INDIAN
PETROLEUM & PETRO-CHEMICALS
STATISTICS

1982 - 83.

ECONOMICS & STATISTICS DIVISION
DEPARTMENT OF PETROLEUM
MINISTRY OF ENERGY
GOVERNMENT OF INDIA
NEW DELHI

P R E F A C E

The present publication is the seventeenth of the annual series brought out by Economics & Statistics Division which attempts to present a statistical over-view of developments in the field of national and international Oil Industry. This issue, in line with previous issues, tries to present various key national petroleum statistics both on financial as well as on calendar year basis, the former to meet the requirements of national planning & administration and the latter to meet various obligations to U.N. and other international bodies and for purposes of maintaining historical continuity.

2. In this publication, we have added few new tables relating to (i) Royalty on natural gas; (ii) Quarterly development of spot prices of major petroleum products in key trading countries/centres; (iii) Retail selling prices of selected petroleum products, including element of excise & custom duties in various countries; (iv) Per capita consumption of various petroleum products - Some international comparisons; (v) Pattern of refinery production in main consuming countries of the world; and (vi) Data on Plan statistics that reflect more recent figures. In addition, we have also enlarged the coverage of certain tables relating to trend in retail prices of petroleum products and rates of excise/custom duties on petrochemicals to include more items. It is hoped that officers and executives of various Ministries of the Govt. of India, Planning Commission, Oil Coordination Committee and other Organisations associated with the development of oil industry would find this publication useful.

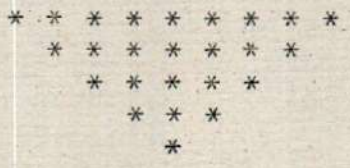
3. While we have taken all possible care to ensure accuracy in presentation of data contained in various tables, we would welcome suggestions from users for rectifications of any error or omission noticed by them.

October, 1983

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Scope And Coverage of Data Published

1. Scope : The Indian Petroleum & Petrochemicals Statistics presents comprehensive statistics on various aspects of Indian petroleum and petro-chemical industries. The relevant data on international developments in the field of oil and petro-chemical sectors has also been presented in the publication.

2. Coverage : The petroleum statistics covers the exploration, production, refining, marketing, etc. activities of the entire petroleum industry in India. In the case of petro-chemicals the primary data included in the publication relates to all public sector and the private sector units registered with DGTD.

3. Source : The primary statistics in respect of petroleum industry included in the publication is based on various returns submitted by the oil companies in the country to the Department of Petroleum on voluntary basis under the directives of the Department from time to time. In the case of petro-chemical industry, such data are based on monthly production reports submitted by the producing units to DGTD under Section 30(G) of the Industries (Development & Regulation) Act, 1951, a copy of which is endorsed to the Ministry of Energy, Department of Petroleum as the administrative Ministry.

The sources of all the secondary data included under international statistics have been indicated at the bottom of tables showing such statistics.

4. Limitations : The data in respect of sales/consumption of petroleum products reflects despatches of various petroleum products from the depots of different oil companies to the bulk consumers as well as to retail outlets. The State-wise sales/consumption of such products shows despatches to direct consumers/retail outlets meant for consumption/sales in a particular State. In the case of petro-chemicals, the figures show only the apparent consumption of different products worked out by adding the indigenous production and imports and subtracting the exports from the total.

5. Period Covered : All the key statistics for the domestic petroleum & petro-chemicals industries have been presented on calendar (January-December) as well as on financial year (April-March) basis.

6. Value : The value data in respect of exports of petroleum and petro-chemicals included in the publication shows F.O.B. value of our exports where as similar value figures for imports reflect C.I.F. value of our imports.

7. Revision : Necessary revision in the past data have been made in the light of latest available figures.

8. Abbrevations : Details of abbreviations used have been provided in Appendix.

9. Conversion Factors : The conversion factors generally used in the Oil Sector are given in Appendix.

ERRATA TO THE INDIAN PETROLEUM & PETRO-CHEMICALS STATISTICS - 1982-83.

OF

THE DEPARTMENT OF PETROLEUM MINISTRY OF ENERGY

Page	Line	Column no.	For	Read as
48	Headings	13	Central excise & Customs duties on POL	Central Excise & Customs duties on POL
50	4th line (against 1971-72)	7	46.98	46.88
50	15th line (against 1982-83)	12	4445.54	4440.60
52	14th line (against fuel oils)	7	29.76	14.58
52	15th line (against others)	7	15.20	7.90
52	16th line (against total)	7	85.18	62.70
67	9th line (against 1970-71 crude run)	10	2398	2498
67	12th line (against 1975-76 crude run)	7	4145	4107
89	12th line (against LDO-import value 1981-82)	5	27.40	24.70
93	15th line of first table (against total)	7	4704	657[illegible]
106	2nd table	After heading	-	Rs. Lakhs.
128	12th line (against-1979 - 80)	7	27258	27234
128	14th line (against-1981 - 82)	5	3853	385[illegible]
129	2nd table	After heading	-	Rs. MT
130	Against India	2	0.47	0.53 (in (inserted)
130	Against India	3	0.51	0.58 (inserted
130	Against India	4	14.8	16.8 (inserted
130	Against India	5	0.5	0.6 (inserted
232	2nd line (against Benzene)	6	137060	13806[illegible]
232	20th line (against Toluene)	6	41755	2575[illegible]
287	Item 11.	4	13	[illegible]3
293	Foot Note	-	Three	The

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PART - I

PETROLEUM STATISTICS

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 Mokilliop 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 Makum 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 interest 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 upto-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: Feasibility studies using Thermal Recovery Techniques were made for the Digboi oilfield.

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

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

1981: The Company was taken over by the Govt. of India with effect from 14-10-1981. Refinery & Marketing operations of the Company were vested in Indian Oil Corporation Ltd. and the exploration of crude oil/natural gas activities were handed over to Oil India Ltd., with effect from the same date.

(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 headquarter 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.

1963: (Contd.) On 14th February, the first deviated woll was drilled by the Company.

The first two exploratery wolls 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 crostal gas injection into the gascap of a major oil pool in Nahorkatiya.

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

Digital computors 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 area in NEFA.

1969: Kusijan woll 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 woll 262 in Nagajan).

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

Exploratory drilling in Arunachal Pradesh was intensified through the commencement of drilling at Kharsang woll No.2 and statisfactory progress of preparatory work for drilling at Manabum woll No.1. A new deep drilling rig was acquired for intensification of drilling deep exploratory wolls 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 ropo-way across the Noa Dihing River in Arunachal Pradesh was commissioned.

Pilot polymer flood project was initiated.

Reservoir engineering (logninterpretation) 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, the first successful woll 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.

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 Company'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 computor from a reputed American firm for the processing of its seismic data.

1980-81: Completed 2 offshore wells in the Mahanadi Basin of the Orissa Coast.

In January, civil work for the LPG plant at Duliajan was started.

1981-82: With effect from 14th October, 1981, Government took over the 50% shares held by Burmah Oil Company Ltd. in Oil India Ltd. With this take-over, the Oil India Ltd. became a wholly Government owned Company. After the take-over of Assam Oil Company with effect from the same date, the Exploration and Production Division of the said Company was vested in Oil India Ltd.

In November, onshore seismic survey in Mahanadi Basin was started.

In February, supply of low pressure gas to Assam State Electricity Board for operation of power plant at Kathaiguri was started OIL's R&D centre received recognition from the Department of Science & Technology.

In March, the chartered offshore drilling rig from Mexico's State owned PROTEXA arrived at site in BEP Rajasthan project was set up at Jodhpur during the same month for initiating exploratory activities in concession area of 28,600 sq.kms. in Rajasthan.

1982-83: On 15th August, first truck load of LPG cylinders was despacked from Duliajan.

(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 Ankleshwar 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 Ankleshwar 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.

1963: (Contd.) A contract was concluded with the C.G.G. of France for carrying out seismic exploration in Jaisalmer, oil was struck in Sanand in Gujarat.

Oil was struck 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 off-shore 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 Koyali Refinery in Gujarat.

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

In May, the Water Injection Scheme for Ankleshwar oil-field 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 Galeki, 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 scismic unit was commissioned and the Commission also designed and fabricated a seismic amplifior, 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 Ankleshwar 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 15 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 off shore well was launched.

1970: Drilling of 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 areas 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 Kalol 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 Anklesvar field was commenced. Water injection in Horizon-XII in Lakwa was commissioned. A brone 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.

1972: (Contd.) 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, Taxes, USA for conducting about 2800 kms. of offshore seismic reflection work.

On 24th February, a protecol was signed by Mr. D.A. Takeov, 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 jack-up type of mobile drilling platform "Sagar Samrat" get 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 of 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 declared as oil bearing and well head installation at Santhol-4 were commissioned.

1974: (Contd.) 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 Sanand 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, procision 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, Kalol in Gujarat was put on sustained production. Oil was struck in a well drilled on Sanac 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 Bhabha 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 workever rig Azinamash was commissioned in Ahmedabad.

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

During September, gas supplies from Geleki field to Barshilla 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.

'Shenandhoah' 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.

1976: (Contd.) 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 DH-2 spudded its first well at Charali structure in Assam. Well platform 'D' in Bombay-High(Main) offshore field was commissioned.

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

Oil was struck at Padra 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) 3DH-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 Motwan structure in Gujarat.

In July, a new 4DH-2 Rumanian rig spudded its first well on Chargola structure of 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 'C' in Bombay-High (Main) was started.

1977: (Contd.) 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 Rumanian rig 3DH-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. 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 Hatwan 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 Dyes and Printing Company.

In November, an electrical new American rig 1320-UE-2 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.

1978: (Contd.) 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 Anguri field in Assam.

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

In November, drillship 'Pelerin' chartered 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 and oil production from Siswa field of Gujarat was commenced.

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

In May, oil was discovered in the Ratnagiri offshore structure.

In June, gas was found in Shelf of Andaman Island. Oil was also discovered in the Godavari Offshore structure during the same month. A new offshore Platform was commissioned.

In July, Portonova offshore structure showed presence of oil. The production of oil was commenced from Jotana and Viraj structure.

In September, gas was found in Dahoj structure in Gujarat.

In October, 2 new offshore platforms were commissioned.

In 1980, eight new offshore and eight new onshore structures were taken up for drilling.

1981: In February, ONGC's second old Jack-up rig 'Sagar Vikas' was commissioned. Oil was discovered in Lohar structure in Gujarat.

In March, LPG unit at Uran and gas system of BHN platform were commissioned.

During January-March, drilling at one new offshore structure and six new onshore structures were taken up.

1981-82: During the year, drilling was taken up in 7 new structures in Gujarat, 2 each in Assam & West Bengal, one in Rajasthan and 4 in the offshore areas.

In April, gas was discovered at Kudara a new structure in Ankleshvar project. Oil was also struck at Sisodra in the same project.

Flow of Oil and gas was observed in three structures Viz-Napamua in Assam (in August), a new structure in Bombay High area (in August) and in Longhnaj in Gujarat (in November). Oil was also struck in a well in the North Palk Strait in the offshore Cauvery basin in South India. Eight production platforms were commissioned in the Bombay High area.

In November, ONGC's third jack-up rig 'Sagar Pragti' was commissioned in Bombay High.

In January, 1982, a new drilling unit SEDCO-445 Chartered by ONGC, spudded its first well in Godavari offshore area.

1982-83: In April, a new rig was commissioned in Lakwa (Assam).

In May, a new offshore structure was taken up for drilling in Palk Strait.

In June, Griffin Alexander-I, a new drilling unit chartered by ONGC, spudded its first well in Palk Strait offshore and oil was struck at 'Ognaj' in Gujarat.

In July, a new structure in Godavari offshore area was taken up, 'Chichenitza' and TRITON II chartered drilling units spudded their first wells in offshore areas and gas supplies to Maharashtra State Electricity Board were started.

In August, Umarada (Gujarat) and Naldaha (West Bengal) structures were taken up for drilling and BHS process platform was commissioned.

In September, 2 offshore structures, one each in Dhanu and Ratnagiri areas and one onshore structure, viz. Gamiji (Gujarat) were taken up, oil was struck at Gamiji and blow-out at a well of the drilling ship Sagar Vikas was successfully capped. IXX DIXILYN FIELD-95, a chartered drilling unit also spudded its first offshore well during the month.

In October, gas was struck at 'Gojalia' in Tripura and a new rig was commissioned in Geleki (Assam).

In November, a new offshore structure in Godavari area was taken up for drilling, two offshore platforms were commissioned and ONGC's fifth Jack-up rig 'Sagar Shakti' was commissioned.

In December, gas was struck in a new structure in offshore area, gas supplied to Hindustan Development Corporation and Hindustan Petroleum Corporation Ltd. were commenced and ONGC's Sixth Jack-up rig, 'Sagar Shakti' was commissioned.

1982-83: (Contd.) In January, 4 new onshore and 2 offshore structures were taken up for drilling and a rig was commissioned in Bodra (West Bengal).

In February, work was started in a new offshore in Ratnagiri area and oil was struck at a offshore structure.

In March, two offshore structures in Godavari area and three onshore structures in Gujarat were taken up for drilling and oil was struck in a offshore structure.

(iv) Hydrecarbons 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), PPCC(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.

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

1970: Another field called Rakhsh field was /covered and com- /dis mercial production commenced.

1975: Became a Public Company by virtue of Section 43A(1A) of the Company 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 abinitio 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 Rakhsh 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.

1980: The Government of Iran declared the Joint Structure Agreement null and void.

1981: The issue of compensation for declaring the Joint Structure Agreement as null and void was taken up with the Government of Iran.

1982: The Board of Directors decided to reactivate the Company Covering Joint venture with foreign companies in the field of exploration, indigenesation of special services in exploration activities etc.

(v) Indo-Stanvao 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 steam.

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 commissioned.

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 annew one.

1970: Improvements in process techniques were introduced for the cut 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 Red oil line No.1 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. Boilors were commissioned for improving stream generation.

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

1981: The Assam Oil Company was taken over by the Government with effect from 14-10-1981 and its Refining and Marketing Operations were vested in Indian Oil Corporation Ltd. from the same date.

(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 MS-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: MS-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 fertilizers 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 company was taken over by the Government of India and the assests of Burmah-Shell in India were merged with these 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 permanent 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.

1980-81: Processed thirteen different crudes, the highest in any year so far.

Packed production of brandless 80/100 bitumen was started.

1981-82: Processed ten different types of crude oil.

1982-83: Rail loading facilities for LSHS were commissioned.

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

1951: In November, an agreement was signed between Government of India and the Standard Vacum 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 Stanvao 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 exports 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 LubeIndia 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: Pentone & 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 80,000 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.

Lube refinery expansion envisaging additional production of 74,000 t.p.a. of HVI Lube base stock was in progress.

Civil survey work and process design of MEA section of the Sulphur Recovery Project was completed.

1982: In August, expanded propane dewaxing unit was commissioned.

In October, expansion project for processing of two million tonnes of BH crude oil was commenced.

(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 Visakhpatnam. 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.

1980: In December, Government's approval for expansion of refinery capacity from 1.5 MTPA to 4.5 MTPA was received.

1982: Feasibility report with revised cost estimates for expansion project was approved by the Government.

1983: The project of expansion of Refinery capacity to 4.5MTPA was implemenated.

(v) Indian Oil Corporation (Refinery Divn.)

(a) Barauni Refinery, Barauni, Bihar

1961: In June, a contract was signed with M/s Tiajpromexport, 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 Lubo Oil complex was completed.

1969: On 21st January, the expansion of refinery was completed. Construction of the coko 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 crection 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 (hitherto imported) was started and two wagon load of the same were despatched for the first time to M/s Synthetics & Chemicals Ltd., Barielly, 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.

1980-81: Regular supplies of crude oil from Assam, which were suspended from 27th Dec. 1979, due to Assam agitations were commenced from 28th January, 1981.

On 29th Jan. 1981 the process units of the refinery were restarted, after a lapse of 13months.

In February'81, new Cooling Towers were commissioned.

In March'81, new white oil tank truck loading gandry was commissioned.

(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.

1980-81: Refinery operations were affected adversely due to agitations in Assam.

1982-83: In July, bulre despatches of LPG by tank lorries were started.

(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 signed.

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 installations 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, Vacuum 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.

1982: The secondary processing units were commissioned.

1983: LPG bottling plant and LPG loading facilities were commissioned.

(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 unit 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 MTO products was started.

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

1976: Vacuum 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, solvent dowaxing 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, FBASBO production was started.

1979: In October, pipeline for supply of feedstock to Haldia Fertilizers and F.O. to bunkering installations at Haldia were commissioned.

1980: In June, despatches of Carbon Black Feedstock by rail were started for the first time.

1982: In May, modified facilities for simultaneous despatch of two grade of Bitumen 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 proparing 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 kay basis.

In November, an agreement was signed for pollution control studies with M/s Techneco 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 Aceptance Protocol was signed between IOC and Neftechimpromexport.

Government decision regarding the revised schedule for Mathura Refinery, i.e. Mechnical 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 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.

(vii) Madras Refineries Ltd., Manali, Madras

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

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

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 was 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: The Refinery received the 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 Provention 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.

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 paraffin 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.

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%.

1980-81: Overall cumulative progress of 92% was achieved upto 28th February, 1981.

1981-82: On 18th January, crude distillation unit was commissioned.

On 20th February, Visbreaker unit was commissioned.

1982-83: Secondary processing unitswere commissioned during this year and despatch of products by Mathura Jullander pipeline started.

(vi) Cochin Refineries Ltd., Cochin

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

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.

1969: In February, the modification of Formation Agreement was executed.

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

1979: On 5th December, Govt. of India approved the Secondary Processing Scheme for CRL.

1981: On 3rd January, the Refinery completed fourth, one million man-hours without a loss time accident.

On 18th September, Govt. of India approved the expansion of Refining Capacity to 4.5 million tonnes per annum.

1982: The highest dividend of 72.38% was paid by the cospency for this year 1981-82.

1981: On 26th February, an agreement with M/s Engineers India Ltd., Management Contractors was signed.

The expansion work for the 2.8 million tonnes per annum additional refining capacity was in pregress.

1982: Projects for additional refining capacity of 2.8 million tonnes per year, Paraffin wax were progressing satisfactorily.

1983: On 31st March, the refinery completed 3,531, 135 continuous accident free man-hours which was the longest accident freeperiod achieved so far.

(viii) Bongaigaon Refinery & Petro-Chemicals Limited, Assam

1971: Foasibility report was prepared by IOC and IPCL.

1972: Investment approval for the complex was given by the Government.

1973: Work on crude distillation unit and offsite facilities was started.

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

1975: Government approval for 4 units of the Refinery was obtained.

1977: Civil work was started.

In November, the authorised capital of the Company was increased to Rs.100 crores.

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

1979: In February, first Module of Power Plant, crude Distillation unit and offsites (Refinery) were commissioned.

1979-80: On 25th April, Crude Distillation Unit (CDU) came on commercial productions.

In December, Mechnical Completion of Kerosene Treating Unit (KUT) was over.

1980-81: The refinery operations were affected during the period December 1979 to February 1981 due to agitations in Assam.

On 28th March, KTU was put on trial runs.

1981-82: Normal activities were resumed after the suspension of agitation.

1982- In June, despatch of Calcined Petroleum Coke was started.

(C) MARKETING

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

1901: 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 vossel 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 cutlets.

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

1976: On 24-th January, the Burmah Shell Refineries Ltd. was taken over by the Govt. of India and the Indian assets and liabilities of Burmah-Shell were morged 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 Ltd.

1980: In February, LPG was imported for the first time in tankers. Wax was also imported for the first time at Bombay.

1980-81: On 15th August, a new LPG filling plant, the largest in India, alongwith storage/pumping/loading facilities was commissioned.

1981-82: Another LPG filling plant was commissioned.

1982-83: Multi - media safety campaign for LPG was laun-ched.

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

1882: Esso's prodecessor 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 morged 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 Kosangas 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 tookover the management of the Undertakings of the Parcol Investments and Trading Company Private Ltd., and the 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.

1980: Retail outlets in rural areas were extensively utilised to promote National Family Welfare Programme.

1981: ATF pipeline between Bombay Fuel Refinery and Bombay Airport was commissioned. A LPG Bottling Plant at Bombay was also commissioned during the year.

1982: Work on Bombay-pune Pipeline project was commissioned. The company prousded 2.30 lakh new LPG connection to the consumer during the year. 121 new Retail outlets were commissioned by the corporation during 1982-83.

(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 aperiod 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 promulgamation 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 Divn.)

1959: On the 30th June, the Indian Oil Company Ltd. was formed. Agreements were signed with Sejuenefteexport, 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: Indian Oil Blending Ltd., a joint venture of the erstwhile Indian Oil Company and Mobil Corpn. Inc. on 50:50 basis was registered on 22nd March to carry on the business of blending, manufacturing lubricating oils and greases.

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.

Indian Oil Blending Ltd. became a wholly owned subsidary of Indian Oil Corporation Ltd., as a result of purchase of 50% shares of Mobil Corporation Ltd.

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 Mohmedabad, 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. Bonzene and Tolueno 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.

In July, marketing of products from Madras Refinery were 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.

1970: (Contd.) 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 of 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 perorders of the Government of India.

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

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

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 commedities for farmers are made available in these centres.

The entire requirements of Axle oils was met by indigeous 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 unique 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, deeyas) basic hygieno and sanitation, child care & nutrition & prohibition as a part of services to the rural population.

In December, pipe-line 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.

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.

1977: (Contd.) 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 BPC's computor 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.

Rositement of Bangalore depot was taken on hand, and construction of the new 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 Chevoran 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 contemination of products.

1979: In February, fasibility 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 remoto and far flung hilly areas, IOC launched a scheme of opening Taluka Kerosene Depots. The first such depot was 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 commenced during the month of February.

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.

1979: (Contd.) 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 Jullundur, a part of Mathura-Jullundur Pipeline Project, was approved by the Government.

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

1981: Chartering of crude vessels was undertaken for lifting crude oil from Venezuela.

A bottling plant at Jullundur was commissioned to enable additional availability of cylinders planned by the Industry in the N.W.Area.

For the first time, FO/LSHS was supplied to Gujarat Narmada Valley Fertilizer Corporation Ltd. as foodstock/fuel.

1982: In January, IOC commenced export of Bombay High crude Oil under the swap deal finalised with a foreign oil company.

On 30th April, Bijwason terminal of the Mathura - Delhi pipeline was commissioned.

In June, a majac LPG Bottling Plant was commissioned at Bangalore.

On 21st July, bulle Bitumen supplies commened from Mathura.

In August, a new terminal at Ambala was commissioned.

1983: In March, the pipe line terminals at Bijwasan, Ambala and Jullunder was formally commissioned. A contract for processing of Bombay High crude at foreign refineries was also signed by IOC.

(v) IBP Co. Limited

1909: The Indo-Burma Petroleum Co.Ltd. was established in Burma as a result of an association between Steel Brothers & Co.Ltd. and Sir Abul Karim Jamal of Jamnagar (Gujarat) and an office of the Company was opened in Calcutta.

1910: Another Office of the Company was opened in Bombay.

1912: Storage installations were set up in Bombay and Calcutta to receive petroleum products from Burma.

1942: The Company obtained registration in India and shifted its office to Calcutta.

1942: (Contd.) Agreement for supply of products from sources outside Burma was entered with Burma Oil Company.

1949: Agreement for supply of POL products was signed with Burma Shell replacing the adhoc supply arrangements made with Burmah Oil Company.

1950-60: Marketing activities of the Company were developed and a branch office was opened in Delhi in early 1960's.

1966: As a part of diversification an Engineering Division was set up at Bombay.

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

1972: The Controlling rights of Balmer Lawrie Group of Companies in India were acquired by IBP during the year.

In August, the majority interest in IBP was transferred from IOC to the President of India.

