

1963: On 24th December, the Company was incorporated under the Indian Companies Act with its registered office at Bangaloro to manufacture various derivatives of Cellulose like Cellulose Triacetate, Cellulose Diacetate and Cellulose Acetate Moulding Granules. The Company was formed with the main object of supplying Cellulose Triacetate to M/s Hindustan Photo Films Mfg. Co.Ltd., Octacamund, Tamil Nadu.

1964: On 25th May, certificate was issued for commencement of business.

1965: Entered into collaboration with M/s Vankoharn Inc., U.S.A. for supply of plant and machinery for the manufacture of Bleached Cotton Linters, Cellulose Triacetate, Cellulose Secondary Acetate and Cellulose Acetate Moulding Granules and with M/s A.B.Chematur of Sweden for the supply of plant and machinery for the manufacture of Acetic Anhydride.

1967: The construction of factory buildings and erection of plant and machinery was started.

1968: Acetic Anhydride plant was put into operation in July after completion of trial runs. The moulding compound plant began trial production of Cellulose Acetate Moulding Granules with imported flakes.

1969: Started supplying Cellulose Triacetate to Hindustan Photo Films during the latter part of the year, thus saving considerable amount of Foreign Exchange. The other plants like, Bleached Cotton Linters, Cellulose Triacetate etc. was commissioned and production started with effect from 1st July.

1970: Cellulose Secondary Acetate Plant went into trial production via. Triacetate route and Dil.Acetic Acid Plant also went into trial production. All the foreign technicians were withdrawn and the Company was manned entirely by Indian personnel. The Ethyl Acetate plant was also commissioned during the year.

1972: The plasticizer unit, i.e. Diethyl Phthalate was commissioned in July to manufacture Diethyl Phthalate required for captive use. The plant was designed and commissioned entirely by the Company personnel.

1974: The direct solution process for the manufacture of Cellulose Secondary Acetate was commissioned in September.

1975: The Secondary Acetate solution process was stabilised and all grades of CAMG were reformulated to adopt to the cellulose acetate flakes produced by the solution process.

1977: The Company installed and commissioned two Diesel Generators sets of 210 KV each to meet the chronic power shortage of the State.

1978: Registeration for manufacture of Cellulose Acetate Butyrate (CAB) was entered with DGTD and also applied for registration for installation of a 20 tonne per day alcohol based acetic acid plant.

1979: Applied for letter of intent for manufacture of Cellulose Triacetate based photo films viz. X-ray, Roll and cine, in colour and in black & white, Graphic Arts and photo-paper.

(ix) Nuchem Plastics Limited

1951: Started as Button moulders, Rattanchand Harjasraj(Plastics) Ltd. at Amritsar with a paid up capital of 3.11 lakhs.

1952/1954: Developmental work on moulding powders and collection of valuable data regarding the manufacture of U.F.Moulding Powder in tropical conditions was undertaken.

1955/1956: Agreement was concluded with M/s British Industrial Plastics (Chemicals) Ltd. Birmingham for Technical Collaboration.

1957: U.F.Moulding Powder production was started.

1958: Button plant was shifted from Verka (Amritsar) to Faridabad.

1959: Expansion for 840 tonnes of Urea Formaldehyde and for 250 tonnes of Malamine Formaldehyde Moulding Powders was sanctioned. A licence to manufacture Urea Formaldehyde Resins 1800 tonnes per annum was also received.

1962: Expansion was completed. Production on new plant was started. The Company received a Licence to manufacture 192 Compression and Injection Moulding Tools per annum. Engineering Division started.

1965: Resin plant was commissioned.

1967: Bonus shares 2:1 issued. Company's name changed to NUCHEM PLASTICS LIMITED, now a Public Limited Company.

1969: First public issue.

1970: Formaldehyde plant was installed.

1971: International Division was set up to accelerate exports. Production of 5000 T. Moulding Powders per annum T tonnes taken up.

1972: Research & Development Centre started functioning.

1973: Hexamine Plant was commissioned.

Company was awarded National Safety Award by Ministry of Labour.

1974: Bonus shares 1:2 issued.

1975: A formaldehyde Plant was sold out on turn-key basis to M/s Southern Synthetics Ltd., Ranipet (Tamil Nadu).

Company was awarded TOP EXPORTERS AWARD in the category of raw-materials by Government of India.

1976: Process for manufacture of Phenyl Butazone was sold to M/s Nufarm Chemicals, Faridabad.

Formaldehyde plant to M/s Southern Synthetics Ltd., Ranipet was commissioned successfully.

Engineering Division started manufacturing compression presses for plastics, rubber and other specialised usage.

1977: Process for manufacture of Paraformaldehyde was completed and taken up in hand for execution.

1978: Encapsulation Process Ferite Moulding Presses and such specialised hydraulic presses were introduced in the market by the Engineering Division.

1979: A pilot plant for Phenolic Resins was supplied to Burma through National Research & Development Corporation.

An agreement was arrived at between Nuchem and U.P.State Industrial Development Corporation to flow a joint sector company to exploit CMC know-how, developed by the country.

(x) Plastics Resins and Chemicals Limited

1962: Incorporated under the Companies Act, 1956.

1971: Commenced manufacturing of PVC Compound with own technical know-how.

1972: Set up a Research Laboratory at factory for quality control and Technical Service Laboratory for customer service in Bombay.

1973: Exported 462 tons of PVC Resins. Exporter's Award by Plastic Linoleum Export Promotion Council for the year 1973-74 was awarded.

Won the National Safety Award for Industrial Safety.

1975: Commenced commercial sale of by-product, i.e. Benzene.

1976: Received letter of intent for manufacture of Oxygen.

1977: Letter of intent for manufacturing of oxygen was cancelled because the Company was not able to instal necessary equipment within the specified time.

1978: From 4th February, manufacturing operation was stopped due to uneconomical working conditions.

1979/80: Plant remained closed due to uneconomical working conditions.

(xi) Polyolefins Industries Limited

1964: The Company was promoted by National Organic Chemical Industries Limited with financial and technical collaboration with Farbwerke Hoechst AG, West Germany for the manufacture of 20,000 tonnes per annum of High Density Polyethylene(HDPE), 320 tonnes per annum of Ziegler Catalysts and 5,600 tonnes per annum of processed products made out of HDPE for which the necessary industrial licence was received.

1965: Foundation stone was laid on 18th February and construction work started.

The Engineering Contract, Agreement with German Reconstruction Bank for foreign loans and all other major Agreements were finalised. It was for the first time Kreditanastalt fur Wederfbar (KfW), a German Reconstruction Bank gave direct loan to a party in India.

1966: In order to develop the market for HDPE raw material in India, Company imported 1,500 tonnes of HDPE raw material on a product loan basis. This material was distributed to various processors throughout India. This timely action by the Company resulted in rapid growth of plastic processing industry and also gave impetus to plastic machinery manufacturing industry in India.

1968: Started production of HDPE for the first time in India, in the month of March. Company also started simultaneously production of Ziegler Catalyst, viz. Ethyl Aluminium Sesqui Chloride and Ethyl Aluminium Mono - Chloride, essential raw materials required for manufacture of HDPE. The Company successfully developed indigenously, an essential raw-material-dispersing agents required for manufacture of HDPE. To remove excess sulphur contents in locally developed dispersing agent, the Company put up a Desulphurisation Plant. In the latter part of the year, the Company developed HDPE top up containers for packing of lubricating oils. A small quantity of the product was exported.

1969: Exported 10,300 tonnes of its product to various parts of the world.

After extensive tests and trials, a leading oil company started packing their lubricating oils in one litre and half litre top up containers made of HDPE. This changed the concept of packaging in India which has resulted in considerable saving of foreign exchange and conserving of essential raw materials.

1969 (Contd) Production of barrels and jerrycans made of HDPE for storage and transportation of hazardous chemicals was undertaken.

1970: Started production of HDPE Pipes which are extensively used by Chemical Industry for transportation of corrosive chemicals and effluents. These pipes are also used for water supply in inaccessible hilly terrains and in Agriculture.

Obtained special permission for use of HDPE containers for packing hydrogenated vegetable oils.

Share capital was increased from Rs. 3.6 crores to 5.4 crores by issuing Right Shares.

1971: Obtained Industrial Licence to manufacture N-Butene-1 required for the manufacture of HDPE.

Highest production of HDPE achieved.

1972: Export of processed products made of HDPE was started.

Undertook contract of laying HDPE Pipes for distribution of natural gas in Baroda City. 250 KM of HDPE Pipes of various sizes were laid down in Baroda City and gas connections were given to more than 26,000 consumers.

1973: Industrial Licence for expansion from 20,000 MT to 30,000 MT of HDPE was received. Also received capital goods licence for expansion.

1974: Plant for manufacture of N-Butene-1 started.

Bonus shares were issued in the ratio of one share for every three shares held by Shareholders, thus increasing the share capital from Rs.540 lakhs to Rs.720 lakhs achieved highest production of 24,618 M.T.

1975: Decided to set up a joint venture project in Malaysia for production of HDPE Pipes.

Received highest award in export performance for export of HDPE Pipes during 1974-75 from PLEX Council.

1976: Received highest award in export performance for export of HDPE pipes during the year 1975-76 from PLEX council.

1977: The share capital was increased from Rs.7.2 crores to Rs.9 crores.

A joint venture Agreement, Engineering Agreement, Technical Service Agreement and Equipment sales Agreements were entered into with the Malaysia Partners for establishment of a Pipe Project with a capacity of 600 MTA.

1978: The Company switched over to a new manufacturing process.

A joint venture project set up by the Company in Malaysia for the manufacture of High Density Polyethylene Pipes, commenced production.

(xii) Shriram Fertilizers & Chemical Industries

1960: Application for grant of industrial licence for setting up a 20 tons/day PVC plant at Kota was submitted.

1961: Industrial licence was received.

Technical collaboration agreement was signed with M/s Shin Etsu Chemicals Industry Co.Ltd. and Mitsui Bussan Kaisha Ltd., Japan and the same was approved by the Government.

Import licence was received.

Foundation stone was laid.

1963: Commercial production of calcium carbide was started.

1964: Plant was formally inaugurated and commercial production of PVC was started.

Application for expansion of PVC capacity to 40 tons/day was submitted to the Government.

1965: Received ICMA export promotion award for outstanding performance in the promotion for exports. Letter of intent for expansion of PVC capacity was received.

1966: Licence for expansion of PVC capacity to 40 tons/day was received.

1968: Commercial production for expanded capacity of PVC, i.e. 40 tons/day was commenced.

1969: Got National Safety Award given for outstanding performance in industrial safety by achieving highest percentage reduction in frequency rate during the year 1967.

1972: Application for expansion for PVC capacity from 40 to 80 tons/day was submitted.

1973: Licence for increased capacity of PVC, i.e. 80 tons/day was received.

1974: Letter of intent for calcium expansion by 100 tons/day was received.

1976: Licence for expansion of calcium carbide capacity by 100 tons/day was received.

Design engineering contract was finalised and civil work for carbide expansion was commenced.

1977: Additional carbide capacity of 100 tons/day, i.e. total of 170 tons/day was commissioned.

1978: PVC plant capacity increased was to 80 tons/day.

Technical collaboration agreement for modernisation of Vinyl Chloride polymerisation plant was signed with M/s Kanegafuchi Chemical Industry Co.Ltd., Japan.

1979: Letter of intent for expansion of PVC capacity to 6000 tons per annum was received.

(xiii) The Industrial Plastics Corporation Pvt.Ltd.(TIPCO)

1947: Established a production of Phenolic Resins/compounds of 72 tons per annum, became a founder member of all-India Plastic Mfg. Association.

1959: Established a production of Phenolic Resins/compounds of 809 tons per annum.

Entered into a technical collaboration for manufacturing special purpose Phenol Formadehyde Resins/Compounds with Phillips, Holland.

1961: Appointed on thermosetting panel of ISI.

Central Excise was levied on P.F. Resins/Compounds.

1964: Established as a regular suppliers of Phenolic Resins/ compounds to companies like Indian Telephone Industries, BHEL, HAL, BEL, etc. who were hitherto required to import their raw material based on Phenol and formaldehyde.

1968: Established Research & Development Wing on the most modern scale. Developed several additional special filler/property Phenolic Resins/compounds as import substitution. Also modernised the factory, technology and equipments - Phillips collaboration terminated. Established production of many additional especial purpose Phenolic Resins for foundries Brakelining Industries, etc.

1970: Celebrated silver jubilee year.

1971: Joined Release Order scheme to supply P.F.Resins compounds at International prices to domestic manufacturers of components for export production.

1972: AIPMA celebrated its silver jubilee on which occasion the Chairman, Shri B.M.Thakkar was honoured by an award for pioneering work done for Plastics Industry.

1973: Established a production Phenolic Resins/compounds of 2000 tons per annum.

Exported Phenolic Resins/compounds for the first time to Hongkong.

Introduced Phenolic Resins compounds for injection moulding for the first time in India.

1975: Added a very modern, continous process closed system equipment for processing P.F. Resins compounds by way of modernisation of the plant.

1976: Excise duty was reduced from effective 56% to effective 40% in March.

1976: (Contd) Export obligation imposed of Rs.3.75 lakhs per annum became effective and over two years obligation was set off during the first year itself. Business under indigenous Release Order Scheme was at on all time high, value of total supplies exceeded Rs. 7 lakhs approximately.

1978: Exported Nigrosine to USA and realised foreign exchange worth Rs.1,82,125.

Completed export obligation of Rs.15 lakhs imposed on 1975 for Import of capital goods.

1979: Earned foreign exchange by exporting Nigrosine worth Rs.2,40,721/-.

Industrial licence for manufacture of Engineering Plastics Polymer Resins was received.

An application was made for an industrial licence to manufacture 2200 tons of Nylon Tyre Yarn per annum.

(C) SYNTHETIC FIBRES

(i) Ahmedabad Manufacturing & Calico Ptg. Co.Ltd.

1880: Calico (Textiles) was established at Ahmedabad.

The Company is now a Public Limited Company with three Main Divisions (Textiles, Chemicals & Plastics and Synthetic Fibres Division) and following four wholly owned subsidiary companies :

a) Ilac Limited
b) Rajindra Dyeing & Ptg. Mills Ltd.
c) Gujarat Nets Limited
d) Varma Industries Ltd. (Subsidiary of Rajindra Dyeing & Ptg. Mills Ltd.)

1970: Industrial licence for manufacture of polyester staple fibre at Baroda was received.

1974: In May, the Spinning and Processing Unit of Polyester Fibre Plant started.

In July, commercial production of polyester staple fibre was commenced.

1976: In March, the remaining polymer unit of the Polyester Staple Fibre Plant was started up.

In May, the integrated Polyester Staple Fibre Plant from DMT and MEG to Baled Fibre went into commercial production.

1977: On 31st December, a letter of intent for doubling the polyester staple fibre production was received.

1979: In December

1979: In December, all Government formalities were completed for issuance of the Industries Licence, Capital Goods Licence and Foreign Collaboration approval for the doubling of our polyester staple fibre plant as per the letter of intent dated 31st Dec[illegible] 1977.

1980: In March, the Converter Unit was commissioned to market worsted tops for the first time to the woollen industry.

In addition, the High Tenacity Drawframe and related equipments and accessories were also completed in March 1980 to increase the supply of High Tenacity fibre Calico's installed polyester staple fibre plant at Baroda.

(ii) Baroda Rayon Corporation Ltd.

1958: In May, the Company was incorporated.

1959: Received an Industrial Licence for the manufacture of Filament Rayon Yarn, Sulphuric Acid, Carbon-Di-Sulphide and Anhydrous Sodium Sulphate in September.

1960: About 320 acres of land was acquired from Government.

1961: In May, Railway Siding was commissioned.

1962: The Water Pumping Station at Varachha was put into commission in the last week of July and to ensure water supply, pipelines were laid from Tapti River bed at Varachha to the factory site.

The Sulphuric Acid and Carbon-Di-Sulphide Plants and the Viscose Section of the Rayon Plant was commissioned on 31st October.

The Rayon Plant formally inaugurated on 23rd December.

1965: Produced for the first time in the country Finer counts such as 30 and 40 denier.

1968: The expansion of the Spinning Division was completed in May with the installation of 8 more spinning frames.

1969: Additional machinery was installed to increase the viscose capacity and the expansion programme was completed in July.

The French type Radial well was commissioned.

1971: In June, building foundation for Nylon plant was laid.

1973: On 1st January, Gujarat Polyamides was merged with The Baroda Rayon Corporation Ltd. and was named NYLON DIVISION of The Baroda Rayon Corporation Ltd.

1974: On 18th January, The Nylon Plant was inaugurated.

1975: In September, licence for increasing the Nylon Yarn capacity from 1800 million tonnes per annum to 2100 million tonnes per annum was received.

Industrial licence for manufacture of Nylon cord was received.

1976: Licence to manufacture 360 tonnes of Polyester filament yarn per annum within existing licenced capacity of 2100 tonnes per annum for nylon yarn was received.

In April, production of Polyester filament yarn was started.

1977: Licence for increasing the Nylon Yarn capacity from 1740 to 2436 tonnes per annum and Polyester Yarn from 360 tonnes to 576 tonnes was received.

1978: On 7th August, Polyester Polymerisation Plant was started for manufacture of Polyester Chips.
On 11th Dec., civil work for Nylon Tyre-cord Project was started.

1979: Industrial approval for Import of Equipment for Caprolactum Recovery Plant was granted.

On 31st December, Industrial Licence granting increase of licenced capacity of Nylon Tyre Yarn fabrics from 1000 tonnes to 1700 tonnes per annum was issued by the Government.

(iii) Century Enka Limited

1967: Public issue of shares.

1968: Construction work was commenced.

1969: Nylon Plant was commissioned.

1976: Industrial licence for expansion of Nylon Plant was received.

1977: Industrial licences for manufacture of 360 tonnes p.a. Polyester Filament Yarn was received.

1978: Expansion of capacity of Nylon Plant to 6.5 tons per day was implemented and manufacture of Polyester Filament Yarn was commenced. Proposal for recognition of additional capacity for Nylon Yarn of 1660 tons p.a. through modernisation was approved and Industrial Licence to this effect was endorsed.

(iv) Chemicals and Fibres India Limited

1961: Company was incorporated and Licence was obtained for manufacture of Polyester Staple Fibre.

1963: Possession of land was given by State Government.

1965: Production of Polyester Staple Fibre was commenced.

1967: Licence was obtained for expansion of Polyester Staple Fibre.

1968: Expansion was completed.

1971: Licence was granted for expansion to 6,100 tonnes per annum of Polyester Staple Fibre.

1972: Expansion to 6,100 tonnes per annum of Polyester Staple Fibre plant was completed.

1979: Licence was obtained for expansion to 10,000 tonnes p.a. capacity of Polyester Staple Fibre Plant.

(v) Garware Nylons Limited

1962: Factory was set up at Poona with a production capacity of 500 kgs. per day. It was the first Nylon Plant in the country set up without any foreign collaboration.

1965: Plant was set up for polymerisation of Caprolactum to Nylon chips.

1968: Substantial expansion was carried out, raising the capacity of 756 tons per annum of Nylon Yarn.

1969: The Company received a letter of intent to increase its capacity to 2000 tonnes.

1970: The Company became a Public Limited Company.

Licenced capacity was increased to 2000 tonnes.

1972: The Industrial licence for 2000 tonnes was implemented due to which the total capacity of production was raised to 2394 tonnes per annum of Nylon Yarn. Letter of intent was received for the manufacture of Polyester filament yarn for 360 tonnes per annum. Industrial Licence for the manufacture of Nylon Chips for Plastics Industry with an annual capacity of 330 tonnes was also received.

1973: Industrial licence for manufacture of Polyester filament yarn was received.

1974: The Company entered into Joint Venture Agreement with Malaysian State Development Corporation for setting up a plant for manufacture of Fabrics in Malaysia.

1975: Commercial production of Polyester filament yarn commenced. Two diesel generating sets of 1450 KVA capacity each were installed.

1976: Depolymerisation plant to recover basic raw material (viz. Caprolactum) from Nylon waste was inaugurated on 20th March.

1977: As a result of modernisation programme, the licence capacity of Nylon and Polyester filament yarn was increased by the Government by 958 and 216 tons respectively.

As regards Polyester filament yarn, the additional capacity has already been achieved and the licence capacity stands at 576 tons per annum.

1977 (Contd): The modernisation programme of the Nylon filament yarn plant was under implementation.

1978: Third Diesel Generation set of 1450 KVA capacity was installed and construction/erection work of Ethylene Glycol recovery plant was started.

1979/80: Some of the operations of the plant were shifted from Poona to Ahmednagar.

Ethylene Glycol Recovery Plant was commissioned.

Modernisation programme of Nylon Filament Yarn was nearing completion.

(vi) Indian Organic Chemicals Ltd. (Fibre Division)

1960: The Company was incorporated.

1969: Site selected for the Polyester Staple Fibre Plant.

1970: Industrial licence was granted for the manufacture of 6100 metric tonnes of Polyester Staple Fibre per annum.

1971: In February, foundation stone was laid.

In November, machinery erection commenced.

1972: In August, plant commissioned.

1973: In January, commercial production started.

1974: Pilot plant set up in R&D Laboratory.

R&D Unit was recognised by the Deptt. of Science & Technology.

First Diesel Generator set commissioned.

1976: Second Diesel Generator set commissioned.

1977: Licence for importing capital goods by way of balancing equipment was received.

In December, letter of intent for increase the existing production capacity was received.

1979-80: Capital goods licence for expansion was received.

(vii) J.K. SyntheticsLimited

1943: Incorporated at Kanpur, U.P.

1958: Received Industrial Licence for manufacture of Nylon/Perlon Yarn at Kota.

1960: The name of the Company was changed to J.K.Synthetics Ltd. on its taking up industrial activities. Additional equity share capital was raised to finance the project.

1962: Country's first Nylon Plant with a capacity of 800 Kgs. per day was inaugurated. Nylon yarn was marketed under the trade names of 'Jaykaylon' and 'Jayanca'. The plant also produced stretch yarn.

1963: Technology developed for production of high tenacity industrial nylon yarn to cater to defence requirements of the country. Braiding plant at Kanpur commenced production to execute defence orders.

Industrial licence for first stage expansion for nylon plant was received.

1964: Industrial licence for manufacture of 4000 tonnes per annum of acrylic staple fibre was received.

1965: First stage expansion was completed in record time raising the plant capacity to approx. 3 tonnes/day.

1966: Industrial licence for the manufacture of 1000 tonnes per annum of Nylon Tyre Cord was received.

1967: Encouraged by the success of its research activities, the Company had undertaken further research work in the field of manufacture of synthetic fibres.

1968: The 2nd stage of expansion of nylon plant was completed raising its installed capacity to 2200 tonnes per annum.

In the research centre of the company, technologies were developed for the first time in India for production of spaced-dyed and draw-wound yarns.

Research activities were further strengthened by incurring capital expanditure of Rs.72.06 lacks during the year.

Initiated research for development of technology for manufacture of polyester filament yarn from chips.

1969: Research work continued for development of technologies for manufacture of polyester filament yarn, nylon tyre cord, acrylic staple fibres, recovery of caprolactum etc. Engineering technology was also developed by doubling the number of ends in the spinning equipment. Additional capital expenditure of Rs.75.80 lakhs was incurred for carrying out scientific research.

1970: Research efforts continued for improvement in the techniques for the manufacture of nylon yarn and perfecting new technology. Additional capital expenditure amounting to Rs.40.80 lakhs was incurred in the year for strengthening research facilities.

1971: Developed technologies for manufacture of nylon tyre cord and synthetic staple fibre.

Research activities further strengthened by incurring capital expenditure of Rs. 80.24 lakhs.

1971: Trial production in nylon tyre cord plant and synthetic (Contd)fibre plant commenced.

1972: Received an industrial licence for manufacture of 360 tonnes per annum of polyester filament yarn and 450 tonnes per annum of polyester staple fibre by way of diversification.

Commercial production of nylon tyre cord, nylon staple fibre and polyester staple fibre was commenced.

1973: Licence for the manufacture of 3840 tonnes per annum of nylon yarn was implemented.

Received the approval of Government of Kenya for setting up of an industrial joint venture in Kenya for the manufacture of synthetic filament yarn. The Company was also selected for supply of know-how and engineering services.

Secured a contract for supply of know-how, engineering services and plant and machineries to Indian Petrochemical Corporation, Baroda for their proposed polyester filament plant.

The installed capacity for manufacture of nylon tyre cord and polyester filament yarn was increased to 1600 tonnes per annum and 600 tonnes per annum respectively.

Foundation stone laid for Sir Padampat Research Centre, Kota.

Developed successfully the process of differential dyeable nylon yarn known as "Nova colour nylon" for the first time in India.

1974: Approval for foreign technical collaboration with M/s Technimont S.P.A., Milano (Italy) for setting up an acrylic fibre plant at Kota received.

Installed capacity for manufacture of Polyester Staple Fibre increased to 900 tonnes per annum as licensed.

Received and implemented industrial licence for manufacture of 800 tonnes per annum of nylon tyre yarn fabrics.

Sir, Padmpat Research Centre recognised by theGovt. of India, Research activities continued to contribute towards diversification and development of new products.

1975: Received Central Government's approval and import licence for the import of capital goods for acrylic fibre project.

1976: Received Government approval for the technical collaboration agreement with M/s Zinser Textilmaschinen, West Germany for the manufacture of draw twisting machines suitable for nylon and polyester filament yarn and for heavy denier yarn.

Indigenous know-how was developed for recovery of DMT from Polyester waste for the first time in India.

1976: First ever agreement for supply of know-how and engineer-
(Contd)ing services and managing a synthetic yarn plant abroad was signed with Africa Synthetic Fibres Ltd. (a company incorporated in Kenya).

Indigenous Nylon-6 battery fabric was developed which would save substantial foreign exchange.

1977: Government's approval was received for increasing the capacity of Nylon Filament Yarn by 40% and that of Polyester filament yarn by 60% due to modernisation. As a result of this the annual licenced capacity of Nylon filament yarn increased to 5376 tonnes and that of Polyester Filament Yarn to 960 tonnes.

Letters of intent for the manufacture of 4000 MT per annum of DMT, 1000 MT per annum of Mono Ethylene Glycol (By Products) from Polyester waste and for substantial expansion of Polyester staple fibre to 6000 MT per annum were also received.

1978: Received industrial licences for manufacture of 4000 MT p.a. of DMT and 1000 MT p.a. of MEG and also for expansion of polyester staple fibre capacity from 900 tonnes p.a. to 3000 tonnes p.a. and that of Nylon Tyre-Cord Yarn from 1600 tonnes p.a. to 3000 tonnes p.a.