1974: In February, IBP set up a separate Chemical Division which is now engaged in the manufacture of Industrial explosives.

1975: The Accounting year of the Company was changed from January-December to April - March and the Financial year for period immediately after 31st December, 1974 was altered to 15 months from 1st January 1975 to 31st March, 1976.

1976: Company diversified into the manufacture of High Vacuum Equipments. Madras Office of the Oil Division was opened.

1978: The first Public Sector Industrial Explosives Plant was commissioned at Korba, and started commercial production in March, 1978.

1980: Plant for manufacture of Cryocontainer was set up at Nasik.

1983: The Company changed its name from "The Indo-Burma Petroleum Co.Ltd." to "IBP Co.LIMITED" with effect from 15th March, 1983.

(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 a jointly 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 food-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 (10,000MT/p.a.) produced on a commercial scale.

1977: During October-November, crude pre-heat optmization 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 the Govt. 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 cary 1967 land was acquired and in the month of October construction work was started.

1968: On 20th 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 (Stage 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 Government.

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%.

On 16th May, bonus shares amounting to Rs.420/- lakhs were allotted to existing sharoholders in the ratio of 7 equity of Rs.100/- each fully paid for every one equity share hold by capitalisation of reserves, thus the paid-up capital of the company was raised to Rs.480/- lakhs.

1981: In July, an Industrial Licence for increasing the manufacturing capacity of Chemical Additives from 15000 M.T. P.A. to 20,000 M.T.P.A. was received. A letter of intent for manufacture of 6700 M.T.P.A. of Neutral/Over based This Phenate Intermediate Compound used for diesel engine oil formulation was also received during the month.

1982: On 17th June, newly established R&D centre of the Company was inaugurated.

(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 US 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.A. 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 Amedatory 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 - Abrorption Spectrophotometer.

1972: The licenced 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 Co.Inc. of New York, were terminated with effect from 19.7.74 and the 50% of shareholdings of Mobil in Indian Oil Blending Limited, were taken over by Indian Oil Corporation Ltd., 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.

1982: Additional Small Can Filling Facilities with overhead tanks for gravity filling were installed at Calcutta Plant to increase capacity for small can filling.

1983: One 5 mt. ton indigenously lubricated grease kettle was installed and commissioned at Bombay to augment the grease monufacturing capacity.

One atomic absorbtion spectrophoto meter and Air Release Apparatus were also installed and commissioned at the Bombay Laboratory.

LK

II. HIGHLIGHTS OF INDIAN PETROLEUM INDUSTRY- 1982-83.

1. On 27th April 1982, Mathura-Delhi section of the Mathura Delhi- Ambala-Jullundur product pipeline was commissioned.

2. On 5th May, 1982 the World Bank approved a loan of U.S. $ 200/- million for Refineries Rationalisation projects, including expansion and secondary processing facilities in Madras Refineries Ltd., Cochin Refineries Ltd., Hindustan Petroleum Corporation Ltd., Visakh Refinery and Bharat Petroleum Corporation Ltd.'s Bombay Refinery.

3. Salaya-Viramgam-Koyali-Mathura crude oil pipeline was commissioned.

4. In June 1982, oil was struck by ONGC at 'Ognaj' in Gujarat.

5. On 17th June 1982, following an agreement with the management of the Bharat Petroleum Corporation Ltd., the Bombay refinery employees of the Company called off their five months old strike.

6. On 30th July, 1982 a blow out occured at well No. SL-V of drilling ship Sagar Vikas in Bombay High Offshore field. The well caught fire on 2nd August 1982 which extinguished itself on August 5th, 1982. The well was successfully capped in September, 1982.

7. In August 1982, Delhi- Ambala section of the Mathura-Delhi-Ambala product pipeline was commissioned.

8. In September 1982, Oil was struck by ONGC at 'Gamij' in Gujarat.

9. On the 7th October, 1982, gas struck in a well at Gojalia in Tripura.

10. Oil India Ltd.'s Mahanadi Offshore project was approved by the Government.

11. World Bank, agreed to give a loan of US $ 165.5 million for an oil exploration project in the Krishna Godavari Basin.

12. In November 1982, Onshore seismic surveys in Mahanadi Basin were started by OIL.

13. In December 1982, Ambala-Jullunder section of Mathura-Delhi-Ambala-Jullunder pipeline was commissioned.

14. In February, ONGC struck oil at R-8 Offshore structure.

Contd.....2/-

15. Taking into account the increase in the cost of Production, operations and distribution since July 1981 when the prices of POL products were last increased, the development requirements of petroleum sector and the balance of payment situation, the government decided to increase the price of ATF by Rs.250 per KL, HSDO by Rs.200 per KL, LDO by Rs.150 KL and FO and LSHS supplied to general trade by Rs. 100 per KL with effect from 15th February, 1983. The dual pricing policy of kerosine was also introduced w.e.f. 15-2-1983 under this policy, the price of subsidised kerosine to be supplied to the vulnerable and weaker sections of society was not increased but the price of non-subsidised kerosine was increased by Rs.1300 per KL with effect from 15-2-1983.

16. In order to earmark funds for further development of oil industry, the cess on domestic crude oil was increased from Rs.100 per tonne to Rs.300 per tonne with effect from 15th February, 1983.

17. Consequent upon the increase in the rate of cess on crude oil by Rs.200/- per MT the price of indigenous crude oil onshore and Offshore was increased to Rs.1382 per MT ... with effect from 15.2.1983.

18. With effect from 15-2-83 Mathura and Bongaigaon refineries were also made as the primary pricing points. The ex-storage point prices at Koyali and Gauhati were transplanted as the ex-storage point prices at Mathura and Bongaigaon respectively.

19. Due to increase in the ex-storage point price of HSDO by Rs.200 per KL with effect from 15-2-1983, the dealers commission on HSDO was revised as follows:-

Sale in KL/p.a.	Commission (Rs./KL)
0-360	81.00
361-600	60.00
601-1080	43.00
over 1080	37.00

The oil companies were also authorised to make an automatic increase according to a set formula in the dealers commission whenever there was an increase in the ex-storage point prices of MS/HSDO.

20. The dual pricing policy of Kerosine was with-drawn by the Government with effect from 15-3-1983.

21. A uniform increase of Rs.100 per KL in the price of Kerosine was made with effect from 18-3-1983.

III. India's Petroleum Industry At-A-Glance (1970-71 - 1982-83)

Year	Crude oil balance recoverable reserves	Consumption (excl. RBF)	Crude oil production	Imports		Refinery throughput	Refinery production	Value of POL imports	India's total exports	% of POL imports to India's exports	CIF Unit values of crude imports	Central excise & customs duties on POL
				Crude oil	POL							
	(Million Tonnes)							(Rs./Crores)			(Rs/MT)	(Rs/crores)
1	2	3	4	5	6	7	8	9	10	11	12	13
1970-71	128	17.91	6.82	11.68	1.09	18.38	17.11	137	1535	8.9%	91	638
1971-72	114	20.07	7.30	12.95	2.15	20.04	18.64	194	1608	12.1%	114	772
1972-73	125	21.72	7.32	12.08	3.53	19.33	17.83	207	1971	10.5%	121	853
1973-74	127	22.35	7.19	13.87	3.55	20.96	19.50	541	2523	21.4%	300	970
1974-75	125	22.11	7.68	14.02	2.65	21.09	19.60	1112	3329	33.4%	654	1106
1975-76	144	22.45	8.45	13.62	2.22	22.28	20.83	1256	4042	31.1%	772	1155
1976-77	275	24.10	8.90	14.05	2.62	23.00	21.43	1424	5142	27.7%	837	1222
1977-78	303	25.54	10.76	14.51	2.88	24.90	23.22	1552	5408	28.7%	859	1279
1978-79	347	28.24	11.63	14.66	3.88	25.97	24.20	1681	5726	29.4%	854	1480
1979-80	354	29.88	11.77	16.12	4.72	27.47	25.79	3270	6459	50.7%	1357	1620
1980-81	366	30.89	10.51	16.25	7.29	25.84	24.12	5266	6711	78.5%	2061	1512
1981-82	468	32.52	16.19	15.30	4.88	30.14	28.18	5189	7803	66.5%	2442	1582
1982-83(P)	471	34.28	21.06	16.95	5.03	33.16	31.07	5598	8653	64.8%	2386	1752

(P) = Provisional.

IV. Growth of Petroleum Industry in India

('000 Tonnes)

Year	Crude Oil		Petroleum Products	
	Production	Refineries crude charged	Production	Consumption*
1	3	3	4	5
1960	451	6091	5747	7964
1961	513	6440	6090	8570
1962	1078	7003	6584	9536
1963	1652	8183	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	12839	28153	26360	31306
1980	9399	25075	23597	31633
1981	14925	29528	27575	34037
1982	19734	32107	29995	35213

(Rs./Crores)

Year	GROSS IMPORTS			EXPORTS/RE-EXPORTS			NET POL IMPORTS (col.11-8)
	Crude Oil	Products	Total	Crude Oil	Products	Total	TOTAL
1	6	7	8	9	10	11	12
1960	40.57	41.02	81.59	-	4.61	4.61	76.98
1961	39.31	47.61	86.92	-	3.76	3.76	83.16
1962	38.73	51.46	90.19	-	3.85	3.85	86.34
1963	41.78	54.81	96.59	-	5.50	5.50	91.09
1964	42.59	53.78	96.37	-	4.84	4.84	91.53
1965	40.38	44.73	85.11	-	3.92	3.92	81.19
1966	56.10	52.02	108.12	-	8.76	8.76	99.36
1967	79.59	39.01	118.60	-	14.23	14.23	104.37
1968	93.87	40.75	134.62	-	8.25	8.25	126.37
1969	94.01	38.24	132.25	-	10.77	10.77	121.48
1970	102.36	30.53	132.89	-	5.72	5.72	127.17
1971	139.88	43.49	183.37	-	2.55	2.55	180.82
1972	144.25	56.69	200.94	-	8.94	8.94	192.00
1973	244.56	88.03	332.59	0.42	5.35	5.77	326.82
1974	899.36	209.90	1109.26	-	19.37	19.37	1089.89
1975	992.02	199.46	1191.48	-	13.83	13.83	1177.65
1976	1145.56	219.70	1365.26	-	7.60	7.60	1357.66
1977	1258.92	272.99	1531.91	-	6.50	6.50	1525.41
1978	1243.89	414.13	1658.02	-	4.20	4.20	1653.82
1979	1787.38	727.56	2514.94	-	14.94	14.94	2500.00
1980	3038.66	1788.28	4826.94	-	17.98	17.98	4808.96
1981	3793.83	1638.58	5432.41	-	15.13	15.13	5417.28
1982(P)	4166.89	1551.37	5668.26	1044.71	101.23	1145.94	4522.32

(P) = Provisional. * Including Refinery Fuel.

Growth of Petroleum Industry in India

('000 Tonnes)

Financial Year	Crude Oil		Petroleum Products	
	Production	Refineries crude charged	Production	Consumption*
1	2	3	4	5
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	11766	27474	25794	31323
1980-81	10507	25836	24123	32261
1981-82	16194	30145	28182	34107
1982-83	21061	33157	31074	36018

(Rs./Crores)

Financial Year	IMPORTS			EXPORTS/RE-EXPORTS			NET POL IMPORTS
	Crude oil	Products	Total	Crude oil	Products	Total	
1	6	7	8	9	10	11	12
						(e)	
1960-61	39.23	39.84	79.07	-	4.40(e)	4.40	74.67
1965-66	39.62	40.68	80.30	-	4.39	4.39	75.91
1970-71	106.72	29.91	136.63	-	4.67	4.67	131.96
1971-72	147.02	46.98	193.90	-	3.91	3.91	189.99
1972-73	146.37	60.58	206.95	-	8.16	8.16	198.79
1973-74	416.39	124.50	540.89	0.04	8.05	8.09	532.80
1974-75	916.99	195.00	1111.99	-	17.46	17.46	1094.53
1975-76	1051.76	204.34	1256.10	-	13.96	13.96	1242.14
1976-77	1175.91	248.23	1424.14	-	6.89	6.89	1417.25
1977-78	1246.20	305.34	1551.54	-	5.69	5.69	1545.85
1978-79	1251.17	429.99	1681.16	-	4.11	4.11	1677.05
1979-80	2187.53	1082.39	3269.92	-	24.02	24.02	3245.90
1980-81	3348.97	1917.52	5266.49	-	8.41	8.41	5258.08
1981-82	3736.38	1453.16	5189.54	196.23	15.13	211.36	4978.18
1982-83	4043.74	1553.94	5597.68	1023.29	133.79	1157.08	4445.54

* Including Refinery Fuel.
(P) = Provisional. (e) = Estimated.

V. PETROLEUM ENERGY IN INDIA - 1977 - 1982
(Calendar Years)

PRODUCTS	1977	1978	1979	1980	1981	1982(P)
AVAILABILITY						
IN ORIGINAL UNITS (MILLION TONNES)						
Kerosene	3.50	4.03	4.04	4.28	4.86	5.19
ATF	1.02	1.17	1.19	1.07	1.06	1.31
HSD	7.61	8.36	9.72	10.15	11.18	11.77
LDO	1.19	1.24	1.28	1.24	1.07	1.11
Fuel Oils	5.99	6.31	7.19	7.19	7.47	7.21
Others*	3.17	3.44	3.49	3.25	3.69	3.81
Total	22.48	24.55	26.91	27.18	29.33	30.40
IN MILLION TONNES OF COAL EQUIVALENT UNITS						
Kerosene	7.00	8.06	8.08	8.56	9.72	10.38
ATF	2.04	2.34	2.38	2.14	2.12	2.62
HSD	15.22	16.72	19.44	20.30	22.36	23.54
LDO	2.38	2.48	2.56	2.48	2.14	2.22
Fuel Oils	11.98	12.62	14.38	14.38	14.94	14.42
Others*	6.34	6.88	6.98	6.50	7.38	7.62
Total	44.96	49.10	53.82	54.36	58.66	60.80
IN MILLION TONNES OF COAL REPLACEMENT UNITS						
Kerosene	28.00	32.24	32.32	34.24	38.88	41.51
ATF	7.65	8.74	8.93	8.03	7.95	9.86
HSD	68.52	75.23	87.48	91.35	100.62	105.90
LDO	10.69	11.18	11.52	11.16	9.63	10.03
Fuel Oils	11.97	12.62	14.38	14.38	14.94	14.42
Others*	16.26	17.85	18.18	17.18	19.35	19.91
Total	143.09	157.86	172.81	176.34	191.37	201.63

PRODUCTS	1977	1978	1979	1980	1981	1982(P)
CONSUMPTION						
IN ORIGINAL UNITS (MILLION TONNES)						
Kerosene	3.52	3.92	3.88	4.09	4.59	5.11
ATF	1.02	1.13	1.15	1.14	1.12	1.12
HSD	7.58	8.32	9.61	10.16	10.75	11.55
LDO	1.15	1.22	1.27	1.19	1.02	1.05
Fuel Oils	5.84	6.37	7.08	7.35	7.37	7.07
Others*	3.19	3.39	3.42	3.28	3.61	3.96
Total	22.30	24.35	26.41	27.21	28.46	29.86
IN MILLION TONNES OF COAL EQUIVALENT UNITS						
Kerosene	7.04	7.84	7.76	8.18	9.18	10.22
ATF	2.04	2.26	2.30	2.28	2.24	2.24
HSD	15.16	16.64	19.22	20.32	21.50	23.10
LDO	2.30	2.44	2.54	2.38	2.04	2.10
Fuel Oils	11.68	12.74	14.16	14.70	14.74	14.14
Others*	6.38	6.78	6.84	6.56	7.22	7.92
Total	44.60	48.70	52.82	54.18	56.92	59.72
IN MILLION TONNES OF COAL REPLACEMENT UNITS						
Kerosene	28.16	31.36	31.04	32.72	36.72	40.88
ATF	7.65	8.48	8.62	8.55	8.40	8.40
HSD	68.22	74.88	86.49	91.44	96.75	103.95
LDO	10.35	10.98	11.43	10.71	9.18	9.45
Fuel Oils	11.68	12.74	14.16	14.70	14.74	14.14
Others*	16.36	17.45	17.72	17.44	18.60	20.66
Total	142.42	155.89	169.46	175.56	184.39	197.48

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

PETROLEUM ENERGY IN INDIA : 1977-78 TO 1982-83
(Financial Years)

PRODUCTS	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83(P)
AVAILABILITY						
IN ORIGINAL UNITS (MILLION TONNES)						
Kerosene	3.73	3.96	4.09	4.46	4.88	5.27
ATF	1.08	1.18	1.15	1.03	1.12	1.38
HSD	7.91	8.46	9.98	10.59	10.88	12.34
LDO	1.22	1.25	1.31	1.18	1.03	1.12
Fuel Oils	5.84	6.56	7.14	7.46	7.44	7.29
Others*	3.29	3.42	3.39	3.33	3.72	3.95
Total	23.07	24.83	27.06	28.05	29.07	31.35
IN MILLION TONNES OF COAL EQUIVALENT UNITS						
Kerosene	7.45	7.92	8.18	8.92	9.76	10.54
ATF	2.16	2.36	2.30	2.06	2.22	2.76
HSD	15.82	16.92	19.96	21.18	21.94	24.68
LDO	2.44	2.50	2.62	2.36	2.06	2.24
Fuel Oils	11.68	13.12	14.28	14.92	14.88	29.76
Others*	6.58	6.84	6.78	6.66	7.60	15.20
Total	46.14	49.66	54.12	56.10	58.46	85.18
IN MILLION TONNES OF COAL REPLACEMENT UNITS						
Kerosene	29.84	31.68	32.72	35.68	39.01	42.19
ATF	8.10	8.85	8.63	7.73	8.39	10.36
HSD	71.19	76.14	89.82	95.31	97.92	111.08
LDO	10.98	11.25	11.79	10.62	9.29	10.06
Fuel Oils	11.68	13.12	14.28	14.92	14.87	14.57
Others*	16.78	17.72	17.70	17.66	19.48	20.61
Total	148.57	158.76	174.94	181.92	188.96	208.87
CONSUMPTION						
PRODUCTS	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83(P)
IN ORIGINAL UNITS (MILLION TONNES)						
Kerosene	3.63	3.95	3.87	4.23	4.69	5.19
ATF	1.04	1.15	1.14	1.13	1.13	1.14
HSD	7.74	8.64	9.80	10.35	10.83	11.88
LDO	1.16	1.22	1.27	1.12	1.04	1.07
Fuel Oils	5.84	6.67	7.08	7.47	7.18	7.23
Others*	3.27	3.42	3.36	3.31	3.70	4.08
Total	22.68	25.05	26.52	27.61	28.57	30.59
IN MILLION TONNES OF COAL EQUIVALENT UNITS						
Kerosene	7.26	7.90	7.74	8.46	9.38	10.38
ATF	2.08	2.30	2.28	2.26	2.26	2.28
HSD	15.48	17.28	19.60	20.70	21.66	23.76
LDO	2.32	2.44	2.54	2.24	2.08	2.14
Fuel Oils	11.68	13.34	14.16	14.94	14.36	14.46
Others*	6.54	6.84	6.72	6.62	7.40	8.16
Total	45.36	50.10	53.04	55.22	57.14	61.18
IN MILLION TONNES OF COAL REPLACEMENT UNITS						
Kerosene	29.04	31.60	30.96	33.84	37.52	41.52
ATF	7.80	8.63	8.55	8.48	8.48	8.55
HSD	69.66	77.76	88.20	93.15	97.47	106.92
LDO	10.44	10.98	11.43	10.08	9.36	9.63
Fuel Oils	11.68	13.34	14.16	14.94	14.36	14.46
Others*	16.70	17.70	17.49	17.35	19.04	21.34
Total	145.32	160.01	170.79	177.84	186.23	202.42

(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	Gujarat		Assam		Rajasthan		Total Onland		BOMBAY HIGH		GRAND TOTAL	
	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	82.88	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	63.65	-	0.43	128.15	79.58	226.29	264.64	354.44	344.22
1980	52.73	16.39	82.65	64.09	-	0.47	135.38	80.95	230.95	270.96	366.33	351.91
1981	51.48	15.99	88.36	64.02	-	0.43	140.16@	81.57£	328.29	329.04	468.45	410.61
1982	53.18	18.18	92.07	69.24	-	0.43	145.57@	89.23£	325.18	330.62	470.75	419.85
1983	90.58	18.95	97.03	76.82	-	0.43	187.61@	98.06£	338.70	377.21	526.31	475.27

* Proved and indicated balance recoverable reserves. @ Includes 0.32 MMT of crude oil reserves in Nagaland.
£ Includes 1.13 Billion cubic Metres reserves of natural gas from Tripura & Nagaland in 1981, 1.38 Billion Cubic Metres in 1982 and 1.86 Billion Cubic Metres in 1983.

Note : For AOC and CIL 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 thereafter to 1st January of each year.

NUMBER OF DEEP DRILLING RIGS IN THE COUNTRY

(Numbers)

Year	ONGC		OIL	AOC	TOTAL
	Onshore	Offshore			
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	65	4	4	-	73
1979-80	69	5	4	-	78
1980-81	74	7	4	-	85
1981-82	77	7	5	-	89
1982-83	77*	14**	5	-	96

Note : * Includes BU-80-3 rig which was damaged in a blow out at Tanzania.
** Includes "Sagar Vikas" which was damaged in blow out in Sept. 1982.

NUMBER OF WELLS AND METREAGE DRILLED BY ONGC AND OIL FROM 1970-71 TO 1982-83

Year	ONGC				OIL@		TOTAL	
	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	89	168	-	1	14	48	103	217
1971-72	61	131	1	-	12	46	74	177
1972-73	61	115	-	-	13	41	74	156
1973-74	64	140	1	4	12	43	77	187
1974-75	96	191	3	4	10	31	109	226
1975-76	106	229	15	28	13	36	134	293
1976-77	100	206	24	59	8	32	132	297
1977-78	87	175	15	67	19	73	121	315
1978-79	67	159	16	43	17	62	100	264
1979-80	69	138	28	59	15	46	112	243
1980-81	72	134	33	78	14*	39*	119	291
1981-82	98	211	46	111	19	64	163	386
1982-83	114	224	65	162	17	60	196	446

* Includes 2 wells/6000 metreage drilled by OIL in offshore areas.
@ Excluding wells/metreage drilled by erstwhile AOC.

STATUS OF WELLS (AS ON 1ST APRIL OF EACH YEAR)

(Numbers)

Company/ Year	OIL	GAS	DRY	UNDER TEST	INJE-CTION	OTHERS	TOTAL
A. Assam Oil Company *							
1970	380	19	-	-	10	588	997
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
1981	418	9	-	-	6	568	1001
1982	418	9	-	-	6	568	1001
1983	441	-	305	16	4	235	1001
B. Oil India Ltd.							
1970	216	12	29	24	7	-	288
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
1981	283	27	42	48	35	-	435
1982	291	34	42	20	37	30	454
1983	295	36	43	26	43	28	471
C. OIL & Natural Gas Commission							
1970	442	63	191	76	20	-	792
1975	605	79	320	141	28	-	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	123	487	125	32	-	1718
1981	1008	133	508	137	38	-	1824
1982	1116	140	530	139	41	-	1966
1983	1219	154	551	178	42	-	2144
TOTAL (A+B+C)							
1970	1033	94	220	100	37	588	2077
1975	1282	104	354	168	53	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
1981	1709	169	550	185	79	568	3260
1982	1825	183	572	159	84	598	3421
1983	1955	190	899	220	89	263	3616

* The exploration activities of Assam Oil Company were vested in Oil India Ltd. w.e.f. 14th October, 1981.

State-wise achievement of Geological field parties since inception upto March,1983 (Provisional)

STATE	Geological Surveys						
	Detailed mapping (Sq. Kms.)	Semi-detailed mapping (sq. Kms.)	Traversing (Line Kms.)	Reconnaissance (Sq. Km)	Special studies (Sq. Km)	Geo-Neotectonic Survey (sq.Km)	Reconnaitory traversing (Line Kms.)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Andhra Pradesh (including Tamil Nadu & Kerala Karnataka, Pondicherry.	3879	20089	1308	26904	--	396035	3300
Andaman & Nicobar.	608	3096	619	2281	--	--	--
Assam(including) Tripura, Mizoram, Nagaland Arunachal Pradesh & Meghalaya)	8067	23975	10124	4657	--	--	817 +1100(photo-Geological mapping Sq. Kms.
Gujarat(including) Kutch/Maharashtra & Madhya Pradesh	8258	42800	2952	13046	2926	--	--
Bihar	--	1719	93	--	--	--	--
Jammu & Kashmir	1764	8908	1837	6548	70	--	--
Punjab(including Himachal Pradesh)	9710	10734	4863	4568*	1489	--	382+ 200(RM)
Uttar Pradesh	4658	10738	2089	1213	4170	--	--
West Bengal	912	4737	477	2397	--	5400	--
Rajasthan	3584	25110	1734	17890	--	--	--
Nepal	194	8446	1087	--	--	--	--
Bhutan	--	1821	95	290	--	--	--
TOTAL ONGC	41634	162173	27278	79796	8655	401435	4499 + 200(RM) + 1100

Abbreviations: CW= compilation work, RM= Road Mapping (Sq. Kms.)
CH= checking, GCH= Ground Checking.

In case of Oil India Ltd., No geological surveys were undertaken.

* This includes 1450 Sq.Kms of Regional Recommainsance Mapping.

State-wise achievement of geophysical field parties since inception upto March, 1983

(Provisional)

STATE	Departmental		Contract	
	Reflection and refraction (conventional & CDP)	surveys	Line	Kms.
	Line Kms.	SLK		
(1)	(2)	(3)	(4)	(5)
A. ON LAND				
1. Andhra Pradesh	7160	3665		
2. Assam(including Tripura,Mizoram Arunachal Pradesh & Meghalaya)	14782 (1154)	2291	--	-- (2708)
3. Gujarat	43209	7289	--	--
4. Bihar	2431	408	--	--
5. Jammu & Kashmir	1937	--	99	--
6. Tamil Nadu/Madras	9575	2411	--	--
7. Orissa	1631	--	--	(2580)
8. Punjab & Himachal Pradesh	5480	--	--	382
9. Uttar Pradesh	12190	1067	--	--
10. West Bengal	14654	3078	--	--
11. Rajasthan	3554	820	2106	--
TOTAL ON LAND:	116603(1154)	21029	2205	382 (5288)
B. OFF SHORE	104344	--	99077	--
Orissa(BEP)				(8466)
GRAND TOTAL (A+B)	220947 (1154)	21029	101282	382 (8466)

SLK = Standard Line Kilometres.
Figures in Parenthesis relates to OIL.

State-wise achievement of drilling since inception upto March, 1983.

STATE	Drilling (000 Metres)			
	Departmental		Contract	
	Wells	Metreage	Wells	Metreage
A. ON LAND				
1. Andhra Pradesh (including Kerala)	3	12	--	--
2. Assam, Andaman& Nicobar (including Tripura, Mizoram, Andhra Pradesh, Meghalaya, West Bengal and Nagaland.)	429 (469+4p)	1432 (1548)	--	--
3. Gujarat(including Kutch, Maharashtra and Madhya Pradesh)	1393	2300	--	--
4. Bihar	1	4	1	5
5. Himachal Pradesh (including Punjab)	8	23	2	10
6. Tamil Nadu & Pondicherry	18	41	--	--
7. Jammu & Kashmir	3	7	--	--
8. Orissa	--	--	--	--
9. Uttar Pradesh	3	9	1	5
10. Rajasthan	11	16	6	11
B. OFFSHORE				
1. Bombay High	144	299	--	--
2. Alibat West	1	1	--	--
C. Others				
CFF the Coromandal Coast, Gulf of Cambay, Kutch Off/ S trait, Arabian sea, Mouth of Oranges and Mahanadi Gulf of Mannar/Off the Kerala Coast/Bay of Bengal Godavari/Andaman Offshore	120	316	(2)	(6.4)
GRAND TOTAL(A+B+C)	2134 (469+4p)	4460 (1548)	10 (2)	31 (6.4)

Figures in parenthesis relates to OIL.

COMPANY WISE PRODUCTION OF CRUDE OIL IN INDIA
(CALENDAR YEARS)

('000 Tonnes)

YEAR	ON - SHORE				OFFSHORE	GRAND	COMMULATIVE
	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	7.438	10185	104783
1978	55	2697	5551	8303	2968	11271	116054
1979	47	2848	5537	8432	4407	12839	128893
1980	41	796	4033	4870	4529	9399	138292
1981(a)	33	2803	5083	7949	7006	14925	153217
1982		2963	5304	8267	11467	19734	172951

(a) - After takeover of AOC by Govt. in Oct.1981, its production wing was merged with OIL. So the production figures shown under AOC are upto 14th Oct.'81, thereafter the same have been merged with OIL.

COMPANYWISE PRODUCTION OF CRUDE OIL IN INDIA

(FINANCIAL YEARS)

('000 Tonnes)

Year	Onshore				Offshore	Grand Total	Cumulative production since inception
	AOC	OIL	ONGC	Total	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	8323	3310	11633	119538
1979-80	40	2215	5089	7344	4422	11766	131304
1980-81	48	1243	4231	5522	4985	10507	141811
1981-82	23(e)	2995	5201	8219	7975	16194	158005
1982-83		2830	5355	8185	12875	21061	179066

(P)= Provisional

(e) After take-over of AOC by Govt. in Oct. 1981, its production wing was merged with OIL. So the production figures shown under AOC are upto 14thOct. 1981 thereafter the same have been merged with OIL.

STATEWISE PRODUCTION OF CRUDE OIL IN INDIA

('000 Tonnes)

YEAR	ON SHORE				Off-shore	GRAND TOTAL
	Arunachal Pradesh	Assam	Gujarat	Total		
1.	2.	3.	4.	5.	6.	7.
			CALENDAR YEARS			
1960	-	451	-	451	-	451
1965	-	2900	1122	3022	-	3022
1970	-	3359	3450	6809	-	6809
1971	-	3542	3643	7185	-	7185
1972	-	3653	3720	7373	-	7373
1973	-	3594	3604	7198	-	7198
1974	-	3735	3755	7490	-	7490
1975	-	4189	4094	8283	-	8283
1976	-	4267	4164	8431	228	8659
1977	-	4510	4237	8747	1438	10185
1978	-	4076	4227	8303	2968	11271
1979	-	4563	3869	8432	4407	12839
1980	2	1056	3812	4870	4529	9399
1981	2	4373	3544	7919	7006	14925
1982	1	5124	3142	8267	11467	19734
			FINANCIAL YEARS			
1960-61	-	448	-	448	-	448
1965-66	-	2046	1427	3473	-	3473
1970-71	-	3367	3455	6822	-	6822
1971-72	-	3630	3669	7299	-	7299
1972-73	-	3609	3712	7321	-	7321
1973-74	-	3589	3600	7189	-	7189
1974-75	-	3814	3870	7684	-	7684
1975-76	-	4300	4148	8448	-	8448
1976-77	-	4305	4187	8492	406	8898
1977-78	-	4534	4155	8689	2074	10763
1978-79	-	4085	4238	8323	3310	11633
1979-80	-	3578	3766	7344	4422	11766
1980-81	2	1712	3808	5522	4985	10507
1981-82	2	4795	3422	8219	7975	16194
1982-83	1	5000	3184	8185	12876	21061

£

STATE-WISE PRODUCTION OF NATURAL GAS IN INDIA

(Million Cubic Metres)

YEAR	ONSHORE			OFF-SHORE	GRAND TOTAL
	Assam	Gujarat	Total		
1.	2.	3.	4.	5.	6.
		CALENDAR YEARS			
1970	966	458	1424	-	1424
1971	993	516	1509	-	1509
1972	1031	533	1564	-	1564
1973	1155	519	1674	-	1674
1974	1328	590	1918	-	1918
1975	1550	760	2310	-	2310
1976	1595	815	2410	28	2438
1977	1677	888	2565	161	2726
1978	1527	903	2430	340	2770
1979	1709	843	2552	532	3084
1980	621	868	1489	588	2077
1981	1605	761	2366	1120	3486
1982	1855	741	2596	2065	4661
		FINANCIAL YEARS			
1970-71	980	465	1445	-	1445
1971-72	1012	523	1535	-	1535
1972-73	1034	531	1565	-	1565
1973-74	1195	518	1713	-	1713
1974-75	1388	653	2041	-	2041
1975-76	1595	773	2368	-	2368
1976-77	1558	822	2380	48	2428
1977-78	1717	893	2610	229	2839
1978-79	1518	908	2425	386	2811
1979-80	1385	840	2225	542	2767
1980-81	843	842	1685	673	2358
1981-82	1748	758	2506	1345	3851
1982-83	1829	750	2579	2357	4936

£ Gross Production

STATE-WISE UTILISATION OF NATURAL GAS IN INDIA

(Million Cubic Metres)

Year	Assam			Gujarat			Total	OFFSHORE					GRAND
	AGC	Others	Total	UPH/ JPM/ DPH	GSFC + BI etc.	Total	Onshore	TEC	RCFC	MSEB	HPCL	Total	TOTAL
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
CALENDAR YEARS													
1970	157	204	361	142	174	316	617	-	-	-	-	-	677
1971	171	214	385	181	198	379	764	-	-	-	-	-	764
1972	189	307	496	214	216	430	926	-	-	-	-	-	926
1973	199	316	515	188	209	397	912	-	-	-	-	-	912
1974	221	311	532	198	273	471	1003	-	-	-	-	-	1003
1975	254	357	611	202	430	632	1243	-	-	-	-	-	1243
1976	444	392	836	171	496	667	1503	-	-	-	-	-	1503
1977	470	423	893	188	540	728	1621	-	-	-	-	-	1621
1978	493	385	878	180	540	720	1598	109	14	-	-	123	1721
1979	510	423	933	166	479	645	1578	197	140	-	-	337	1915
1980	202	253	455	153	542	695	1150	171	141	-	-	312	1462
1981	482	419	901	137	511	648	1549	182	266	-	-	448	1997
1982	521	525	1046	125	539	664	1710	201	453	234	-	888	2598
FINANCIAL YEARS													
1970-71	163	212	375	147	184	331	706	-	-	-	-	-	706
1971-72	176	223	399	192	203	395	794	-	-	-	-	-	794
1972-73	189	325	514	210	220	430	944	-	-	-	-	-	944
1973-74	199	303	502	184	199	383	855	-	-	-	-	-	855
1974-75	227	328	555	203	335	538	1093	-	-	-	-	-	1093
1975-76	290	361	651	217	418	635	1286	-	-	-	-	-	1286
1976-77	466	399	865	173	506	679	1544	-	-	-	-	-	1544
1977-78	467	413	880	186	537	723	1603	-	-	-	-	-	1603
1978-79	508	392	900	177	548	725	1625	168	28	-	-	196	1821
1979-80	407	352	759	163	480	643	1402	190	173	-	-	363	1765
1980-81	275	306	581	148	529	677	1258	147	146	-	-	293	1551
1981-82	525	451	976	133	530	663	1639	198	317	-	-	515	2154
1982-83 (P)	460	509	969	123	542	665	1634	232	486	378	10	1106	2740

(P)- Provisional. Figures rounded off to nearest million cubic metres. @- Excluding the quantity of natural gas used by ONGC for field operations and other internal purposes, including production of LPG.(1)-AGC- Assam Gas Co. (2) UPH-Uttaran Power House (3)JPM-Jayant Paper Mills.(4)DPH-Dhuvaran Power House.(5)GSFC-Gujarat State Forts.Co.(6)BI-Baroda Indus. TEC-Tata Electric Co.(8)RCFL-Rasthriya Chemicals & Fertilizers Ltd. (9) MSEB-Maharashtra state Electricity Board(10)HPCL-Hindustan Pet. Corpn.Lt

VI. REFINING

PETROLEUM REFINING CAPACITY IN INDIA

(Million Tonnes Per Annum)

Refinery	Year of Commissioning	Capacity as on 1.4.1983	Capacity after expansion under implementation	Likely date of completion
A. Refineries in Operation				
i) Public Sector				
1. IOC, Digboi	1901	0.50		
2. BPCL, Bombay	1955	5.25		
3. HPCL, Bombay	1954	3.50		
4. HPCL, Vizag	1957	1.50		
5. IOC, Gauhati	1962	0.85		
6. IOC, Barauni	1964	3.30		
7. IOC, Koyali	1965	7.30		
8. IOC, Haldia	1974	2.50		
9. IOC, Mathura	1982	6.00		
10. CRL, Cochin	1966	3.30		
11. MRL, Madras	1969	2.80		
12. BRPL, Assam	1979	1.00		
	Total	37.80		
B. Refineries under expansion				
1. BPCL, Bombay		5.25	6.00	Oct. 1984
2. HPCL, Vizag		1.50	4.50	Oct. 1984
3. MRL, Madras		2.80	5.60	July, 1984
4. CRL, Cochin		3.30	4.50	June, 1984

REFINERY CRUDE THROUGH-PUT 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)
		CALENDAR YEAR				
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
1980	24668	407	25075	23213	384	23597
1981	29128	400	29528	27193	382	27575
1982	32107	-	32107	29995	-	29995
		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	27066	408	27474	25403	391	25794
1980-81	25333	503	25836	23646	477	24123
1981-82	29911	234	30145	27931	251	28182
1982-83	33157	-	33157	31074	-	31074

Refinery-wise Crude Run And Total Production(NET) of POL Products

('000' Tonnes)

YEAR	AOC/AOD (1)	BSR/ BPCL (2)	ESSO/ HPCL (3)	CORIL/ HPC(VMU) (4)	GAUHATI (5)	BARAUNI (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
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	606	2144
Crude Run	408	4821	3130	1100	646	2285
1980-81						
Total Production	477	4629	2907	1208	577	432
Crude Run	503	4901	3113	1319	639	504
1981-82						
Total Production	474	4754	3253	1067	667	2773
Crude Run	496	4999	3483	1178	746	3030
1982-83*						
Total Production	501	4272	2923	1045	733	2861
Crude Run	521	4485	3124	1077	802	3071

* Provisional.

Refinery-wise Crude Run And Total Production(NET) of POL Products

('000' Tonnes)

YEAR	GUJARAT	HALDIA	MATHURA	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	-	-	2398	1982	-	18379
1975-76							
Total Production	3859	1295	-	2187	2435	-	20829
Crude Run	4145	1348	-	2294	2690	-	22283
1977-78							
Total Production	3896	1853	-	2804	2359	-	23219
Crude Run	4179	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	6350	2313	-	2731	2564	154	25794
Crude Run	6714	2492	-	2866	2822	190	27474
1980-81							
Total Production	6629	2056	-	2795	2376	37	24123
Crude Run	6974	2308	-	2912	2611	52	25836
1981-82							
Total Production	6711	2067	466	2999	2570	381	28182
Crude Run	7042	2277	520	3120	2801	453	30145
1982-83							
Total Production	6668	2302	3610	3049	2635	515	31074
Crude Run	7089	2502	3844	3189	2857	596	33157

Refinery Production - 1979 to 1982.

('000 Tonnes)

Product	PRODUCTION 1979	1980	1981	1982	%Variation 1981/1980	1982/1981
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1- Light Distillates	4645	3953	5008	5112	+26.7	+2.1
of which						
L.P.Gas@	416	367	411	377	+12.0	-8.3
Naphtha	2533	2017	2865	2871	+42.0	+0.2
Mogas	1569	1459	1629	1750	+11.7	+7.4
SBPS/Hexane	55	46	47	49	+2.2	+4.3
2- Middle Distillates	13564	11722	13933	15013	+18.9	+7.8
of which						
ATF/Jet A-1	1176	1010	981	1092	-2.9	+11.3
Kerosene	2651	2343	2844	3253	+21.4	+14.4
M.T.O.	101	109	98	90	-10.1	-8.2
H.S.D.	8261	6991	8904	9365	+27.4	+5.2
L.D.O.	1258	1141	961	1103	-15.8	+14.8
J.B.O.	75	92	90	61	-2.2	-32.2
3- Heavy Ends	8151	7922	8634	9870	+9.0	+14.3
of which						
F.O.	3922	4184	3825	4801	-8.6	+25.5
LSHS/HHS	2364	1929	2818	3010	+46.1	+6.8
TOTAL (Fuel Oils)	6286	6113	6643	7811	+8.7	+17.6
Lube Oils	481	439	416	404	-5.2	-2.9
Bitumen	1027	1102	1285	1300	+16.6	+1.2
Pet.Coke*	129	94	126	159	+34.0	+26.2
Waxes	69	32	52	57	+62.5	+9.6
4- Total Production	26360	23597	27575	29995	+16.9	+8.8
5- Crude Run	28153	25075	29528	32107	+17.8	+8.7

* Includes Production of Calcined Petroleum Coke.

@ Excludes LPG Production from LPG Fractionation Plants. - - 45 145

PATTERN OF REFINERY PRODUCTION (Percentages)

Products	1979	1980	1981	1982
Light Distillates@	16.5	15.8	17.0	15.9
Middle Distillates	48.2	46.7	47.2	46.8
Heavy Fuel Oils	22.3	24.4	22.5	24.3
Bitumens	3.6	4.4	4.4	4.0
Lubes	1.7	1.8	1.4	1.3
Others	1.3	1.0	0.9	1.1
Total Production	93.6	94.1	93.4	93.4
REF & Losses/ Inventories	6.4	5.9	6.6	6.6
Crude Run	100	100	100	100
@ Includes Gases	1.5	1.5	-	-

REFINERY PRODUCTION DURING 1979-80 TO 1982-83

('000' Tonnes)

PRODUCTS	PRODUCTION				% Variation	
	1979-80	1980-81	1981-82	1982-83 (P)	1981-82 / 1980-81	1982-83 / 1981-82
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1. Light Distillates	4459	4101	5138	5316	+25.3	+3.5
of which						
L.P.Gas @	406	366	410	406	+12.0	-1.0
Naphtha	2415	2115	3004	2990	+42.0	-0.5
Mogas	1512	1519	1614	1797	+6.3	+11.3
SBPS/Hexane	56	45	48	54	+6.7	+12.5
2. Middle Distillates	13080	12115	14134	15625	+16.7	+10.5
of which						
ATF/Jet A-1	1104	1001	1009	1137	+0.8	+12.7
Kerosene	2539	2396	2907	3393	+21.3	+16.7
M.T.O.	112	106	84	98	-20.8	+16.7
H.S.D.	7975	7371	9042	9761	+22.7	+8.0
L.D.O.	1230	1108	949	1120	-14.4	+18.0
J.B.O.	80	91	87	60	-4.4	-31.0
3. Heavy Ends	8255	7907	8910	10133	+12.7	+13.7
of which						
F.O.	4086	4041	4015	4829	-0.6	+20.3
LSHS/HHS	2265	2083	2893	3135	+38.9	+8.4
Total Fuel Oils	6351	6120	6908	7964	+12.9	+15.3
Lube Oils	487	426	407	434	-4.5	+6.6
Bitumen	1103	1082	1298	1397	+20.0	+7.6
Pet. Coke*	99	86	141	149	+64.0	+5.7
Waxes	54	43	55	57	+27.9	+3.6
4. Total Production	25794	24123	28182	31074	+16.8	+10.3
5. Crude Run	27474	25836	30145	33157	+16.7	+10.0

(P)Provisional. * Includes Calcined Petroleum Coke.

@-Excludes LPG Production from LPG Fractionation Plants - - 73 169

PATTERN OF REFINERY PRODUCTION

(Percentages)

Products	1979-80	1980-81	1981-82	1982-83
Light Distillates@	16.2	15.9	17.0	16.0
Middle Distillates	47.6	46.9	46.9	47.1
Heavy Fuel Oils	23.1	23.7	22.9	24.0
Bitumens	4.0	4.2	4.3	4.2
Lubes	1.8	1.7	1.4	1.3
Others	1.2	1.0	1.0	1.1
Total Production	93.9	93.4	93.5	93.7
RBF/Losses/Inventories	6.1	6.6	6.5	6.3
Crude Run	100	100	100	100
@ Includes Gases	1.5	1.4	-	-

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
	CALENDAR YEARS			FINANCIAL YEARS	
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	9832	+ 12.7
1963	10387	+ 8.9	1963-64	10671	+ 18.3
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	+ 9.3	1969-70	17797	+ 9.2
1970	18816	+ 8.3	1970-71	19135	+ 7.5
1971	20706	+ 10.0	1971-72	21299	+ 11.3
1972	22673	+ 9.5	1972-73	22978	+ 11.3
1973	23726	+ 4.6	1973-74	23574	+ 2.6
1974	23023	+ 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	28894	+ 8.7	1978-79	29719	+ 10.1
1979	31306	+ 8.3	1979-80	31323	+ 5.4
1980	31633	+ 1.0	1980-81	32261	+ 3.0
1981	34037	+ 7.6	1981-82	34107	+ 5.7
1982 (P)	35213	+ 3.5	1982-83 (P)	36018	+ 5.6

Note:- 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.

PRODUCT-WISE SALES/CONSUMPTION OF PETROLEUM PRODUCTS DURING THE YEARS 1979, 1980, 1981 AND 1982

(Qty. '000 Tonnes)

Product	1979	1980	1981	1982(P)	% variation Col.4 / Col.3	% variation Col.5 / Col.4
1	2	3	4	5	6	7
1. Light Distillates	4596	4227	5125	5259	+21.2	+ 2.6
L.P. Gas	419	400	468	560	+17.0	+19.7
Naphtha	2529	2162	2954	2886	+36.6	- 2.3
Mogas	1495	1522	1574	1686	+ 3.4	+ 7.1
SBP/Hexane	52	50	46	47	- 8.0	+ 2.2
Others	101	93	83	80	-10.8	- 3.6
2. Middle Distillates	16141	16810	17714	19050	+ 5.4	+ 7.5
Kerosene	3880	4092	4588	5107	+12.1	+11.3
ATF/Jet A-1	1151	1142	1116	1123	- 2.3	+ 0.6
HSD	9613	10159	10748	11554	+ 5.8	+ 7.5
LDO/MDO	1267	1189	1022	1053	-14.0	+ 3.0
JBO	77	84	79	67	- 6.0	-15.2
MTO	100	102	92	87	- 9.8	- 5.4
Others	53	42	68	59	+61.9	-13.2
3. Heavy Ends	9085	9262	9651	9227	+4.2	- 4.4
(a) Fuel Oils (Total)	7080	7354	7369	7072	+ 0.2	- 4.0
F.O./TDO	4693	5395	4607	4054	-14.6	-12.0
LSHS	2368	1958	2762	3018	+41.1	+ 9.3
HHS	19	1	-	-	-	-
(b)Lubes & Greases	569	572	616	594	+ 7.7	- 3.6
(c)Bitumen/Asphalt	1030	1036	1302	1280	+25.7	- 1.7
(d) Pet. Coke	193	123	188	117	+52.8	-37.8
(e) Wax	75	46	71	43	+54.3	-39.4
(f)Others	138	131	105	121	-19.8	+15.2
Total(1+2+3)	29822	30299	32490	33536	+ 7.2	+ 3.2
Refinery Fuel@	1484	1334	1547	1677	+16.0	+ 8.4
GRAND TOTAL	31306	31633	34037	35213	+ 7.6	+ 3.5

@ = RBF, Lube Refinery Fuel & TPS Fuel. (P) = Provisional.