1979: Industrial licence for expansion of polyester staple fibre capacity from 3000 tonnes p.a. to 6000 tonnes p.a. was received and implementation work for this project was started.

Trial production of Acrylic Staple Fibre was commenced at the Company's Synthetic Fibre Complex at Kota.

Received letter of intent for expansion of Polyester staple fibre capacity from 6000 tonnes p.a. to 12,000 tonnes p.a. and nylon tyre yarn fabric from 800 tonnes p.a. to 2760 tonnes p.a.

(viii) Modipon Limited

1965: Company was incorporated and industrial licence was received.

1967: Corner stone was laid.

1968: In March, commercial production was started.

1969: Dividend of 8% on equity share capital was recommended for the first year of production ending on February 28.

1970: The plant achieved its full production capacity.

Industrial licence for marginal expansion from 1800 tonnes to 2200 tonnes per annum was received.

1972: The capacity of original licence was enhanced to 800 3000 tonnes/annum.

1972: C.O.B. licence for the manufacture of 360 tonnes per annum (Contd)of polyester filament yarn was received.

Expansion project of the Company was commissioned.

Letter of intent for substantial expansion of 2,000 tonnes/annum of Nylon filament yarn was received.

1973: In January, production of Polyester filament yarn was started.

An old 20 MW power station was purchased in collaboration with other units of Modi Group, to meet the power requirement.

1974: Issued bonus shares to the Equity Shareholders in the proportion of three bonus shares for every four equity shares in August/September.

R & D Cell was established for the characterisation and development of the new type of monomers.

1975: It was decided to set up an ophthalmic research centre at Modinagar in collaboration with the National Society for the Prevention of Blindness (India), New Delhi.

1976: In January, synthetic fabrics was exported.

1977: On 25th March, approval of the Government was obtained under the modernisation programme for increasing the annual manufacturing capacity of Nylon Filament Yarn by 1360 tonnes and Polyester Filament Yarn by 216 tonnes.

Capacity to produce higher tonnage of Polyester Filament Yarn as a result of shift in the average deniers from finer to Coarser denier, was also recognised by the Government on 29th December.

(ix) National Rayon Corporation Limited

1946: The Company was incorporated at Bombay with authorised capital of Rs.10 crores dividend into equity of Rs.5 crores and Preference Shares of Rs.5 crores.

1951: Production of Rayon Textile Yarn was started.

1961: Production of Rayon Tyre Cord and Fabric was commenced.

1976: In April, the share capital was raised to Rs.12.5 crores comprising of equity of Rs.5 crores and preference of Rs.5 crores.

Commercial production of Nylon-6 Tyre cord was commenced.

In December water pollution control plant phase-I was commissioned.

1978: Commercial conversion of Nylon-6 Tyre Yarn to Fibre was commenced and Water Pollution Control Plant Phase II was commissioned.

(x) Nirlon Synthetic Fibres & Chemicals Ltd.

1961: Nylon Textile Yarn Plant started production with an annual installed capacity of 720 tonnes.

1963: The Company was converted into Public Limited Company.

Commenced exports of synthetic fabrics.

1964: Declared maiden dividend.

1965: The annual licensed capacity of Nylon Textile Yarn was increased from 1872 tonnes to 2520 tonnes and the annual licensed capacity of Nylon Tyre Cord was increased from 576 tonnes to 1,440 tonnes.

1967: Research & Development Division developed know-how for manufacturing polyester filament yarn.

Commenced production of polyester filament yarn which was manufactured in India for the first time.

1968: The first phase of Nylon Textile Yarn expansion was completed. The annual production capacity of Nylon Textile Yarn was increased to 2160 tonnes.

Tariff Commission Inquiry into the price structure of nylon yarn was ordered by the Government.

1970: The annual production capacity of nylon yarn was increased to 2520 tonnes.

Machinery for setting up of the Tyrecord Plant was received at site.

The Company with other Nylon Spinners, entered into a voluntary agreement with Consumers Association for selling yarn at an agreed price, which were far less than the price ruling in the market.

1971: Nylon Tyrecord Plant commenced production. Nylon tyre cord was manufactured for the first time in India.

1972: Exported synthetic fabrics to Czechoslovakia for the first time.

1973: Annual licensed capacity for manufacturing polyester filament yarn was increased from 360 tonnes to 576 tonnes.

Polyester filament yarn was manufactured to full licensed capacity.

1974: Polycondensation plant was commissioned.

1975: Plant for the recovery of Glycol and Methanol was commissioned.

Commenced work on Depolymerisation plant for recovery of Caprolactum from waste.

Received industrial licence for the manufacture of the Conveyer Belting and Fan and V-Belts.

1976: Recognition of Research & Development Centre was renewed by the Government.

1977: Deploymerisation plant for recovery of caprolactum from waste was commissioned. Work on conveyer betting, Fan & V-Belts Project and installation of additional capacity due to modernisation of Nylon & Polyester Textile Yarn was also started.

Modernisation of Polyester Textile Yarn to achieve increased capacity of 922 MT was completed. The annual licenced capacity of Nylon Textile Yarn was also increased from 2520 tonnes to 3528 tonnes.

1978: Plant for manufacture of Conveyor Belt was commissioned.

Government's approval for Foreign Technical collaboration with B.T.R. Belting Ltd., U.K. for manufacture of Synthetic Fibre reinforced conveyer Belt was also received.

1979: Plant for manufacture of V-Belts/Fan Belt was commissioned.

Modernisation of Nylon Textile Yarn to achieve the increased licence capacity of 3528 tonnes was also completed.

1980: Recognition of Research and Development Centre was renewed by the Government.

(xi) Shriram Fibres Limited

1966: In November, letter of intent for 4500 tonnes of Nylon Tyre Cord was received by Delhi Cloth & General Mills Co.Ltd.

1969: In July, the letter of intent was modified for two thousand tonnes of Nylon Tyre Cord in a plant to be set up at Madras.

1971: In May, MRTP clearance was obtained for participation of DCM in equity shares of Shriram Fibres Ltd.

In June, Certificate for Commencement of Business was obtained.

In July, Government approval for collaboration with M/s Chemtex and Unitika was obtained.

1973: Project office at Madras was set up.

1974: On 31st December, trial runs were commenced.

1975: On 1st April, commercial production was commenced.

1976: Facilities for fabric production were installed.

1977: On 13th January, permission for manufacture of 500 tonnes p.a. of Nylon chips and 600 tonnes p.a. of Nylon Industrial yarn was issued by the Government.

By September, technology for the manufacture of Nylon Chaffer Yarn and OPD was successfully developed in R&D Laboratory of the Company.

1978: An industrial licence was issued for the manufacture of 500 MTs per annum of Nylon Moulding Powder with total capacity of 3000 MT per annum.

1979: On 31st December, letter of intent was issued by the Govt. for increasing the Fabric conversion capacity from 1000 MT to 2550 MT per annum.

(xii) Stretch Fibre (India) Ltd.

1965: Incorporation on 19th June with authorised capital of Rs.150 lakhs dividend in 15 lakhs equity shares of Rs.10 each.

On 29th July, certificate for commencement of business was received.

1966: Commencement of Stretch Nylon Yarn in January.

1969: 1st plant for manufacture of knitting fabric commissioned.

1973: Spinning plant for the manufacture of nylon installed.

Commercial production of nylon yarn commenced on 6th October.

1977: In September, erection of Polymerisation plant was started.

(xiii) Shree Synthetics Limited

1968: Shreeram Silk Mills Ltd., Calcutta, a unit of Hastings Mills with an authorised capital of Rs.5 crores was incorporated.

An Industrial licence was received for the manufacture of 1080 tons/annum of Nylon-6 filament yarn.

1969: The name of the Company was changed to Shree Synthetics Ltd.

1972: The plant for production of Nylon-6 and Polyester filament yarn was commissioned.

1975: Monomer Recovery Plant for recovering the caprolactum from wash water was commissioned.

1976: Industrial licence for expansion of nylon/polyester filament yarn capacity was received.

1978: Loans were sanctioned by the Financial Institutions for implementing Nylon Expansion Schemes.

1979: Industrial licence for 1740 M.T.p.a. of nylon and 576 M.T. p.a. of Polyester Fibre were received.

Four draw texturising machines were commissioned for manufacture of textile yarn.

1	2	3	4	5	6	7	8	9	10
9.	Indian Petrochemicals Corporation Limited.	23.67	23.67	-	-	23.67	-	-	-
10.	Petrofils Cooperative Limited	0.10	0.10	-	-	0.10	-	-	-
11.	Indo-Burma Petroleum Co.	3.26	0.77	-	2.49	3.26	-	-	-
12.	Balmer Lawrie Limited	4.27	0.75	-	3.52	4.27	-	-	-
13.	Bridge & Roof Co. (India) Ltd.	2.02	0.11	-	-	0.11	-	1.91	1.91
14.	Biecco Lawrie Limited	0.92	-	-	-	-	0.92	-	0.92
15.	Lubrizol India Limited	0.95	0.95	-	-	0.95	-	-	-
16.	Engineers India Limited	1.36	1.36	-	-	1.36	-	-	-
17.	Central Institute of Plastics Engineering & Tools	0.51	-	-	-	-	0.51@	-	0.51
18.	Department of Petroleum								
	Refinery	5.00							
	New Petrochemicals Projects	10.00		14.90	-	14.90	0.10	-	0.10
	GRAND TOTAL	1077.13	642.04	165.26	68.29	875.59	1.53	200.01	201.54

@ Indicates grants-in-aid.

STATEMENT II

PART.B

Details of Financing the Annual Plan Outlay for 1981-82 of the Department of Petroleum

(Rs. in crores)

Sl. No.	Name of the Undertaking/ Organisation	Annual Plan Outlay	Extra Budgetary Resources for Financing the Annual Plan outlay 1981-82			Total (4+5+6)	Govt. Budgetary Support for Financing the Annual Plan outlay for 1981-82		
			Internal Resources of the undertaking/Orgn.	Assistance from OIDB	Assistance from Financial Institutions		Equity	Loan	Total
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1.	Oil & Natural Gas Commission	670.18	317.89	92.01	62.28	472.18	-	198.00	198.00
2.	Oil India Limited	40.00	39.85	0.15	-	40.00	-	-	-
3.	Indian Oil Corporation	168.35	154.35	14.00	-	168.35	-	-	-
4.	Hindustan Petroleum Corporation Limited	38.88	37.30	1.58	-	38.88	-	-	-
5.	Bharat Petroleum Corporation Limited								
	Refinery	27.05	28.00	0.05	-	28.05	-	-	-
	Petrochemicals	1.00							
6.	Cochin Refineries Limited	22.22	0.72	21.50	-	22.22	-	-	-
7.	Madras Refineries Limited	17.80	16.30	1.50	-	17.80	-	-	-
8.	Bongaigaon Refinery & Petro-Chemicals Limited								
	Refinery	7.59	19.92	19.57	-	39.49	-	0.10	0.10
	Petrochemicals	32.00							

Cont..2/-

2 gas-cracker plants for Gujarat, Maharashtra

Hindustan Times Correspondent

NEW DELHI, April 29—The Government has accepted the recommendation of the Site Selection Committee for setting up two gas-cracker plants at Usar in Maharashtra and Kavas in Gujarat, Union Minister for Petroleum, Chemicals and Fertilisers P. C. Sethi today informed the Parliamentary Consultative Committee attached to his ministry.

He said three aromatics plants would also be set up at Cochin (Kerala), Usar (Maharashtra) and Saleempur (U.P.). Mr Sethi said another aromatics project was included in the Sixth Plan. The project is planned for Bihar.

The Government has also accepted the recommendation for a large petro-chemical complex for Bihar. Besides, major downstream units with investment of over Rs 50 crore were being contemplated for Madhya Pradesh.

Regarding the Haldia petro-chemical project Mr Sethi said the West Bengal Government has now suggested equity participation by the Central Government or public sector undertakings under the Centre. The proposal was that the Centre and the State Government could each hold 40 per cent equity with the balance 20 per cent shared between financial institutions and the public.

Mr Sethi said the Union Government might participate in the petro-chemical complex proposed by the Gujarat Government. The equity participation in this joint venture might also be on similar lines as that of Haldia.

Mr Sethi said the diesel and kerosene shortage in the country was now over and the two commodities were easily available. He said the allocation of kerosene to the whole country was 4.15 million tonnes. Of this 2.10 million tonnes was imported.

The paraffin wax shortage would continue for some time. Mr Sethi said the requirement of wax in the country was for 100,000 tonnes. The indigenous production was 40,000 tonnes. About 20,000 tonnes was being imported.

However, the Minister said the Madras refineries had taken up paraffin wax production and it would be producing 20,000 tonnes by 1983. The Indian Oil Corporation was also planning a similar project for Barauni refinery. The project is likely to take about three years to materialise.

Gas Cracker

1. Usar
2. Kavas.

Petro-Chemical Complex

1. Bihar — Site Selection Committee.
2. Haldia —

Aromatics Unit

i Cochin
ii Usar
3. Saleempur
4. Bihar — 6th plan.

Under Implementation

1. BRPL.

(xiv) Swadeshi Polytex Limited

1970: During September, collaboration agreement for polyester Staple Fibre Plant was finalised with Zimmer A.G. West Germany.

In October, foundation stone for the plant was laid.

1971: In October, erection of plant and equipment was completed. Trial runs were commenced.

1973: In March, commercial production was commenced.

In August, normal 1.4 and 2.1 denier polyester fibre was introduced in India for the first time.

1974: In July, 0.9 denier Jailene polyester fibre was introduced for the first time in the world.

1975: Introduced low and high shrinkage fibre for the first time in India in March.

In June, process dyed fibre was commercialised.

In September, Research & Development activities were recognised by the Government of India.

1977: Jailene polyester khadi (hand speen on Ambar Charkha and hand woven) was introduced.

During October to December had labour strike for 51 days.

1978: Sponsored Khadi & Village Industries Commission Research Project to optimise bend composition of Khadi fabrics. In July, DMT Recovery Plant was commissioned.

1979: Labour strike from 7th September to 4th November resulting in stopage of plant.

(D) SYNTHETIC RUBBER

Synthetics and Chemicals Limited.

1958: Chairman visited U.S.A. for foreign collaboration
1959 agreement for setting up the Synthetic rubber plant complex based on earlier visits of Lummus Team, Goodyear and Firestone Teams for setting up a plant complex in India.

1960: Company was registered to manufacture styrene, butadiene, synthetic latices and rubbers with technical collaboration from M/s Firestone Tire & Rubber Co., U.S.A.

Government approval of the project and Firestone agreement received.

1961: Foundation stone laid at site at Bareilly.

1962: Technical Service Laboratory at Bombay was commissioned to help rubber consuming industries in the field of application of synthetic rubbers.

Gas Cracker

1. Usar
2. Kavas.

Petro-Chemical Complex

1. Bihar — Site Selection Committee.
2. Haldia —

Aromatics Unit

1. Cochin
2. Usar
3. Saleempur
4. Bihar — 6th plan.

Under Implementation

1. BRPL.

1973: Letter of intent received for the manufacture of Steel Cord, Textile Reinforced and Solid PVC conveyor belting. Two National Safety Awards viz. (i) Lowest accident frequency rate in the chemical industry; and (ii) Longest accident free period were received for the year 1973.

R&D Centre of the Company was recognised by Department of Science & Technology and NCST.

Chairman hosted International Synthetic Rubber Producers Board meeting - Eastern Section.

1974: Technical collaboration with M/s Firestone Tire & Rubber Co. USA expired.

Tariff Commission held a second public enquiry to review the industry's price structure.

Exported SBR rubber for the first time.

Industrial licence for manufacture of 2000 MT/year nitrile rubber were received. Set up 1 ton/day pilot plant for nitrile rubber and produced nitrile rubber in tonnage quantities for the first time.

1975: Letter of intent received for manufacture of 200 MT/year Vinyl Pyridine Monomer and 800 MT/year Vinyl Pyridine Latex.

Also set up a pilot plant for ABS plastics resins for development of technology and commenced trial production in a few grades of ABS.

Award of Merit was received from National Safety Council of USA for operating plant for 1771 thousand manhours without disabling injury.

1976: Construction of Nitrile Rubber plant was completed.

Letter of intent for manufacture of 60 tonnes/p.a. of butadiene catalyst was received.

Foreign collaboration for V.P.Monomer with M/s Croda Synthetic Chemicals Ltd., U.K. and for V.P.Latex with M/s Unireyal, USA was approved by the Government.

Letter of intent for manufacture of ABS resins and plastics was received.

Two National Safety Awards, 1975 were received based on Safety Records among Rubber and Plastics industries for the year 1974 for (i) lowest frequency rate; (ii) longest disabling injury free period.

Basic Training Centre for practical training of apprentices started functioning.

1977: Regular commercial production of Nitrile Rubber was started.

Foreign collaboration agreement for Butadiene Catalyst Plant was surrendered to Government of India and it was decided to build up catalyst plant based on technology developed by the Company's R&D Laboratory.

1977: Industrial licence for the manufacture of Butadiene (Contd.) Catalyst was received.

Commercial production of Butadiene Catalyst using spent catalyst (after regeneration and acid treatment) as the base material was started.

Industrial licence was received for the manufacture of 2000 tonnes per annum of ABS Plastics and Resins.

Application for financial assistance for ABS Project was submitted to the Financial Institutions.

Two Awards received from National Safety Council of America, (i) Award of Honour for Longest Accident Free Period ; (ii) Award for 20% or more reduction in injury rate.

1978: The Company was awarded (i) National Import Substitution award for indigenous development of Nitrile Rubber, (ii) Awards of Merit for achieving large accident for manhours and (iii) National Safety Awards for the 7th year in succession for the year 1977.

Financial Institutions expressed their inability to finance Company's ABS Project.

M/s Croda Synthetic withdrew their foreign collaboration proposals for VP Monomer as the terms & conditions laid down by the Govt. of India were not acceptable to them.

First charge of reuvinated Butadiene Catalyst manufactured in the Batadiene Catalyst Plant was changed into Butadiene Converter.

A foreign collaboration proposal for the sale of manufacturing know-how for V.P.Latex was received from M/s Firestone Tire & Rubber Company, U.S.A.

Production of Butadiene Catalyst using imported silice get from M/s W.R.Grace was started for the first time.

The Company submitted an Industrial Licence application for expansion of SBR manufacturing capacity from 30,000 MTPA to 60,000 MTPA.

1979: Company received award of Honour for the second time from National Safety Council, U.S.A. for achieving 6.76 million disabling injury-free man-hours.

Company submitted industrial licence application for expansion of SBR manufacturing capacity to 60,000 MTPA from the present licensed capacity of 30,000 MTPA, manufacture of Vinyl Pyridine Latex @ 800 MTPA (dry basis) and manufacture of 400 MTPA of Styrenated Phenol. An application for licence to establish captive alcohol distillery to produce 23 million litres per year of specially denatured spirit was submitted to the State Government in order to supplement alcohol supplies and ensure availability of certain minimum quantity of alcohol for production of rubber.

1979: (Contd.) Based on the studies conducted by M/s National Environmental Engineering Research Institute, Nagpurmand M/s Environmental Engineering Consultants on treatability and characteristion of waste water from the factory, M/s Environmental Engineering Consultants were appointed as consultants for detailed engineering of additional effluent treatment facilities which have been estimated to cost around Rs.1.0 crore.

Industrial licence for the manufacture of 2000 MTPA of ABS Resins and Plastics was revalidated upto December, 1980.

A unit for the recovery of Ethylene from one of the by-product streams from our Butadiene Plant was erected and commissioned during the year.

Spare Styrene Reactor along with its balancing equipment was installed.

A number of sophisticated instruments for polymer testing were added and a full fledged R & D facilities were commissioned.

II. CAPACITY AND PRODUCTION

Annual Installed Capacity and Production of Petro-chemicals in India during the years 1970, 1975, 1977 and 1978.

(Tonnes)

Name of the Industry/ Items	1970			1975		
	No. of units	Installed capacity (p.a.)	Production	No. of units	Installed capacity (p.a.)	Production
Organic Heavy Chemicals						
Benzene	10	94000	49228	10	94000	70737
Butadiene	2	32400	18482	2	32400	15154
Butyl Acetate	3	6280	2529	4	7230	3781
Butyl Alcohol	3	12450	3445	4	15450	5582
Diacetone Alcohol	2	4800	2418	2	5800	2336
Diethylene Glycol	1	600	411	1	600	732
Dichloro Ethane	1	3000	634	1	50000	29361
Dripolene A+B	1	5000	4423	1	5000	3615
2-Ethyl Hexanol	2	9600	6380	2	9600	7822
Ethylene	2	75000	52068	2	75000	66326
Ethylene Oxide	1	12000	1403	1	12000	10340
Monoethylene Glycol	1	10000	4998	1	10000	7719
Methyl Isobutyl Ketone	1	3700	1131	1	3700	866
Isopropanol	1	1500	1594	1	1500	1352
Phthalic Anhydride	3	12300	7256	3	15300	5653
Polyethylene Glycol	1	1000	543	1	1000	860
Propylene	2	6000	5494	2	42000	33299
Styrene	-	-	-	3	33000	15961
Toluene	9	25755	7834	9	25755	13407
D.M.T.	-	-	-	1	24000	15553
Ortho-xylene	-	-	-	1	21000	3933
Para-xylene	-	-	-	1	17000	9919
Mixed-xylene	-	-	-	1	2500	3962
Vinyl Chloride	-	-	-	1	30000	16071
Caprolactum	-	-	-	1	20000	13832
Synthetic Fibres						
Nylon Staple Fibre	-	-	-	1	900	174
Nylon Filament yarn	5	8996	9797	8	15586	13581
Nylon Tyre Cord	2	360	68	3	5790	3813
Polyester Fila.yarn	2	720	574	5	2166	2233
Polyester Staple Fibre	1	4550	5333	5	25300	14315
Synthetic Rubber						
Synthetic Rubber	1	30000	30339	1	30000	22958
Plastic Raw Material Thermosets						
M.F.Moulding Powder	2	550	83	3	1490	106
P.F.Moulding Powder	2	3200	3237	3	6200	3592
U.F.Moulding Powder	3	1680	1589	4	5150	1764
C.A.Moulding Powder	2	7200	1003	2	7200	1003
Thermo-plastics						
Polyethylene H.D.	1	20000	18346	1	20000	22987
Polyethylene L.D.	2	19000	23215	2	25000	27835
Polystyrene	2	17500	8708	2	17500	9091
P.V.C. Resin	4	43700	38552	5	64700	42884

Note: Installed capacity as per D.G.T.D. records.

Annual Installed Capacity and Production of Petro-chemicals in India during the years 1970,1975,1978 and 1979. (Contd..)

(Tonnes)

Name of the Industry/ Items	1978 No. of units	1978 Installed capacity (per annum)	1978 Production	1979 No. of units	1979 Installed capacity* (per annum)	1979 Production
Organic Heavy Chemicals						
Benzene	10	94000	93697	11	131060	97751
Butadiene	3	54400	18773	3	54400	24030
Butyl Acetate	4	9280	4214	4	9280	3675
Butyl Alcohol	4	15450	9005	4	15440	8400
Diacetone Alcohol	2	5800	3877	2	5800	4398
Diethylene Glycol	1	600	703	1	600	502
Dichloro Ethane	1	50000	38552	1	30000	35019
Dripolene A+B	1	5000	2734	1	5000	3750
2-Ethyl Hexanel	2	10700	10039	2	12700	8700
Ethylene	3	205000	98159	3	210000	130453
Ethylene Oxide	1	12000	13780	1	28000	12410
Monoethylene Glycol	2	10000	8600	2	30000	11319
Methyl Isobutyl Ketone	1	3700	634	1	3700	632
Isopropanol	1	4000	2236	1	4000	2104
Phthalic Anhydride	5	27300	19175	5	27900	23292
Polyethylene Glycol	1	1000	1330	1	1000	1150
Propylene	3	120000	49602	3	120000	67935
Styrene	3	35000	24389	3	35000	24391
Toluene	9	25755	23826	9	25755	23905
D.M.T.	1	24000	25936	1	24000	26931
Ortho-xylene	1	21000	18528	1	21000	17334
Para-xylene	1	17000	14825	1	17000	13091
Mixed-xylene	1	2500	2850	1	2500	3193
Vinyl Chloride	1	30000	23089	1	30000	20677
Caprolactum	1	20000	14011	1	20000	13930
Carbon Black feed stock	-	-	-	1	17900	5839
Acrylonitrile	-	-	-	1	24000	4482
Linear Alkyl/Benzene	-	-	-	1	30000	11398
Synthetic Fibres						
Nylon Acrylic fibre	2	16000	-	2	16000	2966
Nylon filament yarn	8	20256	18170	8	20956	18011
Nylon indl. yarn	4	10490	8097	4	10490	10812
Polyster staple fibre	5	27400	25654	5	30500	24857
Polyster fila. yarn	8	7686	6244	8	8046	9404
Synthetic Rubber						
Styrene butadiene rubber	1	30000	25942	1	30000	23780
Polybutadiene rubber				1	20000	9293
Plastic Raw Material Themosets & Thermoplastics						
M.F.Moulding powder	3	1740	162	3	1740	185
P.F.Moulding powder	3	6200	4243	3	6200	4568
U.F.Moulding powder	4	5400	2434	4	5400	2913
C.A.Moulding powder	2	7200	852	2	7200	773
Polyethylene L.D.	3	99000	41953	3	112000	72946
Polyethylene H.D.	1	30000	28695	1	30000	25990
Polystyrene	2	23500	12763	2	23500	13517
P.V.C. Resins	5	77900	61418	5	77900	59221
Polypropylene	1	30000	3345	1	30000	13997

Including annual installed capacity of IPCL plant which went in production in May/June, 1978. * As on 1.4.1980.

Production of Petro-chemicals in India - 1970-71 to 1979-80.