PRODUCT-WISE SALES/CONSUMPTION OF PETROLEUM PRODUCTS DURING THE YEARS 1979-80, 1980-81, 1981-82 & 1982-83

(Qty. '000 Tonnes)

Product	1979-80	1980-81	1981-82	1982-83(P)	% variation col.4 / col.3	% variation col.5 / col.4
1	2	3	4	5	6	7
1. Light Distillates	4460	4388	5187	5340	+18.2	+ 2.9
L.P. Gas	410	405	492	602	+21.5	+22.4
Naphtha	2413	2325	2963	2890	+27.4	- 2.5
Mogas	1490	1522	1599	1717	+ 5.1	+ 7.4
SBP/Hexane	53	46	48	48	+ 4.3	-
Others	94	90	85	83	- 5.6	- 2.4
2. Middle Distillates	16321	17056	17919	19500	+ 5.1	+ 8.8
Kerosene	3872	4228	4693	5192	+11.0	+10.6
ATF/Jet-1	1144	1125	1128	1143	+ 0.3	+ 1.3
HSD	9801	10345	10832	11883	+ 4.7	+ 9.7
LDO/MDO	1266	1122	1036	1068	- 7.7	+ 3.1
JBO	85	85	75	70	-11.8	- 6.7
MTO	105	112	89	86	-20.5	- 3.4
Others	48	39	66	59	+69.2	-10.6
3. Heavy Ends	9102	9452	9417	9444	- 0.4	+ 0.3
(a) Fuel Oils (Total)	7081	7473	7184	7234	- 3.9	+ 0.7
FO/TDO	4796	5406	4306	4136	-20.3	- 3.9
LSHS	2268	2065	2878	3098	+39.4	+ 7.6
HHS	17	2	-	-	-	-
(b) Lubes & Greases	566	593	592	604	- 0.2	+ 2.0
(c) Bitumen/Asphalt	1069	1064	1292	1356	+21.4	+ 5.0
(d) Petroleum Coke	185	137	174	96	+27.0	-44.8
(e) Wax	68	47	67	40	+42.6	-40.3
(f) Others	133	138	108	114	-21.7	+ 5.6
Total (1+2+3)	29883	30896	32523	34284	+ 5.3	+ 5.4
Refinery Fuel @	1440	1365	1584	1734	+16.0	+ 9.5
GRAND TOTAL	31323	32261	34107	36018	+ 5.7	+ 5.6

(P) = Provisional. @ = R.B.F., Lube Refinery Fuel & TPS Fuel.

Seasonal Indices of the Sales/Consumption of Major Petroleum Products in India.

MONTH	M. S.	A.T.F.	KEROSENE	H.S.D.	L.D.O.	BITUMEN	TOTAL Product.
1.	2.	3.	4.	5.	6.	7.	8.
April	8.34	8.42	7.83	8.75	8.16	7.50	8.16
May	9.25	8.34	7.83	9.17	8.09	7.75	8.42
June	8.50	7.91	7.75	8.34	7.08	7.75	8.00
i) Quarter Total	26.09	24.67	23.41	26.26	23.33	23.00	24.58
July	8.16	8.16	8.00	7.75	6.50	7.92	8.00
August	7.83	8.09	8.09	7.08	6.75	7.58	7.83
September	7.92	8.16	8.34	7.50	7.67	7.84	8.00
ii) Quarter Total	23.91	24.41	24.43	22.33	20.92	23.34	23.83
October	8.16	8.67	8.58	8.00	8.75	8.50	8.42
November	8.00	8.50	8.83	8.50	9.92	8.25	8.59
December	8.67	8.42	9.08	9.00	10.17	9.33	9.00
iii) Quarter Total	24.83	25.59	26.49	25.50	28.84	26.08	26.01
January	8.25	8.42	9.00	8.75	9.66	8.50	8.67
February	8.50	8.16	8.25	8.25	8.34	8.42	8.16
March	8.42	8.75	8.42	8.91	8.91	10.66	8.75
iv) Quarter Total	25.17	25.33	25.67	25.91	26.91	27.58	25.58
TOTAL:- (i to iv)	100	100	100	100	100	100	100

NOTE :- Based on Sales/Consumption data from 1970-71 to 1982-83(P).

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	644	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	S/C	18136	4968	3768	1393	1618	29883
	%	60.7	16.6	12.6	4.7	5.4	100
1980-81	S/C	18293	5297	5596	-	1710	30896
	%	59.2	17.1	18.1	-	5.6	100
1981-82	S/C	19725	5317	5687	-	1794	32523
	%	60.6	16.4	17.5	-	5.5	100
1982-83 (P)	S/C	20457	5758	6079	-	1990	34284
	%	59.7	16.8	17.7	-	5.8	100

S/C = Sales/Consumption. (E)= Estimated. (P)= Provisional.

ⓒ Included under ESSO/HPCL from 1980-81 onwards.

Deliveries* made to International/Coastal Bunkers during 1970-71, 1975-76, 1981-82 & 1982-83.

(Qty. '000' Tonnes)

Products	1970-71	1975-76	1979-80	1980-81	1981-82	1982-83
Shipping International Bunkers						
F.O.	207.9	137.2	135.8	148.7	67.1	85.0
H.S.D.	6.4	11.4	17.7	15.4	16.8	14.5
L.D.O.	20.0	39.5	63.1	50.4	52.3	41.7
Total:	234.3	188.1	216.6	214.5	136.2	141.2
Coastal Bunkers						
F.O.	196.9	178.3	126.4	128.9	149.6	172.2
H.S.D.	22.4	25.9	41.9	42.0	61.4	81.0
L.D.O.	21.6	28.1	28.4	32.5	36.8	47.8
Total:	240.9	232.3	196.7	204.3	247.8	301.0
Total Bunkers						
F.O.	404.8	315.5	262.2	277.6	216.7	257.2
H.S.D.	28.8	37.3	59.6	58.3	78.2	95.5
L.D.O.	41.6	67.6	91.5	82.9	89.1	89.5
Total:	475.2	420.4	413.3	418.8	384.0	442.2

* = Excluding sales to foreign bunkers on KNPC account by IOC.

ESTIMATED STATE-WISE CONSUMPTION OF MAJOR PETROLEUM PRODUCTS - 1982-83@

('000 Tonnes)

STATE/UNION TERRITORY	ATF	MS	SKO	HSD	LDO	F.O. (Reg.)	LSHS	NAPHTHA	LPG	BITUMEN	OTHERS	TOTAL
A. STATE												
Andhra	36	88	376	909	23	205	8	68	51	64	19	1847
Assam	41	32	155	190	9	57	14	-	4	35	38	575
Bihar	9	67	269	645	93	161	304	129	11	148	18	1854
Gujarat	26	138	498	836	260	497	1181	517	51	119	119	4242
Haryana	23	38	96	441	28	93	236	-	13	24	4	996
Himachal Pradesh	-	7	21	52	1	2	-	-	2	1	1	87
J &K	7	15	41	86	5	2	-	-	2	5	1	164
Karnataka	19	110	278	582	15	154	-	135	28	45	6	1372
Kerala	18	99	148	387	12	107	106	167	10	53	3	1110
Madhya Pradesh	6	60	227	683	5	178	-	18	20	92	29	1318
Maharashtra	445	318	942	1536	220	1028	595	362	183	138	102	5869
Manipur	-	5	13	13	3	neg.	-	-	neg.	11	neg.	45
Meghalaya	-	7	9	15	neg.	neg.	-	-	neg.	4	neg.	35
Nagaland	-	7	5	11	-	neg.	-	-	neg.	3	neg.	26
Orissa	8	24	94	214	5	78	94	66	3	25	12	623
Punjab	49	98	201	765	20	110	386	-	12	50	3	1694
Rajasthan	26	55	153	674	32	56	-	145	12	85	1	1239
Sikkim	neg.	2	3	3	neg.	neg.	neg.	-	neg.	neg.	-	8
Tamil Nadu	51	123	417	1218	50	648	53	432	52	115	17	3175
Tripura	1	2	12	14	neg.	neg.	-	-	neg.	5	neg.	34
Urrar Pradesh	52	128	579	1246	103	242	11	580	48	160	47	3196
West Bengal	63	109	458	795	127	289	110	54	26	80	156	2267
TOTAL(A)	880	1532	4995	11315	1011	3907	3098	2673	528	1262	576	31777
B. UNION TERRITORIES												
A&N Islands	1	1	1	16	1	1	-	-	-	3	neg.	24
Arunachal	neg.	2	4	8	-	-	-	-	neg.	3	neg.	17
Chandigarh	20	11	13	22	3	3	-	-	5	13	1	91
Delhi	237	152	147	392	49	125	-	neg.	66	49	13	1230
Dadra & Nagar Haveli	-	neg.	neg.	3	-	neg.	-	-	neg.	neg.	-	3
Goa,Daman & Diu	5	10	18	76	3	98	-	217	2	17	5	457
Lakshadeep	-	-	neg.	1	-	neg.	-	-	-	-	-	1
Mizoram	-	3	3	7	-	-	-	-	neg.	8	neg.	21
Pondicherry	-	4	9	32	1	2	-	-	1	1	neg.	50
TOTAL(B)	263	183	195	557	57	229	-	217	74	94	19	1888
C. OUTSIDE TERRITORIES												
Bhutan	-	2	2	11	neg.	neg.	-	-	-	neg.	-	15
GRAND TOTAL (A+B+C)	1143	1717	5192	11883	1068	4136	3098	2890	602	1356	595	33680

@ Based on actuals for April 82 - Feb. 83 and estimates for March 1983.
* Excluding Lubes & Greases.

Estimated State-wise per capita Sales/Consumption of POL Products (excluding International Bunkers)

(Kgs.)

States/ Territories	1978-79	1979-80	1980-81	1981-82	1982-83
1.	2.	3.	4.	5.	6.
A. STATES					
Andhra Pradesh	31.6	33.7	33.3	32.7	33.6
Assam	27.2	23.0	26.6	27.0	28.0
Bihar	19.0	19.3	20.5	23.5	26.0
Gujarat	107.2	116.1	114.6	112.2	121.8
Haryana	52.8	59.1	64.7	78.7	75.6
Himachal Pradesh	18.2	19.1	19.9	19.8	20.1
Jammu & Kashmir	24.8	28.6	27.7	27.3	26.7
Karnataka	36.4	36.4	34.1	35.9	36.2
Kerala	40.3	43.0	44.9	44.4	42.9
Madhya Pradesh	19.9	20.5	21.6	23.0	24.7
Maharashtra	89.6	88.7	92.4	90.0	85.6
Manipur	26.0	22.5	29.2	32.6	31.0
Meghalaya	23.3	21.5	20.2	21.1	25.5
Nagaland	36.8	30.0	28.4	31.2	32.5
Orissa	17.8	20.1	20.5	24.4	23.3
Punjab	73.6	79.5	84.0	96.5	99.5
Rajasthan	32.5	31.7	31.8	33.2	35.3
Sikkim	37.5	32.4	36.7	25.8	25.0
Tamil Nadu	56.7	63.3	66.8	60.8	64.2
Tripura	14.6	11.1	13.1	17.1	16.1
Uttar Pradesh	23.3	23.1	23.1	26.7	28.2
West Bengal	33.4	36.2	39.8	41.6	40.6
B. OTHER AREAS					
Chandigarh	218.4	177.6	209.3	217.8	189.6
Delhi	178.9	184.4	187.6	188.4	190.1
Goa(incl. Daman & Diu Dadra & Nagar Haveli)	377.1	416.7	290.6	401.8	410.0
Others	119.7	82.1	52.0	54.6	55.0
TOTAL ALL-INDIA @	46.7	47.9	48.2	49.8	51.3

Estimated per capita consumption of selected petroleum products - 1978-79 to 1982-83

Product	1978-79	1979-80	1980-81	1981-82	1982-83
Naphtha	4.0	3.7	3.5	4.2	4.1
M.S.	2.4	2.3	2.3	2.3	2.5
SKO	6.2	5.9	6.3	6.9	7.4
HSD	13.6	15.0	15.5	15.7	17.0
LDO	1.9	1.9	1.7	1.5	1.5
F.O.(Regular)	6.9	7.3	8.1	6.3	5.8
LSHS/HHS	3.6	3.5	3.1	4.2	4.4
TOTAL ALL-INDIA @ SALES CONSUMPTION	46.9	47.9	48.2	49.8	51.3

Note: Based on Expert Committee's population projections as on 1st July of each year and projection on 1971 Census basis.

* Includes Mogas, Kerosene, ATF, HSD, LDO, Fuel Oils, LPG, Naphtha and Bitumen for 1978-79 to 1979-80 and all products except(lubricants) for 1980-81 onwards.

@ All-India actual consumption of all products including Refinery Fuel.

ESTIMATED SECTOR-WISE CONSUMPTION OF SELECTED PETROLEUM PRODUCTS.

(Qty. '000' Tonnes)

	1980 - 81		1981 - 82.	
	Consumption	% to total	Consumption	% to total.
1.	2.	3.	4.	5.
	N A P H T H A.			
1. Fertilizers	1718	73.9	2316	78.2
2. Petrochemicals	595	25.6	639.	21.5
3. Others	12	0.5	8	0.3
TOTAL :-	2325	100.0	2963	100.0
	L. P. GAS.			
1. Domestic	327	80.7	424	86.2
2. Commercial	20	4.9	16	3.2
3. Industry	57	14.1	51	10.4
4. Others	1	0.3	1	0.2
TOTAL :-	405	100.0	392	100.0
	REFINERY GAS.			
1. Industry	1.3	100.0	-	-
2. Power Generation	-	-	-	-
3. Others	-	-	-	-
TOTAL :-	1.3	100.0	-	-
	L.S.H.S./ H.H.S.			
1. Agriculture/Plantation (including processing)	10	0.5	14	0.5
2. Power Generation(Utilities)	1182	57.1	1136	39.5
3. Iron & Steel	51	2.5	356	12.4
4. Textiles & Fibre	140	6.8	166	5.8
5. Cement	-	-	4	0.1
6. Ceramics & Glass	20	0.9	29	1.0
7. Chemicals & Allied	260	12.6	325	11.3
8. Aluminium	-	-	neg.	-
9. Mining & Querrying	-	-	neg.	-
10. Fertilizers	393	19.0	769	26.7
11. Others misc. services	12	0.6	79	2.7
TOTAL:-	2068	100.0	2878	100.0
	H.S.D.O.			
1. Transport :-				
i) Railways	759	7.3	902	8.3
ii) Waterways :-				
a) Coastal & Inland	43	0.4	61	0.6
b) International Bunkers	15	0.2	17	0.2
iii) Others Transport	8233	79.6	8525	78.7
Total Transport:-	9050	87.5	9505	87.8
2. Agriculture/Plantation (including processing)	101	1.0	98	0.9
3. Power Generation	194	1.9	177	1.6
4. Iron & Steel	47	0.5	50	0.5
5. Textiles & Fibre	165	1.6	151	1.4

Sector	1980-81 Consumption	1980-81 % to total	1981-82 Consumption	1981-82 % to total
H.S.D.O. (Continued)				
6. Cement	23	0.2	25	0.2
7. Ceramics & glass	4	neg.	5	neg.
8. Chemicals & allied	64	0.6	53	0.5
9. Aluminium	3	neg.	3	neg.
10. Sugar	30	0.3	33	0.3
11. Mining & quarrying	184	1.8	214	2.0
12. Engineering(Mech. & Elect.)	85	0.8	86	0.8
13. Fertilizers	13	0.1	31	0.3
14. Others(including DGS&D)	382	3.7	401	3.7
Total	10345	100.0	10832	100.0
L.D.O.				
1. Transport :				
(i) Railways	6	0.5	6	0.6
(ii) Waterways:				
(a) Coastal & Inland Bunkers	32	2.9	37	3.6
(b) International bunkers	51	4.5	52	5.0
(iii) Other transport	1	0.1	2	0.2
Total transport	90	8.0	97	9.4
2. Agriculture/Plantation (including processing)	38	3.4	30	2.9
3. Power generation(utilities)	158	14.1	178	17.2
4. Iron & steel	15	1.3	14	1.4
5. Textiles & fibre	31	2.7	19	1.8
6. Cement	2	0.2	3	0.3
7. Ceramics & glass	30	2.7	30	2.9
8. Chemicals & allied	54	4.8	50	4.8
9. Aluminium	1	0.1	1	0.1
10. Sugar	4	0.4	4	0.4
11. Mining & Quarrying	4	0.4	5	0.5
12. Engineering (Mech. & Elect.)	56	5.0	72	6.9
13. Fertilizers	5	0.4	10	0.9
14. Others (incl. DGS&D)	634	56.5	523	50.5
Total	1122	100.0	1036	100.0
F.O. (Regular)				
1. Transport :				
(i) Railways	54	1.0	75	1.8
(ii) Waterways :				
(a) Coastal & inland	129	2.4	150	3.5
(b) International bunkers	149	2.7	67	1.6
(iii) Other transport	9	0.2	24	0.5
Total transport	341	6.3	316	7.4
2. Agriculture/Plantation (including processing)	214	3.9	159	3.7
3. Power generation(utilities)	903	16.7	629	14.6
4. Iron & Steel	366	6.8	235	5.5
5. Textiles & fibre	471	8.7	342	7.9
6. Cement	166	3.1	51	1.2
7. Ceramics & glass	204	3.8	152	3.5
8. Chemicals & allied	780	14.4	673	15.6

Sector	1980-81 Consumption	1980-81 % to total	1981-82 Consumption	1981-82 % to total
	F.O.(Regular) (Continued)			
9. Aluminium	113	2.1	98	2.3
10. Sugar	37	0.7	26	0.6
11. Mining & quarrying	275	5.1	131	3.0
12. Engineering (Mech.& Elect.)	195	3.6	218	5.1
13. Fertilizers	585	10.8	617	14.3
14. Others (incl. DGS&D)	756	14.0	659	15.4
Total	5406	100.0	4306	100.0
	WAX			
1. Candle manufacturing	20.8	43.8	25.3	37.5
2. Water proofing	4.1	8.6	4.2	6.3
3. Match industry	5.6	11.8	7.4	11.0
4. Paper waxing	3.5	7.4	3.4	5.0
5. Hard board	0.3	0.6	0.4	0.6
6. Miscellaneous	13.2	27.8	26.4	39.6
Total	47.5	100.0	67.4	100.0
	GRADE-WISE CONSUMPTION - SALES OF LUBES			
Total Lube Oil				
of which :				
(a) Automotive oils	320.7	54.0	325.9	57.5
HV1	319.6	53.8	325.8	57.5
MV1	1.1	0.2	0.1	neg.
LV1	neg.	-	neg.	-
(b) Industrial Oils	249.2	46.0	240.7	42.5
Total(a+b)	569.9	100.0	566.6	100.0
Industrial Oils - Break up				
1. Spindle oil	4.2	1.7	5.3	2.2
2. Transformer oil	0.3	0.1	0.3	0.1
3. Railway/other axel oil	14.3	5.7	10.4	4.3
4. Cylinder oil	14.4	5.8	11.2	4.7
5. Turbine/hydraulic oil	50.3	20.2	49.3	20.5
6. Other special oils	81.8	32.8	74.3	30.9
7. Misc. grades	83.9	33.7	89.8	37.3
Total	249.2	100.0	240.7	100.0

CONSUMPTION OF DIESEL OIL IN INDIAN RAILWAYS DURING 1960-61 TO 1982-83.

Year	No. of Diesel Locomotives Nos.	Consumption of Diesel Oil (In Kls.)	Consumption of 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
1979-80	2243	992060	442.3
1980-81	2403	1067477	444.2
1981-82	2515	1179682	469.1
1982-83*	2659	1202429	452.2

* Provisional.

Source: For Col. 2 & 3 Indian Railways Annual Statistical Year Book.

INDUSTRY/PLANT-WISE OFFTAKE OF NAPHTHA

(Qty. '000' Tonnes)

Category and Plant	Calendar year			Financial year		
	1980 (Revised)	1981 (Revised)	1982(P)	1980-81 (Revised)	1981-82 (Revised)	1982-P 83
I. Fertilizer Plants						
Madras Ferts. Ltd.	208	231	221	236	218	207
FCI, Durgapur	99	123	46	88	124	66
FCI, Gorakhpur	62	81	92	76	83	92
FCI, Sindri	-	27	25	-	52	-
FCI, Barauni	51	103	93	88	66	126
FCI, Patna	4	-	-	-	-	-
SFC, Kota	120	133	143	115	142	147
IEL, Kanpur	114	219	284	144	244	288
HSL, Rourkela	57	97	76	61	98	62
GSFC, Baroda	106	105	99	107	104	92
FACT, Cochin	123	127	126	125	131	113
ZAC, Goa	106	145	207	61	184	217
IFFCO, Phulpur	31	209	194	63	234	191
IFFCO, Kalol	63	54	50	56	57	48
IFFCO, Kandla	-	1	-	1	-	-
MCFL, Mangalore	99	162	137	102	153	120
SPIC, Tuticorin	208	258	238	217	230	263
EID Parry Ltd., Madras	7	7	6	7	8	4
GNFC, Bharuch	-	Neg.	1	-	1	1
FACT, Alwaye	66	65	57	65	57	53
FCI, Bombay	36	46	55	37	56	45
Coromandal Forts., Vizag	63	72	72	69	75	66
Sub-Total Fertilizers	1623	2265	2222	1718	2317	2201
II. Petrochemical Plants						
HOC, Rasayani	-	3	4	3	3	4
IPCL, Baroda	253	348	368	291	344	384
NOCIL, Bombay	189	241	197	208	210	200
FCI, Bombay(Mathanol)	14	14	15	16	13	16
UCIL, Bombay	72	74	63	77	68	66
Sub-Total(Petro-Chem.)	523	680	647	595	638	670
III. Others						
HSL, Bhilai	11	9	15	12	8	19
Sub-Total (Others)	11	9	15	12	8	19
GRAND TOTAL (I+II+III)	2162	2954	2884	2325	2963	2890

P = Provisional.

Source= IOC's Industry performance Review & IOC's Final Sales Report.

PLANTS/CUSTOMER-WISE OFFTAKE OF LSHS/HHS

(Qty. '000 Tonnes)

1	1978-79 2	1979-80 3	1980-81 (R) 4	1981-82 5	1982-83 (P) 6
1. POWER					
BTPS, Barauni	34.5	32.1	3.9	21.3	31.5
PTPS, Durgapur	-	-	-	1.3	-
GEB, Gandhinagar	96.2	49.6	25.6	16.1	7.7
GEB, Ukai	70.4	86.9	82.7	66.6	78.1
GEB, Kalol	1.3	1.3	-	-	-
DPH, Dhuwaran	661.0	633.6	616.6	624.5	682.2
Tata Thermal, Bombay	448.2	601.3	397.6	382.1	348.5
AEC, Ahmedabad	45.3	57.3	29.1	23.6	16.7
ASEB, Chandrapur	39.5	26.3	26.5	-	11.1
MSEB, Koradi	1.0	-	-	-	-
OTPS, Obra	-	-	-	-	6.7
NLC, Neyveli	-	-	-	-	3.6
Tuticorin Thermal Power	-	-	-	-	3.8
Sub-Total	1397.4	1488.4	1182.0	1135.5	1189.9
2. FERTILIZERS/PETROCHEMICALS					
NFL, Nangal	82.4	113.2	120.8	202.3	193.3
NFL, Bhantinda	9.9	8.7	70.7	146.1	195.8
NFL, Panipat	1.1	-	30.4	182.0	235.3
HFC, Barauni	7.6	7.6	0.7	12.3	17.2
FCI, Sindri	-	31.1	14.8	26.2	184.5
IFFCO, Kalol	39.6	31.5	41.4	41.3	44.5
IFFCO, Phulpur	-	-	-	1.1	9.1
IPCL, Baroda(GA & GO)	64.4	87.6	100.3	152.9	195.0
GSFC, Baroda	17.9	20.0	33.0	73.7	67.8
FACT, Cochin	8.8	51.9	64.4	66.3	67.5
GNGC, Bharuch	-	-	1.4	16.3	26.2
HOC, Rasayani	-	-	-	-	11.7
ROC, Bombay	20.7	4.8	15.0	0.9	-
NOCIL, Bombay	-	-	-	-	28.8
SPIC, Tuticorin	-	-	-	-	25.8
MFL, Madras	-	-	-	-	13.0
Sub-Total	252.4	356.4	492.9	921.4	1315.5
3. STEEL PLANTS					
TISCO, Jamshedpur	99.9	62.1	19.5	62.5	62.0
RSP, Rourkela	107.2	83.0	7.1	71.3	88.9
DSP, Durgapur	105.4	96.2	24.0	221.7	103.9
Sub-Total	312.5	241.3	50.6	355.5	254.8
4. GENERAL TRADE	310.9	198.3	342.0	466.0	338.0
GRAND TOTAL	2273.2	2284.4	2067.5	2878.4	3098.2

(R) = Revised. (P) = Provisional.

Source : IOC's Industry Performance Review/Final Sales Reports.

STATEWISE FULL CONSUMPTION IN GAS TURBINE AND DIESEL POWER STATIONS IN INDIA- 1980-81*

S T A T E	Gas Turbine and Diesel Power Stations		
	Oil Consumption (KL)	Generation (G wh)	Average oil consum-ed (Av./Kwh)
(1)	(2)	(3)	(4)
1. Assam	689 (150.33)	2.48 (294.78	0.28
2. Bihar	726	2.16	0.34
3. Gujarat	40 (16.09)	0.09 (47.70)	0.44
4. Haryana	36	0.12	0.30
5. Himachal Pradesh	37	0.13	0.28
6. Jammu & Kashmir	101	0.36	0.28
7. Madhya Pradesh	-	-	-
8. Manipur	7050	23.49	0.30
9. Meghalaya	540	2.16	0.25
10. Nagaland	341	0.74	0.46
11. Punjab	792	1.47	0.54
12. Rajasthan	148	0.36	0.41
13. Sikkim	350	1.00	0.35
14. Tripura	300	0.85	0.35
15. Uttar Pradesh	(110)(e)	(0.32)	-
16. West Bengal	5253 750.04	17.12 179.50	0.31
UNION TERRITORIES			
17. A & N Island	2886	6.00	0.48
18. Arunachal Pradesh	537	1.85	0.29
19. Chandigarh	24	0.07	0.34
20. Lakshdweep	650	1.30	0.50
21. Delhi	446	1.39	0.32
22. Mizoram	679	1.94	0.35
	21625	65.08	0.33
Total all India	-75114 (166.42)	342.18	

* Provisional (e) Estimated

() = Figures in parenthesis relates to natural gas consumed by gas turbine stations in Million Cubic Metres.

STATEWISE FUEL CONSUMPTION IN STEAM POWER STATION IN INDIA - 1980-81*

STATE	STEAM POWER STATIONS					
	Coal ('000' Tonnes)	Furnace OIL ('000' KL)	L.D.O. ('000' KL)	Heat input ($K.cal \times 10^9$)	Gross generation (GWH)	Av. heat input (K.cal/kwh)
1.	2.	3.	4.	5.	6.	7.
1. Andhra Pradesh	2597	76	7	11351	3596	3157
2. Assam	-	13	2	556	168	3320
3. Bihar	1547	47	15	7236	2128	3401
4. Gujarat	2900	873	14	25726	8427	3053
5. Haryana	641	59	11	3897	1002	3889
6. Jammu & Kashmir	4	-		22	5	3079
7. Madhya Pradesh	4827	90	9	18577	6255	2970
8. Maharashtra	6111	109	25	32562	11216	2930
9. Meghalaya	Neg.	-	-	Neg.	Neg.	-
10. Orissa	566	-	1	2500	744	3360
11. Punjab	1110	23	4	4489	1458	3079
12. Rajasthan	50	-	-	286	35	8144
13. Tamil Nadu	1464	161	9	8330	2446	3406
14. Uttar Pradesh	5152	109	56	24524	6734	3642
15. West Bengal	3421	14	37	18958	5310	3571
16. D.V.C	2813	54	30	13665	4139	3301
17. Central Govt. Projects	1510	211	1	17692	5430	4389
UNION TERRITORIES						
18. A & N Islands	-	-	-	11	2	6863
19. Delhi	1105	30	-	5841	1621	3604
All India Total	35819	1870	221	196223	60714	3248

* Provisional.

VIII. FOREIGN TRADE

IMPORTS/EXPORTS OF CRUDE OIL AND PETROLEUM PRODUCTS

(Qty.-'000 Tonnes : Value - Rs. Crores)

Year	Crude Oil		Products		Total	
	Qty.	Value	Qty.	Value	Qty.	Value
			GROSS IMPORTS			
1960	5723	40.57	2032	41.02	7755	81.59
1965	6811	40.38	2880	44.73	9691	85.11
1970	11665	102.36	970	30.53	12635	132.89
1971	12688	139.88	1932	43.49	14620	183.37
1972	12310	144.25	3257	56.69	15567	200.94
1973	13443	244.56	3735	88.03	17178	332.59
1974	13973	899.36	2949	209.90	16922	1109.26
1975	13600	992.02	2291	199.46	15891	1191.48
1976	13883	1145.56	2293	219.70	16176	1365.26
1977	14548	1258.92	2664	272.99	17212	1531.91
1978	14892	1243.89	3916	414.13	18808	1658.02
1979	15382	1787.38	4019	727.56	19401	2514.94
1980	15976	3038.66	6800	1788.28	22776	4826.94
1981	15528	3793.83	5697	1638.58	21225	5432.41
1982	17327	4116.89	4942	1551.37	22269	5668.26
			EXPORTS			
1960	-	-	225	4.61	225	4.61
1965	-	-	345	3.92	345	3.92
1970	-	-	412	5.72	412	5.72
1971	-	-	152	2.55	152	2.55
1972	-	-	109	8.94	109	8.94
1973	18	0.42	155	5.35	173	5.77
1974	-	-	202	19.37	202	19.37
1975	-	-	166	13.83	166	13.83
1976	-	-	82	7.60	82	7.60
1977	-	-	59	6.50	59	6.50
1978	-	-	43	4.20	43	4.20
1979	-	-	59	14.94	59	14.94
1980	-	-	70	17.98	70	17.98
1981	-	-	55	15.13	55	15.13
1982	4391	1044.71	648	101.23	5039	1145.94
			NET IMPORTS			
1960	5723	40.57	1807	36.41	7530	76.98
1965	6811	40.38	2535	40.81	9346	81.19
1970	11665	102.36	558	24.81	12223	127.17
1971	12688	139.88	1780	40.94	14468	180.82
1972	12310	144.25	3148	47.75	15458	192.00
1973	13425	244.14	3580	82.68	17005	326.82
1974	13973	899.36	2747	190.53	16720	1089.89
1975	13600	992.02	2125	185.63	15725	1177.65
1976	13883	1145.56	2211	212.10	16094	1357.66
1977	14548	1258.92	2605	266.49	17153	1525.41
1978	14892	1243.89	3873	409.93	18765	1653.82
1979	15382	1787.38	3960	712.62	19342	2500.00
1980	15976	3038.66	6730	1770.30	22706	4808.96
1981	15528	3793.83	5642	1623.45	21170	5417.28
1982	12936	3072.18	4294	1450.14	17230	4522.32

IMPORTS/EXPORTS OF CRUDE OIL AND PETROLEUM PRODUCTS

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

Financial year	Crude Oil		Products		Total	
	Qty.	Value	Qty.	Value	Qty.	Value
		GROSS IMPORTS				
1960-61	5709	39.23	2217	39.84	7926	79.07
1965-66	6844	39.62	2537	40.68	9381	80.30
1970-71	11683	106.72	1084	29.91	12767	136.63
1971-72	12951	147.02	2147	46.88	15098	193.90
1972-73	12084	146.37	3525	60.58	15609	206.95
1973-74	13873	416.39	3548	124.50	17421	540.89
1974-75	14016	916.99	2648	195.00	16664	1111.99
1975-76	13624	1051.76	2218	204.34	15842	1256.10
1976-77	14048	1175.91	2624	248.23	16672	1424.14
1977-78	14507	1246.20	2879	305.34	17386	1551.54
1978-79	14657	1251.17	3878	429.99	18535	1681.16
1979-80	16121	2187.53	4724	1082.39	20845	3269.92
1980-81	16248	3348.97	7289	1917.52	23537	5266.49
1981-82	15298	3736.38	4884	1453.16	20182	5189.54
1982-83	16949	4043.74	5024	1553.94	21977	5597.68
		EXPORTS				
1960-61	-	-	222	4.40(e)	222	4.40(e)
1965-66	-	-	403	4.39	403	4.39
1970-71	-	-	332	4.67	332	4.67
1971-72	-	-	136	3.91	136	3.91
1972-73	-	-	126	8.16	126	8.16
1973-74	18	0.04	161	8.05	179	8.09
1974-75	-	-	175	17.46	175	17.46
1975-76	-	-	170	13.96	170	13.96
1976-77	-	-	74	6.89	74	6.89
1977-78	-	-	47	5.69	47	5.69
1978-79	-	-	44	4.11	44	4.11
1979-80	-	-	88	24.02	88	24.02
1980-81	-	-	36	8.41	36	8.41
1981-82	838	196.23	55	15.13	893	211.36
1982-83	4352	1023.29	795	133.79	5147	1157.08
		NET IMPORTS				
1960-61	5709	39.23	1995	35.44	7704	74.67
1965-66	6844	39.62	2134	36.29	8978	75.91
1970-71	11683	106.72	752	25.24	12435	131.96
1971-72	12951	147.02	2011	42.97	14962	189.99
1972-73	12084	146.37	3399	52.42	15483	198.79
1973-74	13855	416.35	3387	116.45	17242	532.80
1974-75	14016	916.99	2473	177.54	16489	1094.53
1975-76	13624	1051.76	2048	190.38	15672	1242.14
1976-77	14048	1175.91	2550	241.34	16598	1417.25
1977-78	14507	1246.20	2832	299.65	17339	1545.85
1978-79	14657	1251.17	3834	425.88	18491	1677.05
1979-80	16121	2187.53	4636	1058.37	20757	3245.90
1980-81	16248	3348.97	7253	1909.11	23501	5258.08
1981-82	14460	3540.15	4829	1438.03	19289	4978.18
1982-83	12597	3020.45	4233	1420.15	16830	4440.60

(e) = Estimated.

IMPORTS/EXPORTS OF CRUDE OIL AND PETROLEUM PRODUCTS DURING 1980 TO 1982

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

Item	1980		1981		1982	
	Qty.	Value	Qty.	Value	Qty.	Value
		GROSS IMPORTS				
A. Crude Oil	15976	3038.66	15528	3793.83	17327	4116.89
B. Petroleum Products						
I. Light Distillates	262	80.24	275	86.75	175	61.62
1. Naphtha	169	43.69	223	63.76	101	29.89
2. Others	93	36.55	52	22.99	74	31.73
II. Middle Distillates	5261	1467.20	4395	1300.57	4592	1424.67
1. ATF	60	15.31	78	24.99	223	71.59
2. SKO @	1934	549.65	1996	608.82	1936	620.90
3. HSD	3163	873.91	2209	634.63	2401	722.06
4. LDO	104	28.33	112	32.13	32	10.12
III. Heavy Ends	1277	240.84	1026	251.26	175	65.08
1. Furnace Oil	1081	165.70	829	161.94	23	5.22
2. Lubes	146	61.76	119	64.18	88	45.27
3. Waxes	10	7.51	19	15.04	4	2.92
4. Others	40	5.87	59	10.10	60	11.67
Total(B)	6800	1788.28	5697	1638.58	4942	1551.37
GRAND TOTAL(A+B)	22776	4826.94	21225	5432.41	22269	5668.26
		EXPORTS @				
A. Crude Oil	-	-	-	-	4391	1044.71
B. Petroleum Products						
I. Light Distillates	70	17.98	55	15.13	0.3	0.15
1. Naphtha	70	17.91	55	15.13	-	-
2. Others	0.1	0.07	-	-	0.3	0.15
II. Middle Distillates	-	-	-	-	22	5.63
1. LDO	-	-	-	-	22	5.63
II. Heavy Ends	-	-	-	-	626	95.45
1. F.O.	-	-	-	-	626	95.45
Total(B)	70	17.98	55	15.13	648	101.23
GRAND TOTAL(A+B)	70	17.98	55	15.13	5039	1145.94
		NET IMPORTS				
A. Crude Oil	15976	3038.66	15528	3793.83	12936	3072.18
B. Petroleum products	6730	1770.30	5642	1623.45	4294	1450.14
TOTAL(Net Imports)	22706	4808.96	21170	5417.28	17230	4522.32

@ Excludes supplies of POL Products to Nepal.

IMPORTS/EXPORTS OF CRUDE OIL AND PETROLEUM PRODUCTS DURING 1980-81 TO 1982-83

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

Item	1980-81 Qty.	1980-81 Value	1981-82 Qty.	1981-82 Value	1982-83 Qty.	1982-83 Value
GROSS IMPORTS						
A. Crude Oil	16248	3348.97	15298	3736.38	16949	4043.74
B. Petroleum Products						
I. Light Distillates	321	97.44	160	52.69	178	62.68
1. Naphtha	231	62.95	114	31.54	101	29.89
2. Others	90	34.49	46	21.15	77	32.79
II. Middle Distillates	5384	1503.23	4000	1217.02	4726	1435.68
1. ATF	32	7.80	110	36.32	244	76.77
2. SKO	2065	591.67	1969	606.55	1881	595.89
3. HSD	3219	885.35	1838	549.45	2582	756.91
4. LDO	68	18.41	83	27.40	19	6.11
III. Heavy Ends	1584	316.85	724	183.45	124	55.59
1. Furnace Oil	1336	219.45	527	103.23	-	-
2. Lubes	182	79.25	91	52.23	105	51.05
3. Waxes	13	10.06	15	11.64	0.3	0.27
4. Others	53	8.09	91	16.35	18.4	4.27
Total(B)	7289	1917.52	4884	1453.16	5028	1553.94
GRAND TOTAL(A+B)	23537	5266.49	20182	5189.54	21977	5597.68
EXPORTS @						
A. Crude Oil	-	-	838	196.23	4352	1023.29
B. Petroleum Products						
I. Light Distillates	36	8.41	55	15.13	96	24.96
1. Naphtha	36	8.34	55	15.13	96	24.81
2. Others	0.1	0.07	-	-	neg.	0.15
II. Middle Distillates	-	-	-	-	22	5.63
1. LDO	-	-	-	-	22	5.63
III. Heavy Ends	-	-	-	-	677	103.20
1. F.O.	-	-	-	-	677	103.20
Total(B)	36	8.41	55	15.13	795	133.79
Grand Total(A+B)	36	8.41	893	211.36	5147	1157.08
NET IMPORTS						
A. Crude Oil	16248	3348.97	14460	3540.15	12597	3020.45
B. Pet. Products	7253	1909.11	4829	1438.03	4233	1420.15
GRAND TOTAL(NET IMPORTS)	23501	5258.08	19289	4978.18	16830	4449.60

@ Excludes supplies of POL products to Nepal.

EXPORT EARNINGS DURING THE YEARS 1979-80 To 1982-83

Qty. : '000 tonnes
Value : Rs. Crores

Category/Product	1979-80 Qty.	1979-80 Value	1980-81 Qty.	1980-81 Value	1981-82 Qty.	1981-82 Value	1982-83 (P) Qty.	1982-83 (P) Value
1. SALES TO BUNKERS								
(a) Shipping Bunkers								
International F/V	71	13.74	67	15.16	49	14.24	47	12.96
International I/V	146	26.06	148	30.10	87	22.87	94	23.19
Coastal F/V	26	3.10	31	6.63	21	5.68	10	2.92
Total (a)*	243	42.90	246	51.89	157	42.79	151	39.07
(b) International Airlines (excl. Air India)	474	181.28	435	182.85	394	179.39	388	177.03
Total (1)	717	224.18	681	234.74	551	222.18	539	216.10
2. EXPORTS OF POL PRODUCTS/CRUDE OIL								
(i) Exports of POL Products:								
Naphtha	88	24.00	36	8.34	55	15.13	96	24.81
F.O.	-	-	-	-	-	-	677	103.20
L.B.O	-	-.	-	-.	-	-	22.	5.63
Other Products	neg.	0.02	neg.	0.07	-	-	neg.	0.15
Total (i)	88	24.02	36	8.41	55	15.13	795	133.79
(ii) Crude Oil	-	-	-	-	838	196.23	4352	1023.29
Total (2)**	88	24.02	36	8.41	893	211.36	5147	1157.08
GRAND TOTAL (1+2)	805	248.20	717	243.15	1444	433.54	5686	1373.18

* Excluding sales of Marine Lubricants.

** Excluding supplies of POL products to Nepal and those exported directly from Aden Refinery.

F/V = Foreign Flag Vessels. I/V = Indian Flag Vessels.

INDIA'S REVENUES FROM HIL CRUDE

Year	Quantity ('000 tonnes)	Value (Rs. crores)
1974	654	38.59
1975	567	41.96
1976	410	32.14
1977	465	38.26
1978	371	29.36

Note: No liftings 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		Exports	Imports	Balance of trade	% variation over preceding year			
				Exports	Imports				Exports	Imports	Exports	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	467	1100	-633	149.7	106.8	14.0	24.3
1975-76	4043	5265	-1222	21.4	16.5	633	1166	533	35.6	6.0	15.7	22.1
1976-77	5142	5074	+ 72	27.2	-3.6	707	1296	589	11.7	11.2	13.8	25.5
1977-78	5408	6020	-612	5.2	18.6	674	1340	666	4.7	3.4	12.5	22.3
1978-79	5726	6814	-1088	5.9	13.2	733	1382	649	8.8	3.1	12.8	20.3
1979-80	6459	9022	-2563	12.8	32.4	717	2410	1693	2.2	74.4	11.1	26.7
1980-81	6711	12560	-5849	3.9	39.2	745	3489	-2744	3.9	62.1	11.1	27.8
1981-82	7803	13671	-5868	16.3	8.8	923	3832	-2909	23.9	6.0	11.8	28.0

*-Provisional.

%-Of variation over the corresponding period in the preceding year.

Source -Ministry of Commerce/Economice Survey.

INDIA'S FOREIGN EXCHANGE RESERVES
(1970-71 to 1982-83)

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
1979-80	529.1	224.71	5163.66
1980-81	490.5	225.58	4822.12
1981-82	425.1	225.58	3354.47
1982-83*	270.2	225.58	4265.26

*-Provisional

INDIA'S POL IMPORTS AS A PROPORTION OF ITS TOTAL EXPORTS
(Rs./Crores)

Year	P.O.L.(Gross) 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	4043	31.1%
1976-77	1424	5142	27.7%
1977-78	1552	5404	28.7%
1978-79	1681	5726	29.4%
1979-80	3270	6459	50.7%
1980-81	5266	6711	78.5%
1981-82	5190	7803	66.5%
1982-83 (P)	5598	8638	64.8%

Source for Exports data: Bulletin of Industrial Statistics, brough out by the Ministry of Industry.

(P) - Provisional.

X. MAN-POWER EMPLOYED

MANPOWER EMPLOYED IN THE PETROLEUM INDUSTRY IN INDIA

(Number)

CATEGORY	1970	1975	1980	1981	1982	1983
1.	2.	3.	4.	5.	6.	7.
1. Exploration and Production	26051	27067	31413	33278	36089	38063
2. Refining*	10715	12327	15334	16213	18359	19507
3. Marketing	20362	19072	19920	20943	22858	24468
4. Others:-						
1. IOC(Pipeline)	487	724	1312	1376	1445	1592
2. ONGC(Pipeline)	346	233	411	425	203	280
3. OIL(Pipeline)	443	431	492	476	490	538
4. I.I.P.	588	676	754	743	744	744
5. E.I.L.	N.A.	1940	2661	2922	3176	3422
TOTAL	1864	4004	5630	5942	6058	4704
GRAND TOTAL	58992	62470	72297	76376	83364	88614

CATEGORY-WISE MANPOWER EMPLOYED IN THE PETROLEUM INDUSTRY IN INDIA

(Numbers)

CATEGORY	1970	1975	1980	1981	1982	1983
1.	2.	3.	4.	5.	6.	7.
1. Executive/ Managerial	4793	6461	9311	11844	13027	115066
2. Supervisory	6205	6659	6512	6639	7388	8221
3. Clerical	11457	11723	12403	16109	13921	13626
4. Workmen	36437	37611	44057	41723	48969	51023
5. TOTAL	58892	62454	72283	76315	83305	88536
6. Expatriates/ Foreign Experts	100	16	14	61	59	78
GRAND TOTAL	58992	62470	72297	76376	83364	88614

Note:- 1. Staff Employed as on 1st April of each year.
2. Total does not include staff Employed on contract basis.

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

(Number)

CATEGORY	1970	1975	1980	1981	1982	1983
1	2	3	4	5	6	7
EXPLORATION AND PRODUCTION						
1.Executive/ Managerial	1765	1967	3394	4193	4896	6796
2.Supervisory	2774	3538	1994	2957	3068	3191
3.Clerical	3764	3538	3795	7267	4405	3930
4.Workmen	17704	18013	22216	18815	23683	24068
5.TOTAL	26007	17056	31399	33232	36052	37985
6.Expatriates/ Foreign Experts	44	11	14	46	37	78
G GRAND TOTAL	26051	27067	31413	33278	36089	38063
PETROLEUM REFINING *						
1.Executive/ Managerial	258	818	2055	2690	2825	2892
2.Supervisory	1076	1313	1050	695	956	1409
3.Clerical	1219	1568	1791	1803	2277	2344
4.Workmen	7857	8626	10438	11013	12279	12862
4.TOTAL	10677	12325	15334	16202	18337	19507
5.Expatriates/ Foreign Experts	38	2	-	11	22	-
GRAND TOTAL	10745	12327	15334	16213	18359	19507
M A R K E T I N G						
1.Executive/ Managerial	2367	3519	3318	4330	4632	5203
2.Supervisory	2081	910	1591	860	1049	1145
3.Clerical	6220	5870	5820	6003	6183	6350
4.Workmen	9680	8770	9191	9750	10994	11770
5.TOTAL	20348	19069	19920	20943	22858	24468
6.Expatriates/ Foreign Experts	14	3	-	-	-	-
GRANDTOTAL	20362	19072	19920	20943	22858	24468

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

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

XI. P R I C E S

WHOLESALE PRICE INDICES OF Petroleum Products, Petro-based Industries & other Energy Items

(1970-71 = 100)

Items	1972-73	1973-74	1974-75	1979-80	1980-81	1981-82	1982-83
1	2	3	4	5	6	7	8
			1. Petroleum Products				
Petrol	121.6	178.6	272.1	361.3	430.7	505.5	517.5
Diesel Oil	105.9	119.5	194.3	HSD 186.5	279.6	373.3	389.5
				LDO 329.8	548.1	732.5	760.8
Kerosene	114.9	113.1	187.7	266.1	277.3	315.9	328.1
F.O.	113.3	150.7	308.4	529.9	880.1	1148.5	1185.6
Aviation Spirit	125.4	173.9	288.4	431.7	581.8	589.6	593.4
Petroleum Crude & Natural Gas	142.0	317.1	686.5	1384.0	2041.8	2130.7	1984.8
			II. Petro-Based Industries				
Lubricating Oil	99.0	135.8	311.7	319.6	373.6	416.1	441.9
Nylon & Terene Mixed cloth	98.9	104.7	125.1	131.6	139.7	147.9	154.4
Benzene	106.1	125.7	440.7	480.3	709.0	758.4	769.5
Nitrogenous fertilizers	104.7	109.5	191.4	171.7	254.7	281.0	283.1
Insecticides	111.6	131.6	200.3	272.2	328.6	351.8	393.2
Syn.Detergents	105.2	105.7	161.0	230.5	274.8	294.2	295.8
Polystyrene	101.0	121.8	262.1	349.8	425.8	464.8	414.1
Polyethylene Moulding Powder	105.4	122.8	184.2	228.9	291.9	303.7	285.5
PVC Compounds	104.3	132.2	136.4	222.6	309.1	303.3	323.3
PVC Sheets	98.2	129.8	187.7	196.0	224.9	228.4	231.7
Syn. Resins (nes)	99.8	121.3	177.2	199.8	219.0	232.5	249.4
Syn.Fibre	101.4	106.2	154.1	150.2	157.4	147.5	168.4
Syn.Rubber	100.0	100.0	100.0	138.3	174.4	190.1	199.6
Polythene films	108.8	131.2	216.7	248.6	296.7	901.9	301.9
Carbon black	99.6	99.6	242.8	347.4	532.7	664.0	275.5
Plasticizers	104.6	103.1	240.1	269.5	314.9	310.9	313.7
			III. Other Energy Items				
Electricity	105.7	111.3	137.2	225.6	239.0	279.6	324.6
Coke	134.7	136.4	182.1	262.8	291.7	382.8	451.4
Coal Lignite	110.8	121.7	143.8	299.5	347.6	432.1	493.3
			IV. All Commodity Index				
All commodities	116.2	139.7	174.9	217.6	257.2	281.3	288.3

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

* - Provisional.