(Tonnes)

Products	1970-71	1975-76	1977-78	1978-79	Annual Installed Capacity as on 1.4.80	1979-80
Organic Chemicals						
Benzene	53190	71224	91689	96773	131060	94801
Butadiene	18183	16323	16511	19953	54400	21766
Butyl Acetate	2691	3703	4065	4061	9280	3794
Butyl Alcohol	4231	5587	8844	9011	15440	8279
Diacetone Alcohol	2572	2351	3758	3860	5800	4483
Diethylene Glycol	527	681	656	608	600	441
Dichlore Ethane	642	24557	34902	39064	30000	33528
Dripolene A+B	4476	3730	2145	3456	5000	3922
2-Ethyl Hexanol	7938	8340	7980	9301	12700	126537
Ethylene	58668	64257	69732	115779	210000	12134
Ethylene Oxide	1513	9921	12442	13396	28000	11782
Monoethylene Glycol	4500	7287	5491	8570	30000	8564
Methyl Isobutyl Ketone	1226	960	841	544	3700	584
Isopropanol	1650	1346	1794	2306	4000	2030
Phthalic Anhydride	7984	6429	19080	21202	27900	23172
Polyethylene Glycol	563	872	1121	1173	1000	1043
Propylene	5663	32766	37705	56048	120000	66084
Styrene	-	16436	24759	25476	35000	22781
Toluene	8385	15292	19915	24460	25755	23888
D.M.T.	-	19018	25557	27071	24000	27939
Ortho-xylene	-	7888	17688	19131	21000	18544
Para-xylene	-	12412	13300	14933	17000	14589
Mixed-xylene	-	4336	2090	2307	2500	3472
Vinyl Chloride	-	13812	19743	23908	30000	19249
Caprolactum	-	13270	15813	14331	20000	13477
Carbon Block/ Feed stock	-	-	-	5913	17900	5197
Acrylonitrile	-	-	-	1824	24000	3724
Linear Alkyl/Benzene	-	-	-	4601	30000	13096
Synthetic Fibres						
Acrylic fibre	-	-	-	186	16000	3368
Nylon Fila.yarn	9338	14037	16424	18537	20956	17686
Nylon Indl.Yarn	440	4000	6642	8618	10490	11231
Polyester Staple fibre	5423	16018	23194	25349	30000	23617
Polyester fila.yarn	602	2297	4323	7210	8046	9029
Synthetic Rubber						
Styrene Butadiene Rubber	29791	25195	28335	23285	30000	21596
Polybutadiene rubber	-	-	-	-	20000	8780
Plastic Raw Materials Themosets & Thermoplastics						
M.F.Moulding Powder	78	120	180	178	1740	186
U.F.Moulding Powder	3286	3665	4378	4236	6200	4592
U.F.Moulding Powder	1735	1887	2226	2497	5400	2931
C.A.Moulding Powder	1084	1133	990	765	7200	627
Polyethylene L.D.	24437	27636	18451	56028	112000	71716
Polyethylene H.D.	21153	20018	25585	28073	30000	25380
Polystyrene	8925	9203	13569	14474	23500	12036
P.V.C.Resins	41472	43818	59023	62643	77900	49807
Polypropylene	-	-	-	7127	30000	13146

III. SALES/CONSUMPTION

Estimated/Consumption of Selected Petro-chemicals

(Qty. Tonnes)

PRODUCTS.	1970-71	1973-74	1975-76	1976-77	1977-78	1978-79.
1.	2.	3.	4.	5.	6.	7.
Organic Intermodiates						
Benzene	53209	69652	72412	89446	91689	96773
Butadiene	18183	14413	16323	15996	16511	19953
Diethylene Glycol	527	776	681	4[illegible]6	656	608
Dichloroethane	642	33263	24557	26546	34902	39064
Ethylene	58668	71454	64257	71724	69732	115779
Ethylene Oxide	1513	10364	9921	11005	12442	13396
Ethylene Glycol	4805	9558	7444	10288	6027	11534
2-Ethyl Hexanol	7938	7376	8340	9276	7980	9301
Isopropanol	1650	1413	1346	1815	1794	2306
M.I. Ketone	1236	1309	960	956	969	1430
Phthalic Anhydride	13275	11330	12931	17008	21930	23420
Propylene	5663	36499	32766	34836	37705	56048
Polyethylene Glycol	563	717	872	937	1121	1173
Styrene	-	23304	16436	23003	24759	25476
Toluene	8327	15591	15296	18728	19915	24544
PLASTICS RAW MATERIALS.						
M.F. Moulding Powder	78	188	120	144	180	178
P.F. Moulding Powder	3367	5912	3661	4042	4673	4287
U.F. Moulding Powder	1663	2005	1939	2283	2361	2506
C.A. Moulding Powder	1170	1706	1465	1068	1235	1023
Polyethylene L. D.	22988	33202	35012	34230	53738	83770
Polyethylene H. D.	13590	29029	21479	33367	48574	54251
Polystyrene	8189	14840	9610	13639	14102	15531
P.V.C. Resins	41452	48973	44223	47796	67227	68736
SYNTHETIC FIBRE						
Acrylic Fibre	195	763	3163	2855	8226	15330
Nylon 6 Filament Yarn	9338	10216	16890	16912	17803	23651
Nylon Industrial Yarn/ Tyre Cord.	440	1585	4000	5815	6583	8560
Nylon Polymides/ Staple-Fibre	117	375	356	214	636	23
Polyester Filament Yarn	602	1812	4456	3480	6280	14150
Polyester Staple Fibre	14166	11068	16559	24373	31418	32[illegible]
Synthetic Rubber*	21731	26666	31582	29522	38515	420[illegible]

Note: Estimated Consumption = Production + Imports - Exports.

* = Includes Imports and Exports of Natural & Reclaimed Rubber als

** Included 5293 M.T. of Polybutadiene Rubber from IPCL, Baroda.

ESTIMATED END-USE SALES/CONSUMPTION OF U.F. AND M.F. MOULDING POWDER IN DIFFERENT INDUSTRIES

(Percentages)

END - USES.	1972	1975	1976	1977	1978	1979
1. Button Moulders & Bottle Caps. etc.	28.3	30.1	25.6	19.0	17.9	12.2
2. Electrical Accessaries	62.0	63.5	58.0	69.6	67.3	81.6
3. Tableware Croc	4.5	1.4	2.3	2.5	3.5	2.3
4. Switchgears	1.2	0.8	0.3	4.1	4.0	-
5. Miccellaneous (Includes Various Items like Ashtrays, handles pen, stands, Toiler Sheets Novelty, etc.)	4.0	4.2	13.8	4.8	4.8	7.3
T O T A L	100.0	100.0	100.0	100.0	100.0	100.0
Total Sales(Thousand-Tonnes)	2	2	2	2	2	3

ESTIMATED END-USE SALES/CONSUMPTION OF C. A. MOULDING POWDER IN DIFFERENT INDUSTRIES.

(Percentages)

END - USE.	1972	1975	1976	1977	1978	1979.
1. Optical & Frames	11.5	6.9	4.9	5.2	6.5	6.6
2. Bangles	45.2	59.9	43.8	53.8	39.0	33.4
3. Tool Brush Handles	18.9	4.4	5.2	9.2	8.9	14.6
4. Comb	6.4	7.8	11.1	9.5	12.0	18.0
5. Umbrella Handles	6.9	14.1	19.1	10.0	11.0	5.9
6. Fountain Pens	6.5	3.5	3.1	1.2	1.2	0.3
7. Tool Handles	3.3	2.6	8.0	9.9	20.2	21.0
8. Industrial Components	0.6	0.2	0.1	0.2	0.2	0.2
9. Sheetings	0.2	-	-	-	-	-
10. Toys, Keys, Tops	0.1	-	-	-	-	-
11. Miscellaneous	0.4	0.6	4.7	1.0	1.0	-
T O T A L:	100.0	100.0	100.0	100.0	100.0	100.0
Total Sales(000 tonnes)	5	3	3	1	1	1

ESTIMATED END-USE SALES/CONSUMPTION OF POLYETHYLENE L.D. IN DIFFERENT INDUSTRIES

(Percentages)

END-USES.	1972	1975	1976	1977	1978	1979
1.	2.	3.	4.	5.	6.	7.
Film & Coating	74.3	76.7	72.3	76.9	69.7	85.2
Moulding	*	*	*	13.8	12.5	7.8
Wire & Pipes	8.0	7.5	6.9	7.2	7.4	2.8
Miscellaneous	17.7	15.8	20.8	2.1	10.4	4.2
T O T A L	100.0	100.0	100.0	100.0	100.0	100.0
TOTAL SALES(000 Tonnes)	29	28	27	25	22	66

* Included under the Miscellaneous Category.

ESTIMATED END-USE SALES/CONSUMPTION OF POLYETHYLENE H.D.IN DIFFERENT INDUSTRIES.

(Percentages)

APPLICATION	1972	1975	1976	1977	1978	1979
1.	2.	3.	4.	5.	6.	7.
A. Injection Moulding						
i) Household articles	34.4	25.2	27.0	27.6	29.9	20.0
ii) Transport cases	0.7	0.8	2.0	0.7	0.4	1.1
iii) Industrial	5.2	5.6	5.0	5.3	5.6	5.3
SUB-TOTAL	40.3	31.6	34.0	33.6	35.9	26.6
B. Blow Moulding						
i) Consumer Packaging	12.0	11.5	12.5	13.9	13.4	16.6
ii) Industrial Packaging	12.5	6.5	8.9	11.6	13.8	12.8
iii) Miscellaneous	0.7	0.6	0.4	0.2	0.2	0.2
SUB-TOTAL	25.3	18.6	21.8	25.7	27.4	29.6
C. Extrusion						
i) Monofillament & Cane Stropping	9.6	17.6	13.6	11.6	12.3	10.4
ii) Films and Sheets	2.9	4.1	3.1	3.7	2.5	3.0
iii) Pipes and Cables	2.6	6.1	6.9	6.7	7.7	10.2
iv) Stripes and Woven	19.3	22.0	20.6	18.7	14.1	20.2
SUB-TOTAL	34.4	49.8	44.2	40.7	36.7	43.8
GRAND TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
Total Sales (Thousand tonnes)	21	24	23	24	28	24

ESTIMATED END-USE SALES/CONSUMPTION OF POLYSTYRENE IN DIFFERENT INDUSTRIES.

(Percentage)

END-USES	1972	1975	1976	1977	1978	1979
1.	2.	3.	4.	5.	6.	7.
Appliances	2.3	1.4	3.4	7.6	7.4	9.9
Electronics & Industrial	20.9	29.1	26.8	25.5	24.9	28.7
Buildings	12.4	9.4	12.6	14.5	12.2	9.7
Packaging	18.6	19.0	22.1	16.4	19.9	17.6
House hold wares	28.2	28.7	21.8	19.8	18.7	15.8
Toys & Novelties	1.4	2.7	5.7	6.7	7.8	11.3
Defence	0.5	00.8	1.1	0.5	1.0	0.7
Miscellaneous	15.7	8.8	6.5	9.0	8.1	6.3
T O T A L	100.0	100.0	100.0	100.0	100.0	100.0
TOTAL SALES (Thousand tonnes)	13	9	12	14	15	11

ESTIMATED END-USE SALES/CONSUMPTION OF PVC RESINS IN DIFFERENT INDUSTRIES

(Percentage)

END-USES	1972	1975	1976	1977	1988	1979
1.	2.	3.	4.	5.	6.	7.
Wire Cables	30.5	28.8	26.5	24.2	20.3	32.6
Pipes, Fittings Conduits	13.5	17.1	20.0	21.8	24.2	25.4
Leather Cloth & Sheet/Films	21.4	24.0	24.7	28.3	26.4	22.3
Footwear	17.4	11.6	8.8	10.0	7.3	9.2
Gramophone	0.5	0.8	1.0	0.7	0.9	Neg.
Vinyl Tiles	0.1	0.2	0.2	0.3	0.4	0.3
Conveyors Belting	0.1	0.3	0.1	0.1	0.1	0.1
Battery Separators	0.3	0.7	0.7	0.5	1.1	0.4
Transparent Blown Bottoms	-	0.2	0.4	0.3	0.4	0.1
Transparent Blown Films	-	0.1	-	-	0.6	0.1
Toys	10.1	0.2	0.1	0.1	0.1	Neg.
Compounders	10.7	7.9	7.8	7.2	10.1	2.3
Miscellaneous	6.4	8.2	9.7	6.5	8.1	7.2
T O T A L :	100.0	100.0	100.0	100.0	100.0	100.0
TOTAL SALES (Thousand tonnes)	46	42	47	51	54	56

ESTIMATED END-USE SALE/CONSUMPTION@ OF SELECTED ORGANIC CHEMICALS

(Percentages)

E N D - U S E.	1976	1977	1978	1979
METHYL ISO BUTYL KETONE				
Pharamaceuticals	30	33	38	11
Paints/Suface/Coatings	46	34	41	40
Pesticides	17	22	13	29
Others	7	11	8	20
T O T A L	100	100	100	100
Total Sales(Thousand tonnes)	0.9	0.9	1.0	1.0
MONO - ETHYLENE GLYCOL				
Polyester	66	42	69	73
Explosive	24	35	22	17
Others	10	23	9	10
T O T A L	100	100	100	100
Total Sales(Thousand tonnes)	6	5	8	11
ISOPROPANOL				
Pharmaceuticals	40	33	43	38
Paints/Suface/Coastings	11	11	12	10
Textile/Chemicals/Auxiliaries	16	11	13	16
Pesticides	10	11	9	12
Others	23	34	23	24
T O T A L	100	100	100	100
Total Sales(Thousand tonnes)	1.7	1.8	2	2
ETHYLENE OXIDE				
Glycols	57	48	57	42
Textile/Auxiliaries	27	40	33	42
Ethanolawines	8	-	-	-
Others	5	12	10	16
T O T A L	100	100	100	100
Total Sales(Thousand tonnes)	10	12	6	7

@= Excluding Captive Consumption.

ESTIMATED END-USE SALES/CONSUMPTION* OF SELECTED ORGANIC CHEMICALS

(Percentages)

END - USE	1974	1975	1976	1977	1978	1979
1.	2.	3.	4.	5.	6.	7.
			D. M. T.			
Fibre	83.4	77.1	84.7	87.1	84.3	89.3
Filament	11.8	19.8	13.3	12.1	15.1	9.5
Resins	47.8	3.0	1.6	0.8	0.6	0.4
Wire Enament & Others	neg.	0.1	0.4	-	-	0.8
T O T A L	100.0	100.0	100.0	100.0	100.0	100.0
Total Sales (Thousand tonnes)	10	18	21	24	33	20
			ORTHO - XYLENE			
Phthalic Anhydride	98.8	91.9	72.8	82.4	78.0	67.7
Paints	0.2	1.2	4.8	5.5	10.6	10.8
Pesticides	neg.	1.2	0.6	1.8	-	3.7
Dyestuffs & Dyes-Intermediates	0.5	0.8	1.2	1.0	11.4	3.0
Wire Enamels	-	1.1	1.1	1.8		1.9
Exports	-	-	13.0	-	-	-
Others	0.5	3.8	6.5	7.5		12.9
T O T A L	100.0	100.0	100.0	100.0	100.0	100.0
Total Sales (Thousand tonnes)	6	6	19	21	19	17
			MIXED XYLENE			
Paints	23.8	49.4	61.8	34.4	22.3	37.0
Pesticides	24.5	32.0	15.4	31.5	55.4	51.3
Dyestuffs & Dye-Intermediates	41.5	3.4	5.1	8.7	-	3.1
Wire Enaments & Resins	0.4	1.2	5.0	-	22.3	-
Others	9.8	14.0	12.7	25.4	-	8.6
T O T A L	100.0	100.0	100.0	100.0	100.0	100.0
Total Sales (Thousand tonnes)	2.	4	2	2	2	3

* = Excluding Captive Consumption.

SALES/CONSUMPTION OF SBR BY END PRODUCTS

(Qty. Tonnes)

End Product	1975	1976	1977	1978	1979
A. Auto Tyre Units					
1. Firestone	3008	2556	2363	2343	1637
2. Ceat	2473	3308	3306	2980	2003
3. Dunlop	5634	4051	2746	2867	2152
4. Inchek	261	50	48	23	19
5. Goodyear	1311	2665	2772	2684	1350
6. M.R.F.	1092	1280	1161	1073	711
7. Premier	466	248	248	279	246
8. Modi	626	1115	1373	1169	580
9. J.K. Industries	-	25	721	552	650
10. Apollo Tyres	-	23	304	312	417
11. Vikrant Tyres Ltd.	-	-	-	-	8
Sub. Total	14871	15321	15042	14282	9673
B. OTHERS					
1. Footwear	5700	5900	6500	7700	8000
2. Cycle Tyres & Tubes	50	900	1000	1200	1100
3. Retreading Material	1200	1000	800	500	300
4. Industrial Rubber Products	850	950	800	1050	1100
5. Others	1719	1889	1478	1574	1578
Sub. Total	10319	10639	10578	12024	12078
GRAND TOTAL	25190	25960	25620	26306	21751

Source:- M/s Synthetic & Chemicals Limited, Bombay

IV PRICES.

BOMBAY MARKET PRICES OF SELECTED DENIERS OF NYLON YARN.

(Rs. Per Kg.)

DENIER	SPINNER	PRICE AS ON				
		1-1-76	1-1-77	2-1-78	1-1-79	1-1-80
1.	2.	3.	4.	5.	6.	7.
12-1-0	J. K. I.	145.0	126.00	138.00	143.00	175.00
Modipon	Modipon I	142.00	125.00	-	-	-
	Garware	141.00	124.00	138.00	-	-
	Nirlon Std,	142.00	124.00	138.00	143.00	175.00
30-1-0	Nirlon Std.	136.00	117.00	128.00	123.00	148.00
	Modipon I	135.00	118.00	-	-	-
	J. K. I.	136.00	119.00	128.00	123.00	151.00
	Garware	135.00	117.00	-	-	-
40-10-0	J.K. Sd. I	115.00	106.00	130.00	102.00	124.00
	Modipon I	122.00	108.00	-	-	-
	Nirlon Wvg. I	115.00	107.00	130.00	103.00	122.00
	Garware ISL	113.00	106.00	-	-	-
	Nirlon F. D.	-	-	-	110.00	140.00

Source:- Office of the Textile Commissioner, Bombay.

PRICES OF POLYESTER FIBRE/ FILAMENT YARN.

(Rs./ Kg.)

DENIER	SPINNER	2-1-78		1-1-79		1-1-80	
		Min.	Max.	Min.	Max.	Min.	Max.
		POLYESTER FIBRE					
1.2D X 1.5		65	65	65	67	78	80
1.5D X 1.5		62	62	62	64	76	78
2.0D X 1.5		62	63	62	64	76	78
		POLYESTER FILAMENT YARN					
76 - 34 -0	Nirlon SDI	-		139		140	
76 - 32 -0	Mod-ipon	-		-		146	
80 - 34 -0	Nirlon SD	135		-		-	
80 - 24 -0	Modipon I	138		136		-	

Source:- Office of the Textile Commissioner, Bombay.

EX-WORKS PRICES(BULK,EXCLUDING EXCISE DUTY) OF SELECTED PETROCHEMICALS

(Rs./MT)

Item	Manufactures	1.1.71	1.1.72	1.1.73	1.1.74	1.1.75
1.	2.	3.	4.	5.	6.	7.
1. Polyethylene LD	UCI	5130	5400	5400	6140	9425
	ACCI	4792	4792	4798	5122	8087
2. Polyethylene HD (Natural colour)	Polyolefins India Ltd.	4212	4329	4346	4671	7744
3. Styrene Monomer	Polychem Ltd.	3331	3293	3807	4060	9340
4. Polystyrene (General purpose)	Hindustan Polymers Ltd.	4250	-	-	-	9100
5. PVC(Resin)	NOCIL	3100	3100	3100	3800	6000
	Chemicals & Plastics India Ltd.	2900	3050	3350	4200	6000
	Calico Ltd.	2825	2825	2825	2750	5300
6. Dioctyl Phthalate	UCI Ltd.	7300	6000	6250	13000	11700
	IOC Ltd.	7150	4650	4300	11650	8600
	HCL	7400	5612	5798	9458	10800
7. 2-Ethyle Hexanol	NOCIL	5200	5200	4900	5200	8300
	UCI Ltd.	5300	4900	5300	7700	8000
8. Ethylene Glycol	NOCIL	4700	4300	4300	4550	6800
9. Ethylene Oxide	NOCIL	8050	6100	6100	6350	8750
10. Synthetic rubber (Prices ex-Bombay)	Synthetic & Chem.Ltd.					
S-1500/502		4400	4400	4400	4400	4950
S-1712		3900	3900	3900	3900	4450
S-1958		6800	6800	6800	6800	7400
11. Di Butyl Phthalate	IOC	7000	5900	6150	16150	15550

Note:- UCI stands for Union Carbide India Ltd., NOCIL for National Organic Chem. Industries Ltd., HCL for Herdillia Chemicals Ltd Ltd., IOC for Indian Organic Chem. Ltd., ACCI for Alkalies & Chem. Corpn. of India Limited.,

- = Not available.

EX-WORKS PRICES (BULK EXCLUDING EXCISE DUTY) OF SELECTED PETROCHEMICALS

(Rs./MT)

Item	Manufactures	1.1.76	1.1.77	1.1.78	1.1.79	1.4.80
8.	9.	10.	11.	12.	13.	14.
1. Polyethylene* LD	UCI	14703	13195	13195	14041	20909
	ACCI	8087	8087	13195*	13500*	19469*
2. Polyethylene HD (Natural colour)	Polyolfins Inds.Ltd.	7613	7613	7613	7900	13300
3. Styrene Monomer	Polychem Ltd.	8230	10090	9225	8985	13690
4. Polystyrene (General purpose)	Hindustan Polymers Ltd.	9100	9100	9100	13500**	21500**
5. PVC (Resin)	NOCIL	6000	6000	6000	6300	9000
	Chemicals & Plastics India Ltd.	5150	5700	6150	6450	8180
	Calico Ltd.	5300	5900	6200	6800	N.A.
6. Dioctyl phthalate	IOC LTD.	8100	10700	9920	10230	17310
	HCL	10000	11600	11600	11800	13350
7. 2-Ethyle Hexanol	NOCIL	8750	8750	8750	8900	14700
	UCI Ltd.	8650	8650	9650	9250	13950
8. Ethyelene Glycol	NOCIL	7250	7550	7550	7650	10900
9. Ethylene Oxide	NOCIL	9300	9550	9550	9725	13950
10. Synthetic Rubber (Price ex-Bombay)	Synthetic & Chem.Ltd.					
-S-1500/502		5050	8750	8800	9550	14100
-S-1712		4550	8250	8300	9050	13100
-S-1958(B)		7600	14500	14450	14750	19400
11. Di Butyl Phthalate	IOC	10600	11050	10160	10900	15210

UCI stands for Union Carbide India Ltd., NOCIL for National Organic Chemicals Industries Ltd., HCL for Herdillia Chemicals Ltd., IOC for Indian Organic Chemicals Ltd., ACCI for Alkalies and Chemicals Corporation of India Ltd.

Note: Prices shown against NOCIL include market charges.

N.A. = Not available * = Selling Price ** = Inclusive of excise duty

V. EXCISE AND CUSTOM DUTIES

Realisation of Excise & Customs duties on Petrochemicals during 1977-78, 1978-79, R.E. for 1979-80 and B.E. for 1980 - 81.

(Rs./Crores)

PRODUCTS.	ACTUAL 1977-78	ACTUAL 1978-79	1979-80 (R.E.-June-80)	1980-81 (B.E.-June-80)
A. EXCISE DUTIES.				
1. Plastic Materials and Synthetic Fibre	63	92	105	121
2. Synthetic Organic Dyestuff.	38	42	42	47
3. Carbon black	3	4	7	8
4. Man made Fabrics	1	3	5	6
5. Man made Fibre & man made Filament Yarn	283	329	403	437
6. Synthetic Rubber	1	2	2	2
TOTAL EXCISE DUTY(A)	389	472	564	621
B. CUSTOMS DUTIES.				
1. Artificial resins, Plastic materials & articles there of	90	90	102	110
2. Yarn of man made Fibre.	33	79	95	100
3. Man made Fibre & Filament tow.	77	88	100	127
TOTAL CUSTOMS DUTY (B)	200	257	297	337
GRAND TOTAL (A + B)	589	729	861	958

Figures rounded to nearest Crore.

Source:- Budget papers of the Central Government.

IMPORTS OF SELECTED PETRO-CHEMICALS

Qty. = Tonnes: Value in Rs. Lakhs

Products	1970-71		1975-76		1977-78		1978-79.	
	Qty.	Value	Qty.	Value	Qty.	Value	Qty.	Value
1.	2.	3.	4.	5.	6.	7.	8.	9.
ORGANIC CHEMICALS.								
Benzene	19	7.0	1191	48.0	-	-	-	-
Toluene	2	2.0	4	0.3	-	-	84	8.0
Butyl Alcohol(Butanol)	24	1.0	28	2.7	-	-	15	2.0
Butyl Acetate	13	0.4	161	14.5	68	6.0	19	2.0
Ethyl Alcohol Undenatured	10492	100.0	Neg.	0.1	-	-	-	-
Ethyl Alcohol Denatured.	23	2.0	1	0.3	-	-	-	-
Phthalic Anhydride	5291	85.0	6502	307.8	2850	121.0	2218	81.0
Methyl IsobutylKetone	-	-	-	-	128	9.0	886	72.0
Epsilon Caprolactum	1867	72.8	1985	200.2	5928	574.6	8290	651.3
D. M. T.	237	7.9	248	12.0	1388	64.8	330	11.0
Acrylonitrile	-	-	-	-	40	3.2	166	12.0
Ethylene Glycol	305	9.0	157	13.4	536	39.0	2964	154.0
PLASTIC RAW MATERIALS								
P.F.Moulding Powder	81	5.0	1	0.5	302	17.0	81	5.0
U.F. Moulding Powder	0.3	Neg.	83	3.9	35	3.0	10	2.0
C.A. Moulding Powder	86	6.0	332	30.3	245	16.0	328	14.0
Polyethylene L.D.	37	2.0	7376	311.9	35287	1852.0	27742	1291.0
Polyethylene H.D.	310	10.0	1512	84.0	22997	1330.0	26178	1378.0
Polystyrene Moulding Powder	175	5.0	416	27.4	536	31.0	1062	63.0
P. V. C. Resins	180	10.0	405	26.9	8307	394.0	6093	340.0
SYNTHETIC FIBRES.								
Polyester Fibre	3098	227.0	541	66.9	8224	828.0	7508	731.0
Acrylic Fribre	195	16.0	3163	380.2	8226	903.0	15330	1655.0
Nylon Filament Yarn	-	-	2853	587.0	1379	265.0	5183	1093.0
Polyester Filament Yarn	-	-	2159	274.0	2009	345.0	6947	1365.0
Polyamide Fibre	117	11.0	356	60.9	636	80.0	236	
Syn.& Regenerated Fibre	-	-	-	-	-	-	15843	1740 2.0
SYNTHETIC RUBBER.								
Crude & Syn. Rubber	7787	385.0	6391	651.6	10212	1039.0	13525	1407.0

Neg. = Negligible. Source= Directorate General of Commercial intelligence and statistics, Calcutta.