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Prices of Indigenous Onshore and Offshore Crude Oil of 34° API Gravity

Item	Unit	Price effective from 14.7.75	8.9.76	16.12.77	1.4.81	11.7.8	15.2.83
(i) Onshore Crude Oil							
1. Base Price as fixed by the Govt.	Rs.Bbl	36.64*	33.30**	27.60	27.60	138.54	138.54
2. Conversion factor	Bbl/MT	7.37	7.37	7.37	7.37	7.37	7.37
3. Base Price	Rs/MT	270.04*	245.42**	203.41	203.41	1021.00	1021.00
4. Oil Development Cess	Rs/MT	@	60.00	60.00	60.00	100.00	300.00
5. Royalty	Rs/MT	@	@	42.00	61.00	61.00	61.00
6. Total price including Cess & royalty	Rs/MT	270.04	305.41	305.41	324.41	1182.00 £	1382.00 £
(ii) Offshore Crude Oil							
1. Base Price as fixed by the Govt.	Rs./Bbl			45.00	45.00	138.54	138.54
2. Conversion factor	Bbl/MT			7.37	7.37	7.37	7.37
3. Base Price	Rs/MT			331.65	331.65	1021.00	1021.00
4. Oil Development Cess	Rs/MT			60.00	60.00	100.00	300.00
5. Royalty	Rs/MT			42.00	61.00	61.00	61.00
6. Total Price including Cess & royalty	Rs/MT			433.65	452.65	1182.00 £	1382.00 £

* Inclusive of royalty @ Rs.15/MT and Oil Development Cess @ Rs. 60/MT

** Inclusive of royalty @ Rs.42/MT.

@ included in the base price

£ Shows price fixed by the government inclusive of royalty and Oil Development Cess.

Note: 1. The above prices are for 34° API gravity crude oil Excentral tank farm of the producer and are subject to gravity escalation @Rs.0.16 per degree API upto 45° API, no limit for downward escalation has been laid down.

2. The prices are inclusive of sales tax which is the liability of the producer.

BASIC CEILING SELLING PRICES (EX-STORAGE POINT) OF PETROLEUM PRODUCTS w.e.f. 18-3-1983.

(Rs./Selling Unit)

PRODUCT.	Selling Unit	Bombay/ Koyali/ Mathura	Cochin	Madras	Vizag	Barauni Haldia Gauhati Digboi
1.	2.	3.	4.	5.	6.	7.
1. A. T. F.	KL	4121.85	4141.21	4141.21	4134.64	4140.04
2. M. S. 83	KL	5438.07	5435.09	5446.90	5439.47	5451.11
3. M. S. 93	KL	5593.48	5590.36	5602.27	5594.84	5616.94
4. H.S.D.O.	KL	2849.55	2848.93	2860.98	2854.69	2861.75
5. S.K.O.	KL	1644.93	1647.45	1655.35	1652.73	1659.51
6. L.D.O.	KL.	2655.97	2655.33	2678.46	2661.19	2668.67
7. M.L.O.	KL	2667.97	2667.33	2682.46	2673.19	2680.57
8. F.O.(Non-Ferts.)	KL	2524.06	2523.33	2538.78	2530.39	2537.81
9. F.O. (Ferts.)	KL	1274.06	1273.33	1280.78	1280.39	1287.81
10. Bitumen St.Gd.Bulk	MT	2195.05	2195.05	2195.05	2195.05	2195.05
11. Bitumen St.Gd.Packed	MT	2695.91	2695.91	2695.91	2695.91	2695.91
12. Naphtha(Non-Ferts.)*	MT	2792.00	2792.0	2792.0	2792.0	2792.0
13. Naphtha (Ferts.)*	MT	1723.31	1722.11	1739.48	1729.63	1738.36
14. J. B. O.*	MT	2358.42	2358.42	2358.42	2358.42	2358.42
15. S.B.P.S.55/115*	KL	3453.56	3453.56	3453.56	3453.56	3453.56
16. Solvent 1425*						
17. M.T.O(140/205)*	KL	2348.26	2348.26	2348.26	2348.26	2348.26
18. M.T.O.(Laws)*	KL	2429.96	2429.96	2429.96	2429.96	2429.96
19. L.P.G.(Domestic)	MT	2633.98	2633.98	2633.98	2633.98	2633.98
20. L.P.G.(Industrial) Bulk	MT	2928.31	2928.31	2928.31	2928.31	2928.31
21. L.P.G.(Industrial) Packed.	MT	3110.81	3110.81	3110.81	3110.81	3110.81

*= Exclusive of excise/Custom duties which will be chargod extra at applicable rates.

Price build up of Selected Petroleum Products as on 1.4.1983

(Rs./K.L.)

	Bombay	Calcutta	Delhi	Madras	Kanpur
MOTOR SPIRIT 83 ON					
1. Ex-MI/storage point price	5438.07	5467.94	5517.92	5438.07	5562.57
2. RPO charges	11.36	11.36	11.36	11.36	11.36
3. Delivery charges	-	2.88	-	-	-
4. Bombay octroi surcharge	28.50	-	-	-	-
5. Entry tax/Local levies	-	20.00	-	-	30.00
6. RPO surcharge	15.00	15.00	15.00	15.00	15.00
7. State surcharge	-	10.00	-	35.00	25.00
8. Sub-total	5492.00	5527.18	5544.28	5499.43	5643.93
9. Sales tax	699.15	552.72	388.10	604.94	451.51
10. Dealer's commission	50.00	50.00	50.00	50.00	50.00
11. Selling price Rs./KL	6202.08	6300.85	5982.38	6154.35	6145.44
RSP Rs. per litre	6.21	6.31	5.99	6.16	6.15
HIGH SPEED DIESEL OIL					
1. Ex-MI/Storage point price	2849.55	2871.48	2926.18	2849.55	2968.48
2. RPO charges	7.27	7.27	7.27	7.27	7.27
3. Delivery charges	-	2.88	-	-	-
4. Bombay octroi surcharge	18.50	-	-	-	-
5. Entry tax/local levels	-	20.00	4.68	-	20.00
6. RPO surcharge	20.00	20.00	20.00	20.00	20.00
7. State surcharge	-	1.00	-	35.00	-
8. Sub-total	2895.32	2922.63	2958.13	2911.82	3015.75
Sales tax	289.53	350.72	207.07	320.30	361.89
9. Dealer's commission	20.00	20.00	20.00	20.00	20.00
10. Selling price Rs./KL	3204.85	3293.35	3185.20	3252.12	3397.64
11. RSP Rs. per litre	3.21	3.30	3.19	3.26	3.40
FURNACE OIL (NON-FERTILIZERS)					
1. Ex-MI storage point price	2524.06	2548.37	2608.99	2524.06	
2. Octroi/entry tax	18.47	20.00	5.18	-	
3. State surcharge	-	-	-	35.00	
4. Sub-Total	2542.53	2568.37	2614.17	2559.06	
5. Sales tax	101.70	205.47	182.99	204.72	
6. Price Rs./KL	2644.23	2773.84	2797.16	2763.78	

Price build up of Selected Petroleum Products as on 1.4.1983

(Rs./K.L.)

	Bombay	Calcutta	Delhi	Madras	Kanpur
SUPERIOR KEROSENE OIL					
1. Ex-storage point price	1644.93	1645.74	1703.77	1644.93	1735.58
2. Sales tax	-	83.29	51.56	67.20	138.85
3. Entry tax/octroi	13.50	20.00	15.00	-	-
4. State surcharge	-	-	-	35.00	-
5. Dealer's Commission	24.00	24.00	7.70	8.00	8.00
6. Transportation charges	37.33	15.00	43.66	19.70	50.00
7. BDA/Hdly/Leakage/ Godown Rent	20.00	-	-	23.47	15.00
8. Wholesale price	1739.76	1788.03	1821.69	1798.30	1947.43
9. Retailer's profit	40.24	31.00	62.45	81.70	50.00
10. Transportation	-	72.93	-	-	20.00
11. Leakage, etc.	20.00	-	-	-	-
12. Price Rs. per KL	1800.00	1891.96	1884.14	1880.00	2017.43
13. RSP per Litre	1.80	1.90	1.88	1.88	2.05
AVIATION TURBINE FUEL (DOMESTIC)					
1. Ex-MI/Ex-storage point price	4121.85	4142.24	4208.80	4121.85	4317.69
2. Local levies	13.50	20.00	-	-	10.00
3. Airfield charges	24.44	24.44	24.44	24.44	41.94
4. Sub-Total	4159.79	4186.68	4233.24	4146.29	4369.63
5. Sales tax	135.76*	1046.67	296.33	319.26**	349.57
6. Total Rs. per KL	4295.55	5233.35	4529.57	4465.55	4719.20
AVITATION TURBINE FUEL (INTERNATIONAL) @					
1. Ex-storage point price	3427.93	3448.32	4184.36	3427.93	
2. Local levies	13.50	-	-	-	
3. Airfield charges/ PPA Surcharge	24.44	24.44	24.44	24.44	
4. Total Rs. per KL	3465.87	3472.76	3539.32	3452.37	

* Sales-tax included in the price build-up is at concessional rate for supplies to IAC flights only in Maharashtra State.

** Inclusive of SC on ST @ 5% + Addl. SC on ST @ 5%.

@ For Scheduled Airlines payment of sales tax is exempted except in the case of Madras.

Price build up of Selected Petroleum Products as on 1.4.1983

(Rs./K.L.)

	Bombay	Calcutta	Delhi	Madras	Kanpur
	LIGHT DIESEL OIL				
1. Ex-MI/storage point price	2655.97	2678.57	2734.93	2655.97	2778.52
2. Octroi/entry tax	13.50	20.00	4.82	-	20.00
3. State surcharge	-	-	-	35.00	-
4. Sub-total	2669.47	2698.57	2739.75	2690.97	2798.52
5. Sales tax	106.78	323.83	191.78	296.01	335.82
6. Total	2776.25	3022.40	2931.53	2986.98	3134.34
7. Leakage/BDA/Handling/ Godown rent	-	-	38.02	41.37	-
8. Dealer's commission	-	-	6.60	6.00	-
9. Transportation	-	-	24.89	25.00	-
10. Price Rs. per KL	2776.25	3022.40	3001.04	3059.35	3134.34
	LIQUIFIED PETROLEUM GAS (Rs./Cylinder @ 15 KG)				
1. Pricing point	Bombay	Haldia	Mathura	Madras	Mathura
2. State	Maharashtra	W.Bengal	U.P.	Tamil Nadu	U.P.
3. Price at pricing point	39.51	39.51	39.51	39.51	39.51
4. NRF	-	2.10	1.69	-	2.70
5. Bombay surcharge/ Octroi/Entry tax	0.32	0.54	0.20	-	0.60
6. Local delivery charges	0.75	0.75	0.75	0.75	0.75
7. Sub-total	40.58	42.90	42.15	40.26	43.56
8. Sales tax	1.62	6.44	2.11	3.22	3.48
9. Surcharge on sales tax	-	-	-	0.16	-
10. Addl. SC on ST	-	-	-	0.16	-
11. Sub-total	42.20	49.34	44.26	43.80	47.04
12. Distributor's commission	3.37	3.37	3.37	3.37	3.37
Retail Selling Price Rs.15/KG.Cylinder	45.57	52.71	47.63	47.17	50.41

Trends in Retail Selling Prices of Selected Petroleum Products in Metropolitan Towns in India.

Prices as on	Bombay	Calcutta	Delhi	Madras	Kanpur
	MOTOR SPIRIT 83 (Rs./litre)				
1.1.1971	1.16	1.23	1.19	1.16	1.24
1.1.1972	1.42	1.46	1.43	1.39	1.46
1.1.1973	1.43	1.46	1.44	1.41	1.47
1.1.1974	2.82	2.81	2.78	2.69	2.73
1.1.1975	3.26	3.27	3.27	3.19	3.35
1.1.1976	3.36	3.39	3.39	3.30	3.47
1.1.1977	3.39	3.38	3.39	3.29	3.48
1.1.1978	3.38	3.38	3.39	3.29	3.48
1.4.1979	4.04	4.04	4.04	4.90	4.14
17.8.1979	4.43	4.42	4.41	4.25	4.52
8.6.1980	5.15	5.14	5.11	4.90	5.22
13.1.1981	5.56	5.54	5.50	5.29	5.62
11.7.1981	6.15	6.13	6.07	6.17	6.19
1.4.1982	6.15	6.13	6.07	6.17	6.19
15.2.1983	6.21	6.16	5.99	6.17	6.25
1.4.1983 (To date)	6.21	6.31	5.99	6.16	6.15
	HIGH SPEED DIESEL OIL (Rs/litre)				
1.1.1971	0.79	0.86	0.83	0.82	0.85
1.1.1972	0.83	0.90	0.86	0.87	0.88
1.1.1973	0.83	0.90	0.86	0.87	0.88
1.1.1974	0.81	0.87	0.84	0.88	0.87
1.1.1975	1.06	1.10	1.11	1.15	1.15
1.1.1976	1.28	1.35	1.36	1.36	1.32
1.1.1977	1.27	1.36	1.34	1.35	1.33
1.1.1978	1.27	1.36	1.34	1.35	1.33
1.4.1979	1.39	1.49	1.47	1.49	1.50
17.8.1979	1.58	1.68	1.66	1.66	1.69
11.9.1979	1.50	1.60	1.58	1.59	1.61
8.6.1980	2.21	2.25	2.28	2.24	2.34
13.1.1981	2.61	2.66	2.67	2.66	2.76
11.7.1981	2.96	3.01	3.02	3.05	3.11
1.4.1982	2.96	3.01	3.02	3.05	3.11
15.2.1983	3.21	3.31	3.18	3.27	3.46
1.4.1983 (To date)	3.21	3.30	3.19	3.26	3.40

Contd..../-

Trends in Retail Selling Prices of Selected Petroleum Products in Metropolitan Towns in India.

Prices as on	Bombay	Calcutta	Delhi	Madras	Kanpur
	SUPERIOR KEROSENE (Rs/litre)				
1.1.1971	0.54	0.58	0.58	0.56	0.65
1.1.1972	0.57	0.61	0.61	0.57	0.69
1.1.1973	0.61	0.65	0.65	0.65	0.74
1.1.1974	0.82	0.84	0.82	0.85	0.86
1.1.1975	1.04	1.05	1.08	1.10	1.25
1.1.1976	1.21	1.25	1.29	1.31	1.39
1.1.1977	1.21	1.24	1.30	1.31	1.34
1.1.1978	1.18	1.24	1.30	1.31	1.34
1.4.1979	1.29	1.38	1.43	1.43	1.47
17.8.1979	1.46	1.56	1.61	1.62	1.66
11.9.1979	1.39	1.49	1.54	1.55	1.59
8.6.1980	1.39	1.49	1.54	1.55	1.59
13.1.1981	1.49	1.60	1.65	1.67	1.70
11.7.1981	1.60	1.76	1.81	1.84	1.90
1.4.1982	1.66	1.80	1.81	1.78	1.90
15.2.1983) Subsidised	1.70	1.80	1.77	1.78	1.95
) Non-subsi-	3.00	3.12	3.10	3.15	3.35
)dised					
18.3.1983	1.80	1.91	1.88	1.89	2.10
1.4.1983 (Todate)	1.80	1.90	1.88	1.88	2.05

	LIQUIFIED PETROLEUM GAS (Rs/Cylinders)				
	14.2 Kg.cyl.	15 Kg.cyl.	15Kg.cyl.	15Kg. cyl.	15Kg. cyl.
1.1.1971	-	23.53	22.01	23.96	22.49
1.1.1974	20.01	25.28	25.20	21.60	25.13
1.1.1975	22.10	27.79	27.36	23.94	27.61
1.1.1976 -	26.75@	33.31	32.61	29.36	32.85
1.4.1979	26.94@	37.06	34.98	31.90	35.42
17.8.1979	33.96@	42.93	40.23	37.32	40.82
8.6.1980	33.96@	42.93	40.23	37.81	40.82
13.1.1981	38.94@	49.09	45.53	-	46.26
11.7.1981	43.52@	54.84	50.78	48.74	53.06
1.4.1982	43.52@	54.84	50.78	48.74	53.06
1.9.1982	43.14@	51.93	44.58@	47.17	49.41
1.4.1983 (To date)	43.14@	52.71	45.09@	47.17	50.41

@ For 14.2 Kg. Cylinder.

Rates of Dealers Commission for MS, HSDO and LPG in India

Slab of Annual Volumes of Sales (KL/Annum)	Dealers Commission effective from 1.4.77	15.7.80	1.3.81	16.8.81	1.10.82	15.2.83
MOTOR SPIRIT (Rs./KL)						
Prior to 1.7.1982						
0 - 480	80*	100	107	114		
481 - 1080	50*	70	75	82		
Over 1080	35*	50	55	61		
Effective from 1.7.1982						
0 - 360					134	
361 - 600					98	
601 - 1080					86	
Above 1080					69	
HIGH SPEED DIESEL OIL (Rs./KL)						
Prior to 1.7.1982						
0 - 600	50	55	58	60		
601 - 1200	25	30	33	35		
Above 1200	20	25	28	30		
Effective from 1.7.1982						
0 - 360					79	81
361 - 600					58	60
601 - 1080					42	43
Above 1080					36	37

L.P.G. (Rs./CYLINDER)

	Prior to 1st March 1982	Effective from 1.3.1982
Per Cylinder	3.37	3.62

* The minimum rate of commission was Rs.50/KL.

Note : The rates of dealership commission fixed at 3 Annas per imperial gallon for MS in 1954 and at 1 Anna and 3 paise per imperial gallon for HSDO in 1955 continued upto 30th June 1976. The revised commission rates effective 1.7.1976 were as follows :

Sales per Annum (Combined MS/HSDO Sales)	Rs./K.L. MS	HSDO
Upto 360	80	50
361 to 720	35	15
721 and above	25	10

XII. EXCISE/CUSTOM DUTIES AND SALES TAX

REALISATION OF EXCISE & CUSTOM DUTIES FROM CRUDE OIL & PETROLEUM PRODUCTS DURING 1970-71 TO 1983-84(B.E.)

(Rs./Crores)

	Actuals					1982-83 (R.E.)	1983-84 (B.E.)
	1970-71	1975-76	1979-80	1980-81	1981-82		
A. EXCISE DUTIES							
1. Mogas	173	404	558	493	518	558	586
2. Kerosene Oil	121	161	165	124	150	170	178
3. Refined Diesel Oil & Vaporising Oil	232	300	387	280	359	396	448
4. Diesel Oil(Nos.)	23	21	24	20	19	19	19
5. Furnace Oil	33	49	43	45	39	39	24
6. Asphalt/Bitumen & Tar	9	11	18	16	19	34	36
7. Blended or Compounded Lubes & Greases	-	45	-	-	-	-	-
8. Petroleum Products (Nos.)	17	46	208	175	182	199	235
9. Calcined Pet. coke	-	3	4	5	7	-	-
10. Petroleum Gas			-	-	1	16	20
TOTAL(A)	608	1040	1407	1158	1294	1431	1546
B. CUSTOMS DUTIES							
1. Petroleum Crude	-	13	17	16	16	17	14
2. Mogas	5	9	7	8	10	10	10
3. Kerosene Oil	10	37	70	83	87	98	109
4. Batching lubricating & other Mineral Oils	9	21	30	103	92	91	56
5. HSD & Vap. Oil	1	26	80	127	76	100	72
6. Indl. Fuel Oil	5	9	9	17	7	5	28
TOTAL(B)	30	115	213	354	288	321	289
GRAND TOTAL(A+B)	638	1155	1620	1512	1582	1752	1835

Figures rounded to nearest crores.

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 at current prices (..... Rs. Crores .....)	Central Excise	Central Excise on Pol	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	59446	3231	1011	5.4	1.7	31.3
1975-76	62069	3845	1040	6.2	1.7	27.1
1976-77	66754	4221	1110	6.3	1.7	26.3
1977-78	75536	4448	1152	5.9	1.5	25.9
1978-79	81123	5194	1290	6.4	1.6	24.0
1979-80	88372	6148	1407	7.0	1.6	22.9
1980-81	106539	6479	1158	6.2	1.1	17.9
1981-82	121243	7444	1294	6.1	1.1	17.4
1982-83 (RE)	N.A.	8302	1431	N.A.	N.A.	17.2

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 POL Products (Excl. R.B.F.) ('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.[illegible]	23	124	155.29
1965-66	11917	261	83	344	288.66
1970-71	17912	608	30	638	356.19
1971-72	20071	709	63	772	384.63
1972-73	21715	767	86	853	392.82
1973-74	22346	874	96	970	434.08
1974-75	22105	1011	96	1106	500.34
1975-76	22447	1040	115	1155	514.55
1976-77	24101	1110	112	1222	507.03
1977-78	25539	1152	127	1279	500.80
1978-79	28241	1290	190	1480	524.06
1979-80	29883	1407	213	1620	542.10
1980-81	30896	1158	354	1512	489.38
1981-82	32523	1294	288	1582	486.42
1982-83	34284	1431	321	1752	511.42

ROYALTY AND OIL DEVELOPMENT CESS PAID BY OIL COMPANIES ON PRODUCTION OF CRUDE OIL AND NATURAL GAS SINCE 1970-71 ONWARDS.

YEAR	ROYALTY ON CRUDE OIL				ROYALTY ON NATURAL GAS			OIL DEVELOPMENT CESS.
	Gujarat	Assam	B.High	TOTAL	Gujarat	Assam	Total	
1.	2.	3.	4.	5.	6.	7.	8.	9.
1970-71	501	352	-	853	21	4	25	-
1971-72	439	372	-	811	26	4	30	-
1972-73	581	570	-	1151	27	5	32	-
1973-74	560	558	-	1118	24	5	29	-
1974-75	611	566	-	1177	34	8	42	3081
1975-76	658	649	-	1307	42	26	68	5007
1976-77	1325	1097	156	2578	45	59	104	5289
1977-78	1791	1903	1008	4702	48	49	97	6375
1978-79	1832	1716	1335	4883	48	66	114	6859
1979-80	1610	1793	1357	4760	42	65	107	6778
1980-81	1884	567	2424	4875	45	36	81	5932
1981-82	2106	2761	3118	7985	44	69	113	14500
1982-83	1926	3498	7505	12929	169	123	292	26884

NOTE:- Royalty in respect of OIL under category pertain to calendar year and from 1981-82 on Financial year basis.