Imports of Benzene by DOC

Year.	Qty (Tonnes)	Value (Rs. Lakhs)		
1977-78	8003	176.84	—	—
1978-79	—	—	—	—
1979-80	7735	427.18	1108	139
1980-81	15911	671.56		
April-Dec, 82	—	—		
Ap-Sept 80	7948	350.68	—	—

STATEMENT NO. II

THE PUBLIC UNDERTAKING

STRY OF PETROLEUM

981

NAME OF THE UNDERTAKING : OIL INDIA LIMITED

ABILITY

(Rupees in lakhs)

arget upto the end of the quarter	Gross Profit During the quarter	Gross Profit Upto the end of the quarter	% of Gross Profit During the quarter	% of Gross Profit Upto the end of the qurt.	Remarks
7.	8.	9.	10.	11.	12.
** 66.84	5522	11755	63.69	54.03	Nil

EXPORT OF SELECTED PETRO-CHEMICALS

Qty. Tonnes: Value in Rs. Lakhs.

PRODUCTS.	1970-71		1975-76		1977-78		1978-79	
	Qty.	Value	Qty.	Value	Qty.	Value	Qty.	Value
1.	2.	3.	4.	5.	6.	7.	8.	9.
ORGANIC CHEMICALS.								
Benzene	-	-	-3	0.1	-	-	-	-
Butyl Alcohol	500	5.0	-	-	-	-	-	-
Ethyl Alcohol Undenatured	5750	3.0	-	-	-	-	-	-
PLASTIC RAW MATERIAL								
P.F. Moulding Powder	-	-	5	0.3	7	2.0	30	2.0
M.F. Moulding Powder	-	-	-	-	-	-	-	-
U.F. Moulding Powder	72	2.0	31	1.6	-	-	-	-
Polyethylene L.D.	1486	25.9	-	-	-	-	-	-
Polyethylene H.D.	7873	205.1	51	5.6	8	1.0	-	-
Polystyrene Moulding Powder	911	20.0	9	2.8	3	1.0	5	2.0
P.V.C. Resins	300	3.0	-	-	3	Neg.	-	-
SYNTHETIC FIBRES.								
Syn.& Regenerated-Fibre	353	7.0	15	0.6	80	5.0	52	4.0
Nylon Tyre Cord	-	-	-	-	59	11.0	58	10.0
Nylon Filament Yarn	-	-	-	-	-	-	69	9.0
Polyester Filament Yarn	-	-	-	-	52	6.0	-	-
Polyester Fibre	-	-	-	-	-	-	35	5.0
SYNTHETIC RUBBER.								
Crude & Syn. Rubber	273	4.0	4	0.3	32	3.0	30	2.0

Neg.= Negligible.

Source:— Directorate General of Commerce intelligence and Statistics, Calcutta.

VIII. INTERNATIONAL STATISTICS

WORLD PRODUCTION OF NON-CELLULOSIC FILAMENT FIBRES - 1971 TO 1977.

('000 Metric Tons)

COUNTRY	1971	1972	1973	1974	1975	1976	1977*
1.	2.	3.	4.	5.	6.	7.	8.
(A) Non-Cellulosic Continous Filaments							
World Total of which	2960	3325	3960	3930	3840	4195	4440
Argentina	23.7	25.5	28.8	27.6	28.0	24.1	26.5
Australia[2]	25.3	25.0	23.0	21.0	19.5	20.0	20.5
Brazil	31.2	44.5	63.2	68.7	80.1	96.6	95.6
Czechoslovakia	23.9	24.8	30.6	37.6	45.4	50.2	53.3
Canada	60.1	58.1	69.9	65.4	64,3	63.8	71.3
France	97.2	103.8	111.8	98.8	85.6	105.1	100.4
Germany Dem. Rep.	18.7	28.0	42.0	47.0	49.0	54.0	53.0
Germany Fed. Rep.	335.2	316.4	398.1	376.9	323.9	374.8	337.4
India	10.9	14.2	13.7	15.2	20.1	24.0	26.8
Japan	530.7	502.8	592.1	522.6	490.6	566.9	604.9
Italy	129.6	137.9	150.3	138.9	123.2	142.7	133.4
Spain	31.3	39.5	47.1	50.0	45.8	54.5	55.1
Switzerland	38.6	46.8	49.8	46.6	44.8	49.4	49.0
U.S.S.R.	132.3	157.2	176.3	195.7	230.3	263.0	291.8
U. K.[1]	191.2	196.4	233.0	200.3	184.0	200.4	176.7
U. S. A.	992.0	1257.9	1514.9	1562.4	1455.7	1496.2	1659.2
(B) Non-Cellulosic Discontinous Fibre.							
World Total	2820	3240	3875	3760	3620	4455	4620
Canada	25.5	22.1[3]	23.7	26.6	31.5	34.5	43.5
France	115.8	130.5	154.5	138.9	119.1	145.5	143.4
Germany Dem. Rep.	32.0	38.6	47.5	53.0	64.0	68.0	67.5
Germany Fed. Rep.	268.8	324.2	412.3	390.0	309.1	396.4	375.2
India	6.0	6.7	13.1	8.2	14.6	21.8	21.8
Italy	173.9	187.1	232.0	210.2	198.7	284.8	253.9
Japan	633.9	613.8	716,3	651.8	570.6	678.6	715.4
Poland	38.7	39.4	43.6	50.8	65.1	68.4	65.4
Spain	44.8	69.4	84.1	78.9	74.4	91.7	104.6
U.S.S.R.	70.8	81.4	110.6	122.0	134.3	145.4	167.5
U. K.[1]	166.1	177.5	220.9	195.8	177.1	214.1	182.1
U. S. A.	954.2	1171.6	1347.4	1261.7	1210.6	1504.9	1658.0

1. Delivered weight, approximately 3% less than actual weight.
2. Including production in New Zealand. 3. Beginning 1972, excluding Olefin. * Provisional.

Source: U.N. Statistical Year Book - 1978.

Production of Plastics & Resins in Selected Countries of the World -1971-1977

('000' metric tons)

Country or area and product	1971	1972	1973	1974	1975	1976	1977*
Australia(Total)	255.6	290.4	378.0	402.0	362.4	406.8	464.4
Belgium							
Condensation	40.6	19.9	26.9	31.2	42.0	50.0	..
Polymerization	410.4	584.4	726.0	778.8	615.6	762.0	..
Others	21.1	21.1	20.2	25.0	20.9	20.9	..
Czechoslovakia(Total)	270.0	300.0	355.2	390.0	428.4	579.6	736.8
Condensation	14.0	16.2	24.6	24.6	25.2	25.1	26.7
Alkyd resins							
Amino Plastics	2.3	2.1	2.1	2.2	2.0	2.3	2.2
Phenoplasts	15.6	16.9	17.8	17.6	18.5	18.5	18.0
Polymerization							
Polyethylene	29.4	30.3	30.9	28.4	30.6	60.5	112.2
Polypropylene	..	..	16.2	24.2	31.3	89.1	100.1
Polystyrene	25.7	32.6	43.4	42.1	42.6	43.1	47.0
Polyvinyl Chloride	43.4	45.8	52.5	64.7	82.9	140.3	..
Other							
Regen. Cellulose	17.0	17.4	17.1	17.0	17.7	17.9	18.5
Canada (Total)	387.0	504.0	805.2	796.8	722.4	..	..
Condensation							
Alkyd resins	..	..	..	..	..	..	..
Polymerization							
Polyethylene	179.7	203.7	246.2	247.3	246.1	300.9	345.0
Polystyrene	60.4	79.4	82.0	67.1	59.3	75.9	85.2
Polyvinyl chloride	78.0	98.6	112.5	114.2	69.9	96.7	99.7
France							
Condensation	372.0	466.8	544.8	553.2	480.0	544.0	-
Alkyd resins	28.5	31.5	33.8	29.9	38.4	43.8	46.4
Amino plastics	91.9	114.8	154.6	209.5	203.9	207.4	194.8
Phenoplasts	46.2	53.5	67.0	66.8	61.1	73.9	65.4
Polymerization	1327.2	1572.0	1908.0	2006.4	1479.0	2078.0	..
Polyethylene	503.5	607.2	784.7	899.9	622.6	913.8	954.5
Polystyrene	149.3	181.6	190.8	189.4	160.6	238.7	233.3
Polyvinyl chloride	457.6	538.7	655.8	622.5	473.6	616.4	645.2
Others	69.6	74.4	79.2	79.2	57.0	66.0	..
Germany Dem.Rep.							
Total	420.0	458.4	489.6	517.2	604.8	679.2	734.4

Source :- U.N. Statistical Year Book - 1978.

(contd.)

Production of Plastics & Resins in Selected Countries of the World 1971 - 1977

('000' metric tons)

Country or area and product	1971	1972	1973	1974	1975	1976	1977*
Germany Fed.Rep.							
Condensation	1502.4	1730.4	2073.6	1892.4	1611.6	1952.4	1888.8
Alkyd resins	111.9	113.1	115.9	93.9	88.7	101.6	99.0
Amino plastic	644.3	791.9	939.9	827.5	717.2	833.2	814.8
Polymerization	3102.0	3558.0	4165.2	4178.4	3278.4	4310.4	4173.6
Polyethylene	928.2	1051.9	1368.2	1501.7	1068.4	1469.8	1433.6
Polyvinyl chloride	846.4	930.7	1033.8	1037.0	833.3	965.1	897.4
Other	175.2	182.4	195.6	200.4	156.0	181.2	177.6
India Total	103.2	106.8	104.4	86.4	82.8	87.6	103.6
Polyethylene	51.5	47.1	51.8	51.4	50.8	49.4	47.0
Polystyrene	11.0	12.8	13.8	9.8	9.1	12.3	14.7
Italy							
Condensation	234.0	259.2	290.4	266.4	208.8	224.4	231.6
Alkyd resins	29.1	29.2	37.0	35.4	27.5	30.5	28.5
Phenoplastic	39.4	40.5	46.7	43.1	31.8	38.4	37.4
Polymerization	1602.0	1882.8	2149.2	2163.6	1816.8	2013.6	2277.6
Polyethylene	515.8	602.5	692.0	696.4	626.0	831.4	779.7
Polystyrene	181.9	196.3	234.0	240.4	211.0	267.3	262.3
Polyvinyl chloride	483.2	535.1	708.3	705.5	555.2	713.8	685.4
Other	35.2	33.7	39.2	38.4	27.0	27.8	28.8
Japan							
Condensation	1128.0	1238.4	1442.4	1324.8	1014.0	1246.8	1240.8
Alkyd resins	229.6	262.1	319.6	235.7	217.3	265.2	246.8
Amino plastics	647.9	683.4	775.7	637.6	573.7	665.3	665.8
Phenoplasts	217.6	250.9	312.1	238.8	195.6	253.8	246.2
Polymerization	4033.2	4334.4	4950.0	5397.6	3358.8	3705.6	3736.8
Polyethylene	1340.0	1480.2	1671.7	1897.0	1290.6	1392.5	1466.7
Polypropylene	627.2	617.6	693.3	791.7	594.5	669.0	607.8
Polystyrene	694.9	795.8	855.0	853.4	690.0	875.1	900.3
Polyvinyl chloride	1034.5	1079.7	1318.3	1466.9	1125.4	1044.0	1030.8
Netherlands							
Condensation	302.4	321.6	396.0	442.8	397.2	482.4	530.4
Alkyd resins	49.3	55.1	61.0	50.8	52.5	61.2	60.3
Polymerization	574.8	718.8	876.0	1154.4	913.2	1196.4	1209.6
Other	37.2	39.6	42.0	46.6	39.7	44.0	42.6
Poland Total	256.8	298.8	427.2	394.8	538.8	559.2	583.2

Source:- U.N. Statistical Year Book - 1978

(contd.)

Production of Plastics & Resins in Selected Countries of the World 1971 - 1977

('000' metric tons)

Country or area and product	1971	1972	1973	1974	1975	1976	1977*
Poland							
Condensation							
Amino plastic	4.1	3.8	4.8	6.2	7.4	8.5	10.2
Phenoplasts	18.8	20.5	20.6	20.6	19.6	19.1	16.6
Polymerization							
Polyethylene	18.9	33.4	43.2	46.5	47.8	48.5	47.8
Polystyrene	22.1	19.9	22.2	30.6	32.0	32.5	33.8
Polyvinyl chloride	93.8	102.1	108.5	110.5	124.4	124.9	122.2
Sweden							
Condensation	106.8	135.6	159.6	175.2	162.0	190.0	..
Alkyd resins	27.7	33.0	34.8	34.2	31.2	32.6	..
Amino plastic	74.7	95.0	115.2	128.7	106.4	121.4	..
Phenoplasts	38.4	45.5	52.8	58.5	48.2	54.7	..
Polymerization	187.2	254.4	332.4	337.2	275.0	350.0	..
Polyethylene	104.0	144.7	193.3	206.6	147.6	204.4	..
Polystyrene	16.1	17.7	18.3	15.6	12.7	16.0	..
Polyvinyl chloride	79.8	105.6	131.9	127.6	96.0	116.0	..
Other	10.8	11.9	12.5	14.6	13.0	13.0	..
USSR Total	1860.0	2040.0	2304.0	2496.0	2844.0	3216.0	3300.0
United Kingdom							
Condensation	327.6	333.6	848.4	796.8	710.4	862.8	873.6
Alkyd resins	71.0	61.0	104.2	104.3	112.2	125.9	136.9
Amino plastics	138.0	143.0	143.8	140.4	121.9	172.1	178.5
Phenoplasts	55.0	55.0	73.1	59.3	46.7	53.3	59.4
Polymerization	1059.6	1203.6	1540.8	1488.0	1238.4	1581.6	1561.2
Polyethylene	378.4	435.6	534.3	491.0	382.9	474.4	490.6
Polypropylene	92.0	118.0	166.7	210.9	169.7	250.7	247.4
Polystyrene	161.0	184.0	239.4	224.2	184.6	240.6	223.7
Polyvinyl chloride	314.0	340.0	400.1	367.0	334.0	417.2	386.4
Other	93.6	93.6	130.8	134.4	108.0	111.6	109.2
Regen. cellulose	..	..	92.3	91.2	64.6	81.4	77.7
United States							
Condensation	1130.4	1363.2	1868.4	1761.6	799.2	1610.4	769.2
Alkyd resins	246.2	288.4	332.9	329.3	305.7	319.6	341.7
Amino plastic	349.1	421.2	653.9	560.5	479.4	..	..
Phenoplasts	535.5	653.3	747.3	724.9	578.2	708.0	815.2
Polymerization	6890.0	8434.8	9436.8	9651.6	7618.8	9470.4	8133.6
Polyethylene	2894.0	3472.2	3892.0	4002.9	3302.1	4056.0	4581.3
Polystyrene	1809.7	2217.8	2338.3	2294.6	1757.3	1685.0	2360.2
Polyvinyl chloride	1558.9	1960.1	2083.6	2151.5	1634.5	2133.0	2389.2
Other	1873.2	2247.6	2401.2	2350.8	1788.0	2180.4	2329.2
Regen. cellulose	631.7	632.4	615.5	543.7	339.8	..	..
Polypropylene	607.4	785.0	981.7	1019.8	863.2	466.0	1227.3

Source:- U.N. Statistical Year Book - 1978

Production of Synthetic and Reclaimed Rubber 1971 - 1977

('000' metric tons)

Country or area	1971	1972	1973	1974	1975	1976	1977*
	A. SYNTHETIC RUBBER						
World Total	5230	5580	6370	6035	5205	6265	6595
of which							
Argentina*	42.5	47.5	57.5	50.0	40.0	45.0	36.0
Australia	43.4	41.7	42.8	45.0	37.6	42.2	43.5
Belgium*	60.0	60.0	65.0	65.0	65.0	115.0	125.0
Brazil	78.2	94.6	125.6	155.2	128.8	164.4	188.1
Bulgaria	11.9	11.7	17.8	18.5	18.9	*21.0	25.0
Canada	197.4	195.5	229.8	208.8	173.3	209.9	237.9
Czechoslovakia	52.2	51.3	54.8	51.2	56.7	52.0	58.8
France	323.1	368.1	457.7	462.7	350.4	437.0	479.0
Germany Dem.Rep.	129.3	132.7	133.5	139.4	143.9	145.5	150.0
Germany Fed.Rep.	306.4	300.0	392.9	371.8	315.9	372.6	414.3
India	33.0	27.8	21.0	17.9	23.0	23.4	27.1
Italy*	160.0	186.0	230.0	240.0	200.0	250.0	240.0
Japan	779.8	819.4	967.5	857.9	788.7	941.3	971.0
Mexico	48,7	53.3	54.3	65.5	60.0	69.4	78.0
Netherlands	191.0	186.4	262.8	245.3	215.9	246.6	240.0
Poland	66.2	78.1	93.8	100.5	107.9	116.9	119.4
Romania	71.0	73.3	83.0	92.3	98.9	95.2	135.0
South Africa	29.7	30.0	28.4	32.0	31.8	34.6	27.2
Spain	45.4	50.4	67.9	68.1	66.1	78.9	77.1
United Kingdom	285.4	316.6	364.4	335.8	260.8	320.4	329.2
United States	2277.0	2455.4	2607.4	2396.2	1989.5	2425.5	2527.9
	B. RECLAIMED RUBBER						
World Total	555	545	570	510	460	465	465
of which							
Australia	9.0	8.5	9.3	9.2	5.8	4.2	1.1
Brazil	22.0	23.7	27.8	29.4	28.5	31.6	31.6
Bulgaria	2.8	2.5	3.2	3.0	2.0	..	..
Canada	13.6	14.0	8.0	7.7	3.9	4.6	3.4
Czechoslovakia	14.7	15.0	15.3	15.3	15.1	15.4	16.0
France	24.7	21.7	20.6	21.5	22.4	21.5	21.0
Germany Fed.Rep.	14.9	10.0	13.7	14.5	10.8	14.1	13.3
Hungary	2.7	2.8	2.2	2.5	1.7	1.5	0.1
Japan	59.5	59.2	67.3	59.3	47.8	58.1	56.7
Korea Rep. of	4.1	4.3	4.0	4.8	3.7	..	..
Sweden	8.3	8.0	8.4	8.3	5.9	3.9	..
U.S.S.R.	134.5	142.4	145.9	..	..	..	..
Bye-lorussian SSR	(24.1)	(24.5)	(24.5)	(25.2)	(25.4)	(..)	(..)
United Kingdom	30.0	25.7	26.0	26.5	24.6	24.3	23.0
United States	202.4	197.6	204.9	139.7	119.7	110.7	121.1
Yugoslavia	6.0	5.1	7.2	7.1	6.4	6.5	6.1

* Provisional., .. Not available

Source :- U.N. Statistical Year Book, 1978.

PRODUCTION OF BASIC ORGANIC CHEMICALS IN SELECTED COUNTRIES OF THE WORLD 1971 - 1977

('000' metric tons)

Country or area and product	1971	1972	1973	1974	1975	1976	1977*
Bulgaria							
Ethylene	53.0	61.2	71.9	71.8	75.8	75.4	78.4
Propylene	45.6	50.4	54.4	54.5	59.2	60.5	62.2
Acetylene	7.3	11.9	11.8	11.8	14.7	12.7	12.2
Benzene	41.8	36.0	35.5	48.6	54.4	57.4	61.4
Toluene	44.5	41.1	37.3	48.2	52.1	55.1	48.0
Xylenes	30.4	30.5	27.0	33.0	34.7	34.5	30.9
Methyl alcohol	26.1	27.2	28.2	28.2	27.5	27.1	27.3
Ethylene oxide	7.4	8.8	9.7	8.7	9.6	9.8	10.4
Canada							
Ethylene	421.0	453.4	494.7	484.4	429.5	508.9	567.3
Acetylene	8.7	9.1	8.6	9.0	8.6	8.3	8.0
Benzene	263.9	304.4	313.2	320.6	247.7	411.3	435.0
Tolune	132.8	167.7	179.2	157.1	53.5	182.4	...
Xylenes	51.1	83.9	87.6	82.0	75.7	161.8	...
Ethyl alcohol	396	471	265	258	233	245	...
Czechoslovakia							
Ethylene	127.8	129.4	132.2	101.7	75.4	92.8	201.4
Propylene	62.9	71.3	71.9	51.3	36.3	46.5	98.8
Acetylene	14.1	14.9	15.2	15.1	15.7	15.8	16.1
Benzene	114.5	120.0	138.6	147.8	151.7	167.9	195.4
Toluene	40.8	40.5	43.4	40.7	38.8	46.0	48.5
Xylenes	20.8	40.2	56.8	73.8	87.7	106.0	96.8
Methyl alcohol	83.9	97.5	86.5	86.9	92.8	99.4	102.0
Ethyl alcohol	1729	1751	1773	1330	1330	1528	1189
Ethylene oxide	5.9	6.0	7.0	6.7	7.7	8.5	11.1
France							
Propylene	567.0	632.0	...	852.0	647.0	874.0	...
Acetylene	114.0	78.0	...	70.0	...	...	...
Benzene	371.7	383.4	396.9	422.3	295.1	456.6	493.8
Toluene	90.5	95.4	110.9	93.5	57.6	73.9	70.5
Xylenes	49.4	52.8	89.9	82.5	47.1	75.0	72.5
Methyl alcohol	225.2	236.6	284.4	373.3	287.1	345.2	375.7
Ethyl alcohol	70.0	...	...	94.0	...	...	...
Ethylene oxide	91.0	101.0	199.0	221.0	153.0	...	...
German Dem. Rep.							
Methyl alcohol	172.4	176.0	176.2	206.7	240.1	243.5	240.1
Ethyl alcohol	359	379	387	412	358	336	315

* Provisional

Source: U.N. Statistical Year Book - 1978.

Contd/....

(Contd.)

PRODUCTION OF BASIC ORGANIC CHEMICALS IN SELECTED COUNTRIES OF THE WORLD 1971 - 1977. (000 'Metric Tons)

Country or area and product	1971	1972	1973	1974	1975	1976	1977*
Germany, Fed.Rep.							
Ethylene	2004.7	2183.9	2760.6	3106.7	2140.1	2786.7	2988.4
Propylene	903.2	1063.0	1499.1	1369.6	1091.0	1431.6	1535.9
Acetylene	335.1	352.1	374.0	346.0	260.2	251.5	203.8
Benzene	814.5	827.3	1015.7	1009.5	691.2	918.4	824.4
Toluene	181.2	203.7	250.5	212.1	176.2	232.8	243.1
Xylenes	278.9	431.3	524.3	464.9	349.8	474.2	455.8
Methyl alcohol	876.7	1005.4	1108.6	1170.4	771.0	1052.3	887.2
Ethyl alcohol	2189	1921	2137	2432	1829	2146	2116
Ethylene oxide	232.8	249.5	272.0	355.0	271.4	300.5	295.1
Italy							
Ethylene	1016.3	1217.6	1378.3	1379.5	1128.1	1442.8	1414.0
Propylene	617.5	694.5	803.5	830.6	704.2	868.6	830.2
Acetylene	203.7	178.9	175.8	177.1	157.7	188.2	164.5
Benzene	481.3	508.8	647.2	635.4	466.7	592.8	593.5
Toluene	388.4	428.9	522.6	516.9	374.7	466.0	424.9
Xylenes	335.0	426.3	470.5	445.5	322.0	371.7	342.4
Methyl alcohol	277.9	287.8	321.5	292.0	230.5	294.1	232.7
Ethyl alcohol	1851	1487	1790	238.5	234.6	....	...
Ethylene oxide	69.3	75.1	72.9	76.0	75.3	82.9	78.6
Japan							
Ethylene	3536.8	3851.2	4170.7	4175.8	3399.1	3802.9	3978.6
Propylene	2455.3	2653.2	2824.8	2729.5	2314.2	2635.5	2716.4
Acetylene	73.5	79.1	76.0	71.1	61.8	58.1	53.7
Benzene	1689.0	1852.1	1995.3	1997.4	1608.2	1878.6	1951.3
Toluene	790.5	832.9	918.5	899.9	657.0	878.2	891.6
Xylene	855.6	929.3	1058.2	1142.2	894.8	1169.2	1212.6
Methyl alcohol	1010.7	1084.6	1221.1	1058.5	719.0	951.2	762.0
Ethyl alcohol	2289	2288	2403	2366	2080	2216	2219
Ethylene oxide	333.8	360.7	402.6	414.7	509.1	546.8	537.6
Mexico							
Ethylene	68.7	85.6	166.1	177.7	213.0	227.9	229.9
Propylene	70.6	83.3	95.4	92.3	93.1	113.7	93.4
Benezene	74.6	61.8	81.9	97.1	90.0	99.2	74.5
Toluene	92.9	83.6	100.7	118.5	116.0	122.3	113.0
Xylenes	58.5	53.8	63.3	74.5	66.2	...	...
Methyl alcohol	17.4	22.5	26.5	30.0	31.6	32.2	33.1
Ethyl alcohol	596	543	549	580	586	528	763
Ethylene oxide	-	4.9	13.9	22.6	27.3	25.5	26.8
Netherlands							
Ethylene	...	1265	1554	1750	1406	1884	1780
Propylene	...	...	833.1	906.0	764.0	980.0	905.0
Benzene	280.2	451.0	789.0	745.0	729.0	456.0	...
Toluene	105.6	94.0	254.0	100.0	56.0	81.0	...
Xylenes	147.6	182.2	...	...	192.0	...	...
Ethyl alcohol	1074	1120	1267	1400	1351	1410	...
Ethylene oxide	89.0	151.0	190.0	...	...	...	...

* Provisional. Source: U.N. Statistical Year Book - 1978.

(Contd.)