2. Oil Development cess was levied w.e.f. 23-7-1974.

3. No royalty is at present being paid on gas extracted from offshore areas.

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	w.e.f. 13-1-81	w.e.f. 11-7-81	w.e.f. 15-2-83	w.e.f. 1-4-1983.
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Avgas 100/130	KL	2702.43	2214.89	2214.89	2214.89	2214.89	2214.89	2214.89	2214.89
2. A-vgas115/145	KL	2700.50	2213.32	2213.32	2213.32	2213.32	2213.32	2213.32	2213.32
3. Avagas 73	KL	2701.60	2214.21	2214.21	2214.21	2214.21	2214.21	2214.21	2214.21
4. M.S. -83	KL	2703.25	2215,56	2215.56	2215.56	2215.56	2215.56	2215.56	2215.56
5. M.S. -93	KL	2704.90	2216.92	2216.92	2216.92	2216.92	2216.92	2216.92	2216.92
6. A.T.F.	KL	493.10	402.56	402.56	333.52@	333.52	333.52	333.52	333.52
7. S.K.O.	KL	493.20	402.63	333.59	333.59@	333.59	333.59	333.59	333.59
8. H.S.D.O.	KL	493.95	399.15	330.00	330.00@	330.00	330.00	330.00	330.00
9. L. D. O.	KL	74.15@@	153.96	153.96	153.96	153.96	153.96	153.96	153.96
10. F.O.(Fert.Use)	KL	125.82	125.82	125.82	125.82	125.82	125.82	125.82	125.82
11. F.O.(Non-Ferts) Use.	KL	125.82	125.82	125.82	125.82	125.82	125.82	125.82	125.82
12. Bitumen(Bulk)	MT	157.55	110.30	110.30	110.30	110.30	110.30	110.30	110.30
13. Bitumen(Packed)	MT	157.55	157.55	157.55	157.55	157.55	157.55	157.55	157.55
14. LPG(Domestic)	MT	400.00	262.50	262.50	262.50	262.50	262.50	262.50	262.50
15. LPG(Industrial)	MT	400.00	262.50	262.50	262.50	262.50	262.50	262.50	262.50
16. Naphtha*(Fert Use)	KL	4. 50	4.50	4.36	4.36	4.36	4.36	-	-
17. Naptha*(For Non Fert. Use)	KL	26.50	26.50	26.50	26.50	26.50	26.50	-	-

@@- Concession of Excise duty on L.D.O. was withdrawn w.e.f.17-8-79 duty became Rs.153.96 per KL from that date.

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

@- Revision effective from 11-9-1979.

EXCISE AND CUSTOM DUTIES IN THE BASIC CEILING SELLING PRICES (BCSP) EX-STORAGE POINT EFFECTIVE 1-4-1983.

PRODUCT	Selling Unit	Ex-Storage Point (Bombay) (Rs.)	Excise/ Custom Duties (Rs.)	Col.4 as % of Col.3
1	2	3	4	5
A.T.F.	KL	4121.85	333.52	8.1%
Motor Spirit 83	KL	5438.07	2215.56	40.7%
Motor Spirit 93	KL	5593.48	2216.92	39.6%
H.S.D.O.	KL	2849.55	330.00	11.6%
S.K.O.	KL	1644.93	333.59	20.3%
L.D.O.	KL	2655.97	153.96	5.8%
F.O. (Non-Fertilizers)	KL	2524.06	125.82	5.0%
F.O. (fertilizers)	KL	1274.06	125.82	9,9%
Bitumen St.Grade (Bulk)	MT	2195.85	110.30	5.0%
Bitumen St.Grade (Packed)	MT	2695.91	157.55	5.8%
Naphtha for non-ferts.*	MT	2792.00		
Naphtha for ferts.*	MT	1723.31		
J.B.O.*	MT	2358.42		
SBP Spirit 55/115*	KL	3453.56		
SBP Spirit 64/69*	KL	3453.56		
Solvent 1425*	KL	3453.56		
Hexane*	KL	3629.36		
M.T.O. 140/205*	KL	2348.26		
M.T.O. (Laws)*	KL	2429.96		
L.P.G. (Domestic) (Packed)	MT	2633.98	262.50	10%
L.P.G. (Indstl.) (Packed)	MT	3110.81	262.50	8.4%
L.P.G (Industrial) Bulk	MT	2928.31	262.50	10%

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

SALES TAX RATES FOR CRUDE OIL, NATURAL GAS AND PETROLEUM PRODUCTS AS ON 1-4-1983.

Sl. No.	Products	Andhra Pradesh	Assam	Bihar	Chandi-garh	Delhi	Goa, Diu & Daman	Gujarat
1.	2.	3.	4.	5.	6.	7.	8.	9.
1.	Aviation Spirit	16%	10%	16%	15 P/L	7%	12%	Bonded 20% D. paid 9%
2.	Aviation Turbine Fuel	13.1%	10%	16%	15 P/L	7%	12%	20%
3.	Motor Spirit	14.5%	10%	9%	15 P/L	7%	12%	12%
4.	H.S.D.	13.1%	11%	12%	10 P/L	7%	12%	12%
5.	L.D.O.	13.1%	11%	14%	6%	7%	12%	5%
6.	M.L.O.	13.1%	7%	9%	6%	7%	6%	5%
7.	S.K.O.	5.2%	2%	6.%	6%	3%	4%	3%
8.	I.K.O.	5.2%	2%	5%	6%	3%	4%	3%
9.	F.O.	5.2%	7%	8%	6%	7%	12%	4%
10.	M.T.O.	5.2%	7%	9%	6%	7%	6%	5%
11.	Lubes	7.7%	9%	9%	6%	7%	6%	6%
12.	Greases	7.7%	9%	9%	6%	7%	6%	6%
13.	Petroleum Naphtha	7.7%	7%	9%	6%	7%	6%	9%
14.	Bitumen	5.2%	7%	9%	6%	7%	6%	9%
15.	Petroleum Coke	4.00%	4%	4%	-	4%	4%	4%
16.	Indane(LPG)	6.5%	7%	9%	6%	5%	12%	12% (Packed)
17.	Transformer Oil	5.2%	7%	9%	6%	7%	6%	9%
18.	Tins & Containers	5.2%	6%	9%	6%	7%	6%	4%
19.	H.B. Fluid	5.2%	9%	9%	6%	7%	6%	10%
20.	Crude Oil	4%	4%	4%	-	-	-	4%
21.	Natural Gas	-	7%	-	-	-	-	10% + 1% SC

SALES TAX RATES FOR CRUDE OIL, NATURAL GAS AND PETROLEUM PRODUCTS AS ON 1-4-1983.

Sl. No.	Products	Harya-na	Hima-chal Pradesh	Jammu & Kashmir	Kerala	Madhya Pradesh	Maha-rashtra	Karna-taka
1.	2.	3.	4.	5.	6.	7.	8.	9.
1.	Aviation Spirit	6%	7 PP L	1.2%PPL	12%	12%	Bonded 23% D. paid 9%	12.5%
2.	Aviation Turbine Fuel	6%	7 PPL	8%	8%	12%	Bonded 30% D. paid 23%	15%
3.	Motor Spirit	6%	7 PPL	4%	15%	13.50%	12%	12.5%
4.	H.S.D.	6%	7 PPL	8%	20%	13.50%	10%	14%
5.	L.D.O.	8%	7%	8%	20%	13.50%	4%	14%
6.	M.L.O.	8%	7%	8%	4%	5%	4%	5%
7.	S.K.O.	8%	7%	2%	4%	2%	Exempted	4% *
8.	I.K.O.	8%	7%	2%	4%	2%	Exempted	4% *
9.	F.O.	8%	7%	8%	5%	12%	4%	8%
10.	M.T.O.	8%	7%	8%	4%	10%	4%	-
11.	Lubes	8%	7%	8%	7%	10%	6%	8%
12.	Greases	8%	7%	8%	7%	10%	6%	8%
13.	Petroleum Naphtha	8%	7%	8%	5%	10%	4%	5%
14.	Bitumen	8%	7%	5%	4%	10%	4%	8%
15.	Petroleum Coke	4%	4%	-	4%	4%	4%	4%
16.	Indane(LPG)	8%	7%	Exempted	15%	12%	4%	8%
17.	Transfor-mer Oil	8%	7%	8%	7%	10%	4%	8%
18.	Tins & Containers	8%	7%	8%	4%	5%	10%	5%
19.	H.B. Fluid	8%	7%	8%	7%	10%	10%	8%
20.	Crude Oil	4%	4%	-	4%	4%	-	4%
21.	Natural Gas	-	-	-	-	-	-	-

* There is no surcharge on SKO/IKO in Karnataka eff. 1.4.82.

SALES TAX RATES FOR CRUDE OIL, NATURAL GAS AND PETROLEUM PRODUCTS AS ON 1.4.83.

Sl. No.	Products	Manipur	Mizoram	Nagaland	Magha-laya	Orissa	Pondi-cherry
1.	2.	3.	4.	5.	6.	7.	8.
1.	Aviation Spirit	20 PPL	-	8 PPL	-	16%	3%
2.	A.T.F.	20 PPL	-	8 PPL	-	10%	3%
3.	Motor Spirit	20 PPL	7 PPL	8 PPL	20 PPL +2 SC	10%	4% *
4.	H.S.D.	15 PPL	5 PPL	7 PPL	11 PPL +1.10 SC	13 %	4% *
5.	L.D.O.	15 PPL	-	7 PPL	-	13%	3%
6.	M.L.O.	6%	-	5%	-	7%	2%
7.	S.K.O.	3%	-	3 PPL	3 PPL	8 %	Aboli-shed*
8.	I.K.O.	3%	-	2 PPL	-	Exempt	Aboli-shed *
9.	F.O.	6%	-	5%	-	8%	3%
10.	M.T.O.	6%	-	-	-	7%	-
11.	Lubes	15 PPL	8PPL	9 PPL	-	12%	3%
12.	Greases	15 PPL	-	9 PPL	-	12%	3%
13.	Petroleum Naphtha	6%	-	-	-	7%	-
14.	Bitumen	6%	-	5%	-	7%	-
15.	Petroleum Coke	4%	-	4%	-	4%	3%
16.	Indane (LPG)	6%	5%	-	8%	-	
17.	Transformer Oil	-	-	-	-	-	
18.							
18.	Tins & Containers	-	-	5%	-	7%	-
19.	H.B. Fluid	-	-	-	-	-	-
20.	Crude Oil	2 PPL	-	4%	-	4%	3%
21.	Natural Gas	-	-	-	-	-	-

* Govt. notification awaited.

SALES TAX RATES FOR CRUDE OIL, NATURAL GAS AND PETROLEUM PRODUCTS AS ON 1-4-1983.

Sl. No.	Product	Punjab	Rajasthan	Tamil Nadu	Tripura	Uttar Pradesh	West Bengal	Arunachal Pradesh
1.	2.	3.	4.	5.	6.	7.	8.	9.
1.	Aviation Spirit	15 PPL	12%	7%	-	8%	9%	No
2.	A.T.F.	7.14%	12%	7 %	-	8%	25%	Sales
3.	Motor Spirit	15 PPL	15%	11%	8%	8%	9.9%	Tax
4.	HSD	10 PPL	12½%	11%	5%	12%	12%	charged
5.	L.D.O.	7.14%	12½%	11%	-	12%	12%	on
6.	M.L.D.	7.14%	8%	8%	-	4%	8.02%	petrol-
7.	S.K.O.	7.14%	8%	4%	5%	8%	5%	eum
8.	I.K.O.	7.14%	8%	4%	-	8%	Exempted	products.
9.	F.O.	7.14%	8%	8%	-	4%	8%	
10.	M.T.O.	7.14%	8%	8%	-	4%	8.02%	
11.	Lubes	7.14%	8%	8%	8%	8%	10%	
12.	Greases	7.14%	8%	8%	-	8%	10%	
13.	Petroleum Naphtha	7.14%	8%	8%	-	8%	8.02%	
14.	Bitumen	7.14%	8%	8%	-	8%	8.02%	
15.	Petroleum Coke	4%	4%	4%	-	4%	4%	
16.	Indane(LPG)	7.14%	8%	8%	-	8%	15%	
17.	Transformer Oil	7.14%	8%	4%	-	8%	8.02%	
18.	Tins & Containers	6.12%	8%	5%	-	8%	8.02%	
19.	H.E. Fluid	7.14%	8%	8%	-	8%	8.04%	
20.	Crude Oil	4%	4%	4%	-	4%	4%	
21.	Natural Gas	-	-	-	-	-	-	

IN ADDITION TO THE SALES TAX PAYABLE THE FOLLOWING TAX AMOUNTS AREA LSO PAYABLE/RECOVERABLE

1. Andhra Pradesh:	Surcharge at ½% per rupee of taxable turnover. This applies to all products. This is included in the sales tax rates indicated and it is recoverable. Also surcharge @ 10% on tax. Already included in S.T. rates.
2. Bihar	10% surcharge on tax with effect from 15.1.81. This is non-recoverable. 1% addl. Tax on gross turnover recoverable (Not on MS, ATF, AVN Sprit, HSD, LDO, SKO, etc.) eff. 1.4.81
3. Chandigarh:	2% Addl. tax on tax-it is recoverable.
4. Goa, Daman & Diu.	Addl. S.Tax @ 10% of sales tax is payable which is not recoverable on our sales.
5. Gujarat	Addl. Sales at 10% on sales tax in respect of products under Gujarat Sales Tax Act., and on MST product is also payable. This is recoverable.
6. Haryana	Surcharge at 2% on Sales Tax on all products undersales Tax Act is payable. This is recoverable.
7. Himachal Pradesh	10% surcahrge recoverable under GST Act.
8. Jammu & Kashmir	Surcharge at 5% of sales tax is payable. and the same is recoverable from the market. This does not apply to MST products.
9. Karnataka	Surcharge at 10% on tax (recoverable on the Invoice) is also payable w.e.f. 1.4.79 not on kerosene. 0.5% turnover tax on value of oil is non recoverable w.e.f. 1.4.82. Entry tax @1% on oil value of Petroleum Products under "the Karnataka Tax on entry of goods into local areas for consumption use or sale there-in 1979" (Not applicable for LPG, Kero, Naphtha for use in manufacturer of fertilizers)
10.Kerala	Surcharge at 8% of Sales tax is payable, but the same is not recoverable from themarket. Addl. sales tax @ 10% of sales tax also payable which is recoverable on their sales
11. Madhya Pradesh	The Sales Tax rates are inclusive of turnover tax levies. Surcharge @ 5% on tax is also recoverable.
12.Maharashtra	Addl. Sales tax @ 12% of tax is payable under the sales tax act but the same is not recoverable from the market. This does not apply to kerosene and declared goods.

Contd..../-

13. Orissa	Addl. Sales tax at ½% of invoice value is payable on all products. This is recoverable effective 1.4.79.
14. Punjab	Addl. Tax at 2% of the sales tax on products under General Sales Tax Act is payable and is recoverable. This has already been included in ST Rates showing in the enclosed list.
15. Tamil Nadu	Surcharge at 5.0% on tax is payable on all products which is recoverable in specified area. Addl. Turnover tax at 0.7% on taxable turnover under Sales Tax Act is also payable which has to be borne by seller. Additional S/C @ 5% on tax is payable but not applicable for Petrol: HSD, SKO, LDO effective 10.6.81. Applies to Sales within Madras City and its suburban area within 32 Kms.
16. West Bengal	Turnover Tax @ 1% of the gross turnover of the bill is payable. This is non-recoverable.

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Direct Sales Tax Payments (inclusive of MST and CST) on Crude oil, Natural Gas & Petroleum Products made by the Oil Companies to State/Union Territory Governments during the years 1979-80 to 1982-83.

(Rs. in lakhs)

State	1978-79	1979-80	1980-81	1981-82*	1982-83*
1. Crude Oil					
Assam	458.71	395.64	193.06	1707.04	2226.05
Gujarat	523.25	470.57	475.89	1228.22	1467.44
Arunachal Pradesh	-	-	0.58	0.44	0.56
Total (1)	981.96	866.21	669.53	2935.70	3694.05
2. Natural Gas					
Assam	84.37	69.44	55.69	83.83	112.85
Gujarat	155.74	184.97	214.09	226.74	232.31
Maharashtra (Bombay-High)	-	-	-	-	861.82
Total (2)	240.11	254.41	269.78	310.57	1206.98
3. POL Products					
(a) States					
Andhra Pradesh	2220.87	2831.17	4727.07	5865.17	6192.93
Assam	956.95	720.35	797.82	965.01	1188.85
Bihar	2155.44	2143.42	2992.45	4701.75	4166.31
Gujarat	3156.35	4798.25	7253.80	9323.03	10712.36
Haryana	560.63	590.06	678.39	869.86	1093.12
Himachal Pradesh	26.58	16.43	20.44	22.08	23.56
Jammu & Kashmir	119.82	188.57	264.53	335.63	342.07
Karnataka	2147.19	2711.34	4033.84	4651.64	5697.10
Kerala	2867.92	3465.74	4853.87	6409.59	6766.25
Madhya Pradesh	1291.31	1699.86	2760.05	3013.90	3525.38
Maharashtra	4996.71	6383.16	9341.66	11672.04	12300.02
Manipur	33.46	32.95	28.82	31.57	28.45
Meghalaya	0.57	0.39	0.54	0.89	0.75
Nagaland	0.13	0.10	0.12	0.08	0.13
Orissa	373.16	527.96	748.11	1026.79	1060.93
Punjab	992.21	1084.68	1219.67	1383.52	1533.71
Rajasthan	1339.40	1666.09	2243.95	3054.80	3438.49
Tamil Nadu	7133.75	8397.88	8406.62	10292.17	11296.45
Tripura	24.26	21.33	37.94	61.12	72.27
Uttar Pradesh	2948.22	3584.25	4637.06	6641.04	8225.84
West Bengal	3624.45	3473.55	4365.65	5459.42	7412.75
(b) Union Territories					
Chandigarh	20.40	34.00	34.41	32.42	35.16
Delhi	1032.08	1290.47	1859.17	2242.61	2384.21
Goa	365.05	501.93	558.44	886.68	1053.58
Total (3)	38386.91	46163.93	61864.42	78943.38	88550.67
GRAND TOTAL	39608.98	47284.55	62803.73	82189.65	93451.70

* Provisional.

XIII. TANKERS AND FREIGHT RATES

Tonnage of Indian Tankers Fleet(DWT in '000)

Year*	Oil Tanker		Ore/Oil Carrier		Total	
	No. of Tankers	DW Tonnage	No. of ships	DW Tonnage	No. of Ships	DW Tonnage
1	2	3	4	5	6	7
		(A) Coastal Tankers				
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
1980@	10	158.5	-	-	10	158.5
1981@	16	247.7	-	-	16	247.7
1982@	18	300.6	-	-	18	300.6
		(B) Overseas Tankers				
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
1980@	22	1850.6	16	1484.7	38	3335.3
1981@	23	1879.3	16	1484.7	39	3364.0
1982@	26	2034.1	16	1484.7	42	3518.8
		(C) All Tankers				
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	1237.8	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
1980@	32	2009.1	16	1484.7	48	3493.8
1981@	39	2127.0	16	1484.7	55	3611.7
1982@	44	2334.7	16	1484.7	60	3819.4

*-As on 31st December of each year.
@-DWT in Metric Tonnes.

Source- Ministry of Shipping & Transport.

INDIAN TANKER FLEET AS ON 1.1.1983

OWNER/Name of the Ship	DWT (Tonnes)	Year of the Built
A. SHIPPING CORP. OF INDIA		
1. Maharishi Dayanand	123450	1978
2. Vishvesvaraya	16450	1973
3. Sarojni Naidu	16440	1975
4. Bhagat Singh	16540	1974
5. R.A. Kidwai	24439	1975
6. J.N. Vyas	24539	1975
7. Aurobindo	24411	1976
8. Kolandia	24490	1976
9. Desh Bandhu	36790	1964
10. Lala Lajpat Rai	49337	1965
11. Gargi	58739	1963
12. Jawahar Lal Nehru	87170	1969
13. Lal Bahadur Shastri	87170	1970
14. Satya Murti	89351	1975
15. Vivekananda	89371	1974
16. Netaji Subhash Chandar Bose	89392	1973
17. Lokmanya Tilak	89411	1975
18. B.R. Ambedkar	89454	1974
19. Chhatra Pati Shivaji	89490	1974
20. Dr. Rajendra Prasad	115723	1975
21. Dr. Zakir Hussain	115853	1975
22. Kanchanjunga	276755	1975
23. Koyali	276800	1976
24. Dada Bhai Naroji	24400	1977
25. Bhaskara*	21941	1965
26. Chanakya*	21962	1965
27. Leelavati	21962	1965
28. Bailadila*	86890	1971
29. Ballary*	86959	1970
30. Barauni*	87200	1970
31. Vallabh Bhai Patel*	113920	1977
32. Moti Lal Nehru *	114086	1973
33. Vallathol*	114152	1976
34. Abul Kalam Azad*	114340	1974
35. Maharishi Karve*	123450	1978
36. C.V. Raman	41123	1981
37. Homi Bhaba	41123	1982
B. GREAT EASTERN SHIPPING CO.		
1. Jag Ladki *	103124	1972
2. Jag Laxmi*	121423	1976
3. Jag Leela*	125083	1976
4. Jag Jyoti	17892	1968
5. Jag Prakash	25480	1974
6. Jag Priya	32878	1975
7. Jag Preeti	28679	1981
8. Jag Pari	29139	1982

Contd...../-

INDIAN TANKER FLEET AS ON 1.1.1983.

OWNER/Name of the Ship	DWT (Tonnes)	Year of the Built
C. Varun Shipping Co. Ltd.		
1. Meghdoot	6102	1973
2. Premdoot	6145	1972
3. Pavandoot	26042	1971
D. Eassar Bulk Carriers Ltd.		
1. Nand Kala	6703	1972
2. Nand Kavita	25604	1970
3. Nand Kishore	19500	1981
4. Nand Hari	19604	1981
5. Nand Smita	6700	1982
6. Nand Shiv Chand	65000	1982
E. Sagar Lines Pvt.		
1. Sagar Tarni	712	1965
F. Sciendia Steam Naviation Co.		
1. Wal Chand	104750	1973
G. Ratnakar Shipping Co.		
1. Ratna Jayashree	60252	1966
2. Ratna Asha	60725	1982
H. Raj Lines Ltd., Calcutta		
1. Raj Sewek	1356	1966
2. Raj Lok	1446	1966

* Ore/Oil Bulk carriers .

SHARE OF TRAFFIC IN PETROLEUM PRODUCTS IN THE TOTAL TRAFFIC HANDLED AT MAJOR PORTS DURING 1965-66 TO 1982-83.