PRODUCTION OF BASIC ORGANIC CHEMICALS IN SELECTED COUNTRIES OF THE WORLD 1971 - 1977. (000' Metric Tons)

Country or area and product	1971	1972	1973	1974	1975	1976	1977*
Poland							
Ethylene	35.3	62.0	76.6	91.5	95.0	94.6	96.5
Propylene	25.3	27.2	36.7	42.5	58.6	50.9	83.7
Acetylene	11.7	12.0	12.4	16.8	14.0	16.6	16.8
Methyl alcohol	86.3	84.7	106.6	115.7	148.6	197.5	193.5
Ethyl alcohol	1851	1810	2485	2497	2265	2622	3297
Romania							
Ethylene	...	...	...	...	...	...	...
Propylene	...	...	...	...	...	...	...
Benzene	109.0	132.0	126.0	118.0	125.0	159.0	162.0
Tolune	125.0	124.0	135.0	122.0	117.0	148.0	157.0
Xylenes	137.0	144.0	142.0	124.0	180.0	221.0	221.0
Methyl alcohol	93.9	90.8	98.2	103.0	107.0	124.3	227.9
Ethyl alcohol	608	654	685	655	810	784	820
Ethylene oxide	...	...	...	...	...	...	...
Spain							
Ethylene	110.3	137.7	197.6	243.8	231.9	282.5	...
Propylene	65.7	78.1	102.4	129.6	121.0	148.9	...
Acetylene	31.3	37.7	35.6	37.3	32.4	24.9	...
Benzene	151.9	190.1	194.8	216.3	197.4	136.1	...
Tolune	90.2	78.1	49.7	35.1	37.1	51.2	...
Xylenes	115.6	61.7	55.2	41.5	21.9	...	...
Methyl alcohol	41.0	7.2	1.4	2.8	2.8	5.8	...
Ethyl alcohol	1593	1600	1300	1553	1594	...	...
Ethylene oxide	16.5	20.4	20.4	22.8	23.1	23.8	...
United Kingdom							
Ethylene	1040.0	1122.0	1246.8	1274.7	958.9	1286.1	1137.5
Propylene	506.0	552.0	642.0	662.0	565.6	747.5	659.6
Benzene	550.0	556.0	768.1	695.6	581.8	927.7	844.6
Tolune	263.0	322.0	293.0	252.0	183.8	...	...
Ethyl alcohol	1672	1556	1862	2953	1982	2489	2717
Ethylene oxide	192.0	198.0	211.0	...	...	...	...
United States							
Ethylene	8367.2	9456.8	10126.7	10835.1	8971.4	9991.0	11533.0
Propylene	3125.3	3842.0	4482.0	4750.5	3445.6	4426.0	...
Acetylene	386.2	361.8	131.4	147.6	102.4	109.7	91.3
Benzene	3562.0	4146.4	4811.2	4927.1	3459.4	4795.0	...
Tolune	2861.3	2990.6	3128.8	3010.5	2649.0	3708.0	...
Xylenes	2027.2	2447.7	2599.3	2655.5	2330.5	3298.0	...
Methyl alcohol	2244.9	2935.0	3203.8	3119.4	2347.9	2830.0	...
Ethyl alcohol	21575	21540	25728	24505	21993	18910	18860
Ethylene oxide	1631.5	1796.7	1889.8	1765.3	1735.8	1852.0	...

* Provisional. Source: U.N. Statistical Year Book - 1978.

WORLD PRODUCTION OF TEXTILE FIBRES

(In thousand Tonnes)

YEAR	MAN MADE FIBRES			COTTON		RAW WOOL		RAW SILK		TOTAL	
	Quantity		%	Quantity	%	Quantity	%	Quantity	%	Quantity	%
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1960	3309	(702)	22	10113	68	1463	10	31	-	14916	100
1961	3521	(831)	24	9819	66	1482	10	31	-	14853	100
1962	3949	(1080)	25	10456	66	1477	9	33	-	15915	100
1963	4394	(1334)	26	10945	65	1506	9	31	-	16876	100
1964	4978	(1691)	28	11309	64	1480	8	32	-	17799	100
1965	5391	(2052)	29	11605	63	1493	8	33	-	18522	100
1966	5712	(2371)	32	10816	60	1553	9	33	-	18113	100
1967	6044	(2730)	33	10690	58	1574	9	34	-	18342	100
1968	7115	(3586)	34	11957	58	1625	8	37	-	20734	100
1969	7732	(4178)	37	11550	55	1614	8	39	-	20935	100
1970	8136	(4700)	38	11782	55	1602	7	41	-	21561	100
1971	9064	(5609)	38	13008	55	1566	7	41	-	23679	100
1972	9936	(6377)	40	13669	54	1457	6	42	-	25104	100
1973	11301	(7640)	43	13714	52	1432	5	43	-	26490	100
1974	11019	(7487)	41	14019	53	1512	6	45	-	26595	100
1975	10305	(7346)	44	11809	50	1504	6	47	-	23665	100
1976	11786	(8575)	45	12632	49	1462	6	48	-	25928	100
1977	12302	(9047)	44	14138	51	1390	5	49	-	27879	100

Note:- Figures in brackets relate to Synthetic Fibres. Source:- TEXTILE ORGANON.

PART - III

PLAN STATISTICS

PLAN OUTLAY/EXPENDITURE ON PETROLEUM INDIUTRY

(A) Annual Plan Outlay and Budgetary Support.

(Rs./Crores)

NAME OF THE UNDERTAKING.	1977-78		1978-79		1979-80		1980-81	
	Total	B. S.	Total	B. S.	Total	B.S.	Total	B.S.
1.	2.	3.	4.	5.	6.	7.	8.	9.
Exploration & Production	478.67	237.22	411.33	89.09	379.17	61.31	515.17	5.50
1) ONGC	450.94	225.25	376.64	86.66	340.00	61.31	485.07	5.50
2) OIL	27.73	11.97	34 .69	2.43	39.17	-	30.10	-
REFINING & MARKETING.	108.53	58.22	160.65	42.24	193.07	13.17	194.1@	61.70
1.) IOC	96.00	56.72	135.41	40.00	150.28	11.32	111.00	54.61
2) HPCL	3.93	-	6.67	-	14.11	-	19.96	-
3) BPCL	2.65	-	7.29	-	12.02	-	18.12	-
4) IBP	5.23	1.50	5.20	2.24	6.31	1.85	6.28	1.10
5) MRL	0.02	-	2.00	-	2.22	-	5.97	-
6) CRL	0.40	-	0.90	-	-	-	0.90	5.99
7) HPCL(VMU)	0.30	-	3.18	-	0.83	-	-	-
8) LIL/Others	-	-	-	-	7.30	-	1.84	-
PETRO-CHEMICALS	89.38	86.70	56.69	38.15	46.01	14.06	25.22	31.18
1) IPCL	71.20	68.52	30.30	17.66	20.10	13.25	22.64	-
2) BRPL	18.17	18.17	24.96	18.96	25.70	10.70	2.48	31.08
3) PCL/Others	0.01	0.01	1.53	1.53	0.21	0;21	0.10	0.10@@
CONSULTANCY & ENGG. SERVICE	0.41	-	1.17	0.28	3.60	0.48	3.40	0.63
1) EIL	0.41	-	0 .89	-	3.12	-	3.40	-
2) IIP	-	-	0.28	0.28	0.48	0.48	-	0.53
3) CIPET	-	-	-	-	-	-	-	0.10
GRAND TOTAL	676.99	382.14	629.84	169.76	621.85	89.02	737.91	99.01

@@ = Relates to New Petrochemicals Projects.

@ = Includes Rs.30.05 Crores Plan Outlay allocated to Department of Petroleum(Refining & Marketing).

B.S. = Budgetary Support.

(B) ACTUAL/ ANTICIPATED PLAN EXPENDITURE

(Rs./ Crores)

NAME OF THE UNDERTAKING.	ACTUAL EXPENDITURE 1976-77	1977-78	1978-79	1979 - 80 B. E.	R. E.	1980-81 (BE)
1.	2.	3.	4.	5.	6.	7.
EXPLORATION & PRODUCTION	269.41	337.44	253.03	379.17	374.35	520.67
1) O.N.G.C.	266.44	302.66	228.67	340.00	338.30	490.57
2) O.I.L.	42.97	34.78	24.36	39.17	36.05	30.10
REFINING & MARKETING	95.30	108.13	130.38	193.07	167.54	225.92@@
1) I.O.C.	86.84	98.53	112.50	150.28	133.62	165.61
2) H.P.C.L.	5.08	4.23	9.33	14.11	16.29	19.96
3) B.P.C.L.	1.45	2.69	5.40	12.09	5.16	18.12
4) I.B.P.	0.84	2.68	2.19	6.31@	7.24@	7.38@
5) M.R.L.	-	-	0.67	2.22	3.40	5.97
6) C.R.L.	-	-	0.29	0.83	1.83	6.89
7) H.P.C.L.(VMU)	-	-	-	-	-	-
8) L.I.L./Others	1.02	-	-	7.30	-	1.84
PETRO-CHEMICALS	107.09	86.73	59.60	46.00	46.24	56.30
1) I.P.C.L.	82.22	60.04	28.57	30.10	18.61	22.64
2) B.R.P.L.	16.26	26.68	26.64	25.70	27.53	33.56
3) P.C.L./Others	8.61	0.01	4.39	0.20	0.10	0.10
CONSULTANCY & ENGG. SERVICE.	0.18	0.20	2.16	3.62	0.97	4.03
1) E.I.L.	0.18	0.15	1.88	3.12	0.50	3.40
2) I.I.P.	-	-	0.24	0.48	0.44	0.53
3) C.I.P.E.T.	-	0.05	0.04	0.01	0.03	0.10
GRAND TOTAL	471.88	532.50	445.17	621.85	589.10	836.92

@ = Including subsidiaries. @@ = Includes Rs. 30.05 Crores, allocated to the Deptt. of Petroleum.

PART - IV

FINANCIAL PERFORMANCE / STRUCTURES

Financial Review/Structure of Public Sector Undertakings under the purview of Department of Petroleum - 1978-79 and - quick review - 1979-80

The financial structure of the public sector undertakings as per their annual published accounts for the three years ending 1978-79 has been given in the attached statements. The glossary of terms used has been given at the end. The public sector undertakings under Department of Petroleum have been divided into four broad categories viz. (A) Oil Exploration & Production; (B) Refining & Marketing; (C) Petro-chemicals & Other downstream units; and (D) Engineering Services. All the oil companies are now under public/joint sector except tiny Assam Oil Company, negotiations for the take-over of which are in progress. In the review that follows, consolidated financial position of all the public sector undertakings has been analysed first followed by anlysis of consolidated position under each of the above categories.

Overall financial position :

2. A consolidated picture of overall financial structure and performance of public sector oil industry during the period 1976-77 to 1978-79 is provided in tables 1 to 3. The following is the summary of results :

Rs./Crores

	1976-77	1977-78	1978-79*
1. Equity	616.86	708.63	725.95
2. Loans	422.04	620.90	696.89
3. Reserves & Surpluses	415.45	530.22	667.33
4. Capital Employed	823.16	988.68	1500.00
5. Working Capital	283.36	259.24	334.95
6. Sales Turnover	5018.02	5591.58@	6663.70
7. Gross Profit (Adj.)	252.10	293.10@	345.13
8. Net Profit (Adj.)	113.71	150.48@	182.28
9. Dividend Declared	29.25	32.83@	40.67
Percentages of:-			
i) Net Profit to Equity	18.4	21.2	25.1
ii) Net Profit to Net Worth	11.4	12.7	13.6
iii) Profit to Cap. Emp.	30.6	29.6	23.0
iv) Sales to Cap. Emp.	609.6	565.6	444.2
v) Equity/Loans ratio	1.46	1.14	1.04

@ annualised.
* Excludes BRPL which was under construction.

3. An analysis of individual itemsis briefly given below :

(i) Capital Investment : The capital investment defined as sum of paid-up capital and loans both long term and short term, registered an increase of 7.0% from Rs.1330.03 crores in 1977-78 to Rs.1422.64 crores in 1978-79. The corresponding increase in the preceding year was of the order of 28.0%. The increase in capital investment during 1978-79 over 1977-78 was mainly on account of increase

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in the quantum of loans from Rs620.90 crores to Rs.696.89 crores(i.e.12.2%). Major increases in paid-up capital and loans took place in ONGC where these increased by Rs.12 crores and Rs.31 crores respectively. In case of IOC, loans have increased by 46.0% from Rs.75.0 crores to Rs.110.0 crores. There were increases in the total quantum of loans in 1978-79 over 1977-78 in respect of all the categories Foreign Loans also increased during the year mainly on account of ONGC. With these major changes in the equity & loans, the equity loan ratio declined further from 1.14 in 1977-78 to 1.07 in 1978-79.

(ii) Capital Employed : Capital employed defined as sum of net fixed assets and working capital of the public sector undertakings, went up by 51.7% from Rs.988.68 crores in 1977-78 to Rs.1500.00 crores in 1978-79. The corresponding increase in the preceding year was of the order of 20.1%. The break-up of the figures reveal that increase in 1978-79 over 1977-78 was mainly on account of increase in net fixed assets, particularly of ONGC, IOC & IPCL which together accounted for 98.2% of the total increase in net fixed assets and/or 83.7% of the total increase in capital employed.

(iii) Sales Turnover : The sales turnover of all the oil companies taken together increased from Rs.5592 crores in 1977-78 to Rs.6664 crores in 1978-79, i.e. by 19.2% during the year. The corresponding increase in the preceding year was of the order of 11.4%. Inspite of increase in sales turnover gross profit expressed as a percentage of sales remained at 5.2%.

(iv) Profitability : There has been a rising trend in the profitability of public sector undertakings under the purview of Department of Petroleum. The adjusted gross profit improved from Rs.293.10 crores in 1977-78 to Rs.345.13 crores in 1978-79, thereby registering a growth of 17.8% during the year. The corresponding growth during the preceding year was of the order of 16.3%. There was similar improvement in the adjusted net profits which expressed as a proportion of equity & networth during 1978-79 improved to 25.1% & 13.6% respectively compared to 21.2% and 12.7% during 1977-78. The return on capital employed measured in terms of gross profit before interest & taxes during the same period has registered adeclining trend during the last three years and stood at 23.0% at the end of 1978.79, mainly on account of deterioration in sales performance in relation to capital employed by the companies.

(v) Dividends : There has been a steady increase in the quantum of dividends in respect of public sector undertakings over the last 3 years. It has increased from Rs.29.25 crores in 1976-77 to Rs.32.83 crores in 1977-78 (annualised)and to Rs.40.67 crores in 1978-79. The highest dividend in absolute terms during 1978-79 was in respect of ONGC at

Rs.18.10 crores followed by IOC at Rs.9.86 crores. Both these undertakings account for 69% of the total dividend declared during 1978-79. IPC, Bridge & Roof, HIL PCL and Biecco Lawrie, however, did not declare any dividend during 1978-79, while dividend in repect of other companies varied in the range of 6% to 34.25% of equity. The highest & lowest percentages being in respect of CRL & ONGC respectively.

I. Exploration & Production
(Refer Table No.4)

This category includes the following companies :

(i) Oil & Natural Gas Commission (ONGC)
(ii) Hydro-Carbons India Limited (HIL)
(iii) Oil India Limited (OIL)

Summary of results of undertakings under this category for the last 3 years is as under:-

Rs.Crores

	1976-77	1977-78	1978-79
1. Equity	294.34	373.80	385.35
2. Loans	215.09	344.96	377.64
3. Capital Employed	322.94	411.81	633.94
4. Sales turnover	311.80	405.77	512.93
5. Gross Profit (Adj.)	88.65	116.86	160.62
6. Net Profit (Adj.)	46.81	69.03	92.40
7. Dividend Declared	16.18	16.91	22.21
Percentages of :			
i) Net Profit to Equity	15.9	18.5	24.0
ii) Net Profit to Net Worth	12.9	14.4	16.6
iii) Profit to Cap. Emp.	27.5	28.4	25.3
iv) Sales to Cap. Emp.	96.6	98.5	80.9
v) Equity/Loan ratio	1.37	1.08	1.02

Salient points of analysis are given as under :

(a) Capital Investment : There has been a further increase in capital investment under this category from Rs.718.76 crores in 1977-78 to Rs.762.99 crores in 1978-79, thereby registering a growth of 6.2% during the year. The corresponding growth during the preceding year was of the order of 41.1%. The increase during 1978-79 was on account of increase in equity & loans of ONGC. Increase in the additional loans of ONGC during 1978-79 include withdrawl of Rs.29.03 crores making a total of Rs.39.66 crores at the end of 1978-79 out of the Euro-Dollar loan of U.S.$ 50 million secured by the Commission from a group of foreign bankers . As a result of changes in both the equity & loans, the equity loan ratio came down from 1.08 in 1977-78 to 1.02 in 1978-79. Over the last 3 years there has been a declining trend in the equity loan ratio.

(b) Capital Employed : Capital employed, however increased at a faster rate during the year from Rs.411.81 crores in 1977-78 to Rs.633.94 crores in 1978-79, i.e. by 53.9%. (The corresponding growth during the preceding year was of the order of 27.5%). This was mainly on account of increase in the net fixed assets, resulting from additions on account of pipelines, production equipment, drilling rigs, etc. and increase in working capital, of ONGC, which alone represented 92.2% of the total increase in capital employed during the year;

(c) Sales Turnover : Sales turnover under this category increased by about 26% from Rs.405.77 crores in 1977-78 to Rs.512.93crores in 1978-79. The corresponding growth during the preceding year was of the order of 30%. As a result of increase in sales turnover, gross profit as a percentage of sales turnover also increased from 28.8% in 1977-78 to 31.3% in 1978-79. There has, infact, been a rising trend in the percentage over the last 3 years.

(d) Profitability : There was some improvement in the profitability under this category during 1978-79. The adjusted gross profit increased by 37.4% from Rs.116.86 crores in 1977-78 to Rs.160.62 crores in 1978-79. There was similar improvement in net profits also. Although profitability in relation to equity and net worth improved during 1978-79, yet return on capital employed has declineed on account of reduction in sales in relation to capital employed.

(e) Dividends : There was further improvement in dividends declared under this category from Rs.16.91 crores in 1977-78 to Rs.22.21 crores in 1978-79. The improvement has been mainly on account of increase in dividends declared by ONGC from Rs.12.80 crores in 1977-78 to Rs.18.10 crores in 1978-79. The dividends declared by OIL during 1978 remained at Rs.4.11 crores(P). HIL, however, did not declare any dividend during the last 3 years.

II. Refining & Marketing
(Refer Table No.8)

Financial structures and performance of individual companies during the period 1976-77 to 1978-79 have been given in tables 9 to 20, while consolidated structure (of the Refining & Marketing companies taken together) has been given in table No.8.

Summary of results of undertakings under this category for the last 3 years is as under :

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Rs./Crores

	1976-77	1977-78	1978-79
1. Equity	136.27	136.27	139.65
2. Loans	129.32	127.54	165.16
3. Capital Employed	414.29	372.11	496.08
4. Sales Turnover	4655.19	5115.44*	5996.38
5. Gross Profit (Adj.)	144.65	162.97*	171.50
6. Net Profit (Adj.)	56.66	78.40*	92.41
7. Dividend Declared	13.04	15.89*	18.42
Percentage of:-			
i) Net Profit to Equity	41.6	59.1	66.2
ii) Net Profit to Net Worth	13.8	16.6	16.8
iii) Profit to Cap. Emp.	34.9	43.8	34.6
iv) Sales to Cap. Emp.	1123.7	1347.7	1208.8
v) Equity/Loan ratio	1.05	1.04	0.85

* Annualised.

Salient points of analysis are given as under :

(a) Capital Investment :- Capital investment under this category increased from Rs.264.31 crores in 1977-78 to Rs.305.31 crores in 1978-79, thereby registering a growth of 15.5%. The corresponding growth in the preceding year was a marginal decline. The increase during 1978-79 was on account of increase in the equity capital of Bridge & Roof (which was hither to a subsidiary of Balmer Lawrie Co. Ltd. became a full fledged PSU w.e.f 1.12.78) and loans of IOC & HPCL. Biecco Lawrie Ltd., however, became a PSU from July 1979. Foreign loans however declined from Rs.8.28 crores in 1977-78 to Rs.4.93 crores in 1978-79, thereby maintaining the declining trend of the previous years. As a result of changes in equity /loan the ratio of the two declined further from 1.04 in 77-78 to 0.85 in 1978-79.

(b) Capital Employed :- Capital employed by the refining & marketing category at the end of 1978-79 amounted to Rs.496.08 crores represented by Rs.394.40 crores net fixed assets & Rs.101.68 crores working capital. Compared to the preceding years figure of Rs.372.11 crores, capital employed rose by 33.3% during 1978.79, of which major share 88.7% was accounted for by IOC alone. It was during 1978-79 IOC capitalised about Rs.133 crores of its capital works in progress mostly under Plant & Machinery.

(c) Sales Turnover:- The combined sales turnover of undertakings under this category increased from Rs.5115.44 crores in 1977-78 (annualised) to Rs.5996.38 crores in 1978-79 representing an an increase of 17.2%. The corresponding increase in the preceding year was of the order of 9.9%. In spite of increase in sales turnover, gross profit expressed as a percentage of sales which slightly improved in 1977-78 declined to 2.9% in 1978-79.

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(d) Profitability : There was further improvement in the profitability of this category. The gross profit went up from Rs.162.97 crores in 1977-78 to Rs.171.50 crores in 1978-79 i.e. by 5.2%. The corresponding increase in the preceding year was 12.7%. Similarly there was improvement in net profits also. The profits in relation to equity and networth were much better when compared to the preceding years. The return on capital employed which improved during 1977-78 declined in 1978-79 to the level of 1976-77. The decline in return during 1978-79 was on account of reduced margins on account of higher operating expenses & reduction in sales in relation to capital employed.

(e) Dividends : During 1978-79 the companies declared dividend to the tune of Rs.18.42 crores as against Rs.15.89 crores (annualised) during 1977-78 which constituted an improvement of 16.8% over the preceding year. In quantum of dividend, IOC ranked at topwhile as a percentage of equity CRL declared the highest at 34.25% while in case of other companies it ranged from 10% to 18% of equity. Biecco Lawrie and Bridge & Roof Co., however, did not declare any dividend during 1978-79.

III. Petro-chemicals and other downstream units
(Refer Table No. 21)

There are three companies under this category, viz. Indian Petrochemicals Corporation Ltd. (IPCL), Petrofils Cooperative Ltd.(PCL) and Bongaigaon Refinery & Petrochemicals Ltd.(BRPL). It was during 1977-78 that PCL started production and therefore, has been included in the review from 1977-78, while BRPL which was still under construction has been excluded. Therefore, there were only two units in operation at the end of 1978-79. The combined financial structure/ performance of undertakings under this category for the three years has been given in table No.21. while those of individual undertakings in tables 22 & 23.

Summary of results of undertakings under this category for the last 3 years is as under :

Rs. Crores

	1976-77	1977-78	1978-79
1. Equity	186.00	198.31	200.70
2. Loans	77.39	148.40	153.91
3. Capital Employed	81.45	199.05	361.95
4. Sales turnover	39.36	49.86	139.19
5. Gross Profit (Adj.)	16.53	10.55	9.16
6. Net Profit (Adj.)	9.04	1.54	(-)4.81
7. Dividend Declared	-	-	-
Percentages of :-			
i) Net Profit to Equity	4.9	0.8	-
ii) Net Profit to Net Worth	4.2	0.7	-
iii) Profit to Cap. Emp.	20.3	5.3	2.5
iv) Sales to Cap. Emp.	48.3	25.0	38.5
v) Equity/Loan ratio	2.40	1.34	1.30

Salient points of analysis are given below:

(a) Capital Investment : Rising trend in the growth of capital investment continued during 1978-79. It went up slightly however, from Rs.346.71 crores in 1977-78 to Rs.354.61 crores in 1978-79 against a growth of 31.6% in the preceding year which was partly on account of inclusion of PCL during 1977-78 & partly on account of growth of IPCL.

There were only slight changes in equity & loans under this category during the year as a result of which equity loan ratio declined further from 1.34 in 1977-78 to 1.30 in 1978-79.In fact the equity loan ratio has been declining over the las 3 years.

(b) Capital Employed : Rapid growth in the capital employed under this category continued during the year. It went up by 82% from Rs.199.05 crores in 1977-78 to Rs.361.95 crores in 1978-79 almost entirely on account of growth in net fixed assets of IPCL. Major additions in fixed assets of IPCL were under Plant & Machinery. The corresponding growth in the capital employed by IPCL during 1977-78 over 1976-77 was of the order of 118%.

(c) Sales Turnover : Sales turnover of IPCL and PCL combined during 1978-79 was Rs.139.19 crores. IPCL more than doubled its sales turnover during 1978-79. Inspite of increase in sales turnover margin has fallen on account of higher operating expenses.

(d) Profitability : Profitability of this category was very much lower in 1978-79 compared to 1977-78. This was mainly on account of loss sustained by IPCL High incidence of depreciation & other operating expenses resulted in loss of IPCL. PCL, however, improved its position from a loss for the 1st seven months operation in 1977-78 to a profit during 1978-79. Combined gross profit declined from Rs.10.55 crores in 1977-78 to Rs.9.16 crores in 1978-79, while net profit of Rs.1.54 crores became a net loss of Rs.4.81 crores in 1978-79.

(e) Dividends : No dividend has been declared by undertakings under this category during 1978-79 or during the preceding two years.

IV. Engineering Services
(Refer Table No.24)

There is only one company under this category, viz. Engineers India Limited (EIL). The financial structure of the Company for the three years ending 1978-79 has been given in Table 24.

Summary of results of undertaking under this category for the last 3 years is as under :

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Rs./Crores

	1976-77	1977-78	1978-79
1. Equity	0.25	0.25	0.25
2. Loans	0.24	-	0.18
3. Capital Employed	4.48	5.71	8.03
4. Income from services rendered	11.67	20.51	15.20
5. Gross profit (adjusted)	2.27	2.72	3.85
6. Net profit (adjusted)	1.20	1.51	2.28
7. Dividends declared	0.03	0.03	0.04
Percentages of :			
i) Net profit to equity	480.0	604.0	912.0
ii) Net profit to net worth	28.2	26.4	28.5
iii) Profit to capital employed	50.7	47.6	47.9
iv) Income to capital employed	260.5	359.2	189.3
v) Equity loan ratio	1.04	-	1.39

It will be seen from the above table that income of EIL declined from Rs.20.51 crores in 1977-78 to Rs.15.20 crores in 1978-79, i.e. by 25.9%, against an increase in the preceding year which was of the order of 75.7%. Fall in income was on account of significant reduction in the back up consultancy services from foreign Consultants/Licensors for handling the projects entrusted to EIL. Inspite of decline in income there was a significant improvement in profits of EIL during 1978-79. This was on account of less reliance on overseas assistance and closing of some of the major accounts in 1978-79. There was overall improvement in profitability in relation to equity & net worth but improvement in the return on capital employed was restricted on account of fall in income. Adjusted gross profit improved from Rs.2.72 crores in 1977-78 to Rs.3.85 crores in 1978-79. Similarly, there was improvement in net profits. In view of higher profits, the Company increased its dividend from Rs. 3 lakhs for the year 1977-78 to Rs.3.75 lakhs for 1978-79.

Quick Review of Financial Performance - 1979-80

During 1979-80, there were altogether 18 running enterprises under the purview of Department of Petroleum, 3 under the category "Exploration & Production" 11 under the category "Refining & Marketing", 3 under "Petrochemicals" and one under "Engineering Services". This also includes Bongaigaon Refinery & Petrochemicals Ltd.(BRPL) which went into production in February 1979 and Petrofils which is in the Cooperative Sector.

2. According to provisional figures on financial position/ performance of these enterprises available to this Division for the year 1979-80, the 18 running enterprises together employed a total capital of Rs.2345 crores and had a paid-up capital of Rs.831 crores as per details of enterprise-wise financial performance in Annexure.

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During 1979-80, these enterprises had an annual sales turnover of about Rs.8050 crores and they earned a gross profit of Rs.431 crores. The net profit after tax worked out to about Rs.195 crores. The ratio of net profit to net worth and of gross profit to capital employed worked out to 12.2% and 18.4% respectively.

The overall financial results for 1979-80 under each of the above 4 categories are summarised below :

(Rs. / Crores)

	1979-80				
	Exploration & production	Refining & Marketing	Petrochemicals & Other down stream units	Engineering Service	Total
1. Equity	390.4	140.9	299.2	0.3	830.8
2. Loans	462.4	205.7	173.2	-	841.3
3. Net Worth	619.4	650.2	324.6	10.4	1604.6
4. Capital Employed	923.9	903.7	502.7	15.0	2345.3
5. Sales/operating income	537.4	7257.2	242.8	12.3	8049.7
6. Gross profit	179.4	224.9	24.4	2.5	431.2
7. Net profit	72.7	110.8	9.0	2.5	195.0
Percentages of :					
i) Net profit to equity	18.6	78.6	3.0	984.0	23.5
ii) Net profit to networth	11.7	17.0	2.8	23.6	12.2
iii) Profit to cap. Emp.	19.4	24.9	4.9	16.4	18.4
iv) Sales to cap. Emp.	58.2	803.1	48.3	82.0	343.2
v) Equity/loan ratio	0.84	0.68	1.73	-	0.99

It will be seen from Annexure that with the exception of 4 companies, including BRPL, Biecco Lawrie, Bridge & Roof and H.I.L., which showed some losses, all other enterprises under Deptt. of Petroleum have shown profits. The Indian Oil Corporation (IOC) earned the highest gross profit of Rs.145.54 crores with Oil & Natural Gas Commission (ONGC) standing as close second at Rs.141.12 crores. Likewise the IOC earned the maximum net profit of Rs.82.55 crores followed by ONGC which earned a net profit to Rs.59.43 crores.

Annexure

Financial performance/profitability of enterprises under the purview of Department of Petroleum during 1979-80 (Provisional).

(Rs./Lakhs)

	Paid up Capital	Loans	Net Worth	Capital employed	Sales/ operating income	Gross profit	Net profit	Gross Profit to capital employed(%)	% of net profit to paid up capital	% of net profit to networth
1. Exploration & Prodn.	**39035**	**46239**	**61940**	**92387**	**53739**	**17935**	**7270**	**19.4%**	**18.6%**	**11.7%**
i) ONGC	33735	39093	55000	79686	42381	14112	5943	17.7	17.6	10.8
ii) HIL *	2500	-	1915	1915	-	- 107	-107	-	-	-
iii) OIL *	2800	7146	5025	10786	11358	3930	1434	36.4%	51.2	28.5
II. Refining & Marketing	**14094**	**20567**	**65023**	**90369**	**725722**	**22494**	**11083**	**24.9%**	**78.6%**	**17.0%**
i) IOC	8218	16875	45583	59107	413500	14554	8255	24.6	100.5	18.1
ii) HPCL	1520	1970	6201	15732	109086	3101	1235	19.7	81.2	15.1
iii) BPCL	1454	-	5504	6379	91778	2607	1034	40.9	71.1	18.8
iv) CRL	700	236	1279	3208	38887	596	153	18.6	21.9	12.0
v) MRL	1288	59	2730	2517	43480	808	228	32.1	17.7	8.4
vi) IBP	210	-	579	394	19200	163	99	41.4	47.1	17.1
vii) Lubrizol	60	-	1039	1091	2829	379	168	34.7	280.0	16.2
viii) Biecco Lawrie	111	680	-409	267	405	- 46	-427	-	-	-
ix) Bridge & Roof	304	485	-148	567	2498	38	- 54	6.7	-	-
x) Balmer Lawrie	189	262	509	946	3874	284	88	30.0	46.6	17.3
xi) Indian Oil Blending	40	-	156	161	185	10	4	6.2	10.0	2.6
III. Petrochemicals & Other Downstream Units	**29922**	**17326**	**32460**	**50271**	**24277**	**2441**	**904**	**14.9**	**3.0**	**2.8**
i) IPCL	18600	15019	20635	36579	16549	1747	392	4.8	2.1	1.9
ii) BRPL	9850	849	9747	10604	2069	- 67	-88	-	-	-
iii) Petrofils	1472	1458	2078	3088	5659	761	600	24.6	40.8	28.9
IV. Engineering Service	**25**	**-**	**1044**	**1503**	**1233**	**246**	**246**	**16.4**	**984.0**	**23.6**
i) EIL	25	-	1044	1503	1233	246	246	16.4	984.0	23.6
GRAND TOTAL	**83076**	**84132**	**160467**	**234530**	**804971**	**43116**	**19503**	**18.4**	**23.5**	**12.2**

* Relates to calender year.

Table No. 1.

CONSOLIDATED FINANCIAL STRUCTURE - 1978-79 - ALL UNDERTAKINGS

Rs./Lakhs

ITEM	Exploration & Production	Refining & Marketing	Petro-Chemicals	Engineering	TOTAL
1. Authorised Capital	8000@	23890	22000	200	54090
2.i) Equity Capital	38535	13965	20070	25	72595
ii) Preference Capital	-	50	-	-	50
iii) Reserves & Surpluses	21924	41920	2113	776	66733
3. Loans a) Total	37764	16516	15391	18	69689
b) Foreign	4016	493	367	-	4876
4. Net Worth	55626	55041	22080	801	133548
5. Capital Employed	63394	49608	36195	803	150000
i)Net Fixed Assets	47439	39440	29282	344	116505
ii)Working Capital	15955	10168	6913	459	33495
6. Sales	51293	599638	13919	1520	666370
7. Adjusted Gross Profit	16062	17150	916	385	34513
8. Adjusted Net Profit	9240	9241	(-)481	228	18228
9. Dividends Declared	2221	1842	-	4	4067
Percentage of:-					
a) Net Profit to equity	24.0	66.2	-	912.0	25.1
b) Net Profit to Net Worth	16.6	16.8	-	28.5	13.6
c) Profit to Cap. Emp.	25.3	34.6	2.5	47.9	23.0
d) Sales to Cap. Emp.	80.9	1208.8	38.5	189.3	444.2
e) Profit to Sales	31.3	2.9	6.6	25.3	5.2
f) Equity Loan Ratio	1.02	0.85	1.30	1.39	1.04

@ No authorised share capital has been fixed in respect of ONGC.

Source:- Annual Reports of the Companies.

Table No. 2.

CONSOLIDATED FINANCIAL STRUCTURE - 1977-78 - ALL UNDERTAKINGS

Rs./Lakhs

I T E M	Explo-ration & Prodn.	Refi-nining & Marke-ting	Petro-Chemi-cals	Engi-neer-ing	Total
1. Authorised Capital	8000	23490	21500	200	53190
2.i) Equity Capital	37380	13267	19831	25	70863
ii) Preference Capital	-	50	-	-	50
iii) Reserves & Surpluses	14988	34134	3353	547	53022
3. Loans a) Total	34496	12754	14840	-	62090
b) Foreign	1164	828	583	-	2575
4. Net Worth	47799	47123	22623	572	118117
5. Capital Employed	41181	37211	19905	571	98868
i)Net Fixed Assets	30185	28156	14420	183	72944
ii)Working Capital	10996	9055	5485	388	25924
6. Sales	40577	511544	4986	2051	559158
7. Adjusted Gross Profit	11686	16297	1055	272	29310
8. Adjusted Net Profit	6903	7840	154	151	15048
9. Dividend Declared	1691	1589	-	3	3283
Percentage of:-					
a) Net Profit to Equity	18.5	59.1	0.8	604.0	21.2
b) Net Profit to Net Worth	14.4	16.6	0.7	26.4	12.7
c) Profit to Cap. Emp.	28.4	43.8	5.3	47.6	29.6
d) Sales to Cap. Emp.	98.5	1374.7	25.0	359.2	565.6
e) Profit to Sales	28.8	3.2	21.2	13.3	5.2
f) Equity Loan Ratio	1.08	1.04	1.34	-	1.14

Source:- Annual Reports of the Companies.

Table No. 3.

CONSOLIDATED FINANCIAL STRUCTURE - 1976-77 - ALL UNDERTAKINGS

Rs./Lakhs

I T E M	Explo-ration & Prodn.	Refi-nining & Marke-ting	Petro-Chemi-cals	Engi-neer-ing	Total
1. Authorised Capital	8000	23490	20000	200	51690
2.i) Equity Capital	29434	13627	18600	25	61686
ii) Preference Capital	-	50	-	-	50
iii) Reserves & Surpluses	10359	28065	2721	400	41545
3. Loans a) Total	21509	12932	7739	24	42204
b) Foreign	196	1159	613	-	1968
4. Net Worth	36422	41162	21310	425	99319
5. Capital Employed	32294	41429	8145	448	82316
i) Net Fixed Assets	22413	28534	2861	172	53980
ii) Working Capital	9881	12895	5284	276	28336
6. Sales	31180	465519	3936	1167	501802
7. Adjusted Gross Profit	8865	14465	1653	227	25210
8. Adjusted Net Profit	4681	5666	904	120	21371
9. Dividend Declared	1618	1304	-	3	2925
Percentage of:-					
a) Net Profit to Equity	15.9	41.6	4.9	480.0	18.4
b) Net Profit to Net Worth	12.9	13.8	4.2	28.2	11.4
c) Profit to Cap. Emp.	27.5	34.9	20.3	50.7	30.6
d) Sales to Cap. Emp.	96.6	1123.7	48.3	260.5	609.6
e) Profit to Sales	28.4	3.1	42.0	19.5	5.0
f) Equity Loan Ratio	1.37	1.05	2.40	1.04	1.46

Source:- Annual Reports of the Companies.

Table No. 4.

CONSOLIDATED FINANCIAL STRUCTURE
EXPLORATION AND PRODUCTION

(Rs./Lakhs)

I T E M	1976-77	1977-78	1978-79
1. Authorised Capital@	8000	8000	8000
2.i) Equity Capital	29434	37380	38535
ii) Preference Capital	-	-	-
iii) Reserves & Surpluses	10359	14988	21924
3. Loans a) Total	21509	34496	37764
b) Foreign	196	1164	4016
4. Net Worth	36422	47799	55626
5. Capital Employed	32294	41181	63394
i) Net Fixed Assets	22413	30185	47439
ii) Working Capital	8981	10996	15955
6. Sales	31180	40577	51293
7. Adjusted Gross Profit	8865	11686	16062
8. Adjusted Net Profit	4681	6903	9240
9. Dividend Declared	1618	1691	2221
PERCENTAGE OF:-			
a) Net Profit to Equity	15.9	18.5	24.0
b) Net Profit to Net Worth	12.9	14.4	16.6
c) Profit to Capital Emp.	27.5	28.4	25.3
d) Sales to Cap. Emp.	96.6	98.5	80.9
e) Profit to Sales	28.4	28.8	31.3
f) Equity Loan Ratio	1.37	1.08	1.02

@ No authorised capital has been fixed for ONGC.

Source:- Annual Reports of the Companies.

Table No. 5

FINANCIAL STRUCTURE

NAME OF THE UNDERTAKING:- Oil & Natural Gas Commission

Rs./Lakhs

I T E M		1976-77	1977-78	1978-79
1. Authorised Capital@		24+	[illegible]	33+[illegible]
2.i) Equity Capital		24134	32080	33235
ii) Preference Capital		-	-	-
iii) Reserves & Surpluses		9193	13085	18527
3. Loans	a) Total	18033	27425	30505
	b) Foreign	-	1063	3966
4. Net Worth		31289	41588	48118
5. Capita-l Employed		27912	31706	52182
i) Net Fixed Assets //		19093	22787	39872
ii) Working Capital		8819	8919	12310
6. Sales		19740	28919	37757
7. Adjusted Gross Profit		4697	7411	10425
8. Adjusted Net Profit		3876	5122	7366
9. Dividend Declared		1207	1280	1810
PERCENTAGE OF :-				
a) Net Profit to Equity		16.1	16.0	22.2
b) Net Profit to Net Worth		12.4	12.3	15.3
c) Profit to Capital Emp.		16.8	23.4	20.0
d) Sales to Cap. Emp.		70.7	91.2	72.4
e) Profit to Sales		23.8	25.6	27.6
f) Equity Loan ratio		1.34	1.17	1.09

@ No authorised Capital has been fixed for the Commission.

// Net Fixed assets includes producing properties.

Source:- Annual Reports of the Company.

Table No. 6

FINANCIAL STRUCTURE

NEME OF THE UNDERTAKING:- Hydro-carbons India Ltd.

Rs./Lakhs

I T E M		1976	1977	1978
1. Authorised Capital		3000	3000	3000
2. i) Equity Capital		2500	2500	2500
ii) Preference Capital		-	-	-
iii) Reserves & Surpluses		150	162	598
3. Loans	a) Total	-	-	-
	b) Foreign	-	-	-
4. Net Worth		2196	2662	3098
5. Capital Employed		411	1169	1760
i) Net Fixed Assets		1	1	1
ii) Working Capital		410	1168	1759
6. Sales		3605	3826	2939
7. Adjusted Gross Profit		2270	2429	1898
8. Adjusted Net Profit		373	410	405
9. Dividend Declared		-	-	-
PERCENTAGE OF:-				
a) Net Profit to Equity		14.9	16.4	16.2
b) Net Profit to Net Worth		17.0	15.4	13.1
c) Profit to Capital Emp.		552.3	207.8	107.8
d) Sales to Cap. Emp.		877.1	327.3	167.0
e) Profit to Sales		63.0	63.5	64.6
f) Equity Loan ratio		-	-	-

Source:- Annual Reports of the Company.

Table No. 7

FINANCIAL STRUCTURE

NAME OF THE UNDERTAKING:- OIL INDIA LIMITED

(Rs./Lakhs)

I T E M		1976	1977*	1978*
1. Authorised Capital		5000	5000	5000
2. i) Equity Capital		2800	2800	2800
ii) Preference Capital		-	-	-
iii) Reserves & Surpluses		1016	1741	2799
3. Loans	a) Total	3476	7071	7259
	b) Foreign	196	101	50
4. Net Worth		2937	3549	4410
5. Capital Employed		3971	8306	9452
i) Net Fixed Assets		3319	7397	7566
ii) Working Capital		652	909	1886
6. Sales		7835	7832	10597
7. Gross Profit		1898	1846	3739
8. Net Profit		432	1371	1469
9. Dividend Declared		411	411	411
PERCENTAGE OF:-				
a) Net Profit to Equity		15.4	49.0	52.5
b) Net Profit to Net Worth		14.7	38.6	33.3
c) Profit to Capital Emp.		47.8	22.2	39.6
d) Sales to Cap. Emp.		197.3	94.3	112.1
e) Profit to Sales		24.2	23.6	35.3
f) Equity Loan ratio		0.81	0.40	0.39

* Provisional

N.B. In the absence of Annual Reports of the Company data recieved from the company has been shown and previous years figures have been amended wherever necessary.

Table No. 8.

CONSOLIDATED FINANCIAL STRUCTURE

Refining & Marketing

Rs./Lakhs

I T E M	1976-77	1977-78 (1)	(2)	1978-79
1. Authorised Capital	23490	23490		23890
2.i) Equity Capital	13627	13627		13965
ii) Preference Capital	50	50		50
iii) Reserves & Surpluses	28065	34134		41920
3. Loans a) Total	12932	12754		16516
b) Foreign	1159	828		493
4. Net Worth	41162	47123		55041
5. Capital Employed	41429	37211		49608
i) Net Fixed Assets	28534	28156		39440
ii) Working Capital	12895	9055		10168
6. Sales	465519	530348	511544	599638
7. Adjusted Gross Profit	14465	16744	16297	17150
8. Adjusted Net Profit	5666	7968	7840	9241
9. Dividend Declared	1304	1498	1589	1842
PERCENTAGE OF:-				
a) Net Profit to Equity	41.6	58.5	57.5	66.2
b) Net Profit to Net Worth	13.8	16.9	16.6	16.8
c) Profit to Capital Emp.	34.9	45.0	43.8	34.6
d) Sales to Cap. Emp.	1123.7	1425.2	1374.7	1208.8
e) Profit to Sales	3.1	3.2	3.2	2.9
f) Equity Loan Ratio	1.05	1.07	1.07	0.85

1. As per differing Accounting periods
2. Annualised Pro-rata figures for 12 months.

Source:- Annual Reports of the Company.

Table No. 9.

FINANCIAL STRUCTURE

NAME OF THE UNDERTAKING:- Indian Oil Corporation Limited.

Rs./Lakhs

I T E M		1976-77	1977-78	1978-79
1. Authorised Capital		15000	15000	15000
2.i) Equity Capital		8218	8218	8218
ii) Preference Capital		-	-	-
iii) Reserves & Surpluses		19060	23162	29096
3. Loans	a) Total	4717	7529	11021
	b) Foreign	615	486	357
4. Net Worth		27278	31380	37314
5. Capital Employed		19594	16958	28556
i)Net Fixed Assests		18383	17693	28685
ii)Working Capital		1211	(-)735	(-)129
6. Sales		266339	299963	356399
7. Adjusted Gross Profit		10873	11065	9889
8. Adjusted Net Profit		4898	5720	6466
9. Dividend Declared		713	822	986
PERCENTAGE OF:-				
a) Net Profit to Equity		59.6	69.6	78.7
b) Net Profit to Net Worth		18.0	18.2	17.3
c) Profit to Capital Emp.		55.5	65.2	34.6
d) Sales to Cap. Emp.		1359.3	1768.9	1248.1
e) Profit to Sales		4.1	3.7	2.8
f) Equity Loan ratio		1.74	1.09	0.75

Source:- Annual Reports of the Company.

Table No. 10.

FINANCIAL STRUCTURE

NAME OF THE UNDERTAKING:- Bharat Petroleum Corporation Ltd.

Rs./Lakhs

ITEM	1976	1977-78@ (1)	1977-78@ (2)	1978-79
1. Authorised Capital	2500	2500		2500
2.i) Equity Capital	1454	1454		1454
ii) Preference Capital	-	-		-
iii) Reserves & Surpluses	1896	2500		3191
3. Loans a) Total	1500	2124		338
b) Foreign	-	-		-
4. Net Worth	3350	3954		4645
5. Capital Employed	4818	5869		4316
i) Net Fixed Assests	2118	2148		2060
ii) Working Capital	2700	3721		2256
6. Sales	57305	79068	63254	77712
7. Adjusted Gross Profit	761	2113	1690	2494
8. Adjusted Net Profit	140	688	550	877
9. Dividend Declared	145	182	146	174
PERCENTAGE OF:-				
a) Net Profit to Equity	9.6	47.3	37.8	60.3
b) Net Profit to Net Worth	4.2	17.4	13.9	18.9
c) Profit to Capital Emp.	15.8	36.0	28.8	57.8
d) Sales to Cap. Emp.	1189.4	1347.2	1077.8	1800.6
e) Profit to Sales	1.3	2.7	2.7	3.2
f) Equity Loan ratio	0.97	0.68	0.68	4.30

@ 1. For the period 1/1/77 to 31/3/78 (15 month)
2. For the Pro-rata period of 12 months.

Source:- Annual Reports of the Company.

Table No. 11.

FINANCIAL STRUCTURE

NAME OF THE UNDERTAKING:- Hindustan Petroleum Corporation Ltd.

Rs./Lakhs

ITEM	1976-77	1977-78@ (1)	1977-78@ (2)	1978-79
1. Authorised Capital	1075	1075		2075
2.i) Equity Capital	1000	1000		1520
ii) Preference Capital	-	-		-
iii) Reserves & Surpluses	2744	3252		6075
3. Loans a) Total	2860	764		1571
b) Foreign	181	76		49
4. Net Worth	3744	4252		7595
5. Capital Employed	6332	4830		8513
i) Net Fixed Assets	2876	3241		5470
ii) Working Capital	3456	1589		3043
6. Sales	51128	69993	55994	88365
7. Adjusted Gross Profit	1101	1505	1204	2674
8. Adjusted Net Profit	333	703	562	1339
9. Dividend Declared	100	135	108	182
PERCENTAGE OF:-				
a) Net Profit to Equity	33.3	70.3	56.2	88.1
b) Net Profit to Net Worth	8.9	16.5	13.2	17.6
c) Profit to Capital Emp.	17.4	31.2	24.9	31.4
d) Sales to Cap. Emp.	807.5	1449.1	1159.3	1038.0
e) Profit to Sales	2.2	2.2	2.2	3.0
f) Equity Loan ratio	0.35	1.31	1.31	0.97

@ (1) for the period 1/1/77 to 31/3/78 (15 months)
(2) for the pro-rata period of 12 months

Source:- Annual Reports of the Company.

Table No. 12.

FINANCIAL STRUCTURE

NAME OF THE UNDERTAKING:- Caltex Oil Refining(India)Ltd.

Rs./Lakhs

I T E M		1976	1977 - 78 (P) (1)	(2)
1. Authorised Capital		600	600	
2.i)Equity Capital		450	450	
ii)Preference Capital		-	-	
iii) Reserves & Surpluses		1305	1879	
3. Loans	a) Total	1301	41	
	b) Foreign	-	-	
4. Net Worth		1755	2329	
5. Capital Employed		3498	2445	
i) Net Fixed Assets		1391	1370	
ii) Working Capital		2107	1075	
6. Sales		21905*	24906	18392
7. Adjusted Gross Profit		133	478	353
8. Adjusted Net Profit		(-)65	194	143
9. Dividend Declared		-	-	-
PERCENTAGE OF:-				
a) Net Profit to Equity		-	43.1	31.8
b) Net Profit to Net Worth		-	8.3	6.1
c) Profit to Capital Emp.		3.8	19.6	14.4
d) Sales to Cap. Emp.		626.2	1018.7	752.2
e) Profit to Sales		0.6	1.9	1.9
f) Equity Loan ratio		0.35	10.98	10.98

* includes marketing

P- Provisional

1. For the period 1.1.77 to 8.5.78(16½ months)

2. For the pro-rata period of 12 months.

Source: Annual Reports of the Company.

Table No. 13.

FINANCIAL STRUCTURE

NAME OF THE UNDERTAKING:- Cochin Refineries Limited.

Rs./Lakhs

I T E M	1976-77	1977-78 @ (1)	1977-78 @ (2)	1978-79
1. Authorised Capital	1500	1500		1500
2.i) Equity Capital	700	700		700
ii) Preference Capital	-	-		-
iii) Reserves & Surpluses	654	622		566
3. Loans a) Total	402	373		1433
b) Foreign	175	146		87
4. Net Worth	1354	1322		1266
5. Capital Employed	1734	1655		2616
i) Net Fixed Assets	1411	1326		1186
ii) Working Capital	323	329		1430
6. Sales	27095	14977	25675	25445
7. Adjusted Gross Profit	544	322	552	603
8. Adjusted Net Profit	192	96	165	188
9. Dividend Declared	105	140	240	240
PERCENTAGE OF:-				
a) Net Profit to Equity	27.4	13.7	23.6	26.9
b) Net Profit to Net Worth	14.2	7.3	12.5	14.8
c) Profit to Capital Emp.	31.4	19.5	33.4	23.1
d) Sales to Cap. Emp.	1562.6	905.0	1551.4	972.7
e) Profit to Sales	2.0	2.1	2.1	2.4
f) Equity Loan ratio	1.74	1.88	1.88	0.49

@ 1. For the period 1/9/77 to 31/3/78 (7 months)
2. For the pro-rata period (12 months)

Source:- Annual Reports of the Company.

Table No. 14

FINANCIAL STRUCTURE

NAME OF THE UNDERTAKING:- Madras Refineries Ltd.

Rs./Lakhs

I T E M	1976-77	1977-78 @ (1)	1977-78 @ (2)	1978-79
1. Authorised Capital	1350	1350		1350
2.i) Equity Capital	1287	1287		1287
ii) Preference Capital	-	-		-
iii) Reserves & Surpluses	1359	1413		1431
3. Loans a) Total	349	144		14
b) Foreign	188	120		-
4. Net Worth	2587	2670		2694
5. Capital Employed	2913	2800		2591
i) Net Fixed Assets	1530	1340		1004
ii) Working Capital	1383	1460		1587
6. Sales	23698	20475	27300	26481
7. Adjusted Gross Profit	332	515	687	777
8. Adjusted Net Profit	(-)58	399	532	287
9. Dividend Declared	193	161	215	193
PERCENTAGE OF:-				
a) Net Profit to Equity	-	31.0	41.3	22.3
b) Net Profit to Net Worth	-	14.9	19.9	10.7
c) Profit to Capital Emp.	11.4	18.4	24.5	30.0
d) Sales to Cap. Emp.	813.5	731.3	975.0	1022.0
e) Profit to Sales	1.4	2.5	2.5	2.9
f) Equity Loan ratio	3.69	8.94	8.94	91.93

@ 1. For the period 1.7.77 to 31.3.78 (9 months)
2. For the pro-rata period of 12 months.

Source:- Annual Reports of the Company.

Table No. 15.

FINANCIAL STRUCTURE

NAME OF THE UNDERTAKING:- Indo-Burma Petroleum Co. Ltd.

Rs./Lakhs

I T E M		1976-77	1977-78	1978-79
1. Authorised Capital		300	300	300
2.i) Equity Capital		160	160	160
ii) Preference Capital		50	50	50
iii) Reserves & Surpluses		268	294	294
3. Loans	a) Total(1)	340	269	558
	b) Foreign	-	-	-
4. Net Worth		478	504	504
5. Capital Employed		516	485	493
i) Net Fixed Assets		194	346	351
ii) Working Capital		322	139	142
6. Sales		11962	13981	16335
7. Adjusted Gross Profit		67	60	77
8. Adjusted Net Profit		24	36	19
9. Dividend Declared (2)		22	22	24
PERCENTAGE OF:-				
a) Net Profit to Equity (3)		13.1	20.6	11.9
b) Net Profit to Net Worth		5.0	7.1	3.8
c) Profit to Capital Emp.		13.0	12.4	15.6
d) Sales to Cap. Emp.		2318.2	2882.7	3313.4
e) Profit to Sales		0.6	0.4	0.5
f) Equity Loan ratio		0.47	0.59	0.29

(1) The figures include a Central Govt. Loan of Rs.134 lakhs given through I...P. to one of its subsidiaries viz Bridge Roof & Co. Ltd.

(2) Includes preference dividend of Rs. 3 lakhs in respect of each year.

(3) Net Profit excludes preference dividend of Rs. 3 lakhs.

Source:- Annual Reports of the Company.

Table No. 16.

FINANCIAL STRUCTURE

NAME OF THE UNDERTAKING:- Lubrizol India Ltd.

I T E M		Rs./Lakhs 1976-77	1977-78	1978-79
1. Authorised Capital		75	75	75
2.i) Equity Capital		60	60	60
ii) Preference Capital		-	-	-
iii) Reserves & Surpluses		523	692	864
3. Loans	a) Total	195	78	-
	b) Foreign	-	-	-
4. Net Worth		583	752	924
5. Capital Employed		770	827	924
i) Net Fixed Assets		324	304	278
ii) Working Capital		446	523	646
6. Sales		1902	2171	2368
7. Adjusted Gross Profit		386	458	421
8. Adjusted Net Profit		178	178	171
9. Dividend Declared		7	9	11
PERCENTAGE OF:-				
a) Net Profit to Equity		296.7	296.7	285.0
b) Net Profit to Net Worth		30.5	23.7	18.5
c) Profit to Capital Emp.		50.1	55.4	45.6
d) Sales to Cap. Emp.		247.0	262.5	256.3
e) Profit to Sales		20.3	21.1	17.8
f) Equity Loan ratio		0.31	0.77	-

Source:- Annual Reports of the Company.

Table No. 17.

FINANCIAL STRUCTURE

NAME OF THE UNDERTAKING:- Balmer Lawrie & Co. Ltd.

Rs./Lakhs

ITEM	1976-77	1977-78	1978-79
1. Authorised Capital	300	300	300
2.i) Equity Capital	189	189	189
ii) Preference Capital	-	-	-
iii) Reserves & Surpluses	184	217	262
3. Loans a) Total	314	197	311
b) Foreign	-	-	-
4. Net Worth	373	406	451
5. Capital Employed	642	556	686
i) Net Fixed Assets	105	157	171
ii) Working Capital	537	399	515
6. Sales	1935	2576	3510
7. Adjusted Gross Profit	119	169	212
8. Adjusted Net Profit	35	67	80
9. Dividend Declared	15	23	28
PERCENTAGE OF:-			
a) Net Profit to Equity	18.5	35.4	42.3
b) Net Profit to Net Worth	9.4	16.5	17.7
c) Profit to Capital Emp.	18.5	30.4	30.9
d) Sales to Cap. Emp.	301.4	463.3	511.7
e) Profit to Sales	6.1	6.6	6.0
f) Equity Loan ratio	0.60	0.96	0.61

Source:- Annual Reports of the Company.

Table No. 18.

FINANCIAL STRUCTURE

NAME OF THE UNDERTAKING:- Biecco Lawrie Ltd.

Rs./Lakhs

I T E M		1976-77	1977-78	1978-79
1. Authorised Capital		250	250	250
2.i) Equity Capital		33	33	33
ii) Preference Capital		-	-	-
iii) Reserves & Surpluses		3	5	.5
3. Loans	a) Total	281	416	555
	b) Foreign	-	-	-
4. Net Worth		(-)65	(-)202	(-)360
5. Capital Employed		217	214	197
i) Net Fixed Assets		33	40	39
ii) Working Capital		184	174	158
6. Sales		435	328	337
7. Adjusted Gross Profit		6	(-)80	(-)89
8. Adjusted Net Profit		(-)40	(-)131	(-)157
9. Dividend Declared		-	-	-
PERCENTAGE OF:-				
a) Net Profit to Equity		-	-	-
b) Net Profit to Net Worth		-	-	-
c) Profit to Capital Emp.		2.8	-	-
d) Sales to Cap. Emp.		200.5	153.3	171.1
e) Profit to Sales		1.4	-	-
f) Equity Loan ratio		0.12	0.08	0.06

Source:- Annual Reports of the Company.

Table No. 19.

FINANCIAL STRUCTURE

NAME OF THE UNDERTAKING:- Bridge & Roof Co.(India) Ltd.

Rs./Lakhs

ITEM	1976-77	1977-78	1978-79*
1. Authorised Capital	500	500	500
2.i) Equity Capital	36	36	304
ii) Preference Capital	-	-	-
iii) Reserves & Surpluses	3	3	20
3. Loans a) Total	673	819	715
b) Foreign	-	-	-
4. Net Worth	(-)381	(-)379	(-)148
5. Capital Employed	290	441	567
i) Net Fixed Assets	76	100	95
ii) Working Capital	214	341	472
6. Sales	1663	1734	2498
7. Adjusted Gross Profit	102	84	38
8. Adjusted Net Profit	11	(-) 4	(-)54
9. Dividend Declared	-	-	-
PERCENTAGE OF:-			
a) Net Profit to Equity	30.6	-	-
b) Net Profit to Net Worth	-	-	-
c) Profit to Capital Emp.	35.2	19.0	6.7
d) Sales to Cap. Emp.	573.4	393.2	440.6
e) Profit to Sales	6.1	4.8	1.5
f) Equity Loan Ratio	0.05	0.04	0.43

* Provisional

Source:- Annual Reports of the Company.

Table No. 20.

FINANCIAL STRUCTURE

NAME OF THE UNDERTAKING:- Indian Oil Blending Ltd.

Rs./Lakhs

I T E M		1976-77	1977-78	1978-79
1. Authorised Capital		40	40	40
2.i) Equity Capital		40	40	40
ii) Preference Capital		-	-	-
iii) Reserves & Surpluses		66	95	116
3. Loans	a) Total	-	-	-
	b) Foreign	-	-	-
4. Net Worth		106	135	156
5. Capital Employed		105	131	149
i) Net Fixed Assets		93	91	101
ii) Working Capital		12	40	48
6. Sales		152	176	188
7. Adjusted Gross Profit		41	55	54
8. Adjusted Net Profit		18	22	25
9. Dividend Declared		4	4	4
PERCENTAGE OF:-				
a) Net Profit to Equity		45.0	55.0	62.5
b) Net Profit to Net Worth		17.0	16.3	16.0
c) Profit to Capital Emp.		39.0	42.0	36.2
d) Sales to Cap. Emp.		144.8	134.4	126.2
e) Profit to Sales		27.0	31.3	28.7
f) Equity loan ratio		-	-	-

Source:- Annual Reports of the Company.

Table No. 21.

CONSOLIDATED FINANCIAL STRUCTURE

Petrochemicals & Other Down Stream Units.

Rs./Lakhs

I T E M		1976-77	1977-68	1978-79
1. Authorised Capital		20000	21500	22000
2.i) Equity Capital		18600	19831	20070
ii) Preference Capital		-	-	-
iii) Reserves & Surpluses		2721	3353	2113
3. Loans	a) Total	7739	14840	15391
	b) Foreign	613	583	367
4. Net Worth		21310	22623	22080
5. Capital Employed		8145	19905	36195
i) Net Fixed Assets		2861	14420	29282
ii) Working Capital		5284	5485	6913
6. Sales		3936	4986	13919
7. Adjusted Gross Profit		1653	1055	916
8. Adjusted Net Profit		904	154	(-)481
9. Dividend Declared		-	-	-
PERCENTAGE OF:-				
a) Net Profit to Equity		4.9	0.8	-
b) Net Profit to Net Worth		4.2	0.7	-
c) Profit to Capital Emp.		20.3	5.3	2.5
d) Sales to Cap. Emp.		48.3	25.0	38.5
e) Profit to Sales		42.0	21.2	6.6
f) Equity Loan Ratio		2.40	1.34	1.30

Source:- Annual Reports of the Company.

Table No. 22.

FINANCIAL STRUCTURE

NAME OF THE UNDERTAKING:- Indian Petrochemicals Corporation Ltd.

Rs./Lakhs

I T E M	1976-77	1977-78	1978-79
1. Authorised Capital	20000	20000	20000
2.i) Equity Capital	18600	18600	18600
ii) Preference Capital	-	-	-
iii) Reserves & Surpluses	2721	2953	1643
3. Loans a) Total	7739	12949	13861
b) Foreign	613	583	367
4. Net Worth	21310	21548	20243
5. Capital Employed	8145	17723	33463
i) Net Fixed Assets	2861	12286	26995
ii) Working Capital	5284	5437	6468
6. Sales	3936	4570	9294
7. Adjusted Gross Profit	1653	1093	213
8. Adjusted Net Profit	904	304	(-)999
PERCENTAGE OF:-			
a) Net Profit to Equity	4.9	1.6	-
b) Net Profit to Net Worth	4.2	1.4	-
c) Profit to Capital Emp.	20.3	6.2	0.6
d) Sales to Cap. Emp.	48.3	25.8	27.8
e) Profit to Sales	42.0	23.9	2.3
f) Equity Loan ratio	2.40	1.44	1.34

Source:- Annual Reports of the Company.

Table No. 23

FINANCIAL STRUCTURE

NAME OF THE UNDERTAKING:- Petrofils Cooperative Ltd.

Rs./Lakhs

I T E M	1977-78 (a)	1978-79
1. Authorised Capital	1500	2000
2.i) Equity Capital(b)	1231	1470
ii) Preference Capital	-	-
iii) Reserves & Surpluses	400	470
3. Loans a) Total	1891	1530
b) Foreign	-	-
4. Net Worth	1075	1837
5. Capital Employed	2182	2732
i) Net Fixed Assets	2134	2287
ii) Working Capital	48	445
6. Sales	416	4625
7. Adjusted Gross Profit	(-)38	703
8. Adjusted Net Profit	(-)150	518
9. Dividend Declared	-	-
PERCENTAGE OF:-		
a) Net Profit to Equity	-	35.2
b) Net Profit to Net Worth	-	28.2
c) Profit to Capital Emp.	-	25.7
d) Sales to Cap. Emp.	19.1	169.3
e) Profit to Sales	-	15.2
f) Equity Loan ratio	0.65	0.96

(a) Results relate to seven months of operation of the plant during the first operating year of the Society.

(b) Includes subscription towards shares to the tune of Rs. 657 lakhs in 1977-78 & Rs. 51 lakhs in 1978-79.

Source:- Annual Reports of the Company.

Table No. 24

FINANCIAL STRUCTURE

NAME OF THE UNDERTAKING:- Engineers India Ltd.

Rs./Lakhs

ITEM		1976-77	1977-78	1978-79
1. Authorised Capital		200	200	200
2.i) Equity Capital		25	25	25
ii) Preference Capital		-	-	-
iii) Reserves & Surpluses		400	547	776
3. Loans	a) Total	24	-	18
	b) Foreign	-	-	-
4. Net Worth		425	572	801
5. Capital Employed		448	571	803
i) Net Fixed Assets		172	183	344
ii) Working Capital		276	388	459
6. Sales		1167	2051	1520
7. Adjusted Gross Profit		227	272	385
8. Adjusted Net Profit		120	151	228
9. Dividend Declared		3	3	4
PERCENTAGE OF:-				
a) Net Profit to Equity		480.0	604.0	912.0
b) Net Profit to Net Worth		28.2	26.4	28.5
c) Profit to Capital Emp.		50.7	47.6	47.9
d) Sales to Cap.Emp.		260.5	359.2	189.3
e) Profit to Sales		19.5	13.3	25.3
f) Equity Loan ratio		1.04	-	1.39

Source:- Annual Reports of the Company.

Table No. 1.

CONSOLIDATED FINANCIAL STRUCTURE - PETROCHEMICALS ALL CATEGORIES (PRIVATE SECTOR)

(Rs./Crores)

I T E M	1976-77	1977-78	1978-79
No. of undertakings(nos)	39	39	39
1. Authorised Capital	334.7	334.7	346.7
2.i) Equity Capital	167.6	178.0	185.7
ii) Preference Capital	15.6	15.1	15.1
iii) Reserves & Surpluses	202.7	220.2	256.6
3. Total Loans	149.2	155.6	166.9
(of which) Foreign	30.8	21.2	16.7
4. Cash Credits/Advances from Banks/Others	152.7	169.2	161.2
5. Net Worth	348.1	374.1	419.6
6. Capital Employed	606.4	674.1	724.9
i) Net Fixed Assets	327.2	370.3	400.2
ii) Working Capital	279.2	303.8	324.7
7. Sales/Operating Income	1121.1	1202.8	1379.1
8. Value of Production	882.7	948.9	1071.4
9. Net Value Added	371.9	412.0	483.3
10. Gross Profit	96.1	120.5	154.6
11. Net Profit	30.6	47.8	69.6
12. Dividends declared	19.0	22.8	26.9
Percentage of:			
i) Net Profit to Equity	18.3	26.9	37.5
ii) Net Profit to Net Worth	8.8	12.8	16.6
iii) Profit to Cap. Emp.	15.8	17.9	21.3
iv) Sales to Cap. Emp.	184.9	178.4	190.2
v) Profit to Sales	8.6	10.0	11.2
vi) Equity/Loan Ratio	1.12	1.14	1.11

N.B. The consolidation is on the basis of lateral summation of data of undertakings having different accounting years.

Table No. 2

CONSOLIDATED FINANCIAL STRUCTURE - SYNTHETIC FIBRE (PRIVATE SECTOR)

(Rs./Lakhs)

ITEM	1976-77	1977-78	1978-79
No. of Undertakings (Nos.)	14	14	14
1. Authorised Capital	12531	12531	13631
2.i) Equity Capital	6327	7031	7223
ii) Preference Capital	772	746	745
iii) Reserves & Surpluses	9692	10597	12606
3. Total Loans	6748	6901	7797
(of which) Foreign	1322	974	821
4. Cash Credits/Advances from Banks/Others	5346	5284	5203
5. Net Worth	15816	17547	19996
6. Capital Employed	26463	28667	32422
i) Net Fixed Assets	14905	16929	19523
ii) Working Capital	11558	11738	12899
7. Sales/Operating Income	46838	50583	57836
8. Value of Production	31237	32396	35691
9. Net Value Added	14226	16115	18125
10. Gross Profit	4102	5815	7337
11. Net Profit	1526	2650	3909
12. Dividends declared	698	974	1239
Percentages of :-			
i) Net Profit to Equity	24.1	37.7	54.0
ii) Net Profit to Net Worth	9.6	15.1	19.5
iii) Profit to Cap. Emp.	15.5	20.3	22.6
iv) Sales to Cap. Emp.	177.0	176.5	178.4
v) Profit to Sales	8.8	11.5	12.7
vi) Equity/Loan Ratio	0.94	1.02	0.93

N.B. The consolidation is on the basis of lateral summation of data of undertakings having different accounting Years.

Table No. 3.

CONSOLIDATED FINANCIAL STRUCTURES (PLASTICS)

(PRIVATE SECTOR)

(Rs./Lakhs)

I T E M	1976-77	1977-78	1978-79
No. of Undertakings	13	13	13
1. Authorised Capital	9762	9762	9762
2.i) Equity Capital	4348	4645	4631
ii) Preference Capital	458	442	441
iii) Reserves & Surpluses	5123	5239	5911
3. Total Loans	4412	4900	5424
(of which) Foreign	619	295	269
4. Cash Credits/Advances from Banks/Others	6629	7867	7209
5. Net Worth	8245	8377	8922
6. Capital Employed	18125	20775	21335
i) Net Fixed Assets	9052	10759	10832
ii) Working Capital	9073	10016	10503
7. Sales/Operating Income	36153	38408	45206
8. Value of Production	31880	34959	40978
9. Net Value Added	12092	13380	17514
10. Gross Profit	2531	2733	3801
11. Net Profit	459	633	1140
12. Dividends Declared	460	477	523
Percentages of:-			
i) Net Profit to Equity	10.6	13.6	24.6
ii) Net Profit to Net Worth	5.6	7.6	12.8
iii) Profit to Cap. Emp.	14.0	13.2	17.8
iv) Sales to Cap. Emp.	199.5	184.9	211.9
v) Profit to sales	7.0	7.1	8.4
vi) Equity/Loan Ratio	0.99	0.95	0.85

N.B. The consolidation is on the basis of lateral summation of data of undertakings having different accounting years.

Table No. 4.

CONSOLIDATED FINANCIAL STRUCTURE (CHEMICALS)

(PRIVATE SECTOR)

(Rs./Lakhs)

I T E M	1976-77	1977-78	1978-79
No. of Undertakings	11	11	11
1. Authorised Capital	9680	9680	9780
2.i) Equity Capital	5512	5553	6127
ii) Preference Capital	326	326	326
iii) Reserves & Surpluses	5003	5669	6592
3. Total Loans	3724	3696	3416
(of which) Foreign	1119	834	569
4. Cash Credits/Advances from Banks/Others	3081	3494	3461
5. Net Worth	9725	10391	11920
6. Capital Employed	14808	16578	17357
i)Net Fixed Assets	8274	8830	9114
ii)Working Capital	6534	7748	8243
7. Sales/Operating Income	26552	28606	31928
8. Value of Production	22985	24822	27624
9. Net Value Added	10278	10846	11710
10. Gross Profit	2723	3193	4045
11. Net Profit	929	1347	1793
12. Dividends Declared	660	740	839
Percentages of:-			
i)Net Profit to Equity	16.9	24.3	29.3
ii)Net Profit to Net Worth	9.6	13.0	15.0
iii)Profit to Capital Employed	18.4	19.3	23.3
iv)Sales to Capital Employed	179.3	172.6	183.9
v)Profit to Sales	10.3	11.2	12.7
vi)Equity/Loan Ratio	1.48	1.50	1.79

N.B. The consolidation is on the basis of lateral summation of data of undertakings having different accounting years.

Table No. 5.

FINANCIAL STRUCTURE (Synthetic Rubber)

NAME OF THE UNDERTAKING:- SYNTHETICS AND CHEMICALS LIMITED.

Rs./Lakhs

I T E M	1976-77	1977-78	1978-79@
1. Authorised Capital	1500	1500	1500
2.i) Equity Capital	575	575	575
ii) Preference Capital	-	-	-
iii) Reserves & Surpluses	450	517	547
3. Total Loans	37	65	55
(of which) Foreign	17	15	15
4. Cash Credits/Advances from Banks/ Others	210	270	249
5. Net Worth	1024	1092	1122
6. Capital Employed	1245	1390	1373
i) Net Fixed Assets	485	511	546
ii) Working Capital	760	879	827
7. Sales/Operating Income	2571	2681	2944
8. Value of Production	2167	2709	2843
9. Net Value Added	591	860	978
10. Gross Profit	257	305	275
11. Net Profit	144	153	117
12. Dividends declared	86	86	86
Percentage of:-			
i) Net Profit to Equity	25.0	26.6	20.3
ii) Net Profit to Net Worth	14.1	14.0	10.4
iii) Profit to Cap. Emp.	20.6	21.9	20.0
iv) Sales to Cap. Emp.	206.5	192.9	214.4
v) Profit to Sales	10.0	11.4	9.3
vi) Equity/Loan Ratio	15.54	8.85	10.45

@ For the year ended 31.12.78.

CAPITAL INVESTMENT IN PUBLIC/JOINT SECTOR UNDERTAKINGS AS ON 1.4.1980

(Rs./Crores)

	Paid up Capital			Long term loans			Total		Relative % age share	
	Total	of which Govt's	% of Govt.	Total	of which Govt's	% of Govt.	Total	Of which Govt's.	Govt.	Non-Govt.
1. Exploration & Production	365.4	351.4	96.2	460.5	208.8	45.3	825.9	560.2	67.8	32.2
i) ONGC	337.4	337.4	100.0	390.8	143.3	36.7	728.2	480.7	66.0	34.0
ii) OIL	28.0	14.0	50.0	69.7	65.5	94.0	97.7	79.5	81.4	18.6
2. Refining & Marketing	139.3	130.8	93.9	191.8	98.4	51.3	331.1	229.2	69.2	30.8
i) IOC	82.2	82.2	100.0	168.7	77.6	46.2	250.9	159.8	63.7	36.3
ii) BPCL	14.5	14.5	100.0	-	-	-	14.5	14.5	100.0	-
iii) HPCL	15.2	15.2	100.0	10.6	9.6	90.1	25.8	24.8	96.1	3.9
iv) CRL	7.0	4.2	60.0	2.4	1.1	48.3	9.4	5.3	56.4	43.6
v) MRL	12.9	9.5	74.0	0.6	0.6	100.0	13.5	10.1	74.8	25.2
vi) IBP	2.8*	1.1	39.6	-	-	-	2.8	1.1	39.6	60.4
vii) Biecco Lawrie	1.1	0.7	69.5	4.7	4.7	100.0	5.8	5.4	93.1	6.9
viii) Bridge & Roof	3.0	3.0	100.0	4.8	4.8	100.0	7.8	7.8	100.0	100.0
ix) Lubrizol	0.6	0.4	51.0	-	-	-	0.6	0.4	51.0	49.0
3. Petrochemicals and Other Downstream Units	298.7	297.7	99.7	173.7	110.7	63.7	472.4	408.4	86.5	13.5
i) IPCL	186.0	186.0	100.0	150.2	108.8	72.5	336.2	294.8	87.7	12.3
ii) Petrofils	14.2	13.2	92.7	15.0	-	-	29.2	13.2	45.2	54.8
iii) BRPL	98.5	98.5	100.0	8.5	1.9	22.3	107.0	100.4	93.8	6.2
4. Engineering Services	0.3	0.3	100.0	-	-	-	0.3	0.3	100.0	-
i) EIL	0.3	0.3	100.0	-	-	-	0.3	0.3	100.0	-
GRAND TOTAL	803.7	780.2	97.1	826.0	417.9	50.6	1629.7	1198.1	73.5	26.5

* Represents net investment in IBP and its subsidiary after exclusion of inter company holdings, share of Govt. in IBP alone is 53.7%.

Capital Investment in Public/Joint Sector Undertakings as on 1st April, 1978, 1979 & 1980.

(Rs./Crores)

	As on 1.4.1978				As on 1.4.1979				As on 1.4.1980			
	Equity	LT Loan	Total	Govt's share	Equity	LT Loan	Total	Govt's share	Equity	LT Loan	Total	Govt's share
1. Exploration & Production	348.8	336.0	684.8	510.8	360.4	378.0	738.4	515.0	365.4	460.5	825.9	560.2
i) ONGC	320.8	263.0	583.8	429.1	332.4	305.8	638.2	433.3	337.4	390.8	728.2	480.7
ii) OIL	28.0	73.0	101.0	81.7	28.0	72.2	100.2	81.7	28.0	69.7	97.7	79.5
2. Refining & Marketing	133.8	81.3	215.1	195.8	137.0	124.8	261.8	223.1	139.3	191.8	331.1	229.2
i) IOC	82.2	70.3	152.5	144.4	82.2	105.7	187.9	167.5	82.2	168.7	250.9	159.8
ii) BPCL	14.5	-	14.5	14.5	14.5	-	14.5	14.5	14.5	-	14.5	14.5
iii) HPCL	10.0	4.2	14.2	13.4	15.2	8.4	23.6	15.2	15.2	10.6	25.8	24.8
iv) CCRIL/HPCL(VMU)	4.5	0.4	4.9	4.5	Merged with HPCL on 9.5.78.							
v) CRL	7.0	3.7	10.7	6.5	7.0	2.5	9.5	5.8	7.0	2.4	9.4	5.3
vi) MRL	12.9	1.4	14.3	9.8	12.9	0.1	13.0	9.5	12.9	0.6	13.5	10.1
vii) IBP	2.1	1.3	3.4	2.4	4.6	8.1	12.7*	10.3	2.8	-	2.8*	1.1
viii) Biecco Lawrie	-	-	-	-	-	-	-	-	1.1	4.7	5.8	5.4
ix) Bridge & Roof	-	-	-	-	-	-	-	-	3.0	4.8	7.8	7.8
x) Lubrizol	0.6	-	0.6	0.3	0.6	-	0.6	0.3	0.6	-	0.6	0.4
3. Petrochemicals & Other D.S.Units	255.4	159.8	415.2	399.1	289.5	147.0	436.5	411.8	298.7	173.7	472.4	408.4
i) IPCL	186.0	140.8	326.8	323.7	186.0	131.1	317.1	308.9	186.0	150.2	336.2	294.8
ii) PCL	5.7	18.0	23.7	11.7	13.8	15.0	28.8	13.2	14.2	15.0	29.2	13.2
iii) BRPL	63.7	1.0	64.7	63.7	89.7	0.9	90.6	89.7	93.5	8.5	107.0	100.4
4. Engineering Services	0.3	-	0.3	0.3	0.3	-	0.3	0.3	0.3	-	0.3	0.3
i) EIL	0.3	-	0.3	0.3	0.3	-	0.3	0.3	0.3	-	0.3	0.3
GRAND TOTAL	738.3	577.1	1315.4	1106.0 (84.1%)	787.2	649.8	1437.0	1150.2 (80.0%)	803.7	826.0	1629.7	1198.1 (73.5%)

(Figures in brackets indicate percentage share of Government)

* Represents net investment in IBP and its subsidiaries after exclusion of inter Company holding, Figures in respect of 1978 are for IBP only.

GLOSSARY OF TERMS USED IN THE "ANNUAL REPORT ANALYSIS"

1. Loans : These include both secured and unsecured loans but exclude interest accrued, if any included in the loans.

2. Net Worth : This represents paid-up capital plus free reserves less accumulated losses (deficit) and deferred revenue expenditure remaining unamortised.

3. Capital Employed : This means gross block less accumulated depreciation thereon plus working capital. but excluding capital works in progress.

4. Working Capital : Mean all current assets, loans & advances, deposits, investments (other than trade investments) less current liabilities and provisions excluding cash credit & bank overdrafts and provision for gratuity).

5. Sales : Means net sales turnover i.e. after excluding trade discounts and products used for internal consumption

6. Adjusted Gross Profit : Represents excess of Income over expenditure after providing for depreciation but before providing for interest on loans, taxes, appropriation to reserves, charges pertaining to previous years, bad debts, Donations, exchange fluctuations Loss on disposal of Assets, Dividends etc.

7. Adjusted net Profit : Represents the figure arrived at after deducting from the adjusted gross profit interest on loans and taxes but before appropriation to reserves.

8. Dividend Declared : Includes preference dividend, if any.

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PART = V

LATE ADDITIONS -

HIGHLIGHTS

7. LATE ADDITIONS- HIGHLIGHTS

1. A U.S.S.R. delegation headed by Deputy Minister in the Ministry of Oil Industry, USSR arrived in India on 7th April, 1980. The delegation discussed further cooperation in exploration and exploitation of oil in India.

2. A Committee was set up to inter alia report on the optimum size and alignment, etc. of the pipeline required for the delivery of gas to (i) locations in Gujarat in accordance with the requirements of the Satish Chandran Committee; and (ii) locations in other States for the setting up of fertilizer and petrochemical units as envisaged by the Satish Chandran Committee.

3. ONGC found a new offshore oil bearing structure in South-South West of Bombay.

4. The Government announced increase in the prices of almost all petroleum products, excluding Kerosene Oil and Cooking Gas (LPG) w.e.f. 8.6.80. This decision was taken in the wake of successive increases in the prices of crude oil by OPEC since the last general price increases for petroleum products that took place on 17.8.1979, similar increases in the prices of imported petroleum products and increases in the other incidental costs to the oil industry. The increases made in the prices of different products are detailed in the statement on page 259.

   Selling price of Block Control Lubes was also increased by Rs.1100/KL.

5. Consequent upon the revision in ceiling selling prices of various petroleum products announced by the Government effective 8.6.80, the retail selling prices of major petroleum products in the metropolitan cities/towns were revised as follows :

Retail selling prices as on 8.6.1980

City	M.S. (Rs/ litre)	HSDO (Rs/ litre)	SKO (Rs/ litre)	LDO (Rs/KL	F.O. (Rs/KL)	LPG (Rs/15KG cylinder)	A.T.F. (Rs/KL) Domestic flights	A.T.F. (Rs/KL) International@ flights
Bombay	5.15	2.21 (a)	1.39	1963.99	1971.41	33.96*	4003.39	4089.63
Calcutta	5.14	2.25	1.49	2185.21	2058.75	42.93	4099.35	3938.20
Delhi	5.11	2.28	1.54	2168.00	2129.34	40.23	3598.55	3481.93
Kanpur	5.22	2.34	1.59	2102.21		40.82 (b)	3653.32	
Madras	4.90	2.24	1.55	2084.96	2069.12	37.81	3481.15	3372.23

*For 14.2 Kg. cylinder.

@ Subject to sales tax/ surcharge on tax adjustments.

(a) Effective 13.6.80. (b) Effective 19.6.80.

6. ONGC struck oil in the Krishna-Godavari offshore basin and gas in the Andaman & Nicobar offshore structure in the Bay of Bengal.

7. The Government of Orissa has given permission to OIL for undertaking exploration in 6800 sq.kms. of onshore area in the districts of Puri, Cuttack and Balasore.

8. ONGC has found some gas in a well offshore East of Portonovo town near Pondicherry.

9. It has been decided by the Government, to invite outisde parties to participate in the exploration and development of hydrocarbons in the onshore and offshore areas of India so as to step up the oil/gas exploration programme in the country.

10. The developments in the lowest posted prices of petroleum products at Bandar Mahashahr since January 1, 1980 are as follows :

(U.S.$/U.S.Gallon)

Prices as on	M.S. Octane 83	Turbine Fuel 58 F	Kerosene	Diesel Index 53-57	Medium Fuel (S/bbl)
1.1.80	87.0	88.5	87.5	83.5	23.80
17.1.80	91.0	93.5	92.0	87.0	25.05
22.2.80	91.0	95.0	93.5	88.0	25.05
27.2.80	92.5	96.0	93.5	88.5	25.05
23.5.80	95.5	102.0	99.5	94.5	24.55
3.7.80	95.5	106.0	105.0	98.0	24.10
9.7.80	100.5	106.0	105.5	100.5	24.10
6.8.80	100.5	108.0	105.5	100.5	24.10

Ceiling Selling Price ex-storage point (Bombay)
w.e.f. 8.6.1980 and increase thereof.

S.No.	Products	Selling Unit	Price prior to 8.6.80	Increase w.e.f. 8.6.80	Ceiling selling price w.e.f. 8.6.80
1.	ATF	KL	2116.85	1100.00	3216.85
2.	MS 83	KL	3888.07	650.00	4538.07
3.	MS 93	KL	4043.48	650.00	4693.48
4.	HSDO	KL	1309.55	650.00	1959.55
5.	SKO	KL	1294.93	NIL	1294.93
6.	LDO	KL	1206.97	650.00	1856.97
7.	MLO	KL	1358.49	650.00	2018.49
8.	FO for Non Fet. use	KL	1209.06	650.00	1859.06
9.	FO for Fet. use	KL	829.06	NIL	829.06
10.	Bitumen st.Gd. Bulk	MT	1175.85	650.00	1825.85
11.	Bitumen Packed	MT	1460.91	650.00	2110.91
12.	Naphtha for Non Fert. Ind.	MT	2482.00	210.00	2692.00
13.	Naphtha for Fert. Industry	MT	596.31	475.00	1071.31
14.	J.B.O.	MT	989.42	690.00	1679.42
15.	SBP 55/115	KL	1685.56	1100.00	2785.56
16.	Solvent 1425	KL	1685.56	1100.00	2785.56
17.	SBPS 64/69	KL	1861.36	1100.00	2961.36
18.	Hexane	KL	1861.36	1100.00	2961.36
19.	MTO 140/205	KL	1124.26	650.00	1774.26
20	MTO Laws	KL	1205.96	650.00	1855.96
21.	LPG Packed (Domestic)	MT	1965.98	NIL	1965.98
22.	LPG Packed (Industrial)	MT	2442.81	NIL	2442.81
23.	LPG Bulk (Industrial)	MT	2260.31	NIL	2260.31

A P P E N D I X

ABBREVIATIONS

(i) Companies/Organisations

AOC	:	Assam Oil Company.
BPCL	:	Bharat Petroleum Corporation Limited.
BRPL	:	Bongaigaon Refinery & Petrochemicals Ltd.
B/Shell/BSM	:	Burmmah Shell Oil Storage & Distributing Co. Ltd.
BSR	:	Burmah Shell Refineries Limited.
Caltex/CIL	:	Caltex(India) Limited.
CORIL	:	Caltex Oil Refining(India) Limited.
CRL	:	Cochin Refineries Limited.
EIL	:	Engineers India Limited.
ESSO	:	Esso Standard Eastern Inc.
ESRC	:	Esso Standard Refining Company of India Ltd.
HPCL	:	Hindustan Petroleum Corporation Limited.
HIL	:	Hydrocarbons India Ltd.
IBPC	:	Indo-Burma Petroleum Company.
IIP	:	Indian Institute of Petroleum.
IPE	:	Institute of Petroleum Exploration.
IOBL	:	Indian Oil Blending Limited.
IOC	:	Indian Oil Corporation Limited.
LIL/Lubrizol	:	Lube India Ltd./Lubrizol India Ltd.
MRL	:	Madras Refineries Limited.
OIL	:	Oil India Limited.
ONGC	:	Oil & Natural Gas Commission.
OPEC	:	Organisation of Petroleum Exporting Countries.
TWCC	:	Tide Water Oil Company.
WIODC	:	Western India Oil Distributing Company.
IPCL	:	Indian Petrochemicals Corporation Ltd.
PCL	:	Petrofils Cooperative Ltd.
IOC	:	Indian Organic Chemicals Ltd.
HCL	:	Herdillia Chemicals Ltd.
NOCIL	:	National Organic Chemicals Indl. Ltd.
ACCI	:	Alkali & Chemicals Corporation of India Ltd.
TIPCO	:	The Industrial Plastics Corporation Pvt. Ltd.

(ii) Petroleum Products

ATF	:	Aviation Turbine Fuel.
AVGAS	:	Aviation gasoline/spirit.
CBFS	:	Carbon Black Feed Stock.
HHS	:	Hot Heavy Stock.
HSDO	:	High Speed Diesel Oil.
JBO	:	Jute Batching Oil.
LDO	:	Light Diesel Oil.
LSHS	:	Low Sulphur Heavy Stock.
LPG	:	Liquified Petroleum Gas.
MS/MOGAS	:	Motor Spirit/Motor Gasoline.
FO	:	Furnace Oil.
MTO	:	Mineral Turpentine Oil.
Pet-coke	:	Petroleum Coke.
SBP-Spirit	:	Special Boiling Point Spirit.
SKO	:	Superior Kerosene Oil.
TDO	:	Tea Drier Oil.

LIGHT DISTILLATES(including Gases):- Motor Gaselines, Aviation Gaselines, Aviation Gasolines, Naphtha, SBP, Spirit/Solvent Oils, Hexane, Benzene, Toluene, L.P.G. and Refinery Gas.
MIDDLE DISTILLATES:- Kerosene, ATF/Jet A-1, Vaporising Oil, Aromex-Iomex, H.S.D.O.,L.D.O./M.L.O. and J.B.O. Mineral Turpentine Oil, Chemisperse & LABFS.

(iii) Petrochemicals Product.

SBR	:	Styrene Butadiene Rubber.
PBR	:	Polybutadiene Rubber.
PVC	:	Polyvinyl Chloride.
MFMP	:	Malamine Formaldehyde Moulding Powder.
PFMP	:	Phenol Formaldehyde Moulding Powder.
UFMP	:	Urea Formaldehyde Moulding Powder.
CAMP	:	Callulose Acctate Moulding Powder.
LDPE	:	Polyethylene Resins and Compounds High Pressure (Low Density).
HDPE	:	Polyethylene Resins and Compounds Low Pressure (High Density).

(iv) PREFIXES USED IN METRIC TABLES

Prefix	Meaning	
Milli	One thousandth	(1/1000 = .001)
Centi	One hundredth	(1/100 = .01)
Deci	One tenth	(1/10 = .1)
Unit	One	(1)
Deka	Ten	(10)
Hecto	One hundred	(100)
Kilo	One thousand	(1,000)
Mega	One Million	(1000,000)

(v) Others

API	:	American Petroluem Institute
AFRA	:	Average Freight Rate Assessment
CIF	:	Cost Insurance and Freight
Crores	:	10 million/100 lakhs
DWT	:	Dead Weight Tonnage
FOB	:	Free on Board
GP	:	General Purpose(16,500-24,999 dwt)
HV	:	High Viscosity
HVI	:	High Viscosity Index
KL	:	Kilolitre
KM	:	Kilometre
LR I	:	Large Range I (45,000-79,999 dwt)
LR II	:	Large Range II (80,000-1,59,999 dwt)
LV	:	Low Viscosity
LVI	:	Low Viscosity Index
MR	:	Medium Range (25,000-49,999 dwt)
MT	:	Metric Ton
MTPA	:	Million tonnes per annum
MV	:	Medium Viscosity
MVI	:	Medium Viscosity Index
R&D	:	Research and Development
ULCC	:	Ultra Large Crude Carrier(320,000-549,999 dwt)
VLCC	:	Very Large Crude Carrier (1,60,000 dwt and more)
NA	:	Not available
-	:	Nil
Neg	:	Negligible

* - Provisional

METRIC UNITS

Linear

10 millimetres	= 1 Centimetre
10 Centimetres	= 1 decimetre
10 Decimetres	= 1 Metre
10 Metres	= 1 decametre
10 Dacametres	= 1 hectametre
10 Hectametres	= 1 Kilometre

AREA

100 sq. millimetres	= 1 Sq. centimetre
100 sq. centimetres	= 1 Sq. decimetre
100 sq. decimetres	= 1 Sq. Metre
100 sq. metres	= 1 Sq. decametre
	= 1 Area.
100 ares	= 1 Sq. ares
	= 1 hectare
100 Hectares	= 1 Sq. hectometre
	= 1 Sq. kilometre

WEIGHTS

10 Milligrams	= 1 centigram
10 centigram	= 1 decigram
10 decigram	= 1 gram
10 grams	= 1 decagram
10 decagrams	= 1 hectogram
10 hectograms	= 1 kilogram
100 kilogram	= 1 quintal
1000 kilogram	= 1 metric tonne

CAPACITY

10 Millilitres	= 1 centilitre
10 Centilitres	= 1 decilitre
10 Decilitres	= 1 litre
10 Litres	= 1 decalitre
10 Decalitres	= 1 hectolitre
10 Hectolitres	= 1 kilolitre

VOLUME

1000 Cubic millimetres	= 1 cubic centimetre
1000 Cubic Centimetres	= 1 cubic decimetre
1000 Cubic Decimetres	= 1 cubic metre

CONVERSION FACTORS USED IN THE OIL TRADE LINEAR AND SQUARE MEASURES .

LENGTH

1 inch	= 25.4 millimetres (mm)
1 foot	= 0.0254 metre = 12 inches = 0.333333 yard = 0.3048 metre (m)
1 yard	= 36 inches = 3 feet = 0.9144 metre (m)
1 metre	= 39.3701 inches = 3.28084 feet = 1.09361 yards = 0.001 kilometre (km)
1 Kilometre	= 1000 metres (M) = 0.621371 mile
1 mile	= 1760 Yards = 1.60934 Kilometres (Km)
1 international nautical mile	= 6076.12 feet = 1.852 kilometres(Km) = 1.15078 miles

AREA

1 square inch	= 645.16 square millimetres(mm^2)
1 square foot	= 0.0929030 square metre (mm^2)
1 square yard	= 9 square feet = 0.836127 square metre (m^2)
1 square metre	= 10.7639 square feet = 1.19599 square yards
1 acre	= 4840 square yards = 4046.86 square metres (m^2) = 0.404686 hectares
1 hectare	= 10000 square metres (m^2) = 2.47105 acres = 0.01 square kilometre (km^2)
1 square kilometre	= 100 hectares = 0.386102 square mile
1 square mile	= 640 acres = 258.999 hectares = 2.58999 square kilometres (km^2)

MASS WEIGHTS

1 ounce	= 28.3495 grams (g)
1 pound	= 0.453592 kilogram (kg)
	= 0.00892857 hundred weight (cwt)
1 kilogram	= 2.20462 pounds
	= 0.01 quintal
	= 0.001 tonne
1 hundreweight(cwt)	= 112 pounds
	= 50.8023 kilograms (kg)
1 American(short)ton	= 2000 pounds
	= 0.907185 tonne
	= 0.892857 long ton
1 tonne(metric ton)	= 2204.62 pounds
	= 1000 kilograms (kg)
	= 1.10231 short tons
	= 0.984207 long ton
1 Imperial(long)ton	= 2240 pounds
	= 1.12 short tons
	= 1.01615 tonnes

ENERGY AND POWER

1 international table(IT) calorie	= 4.1868 joules(J)
15°C calorie	= 4.1855 joules(J)
1 themochemical calore	= 4.184 joules(J)
1 kilocalorie(IT)	= 1000 calories
	= 3.96832 British thermal units
	= 1.163 watt hous
	= 0.001 thermie
1 kilowatt hour	= 3412.14 British thermal units
	= 859.845 kilocalories(IT)
	= 3.6 megajoules (MJ)
	= 1.34102 horsepower hours
1 therm	= 100000 British thermal units(BTU)
	= 105.506 megajoules (MJ)
	= 29.3071 kilowatt hours
	= 25.1996 thermies
1 metric horsepower (Pferdestaerke or Cheval Vapeur)	= 25.1996 kilocalories
	= 735.499 watts(W)
	= 542.476 foot pounds force/second
	= 0.986320 Imperial horsepower
1 Imperial horsepower	= 745.700 watts(W)
	= 550 foot pounds force/second
	= 1.01387 metric horsepower
1 kilowatt	= 737.562 foot pounds force/second
	= 1.35962 metric horsepower
	= 1.34102 Imperial horsepower
	= 1000 watts.

CUBIC MEASURES

VOLUME

1 cubic inch	= 16.3871 cubic centimetres (cm^3)
1 pint	= 0.568261 cubic decimetres (dm^3)
1 litre	= 1000 cubic centimetres = 61.024 cubic inches = 1.75975 pints = 1 cubic decimetre (dm^3) = 0.264172 American gallons = 0.219969 Imperial gallons = 0.0353147 cubic foot
1 hectolitre	= 100 cubic decimetres (dm^3) or = 100 litres
1 American gallon	= 231 cubic inches = 3.78541 cubic decimetres or litres = 0.832674 Imperial gallon = 0.133681 cubic foot = 0.0238095 American barrel = 0.00378541 cubic metre (m^3)
1 Imperial gallon	= 277.420 cubic inches = 4.54609 cubic decimetres (dm^3)or litres = 1.20095 American gallon = 0.160544 cubic foot = 0.028594 American barrel = 0.00454609 cubic metre (m^3)
1 cubic foot	= 28.3168 cubic decimetres(dm^3) or litres = 7.48052 American gallons = 6.22883 Imperial gallons = 0.17811 American barrel = 0.0283168 cubic metre(m^3)
1 American barrel	= 9702 cubic inches = 158.987 cubic decimetres (dm^3) or litres = 42 American gallons = 349726 Imperial gallons = 5.6146 cubic feet = 0.158987 cubic metre (m^3)
1 Cubic metre	= 1000 litres = 264.172 American gallons = 219.969 Imperial gallons = 35.3147 cubic feet = 6.28981 American barrels
1 kilolitre	= 1000 cubic decimetres(dm^3) or litres = 6.28981 American barrels
1 gross ton(shipping)	= 2.83168 cubic metres or 100 cubic = feet of permanently enclosed space.
1 ton of liquified methane	= approx. 16 barrels = approx. 1400 cubic metres of natural gas depending upon methane content.

PRODUCT CONVERSION FACTOR

(Conversion Factor from Volume to tonnes at Natural temp.)

Products	Litres to Metric Tonnes	Tonnes Per K.L.	American barrels to Metric tonnes.
Aviation Spirit 100/130	1421	0.7037	8.94
Aviation Spirit 115/145	1449	0.6901	9.11
Aviation Spirit 73 ON U/L.	1432	0.6983	9.01
Motor Spirit 79 R	1427	0.7008	8.98
Motor Spirit 80 MT	1427	0.7008	8.98
Motor Spirit 93 R	1386	0.7215	8.72
Motor Spirit 95 ON	1359	0.7358	8.55
Motor Spirit 83 ON	1411	0.7087	
JP-4	1384	0.7225	8.71
JP-5	1273	0.7855	8.01
Aviation Turbine Fuel	1288	0.7764	8.10
Naphtha	1467	0.6817	9.23
Power Alcohol	1286	0.7776	8.09
Benzol	1154	0.8666	7.26
SBP/Spirit/Hexane	1457	0.6863	9.16
Mineral Turpentine(Laws & 140/205).	1302	0.7680	8.19
Liquified Petroleum Gas	1785	0.5602	11.23
Superior Kerosene	1285	0.7782	8.08
Inferior Kerosene	1265	0.7905	7.96
Power Kerosene(Vap.Oil)	1251	0.7994	7.87
High Speed Diesel	1210	0.8263	7.61
Light Diesel Oil	1172	0.8532	7.37
Malarial Oil	1172	0.8532	7.37
Special Larvicides	1175	0.8511	7.39
Furnace Oil	1071	0.9337	6.74
Tea Drier Oil	1071	0.9337	6.74
Hot Heavy Stock/LSHS	1017	0.9833	6.40
Refinery Gas/Ref. Boiler Fuel	1071	0.9337	6.74
Lubricants/Greases	1114	0.8977	7.01
Jute Batching oil/wash oils	1167	0.8569	7.34
Bitumen	1002	0.9980	6.30
HPP/Alcohol Mixture	1414	0.7072	8.89
Metha-nol Mixture	1106	0.9042	6.96
Carbon Black Feed Stocks	1134	0.8818	7.13
Carburettor Testing Fluid	1388	0.7205	8.73
Benzene	1121	0.8921	7.05
Toluene	1143	0.8749	7.19
Demineralised Water	1002	0.9930	6.30
Shell Glass Kleanzit	1003	0.9970	6.31
Miscellaneous	1114	0.8977	7.01
Wax/Aromex/P.Coke/Chemicals	1114	0.8977	7.01

VOLUME PER METRIC TON OF PETROLEUM PRODUCTS

	Kilolitre-M^3	Imperial Gallons.	U.S. Gallons	Barrels
Liquified Pet. Gas.	1.8519	407.365	489.213	11.648
Aviation Spirit	1.3699	301.332	361.873	8.613
Natural Gasolines	1.3514	297.265	356.990	8.496
Motor Spirit	1.3514	297.265	356.990	8.496
Kerosene	1.2346	271.569	326.137	7.764
Jet Fuel	1.2346	271.569	326.137	7.764
Distillates Fuel Oil	1.1494	252.415	293.522	6.988
Lubricating Oil	1.1111	252.845	303.647	7.231
Fuel Oils N.O.S.	1.0989	241.727	290.301	6.911
Residuel Fuel Oils	1.0526	231.551	278.071	6.623
Asphalt and Bitumen	0.9615	211.515	254.013	6.050
Crude Oil	1.1856	260.910	313.340	7.441

CONVERSION FACTORS FOR VOLUME REDUCTION FROM 15^C TO 29.5^C

1. Aviation Spirit 100/130	0.9827
2. Aviation Spirit 115/145	0.9820
3. Aviation Spirit 73 Clear	0.9824
4. Aviation Turbine Fuel	0.9862
5. Motor Spirit 83	0.9830
6. Motor Spirit 93	0.9836
7. H.S.D.O.	0.9879
8. Kerosene	0.9864
9. Light Diesel Oil	0.9887
10. Furnace Oil	0.9899
11. Special Boiling Point Spirit 55/115	0.9820
12. Special Boiling Point Spirit 64/69	0.9806
13. Solvent 1425	0.9820
14. Hexane	0.9806

PETROLEUM SPECIFIC GRAVITIES

Degrees API	Specific gravity	Barrels per tonne*	Long ton*
25	0.904	6.98	7.09
26	0.898	7.02	7.13
27	0.893	7.06	7.18
28	0.887	7.10	7.22
29	0.882	7.15	7.27
30	0.876	7.19	7.31
31	0.871	7.24	7.36
32	0.865	7.28	7.40
33	0.860	7.33	7.45
34	0.855	7.37	7.49
35	0.850	7.42	7.54
36	0.845	7.46	7.58
37	0.840	7.51	7.63
38	0.835	7.55	7.67
39	0.830	7.60	7.72
40	0.825	7.64	7.76
41	0.820	7.69	7.81
42	0.816	7.73	7.85

* Approximate figures at 15.6°C or 60°F

PRODUCT SPECIFIC GRAVITY RANGES

Products	Specific gravity	Barrels per tonne
Crude Oils	0.80-0.97	8.0-6.6
Aviation gasolines	0.70-0.78	9.1-8.2
Motor gasolines	0.71-0.79	9.0-8.1
Kerosines	0.78-0.84	8.2-7.6
Gas oils	0.82-0.90	7.8-7.1
Diesel oils	0.82-0.92	7.8-6.9
Lubricating oils	0.85-0.95	7.5-6.7
Fuel oils	0.92-0.99	6.9-6.5
Asphaltic bitumens	1.00-1.10	6.4-5.8

HEAT ENERGY CONTENT OF FUELS
(Calorific Value of Fuels)

Approximate value	MJ/kg	Btu/lb
Crude Oils	42.6-45.4	18300-19500
Gasolines	47.7	20500
Kerosines	46.1	19800
Benzole	42.1	18100
Ethanol	27.0	11600
Gas oils	44.7	19200
Fuel Oils(bunker)	42.6	18300
Coal(bituminous)	23.7-34.0	10200-14600
LNG	51.9	22300

APPROXIMATE CALORIFIC VALUES.

1. Kg of	K. Cals.	Kg. of or Hard Coal	Kg. of or Crude Oil
1.	2.	3.	4.
Hard Coal	7,000	1	0.7
Lignite	2,000	0.28	0.2
Crude Oil	10,000	1.43	1
Fuel Oil	9,800	1.40	0.98
Natural Gas	7,700	1.10	0.77
1 Kw-hr Electricity	2,800	0.40	0.28

CRUDE OIL CONVERSIONS@

To Convert these into these.	Metric tons	Barrels	Kilo-Litres	1,000 Imp. Gallons	1,000 U.S. Gallons
1.	2.	3.	4.	5.	6.
Metric Tons	1	7.33	1.16	0.256	0.308
Barrels	0.136	1	0.159	0.035	0.042
Kilolitres	0.863	6.29	1	0.220	0.264
1,000 Imp. Gallons.	3.91	28.6	4.55	1	1.201
1,000 U.S. Gallons	3.25	23.8	3.79	0.833	1

@ = Based on World average gravity (excluding Natural Gas Liquids).

COAL REPLACEMENT AND EQUIVALENTS OF DIFFERENT FUELS

Fuels	Unit	Coal equivalent in m. tonnes mtce	Coal replacement in m. tonnes mtcr.
Coal (Coking 6640 kcal/kg; non-coking coal used in steam generation 5000 (Kcal/kg)	1 mt	1.0	1.0
Hard Coke	1 mt	1.3	1.3
Soft Coke	1 mt	1.5	1.5
Firewood(4750 kcal/kg)	1 mt	0.95	0.95
Charcoal(6900 kcal/kg)	1 mt	1.0	1.0
Oil products: 10,000 kcal/kg.			
Black products (i.e. fuel oil; F.O.; Refinery Fuel, LSHS, HHS).	1 mt	2.0	2.0
Kerosene & LPG	1 mt	2.0	8.0
HSDO & LDO	1 mt	2.0	9.0
Motor Spirit & Jet Fuel	1 mt	2.0	7.5
Natural Gas (9000 kcal/kg).	$10^9 x^3$	1.8	3.6
Electricity	10^9kwh	1.0	1.0

M = Million

MT = Million Tonnes.

CONVERSION FACTORS

UNITS.	1,000 metric tons oil.	1,000 bbl oil*	b/d*	Billion BTU	Billion Kilo-calories.	Million kw-hr input basis	Million kw-hr input basis	1,000 metric tons hard coal equivalant	Million cum natural gas /
1000 metric tons oil*	-	7.300	20.0	42.705	10.762	12.516	3.868	1.479	1.169
1000 bbl oil*	0.137	-	2.740	5.850	1.474	1.715	0.530	0.203	0.160
B/d Oil*	0.050	0.365	-	2.135	0.538	0.626	0.193	0.074	0.058
1,000 U.S.gallons oil*	0.003	0.024	0.065	0.139	0.035	0.043	0.015	0.005	0.004
Billion BTU	0.024	0.172	0.472	-	0.252	0.293	0.906	0.035	0.027
Billion Kilocalories	0.094	0.684	1.874	3.968	-	1.163	0.359	0.137	0.109
Million kw-hr-out put basis	0.081	0.588	1.611	3.412	0.860	-	-	0.118	0.093
Million kw-hr-input basis	0.261	1.903	5.215	11.040	2.782	-	-	0.382	0.302
1,000 metric tons HCE	0.682	4.980	13.642	28.881	7.278	8.465	2.616	-	0.790
1,000 metric tons lignite	0.455	3.321	9.100	19.264	4.855	5.646	1.745	0.667	0.527
Million cum-natural gas	0.847	6.250	17.125	36.546	9.216	10.699	3.319	1.271	-
MMcf natural gas±	0.024	0.177	0.485	1.035	0.261	0.303	0.094	0.036	0.028
Natural gas±	0.309	2.281	6.251	13.339	3.364	3.905	1.211	0.464	0.365
Mcfd natural gas±	0.009	0.065	0.177	0.376	0.095	0.111	0.034	0.013	0.010

* Crude and products-5,850,000 BTU/bbl. +@30.9% efficiency-11,040 BTU/kw-hr / 1,035 BTU/cu ft.
-- Million cum -/Day