(Million Tonnes)

Name of the Port	Year	Total Traffic	POL Traffic	POL as %age of total traffic at the port
1.	2.	3.	4.	5.
Calcutta/ Haldia	1965-66	9.84	1.53	15.6
	1969-70	6.89	1.53	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	4.58	53.5
	1980-81	9.29	5.15	55.4
	1981-82	9.75	4.55	46.7
	1982-83	10.5	4.59	43.7
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
	1980-81	17.57	9.00	51.2
	1981-82	19.63	10.37	52.8
	1982-83	24.85	16.91	68.0
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	9.99	3.73	37.3
	1980-81	10.38	4.53	43.6
	1981-82	11.41	4.59	40.2
	1982-83	12.41	5.81	46.8
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	5.47	3.87	70.8
	1980-81	5.23	3.96	75.7
	1981-82	5.51	4.18	75.9
	1982-83	5.72	4.33	75.7
Kandla	1965-66	2.51	0.93	37.1
	1969-70	2.11	0.98	46.4
	1973-74	3.12	1.50	51.3
	1977-78	3.82	2.75	72.0
	1978-79	5.87	4.37	74.4
	1979-80	7.27	5.45	75.0
	1980-81	8.82	7.21	81.7
	1981-82	9.53	7.16	75.1
	1982-83	12.65	10.74	84.9

....Contd./-

SHARE OF TRAFFIC IN PETROLEUM PRODUCTS IN THE TOTAL TRAFFIC HANDLED AT MAJOR PORTS DURING 1965-66 TO 1982-83.

(Million Tonnes)

Name of the Port	Year	Total Traffic	POL Traffic	POL as %age of total traffic at the Port
1.	2.	3.	4.	5.
Vishakapatnam	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
	1980-81	10.26	2.39	23.3
	1981-82	10.85	2.11	19.4
	1982-83	10.18	2.10	20.6
Marmugao	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	14.80	0.73	4.9
	1980-81	13.95	0.59	4.2
	1981-82	14.89	0.66	4.4
	1982-83	12.76	0.78	6.1
Paradeip	1965-66	-	-	-
	1969-70	1.75	-	-
	1973-74	2.29	-	-
	1977-78	2.74	-	-
	1978-79	2.17	-	-
	1979-80	2.31	-	-
	1980-81	2.29	-	-
	1981-82	2.17	-	-
	1982-83	1.57	-	-
Port of Tuticorin	1977-78	0.63	0.35	55.6
	1978-79	1.06	0.32	30.2
	1979-80	2.41	0.44	18.3
	1980-81	2.56	0.44	17.2
	1981-82	2.69	0.47	17.5
	1982-83	3.23	0.52	16.1
New Mangalore	1977-78	0.38	0.20	52.6
	1978-79	0.87	0.19	21.8
	1979-80	0.90	0.21	23.3
	1980-81	0.96	0.31	32.3
	1981-82	1.64	0.36	22.0
	1982-83	2.27	0.35	15.4
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	78.49	28.78	36.7
	1980-81	81.32	33.58	41.3
	1981-82	88.06	34.44	39.1
	1982-83	96.12	46.16	48.0

Source: Ministry of Shipping & Transport.

ESTIMATED FREIGHT PAID ON IMPORTS@ OF CRUDE OIL/POL PRODUCTS TRANSPORTED BY INDIAN/FOREIGN FLAG TANKERS DURING THE YEARS 1980 TO 1982

Products/Tankers	1980		1981(R)		1982	
	Qty.	Value	Qty.	Value	Qty.	Value
A. Crude Oil						
Indian tankers	9.49	54.03	8.12	61.20	10.82	87.91
Foreign tankers	5.75	31.89	6.35	49.80	5.76	24.17
Total (A)	15.24	85.92	14.47	111.00	16.58	112.08
B. POL Products						
Indian tankers	1.17	19.70	1.01	21.49	1.18	24.70
Foreign tankers	5.57	29.16	4.20	24.05	3.77	20.53
Total (B)	6.74	48.86	5.21	45.54	4.95	45.23
C. Crude Oil/POL products						
Indian tankers	10.66	73.73	9.13	82.69	12.00	112.61
Foreign tankers	11.32	61.05	10.55	73.85	9.53	44.70
Total (C)	21.98	134.78	19.68	156.54	21.53	157.31

@ As per Bill of lading quantity. Qty. in Million Tonnes
R- Revised Value in Rs./Crores.

COASTAL MOVEMENT OF PETROLEUM PRODUCTS
(Qty. moved to Indian ports)

('000 Tonnes)

Year	I/FV	F/FV	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	1055.65	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
1979	2889.00	-	2889.00	194.61
1980	2713.78	-	2713.78	254.60
1981(R)	3200.63	-	3200.63	309.86

N.B.: I/FV - Indian Flag Vessels. F/FV - Foreign Flag Vessels.

* Includes freight paid on demurrage and dead freight paid.

R- Revised.

AVERAGE FREIGHT RATES FROM RAS-TANURA TO INDIAN PORTS
(WORLD SCALE FLAT RATES ADJUSTED TO AFRA VARIATIONS.

($ /Long Ton)

Annual Average.	General Purpose 16500-24999 dwt.	Medium Range 25000-44999 dwt.	L.R.I. 45000-79999 dwt.	L.R.II 80000-159999 dwt.	ULCC* 160000-319999 dwt.	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	3.20	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
1980	8.12	6.37	3.74	2.52	1.63	1.38
1981	9.17	6.94	4.01	2.81	1.94	1.66
1982	7.90	5.91	3.30	2.31	1.77	1.47
			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	6.44	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	2.54	2.38
1980	13.46	10.55	6.20	4.17	2.70	2.28
1981	15.45	11.68	6.75	4.73	3.26	2.78
1982	13.48	10.09	5.62	3.95	3.01	2.52
			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	2.59	-
1979	14.98	11.76	7.31	4.73	3.08	2.88
1980	16.41	12.86	7.56	5.08	3.29	2.78
1981	19.12	14.46	8.35	5.86	4.04	3.45
1982	16.84	12.60	7.02	4.93	3.76	3.14

XIV. GENERAL

Retail outlets in India as on 1st January of each year

(Number)

Year	Nos.	B/Sholl/ BPCL	Esso/ HPCL	Caltex/ HPCL(VMU)	IOC	IBP	AOC	TOTAL
1.	2.	3.	4.	5.	6.	7.	8.	9.
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	3274	440	155	10639
	%	32.7	18.0	12.9	30.8	4.1	1.5	100
1974	Nos.	3262	1887	1359	3349	487	164	10508
	%	31.0	18.0	12.9	31.9	4.6	1.6	100
1975	Nos.	3173	1867	1206	3546	525	163	10480
	%	30.3	17.8	11.5	33.8	5.0	1.6	100
1976	Nos.	3157	1872	1201	3583	619	164	10596
	%	29.8	17.7	11.3	33.8	5.8	1.6	100
1977	Nos.	3183	1916	1200	3804	717	166	10986
	%	29.0	17.5	10.9	34.6	6.5	1.5	100
1978	Nos.	3241	1965	1198	4051	850	168	11473
	%	28.3	17.1	10.4	35.3	7.4	1.5	100
1979	Nos.	3288	1966	1201	4150	998	173	11806
	%	27.8	16.9	10.2	35.2	8.4	1.5	100
1980	Nos.	3296		3198@	4231	975	173	11873
	%	27.8		26.9	35.6	8.2	1.5	100
1981	Nos.	3308		3225@	4333	1001	175	12042
	%	27.5		26.8	36.0	8.3	1.4	100
1982	Nos.	3314		3247@	4413	1019	178	12171
	%	27.2		26.7	36.2	8.4	1.5	100
1983	Nos.	3232		3124@	4504	1024	*	11884
	%	27.2		26.3	37.9	8.6		100

Note :- 1. %= Percentage. 2. The data excludes consumers retail outlets. @ Inclues HPCL(VMU) retail outlets.

* Included in IOC.

STATEWISE NUMBER OF RETAIL OUTLETS, MPDCs/FFCs, LDO/SKO DEALERS AND LPG DISTRIBUTORS AS ON 1.1.1983

(Numbers)

State/Union Territories	Retail outlets	MPDC/ FFC	LDO/SKO dealers	LPG distributors
1. Andhra Pradesh	949	53	536	122
2. Arunachal Pradesh	6	-	3	1
3. Assam	116	9	67	13
4. Bihar	686	36	297	53
5. Bhutan	7	-	2	-
6. Gujarat	799	40	323	145
7. Haryana	389	29	123	31
8. Himachal Pradesh	51	2	17	7
9. Jammu & Kashmir	95	1	21	20
10. Karnataka	760	24	264	94
11. Kerala	597	13	235	31
12. Madhya Pradesh	706	44	301	87
13. Maharashtra	1061	67	482	348
14. Manipur	4	-	8	3
15. Meghalaya	17	-	4	2
16. Mizoram	2	-	1	1
17. Nagaland	7	-	2	2
18. Orissa	246	14	170	35
19. Punjab	790	34	217	52
20. Rajasthan	626	45	211	48
21. Sikkim	7	-	7	1
22. Tamil Nadu	1100	46	415	102
23. Tripura	5	-	5	1
24. Uttar Pradesh	1486	113	562	139
25. West Bengal	842	26	377	100
UNION TERRITORIES				
26. A.N. Islands	1	-	1	-
27. Chandigarh	10	-	9	9
28. D.N. Haveli	37	-	-	1
29. Delhi	230	2	60	102
30. Goa, Daman & Diu	32	-	16	13
31. Lakshadeep	-	-	-	-
32. Pondicherry	20	-	7	2
GRAND TOTAL	11884	598	4743	1565

Statewise Number of Domestic Consumers of LPG as on 1.4.1993 *

(Numbers)

State/Union Territory	BPCL	HPCL	IOC	Total
1.	2	3	4	5
1. Andhra Pradesh	39478	249574	146083	435135
2. Assam	-	-	54773	54773
3. Bihar	-	5575	154945	160520
4. Gujarat	197280	101968	348777	648025
5. Haryana	17924	6447	92708	116419
6. Himachal Pradesh	-	-	20017	20017
7. Jammu & Kashmir	-	31322	-	31322
8. Karnataka	47360	140627	129332	317319
9. Kerala	6259	760	108085	115104
10. Madhya Pradesh	25043	106785	157178	289006
11. Maharashtra	735930	637912	-	1373842
12. Manipur	-	-	4392	4392
13. Meghalaya	-	-	6362	6362
14. Negaland	-	-	5265	5265
15. Orissa	-	29641	34652	64293
16. Punjab	32098	16510	113916	162524
17. Rajasthan	22514	29264	108216	159994
18. Sikkim	-	-	2662	2662
19. TamilNadu	13241	6153	447941	467335
20. Tripura	-	-	3969	3969
21. Uttar Pradesh	18506	2704	528293	549503
22. West Bengal	-	36400	217659	254059
23. A.N.Islands	-	-	-	-
24. Arunachal Pradesh	-	-	625	625
25. Chandigarh	-	8532	35749	44281
26. D.N. Haveli	-	710	-	710
27. Delhi	79971	49441	369476	498888
28. Goa, Daman & Diu	6138	21087	-	27225
29. Mizoram	-	-	1913	1913
30. Pondicherry	-	-	12094	12094
31. Dhutan	-	-	-	-
Total	1241112	1481382	3105082	5827576

* Provisional

Crude Oil and Products Pipelines in India

as on 1.4.1983

	Pipelines	Owned by	Longth in Kms.	Diametre in inches
1.	CRUDE PIPELINES (ONSHORE)			
	Ankleshwer-Koyali	ONGC	94.80	16"
	Kalol- Nawagam	ONGC	48.80	12"
	Nawagam- Koyali	ONGC	77.63	14"
	Sanand - Kalol	ONGC	12.52	8"
	SoBhashan-North Kadi	ONGC	20.20	8"
	North Kadi - Kalol	ONGC	35.6	12"
	Jhalora- Sanand	ONGC	9.3	8"
	Lakwa- Moran	ONGC	17.5	12"
	Rudrasagar- Lakwa	ONGC	38.0	8"
	Goloki-Dikhow	ONGC	18.5	8"
	Goleki -Jorhat	ONGC	48.4	14"
	Charali to Dikhow-Geleki	ONGC	6.0	4"
	Amguri to Geleki-Jorhat	ONGC	6.0	6"
	Digboioilfield -Digboi Refinery	OIL	12.5	6"
	Digboi oilfield-Digboi Refinery	OIL	10.4	4"
	Nahorkatiya- Digboi	OIL	35.0	8"
	Nahorkatiya- Gauhati	OIL	404.0	16"
	Nahorkatiya- Gauhati loopline	OIL	100.0	16"
	Gauhati- Barauni	OIL	754.0	14"
	Gauhati-Barauni loopling	OIL	112.0	16"
	SBM to Salaya Tank Farm	IOC	11.0	42"
	Salaya- Viramgam	IOC	275.0	28"
	Viramgam- Koyali	IOC	141.0	18"
	Viramgam- Mathura	IOC	803.0	24"
	Total Onshore (I)		3991.15	
II.	CRUDE PIPELING (OFFSHORE)			
	Platform 'F' to Uran	ONGC	202.3	30"
	Uran -Trombay	ONGC	22.8	36"
	Trombay- Bhutcher	ONGC	4.4	36"
	Total Offshore (II)		229.5	
	Total Crude Pipelines (I-II)		3320.65	

...Contd..../-

Crude Oil and Products Pipelines in India as on 1.4.1983

Pipeline	Owned by	Longth in Kms.	Diametre in Inches
6			
III PRODUCT PIPELINES			
Digboi Refinery- Tinsukia	IOC	34	6"
Digboi Reginery- Tinsukia	IOC	39	6"
Digboi Refinery-Tinsukia	IOC	34	4"
Gauhati-Siliguri	IOC	425.85	8-5/8"
Barauni- Kanpur	IOC	668.78	12-3/4"
Koyali -Ahemdabad	IOC	115.70	8-5/8"
Haldia-Mourigam-Rajbandh.	IOC	268.58	12-3/4"
Mathura-Delhi	IOC	147.0	16"
Delhi-Ambala	IOC	202	14"
Ambala - Jullunder	IOC	164	12-3/4"
Total Products Pipeline(III)		2098.91	
IV. GAS PIPELINES (ONSHORE)			
Cambay-Dhuwaran	ONGC	25.00	14"
Ankloshwer-Uttaran	ONGC	37.47	16"
Ankleshwer-Baroda	ONGC	96.55	14"
Nawagam-Calico Mills	ONGC	22.2	8"
Sanand-Kalol	ONGC	12.67	6"
Kalol-IFFCO (FG)	ONGC	2.6	8"
Kalol-IFFCO(AG)	ONGC	2.6	12"
Sobhashan-Dudh Sagar	ONGC	9.1	8"
ASEB-GAS Pipeline	ONGC	16.25	12"
Total Gas Pipelines(Onshore)		224.44	
V. PGAS PIPELINES (OFFSHORE)			
Platform 'F' to Uran	ONGC	202.0	26"
Uran to Trombay	ONGC	26.5	18"
Uran to Trombay	ONGC	24.6	8"
TOTAL OFFSHORE(V)		253.1	
Total Gas Pipelines (IV+V)		477.54	
GRAND TOTAL (I TO V)		5897.10	

CROSS 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.cum.)	Crude Petroleum	Total domestic@ Petroleum ('000' MT)	Thermal	Hydl	Nuclear	Total
1.	2.	3.	4.	5.	6.	7.	8.	9.	10	11
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	7290	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	99.68	3.03	102.71	2368	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	103.90	3.05	106.95	2767	11766	27258	57155	45494	2876	105525
1980-81	114.00	5.10	119.10	2358	10507	25492	62031	46532	3009	111572
1981-82	124.93	6.31	131.24	3853	16194	30141	70346	49558	3021	122925
1982-83*	130.65	4.80	135.45	4936	21060	32813	81264	48245	2016	131525

@ - Includes R.B.F., * - Provisional

Source:-I) Central Electricity Authority and Economic Survey.

ii) Coal Statistics - Coal Controller's Organisation, Department of Energy.

MOVEMENT OF POL TRAFFIC ON RAILWAYS SINCE-1970-71.

YEAR	Tonnes Originating ('000 'MTS)	Earnings ('000 'Rs.)	Average lead(Kms)	Earnings (Paise/ Tonnes Kms)	Average Frt. (Col.3÷2) (Rs./Tonnes)
1.	2.	3.	4.	5.	6.
1970-71	8857	464081	594	9.1	52.40
1971-72	10063	523049	593	8.8	51.98
1972-73	10181	550982	614	8.8	54.12
1973-74	9994	555560	638	8.7	55.59
1974-75	10751	723192	642	10.5	67.27
1975-76	11663	860925	605	12.2	73.82
1976-77	12395	1038462	609	13.8	83.78
1977-78	13062	1120693	631	13.6	85.80
1978-79	14301	1324332	698	13.3	92.60
1979-80	14266	1497510	729	14.4	104.97
1980-81	14954	1835693	780	15.7	122.76
1981-82	16555	2848050	731	23.5	172.04

RAIL FREIGHT IN RESPECT OF PETROLEUM PRODUCTS.

Distance. Kms.	1-4-1980		1-4-1981		14-8-1981		1-1-1982 1-4-1982 1-4-1983.	
	Non-dangerous POL	Dangerous POL	Non-dangerous POL	Dangerous POL	Non-dangerous POL	Dangerous POL	Non-dangerous. POL	Dangerous. POL
1.	2.	3.	4.	5.	6.	7.	8.	9.
100	24.40	38.20	34.30	56.60	42.40	64.90	46.60	71.40
300	47.70	76.20	67.20	113.40	83.80	130.30	92.20	143.30
500	68.50	110.10	96.70	164.00	121.30	188.70	133.40	207.60
800	114.80	181.10	158.10	270.00	198.70	310.60	228.50	357.20
1000	132.90	215.50	187.80	321.40	236.40	370.00	271.90	425.50
1500	181.60	295.50	257.10	441.10	323.80	508.20	372.40	584.40
2000	223.50	364.40	316.60	544.20	399.40	627.10	459.30	721.20
2500	256.30	418.30	362.70	624.60	457.90	720.09	526.60	828.00

RAP/

Non-dangerous POL :- Include HSDO, LDO and other Petroleum and Hydro-carbons Oil (Except Kerosene Oil).

Dangerous POL :- Include Motor Spirit, Benzene and other dangerous mineral oils.

SOURCE :- Railway Board Memorandum Explaining the proposals for adjustment in freight rates to be effective from 1-4-1982 & 1-4-1983.

ESTIMATED WORLD CRUDE OIL AND GAS RESERVES (AS ON 1-1-1983)

Country	Crude Oil (Billion 10^9 Tonnes)	% of Total	Natural Gas (10^{12} Cubic feet)	% of Total
1.	2.	3.	4.	5.
1. TOTAL WESTERN HEMISPHERE	15.8	17.2	487.6	16.1
of which: U.S.A.	4.1	4.5	204.0	6.7
Venezuela	2.9	3.2	54.1	1.8
Ecuador	0.2	0.2	4.1	0.1
Canada	1.0	1.1	97.0	3.2
Mexico	6.6	7.2	75.9	2.5
Argentina	0.4	0.4	25.2	0.8
2. TOTAL AFRICA	7.9	8.6	189.4	6.2
OF which: Libya	3.0	3.3	21.5	0.7
Algeria	1.3	1.4	111.3	3.7
Nigeria	2.3	2.5	32.4	1.1
Egypt	0.5	0.5	7.2	0.2
Gabon	0.06	0.1	0.5	Neg.
Tunisia	0.3	0.3	4.3	0.1
3. TOTAL MIDDLE EAST	50.6	55.1	769.7	25.4
of which: Saudi Arabia	22.2	24,2	117.0	3.9
Kuwait	8.0	8.7	29.9	1.0
Iran	7.6	8.3	482.6	15.9
Iraq	5.6	6.1	28.8	0.9
Neutral Zone	0.8	0.9	8.4	0.3
Abu Dhabi	4.2	4.6	19.3	0.6
4. TOTAL EUROPE	3.1	3.4	156.7	5.2
of which: West Germany	0.04	0.04	6.3	0.2
United Kingdom	1.9	2.1	25.4	0.8
Netherlands	0.04	0.04	51.9	1.7
Itlay & Sicily	0.1	0.1	4.3	0.1
Norway	0.93	1.0	58.0	1.9
5. TOTAL ASIA & PACIFIC	2.7	3.0	146.3	4.8
of which : Indonesia	1.31	1.43	29.0	1.0
Australia	0.22	0.24	17.8	0.6
India	0.47	0.51	14.8	0.5
Pakistan	0.03	0.03	18.5	0.6
Brunei	0.17	0.18	6.8	0.2
Malaysia	0.47	0.51	34.0	1.1
6. TOTAL FREE WORLD	80.1	87.3	1749.7	57.7
7. TOTAL COMMUNIST WORLD	11.7	12.7	1283.8	42.3
of which: Russia	8.6	9.4	1240.0	40.8
China	2.7	2.9	29.8	1.0
Others	0.4	0.4	14.0@	0.5
TOTAL WORLD	91.8	100.00	3033.5	100.0
of which OPEC	50.2	55.6	1002.3	33.0

1. Tonne = 7.3 barrels Neg= Negligible

@ = Includes Albania, Bulgeria, Cuba, Czechoslovakia, Est Germany Hungry, Mongolia, North Korea, Poland, Rumania, Viet Nam and Yugoslavia.

Source : Oil & Gas Journal, December, 27,1982.

WORLD ESTIMATED CRUDE OIL PRODUCTION - 1979-1982

(Million Tonnes)

Country	1979	1980	1981 (Revised)	1982 (Estd.)	% change 1982/1981	% share 1981	% share 1982
1	2	3	4	5	6	7	8
North America (a)	561.8	565.2	553.3	553.0	- 0.1	19.3	20.3
U.S.A.	478.6	482.2	477.6	480.0	+ 0.5	16.7	17.6
Canada	83.2	83.0	75.7	73.0	- 3.6	2.6	2.7
Caribbean Area	221.3	237.5	256.1	264.8	+ 3.4	8.9	9.7
Of which :							
Venezuela*	122.8	112.9	111.3	99.5	-10.6	3.9	3.7
Mexico	80.8	106.8	127.7	148.0	+15.9	4.5	5.4
Trinidad	11.1	11.0	9.8	9.5	- 3.1	0.3	0.3
Colombia	6.4	6.5	6.9	7.4	+ 6.8	0.2	0.3
Other Latin America	54.6	57.6	59.7	61.7	+ 3.4	2.1	2.3
Argentina	23.9	52.2	25.2	24.8	- 1.6	0.9	0.9
Ecuador*	10.5	10.8	10.7	9.8	- 8.4	0.4	0.4
Brazil	8.5	9.4	11.0	13.5	+22.7	0.4	0.5
Peru	9.4	9.5	9.5	10.0	+ 5.3	0.3	0.4
Bolivia	1.4	1.1	1.0	1.2	+20.0	neg.	neg.
Chile	0.9	1.6	2.3	2.5	+ 8.7	0.1	0.1
Middle East	1091.9	947.6	810.2	652.1	-19.5	28.3	24.0
Of which : *							
Saudi Arabia(b)	475.2	496.4	490.3	325.0	-33.7	17.1	24.0
Iran*	151.4	76.6	65.2	98.0	+50.3	2.3	3.6
Iraq*	168.0	130.0	44.9	48.0	+ 6.9	1.6	1.8
Kuwait*(b)	127.2	81.4	56.6	42.0	-25.8	2.0	1.5
Abu Dhabi*	71.1	64.5	54.5	42.0	-22.9	1.9	1.5
Egypt	26.0	30.1	31.8	34.0	+ 6.9	1.1	1.3
Qatar*	24.4	22.8	19.5	16.0	-17.9	0.7	0.6
Dubai*	17.7	17.5	18.0	17.7	- 1.7	0.6	0.7
Oman	14.6	14.0	15.8	15.9	+ 0.6	0.6	0.6
Syria	8.5	8.5	8.5	8.5	- -	0.3	0.3
Bahrain	2.5	2.4	2.3	2.2	- 4.6	neg.	neg.
Turkey	2.9	2.6	2.4	2.5	+ 1.7	0.1	0.1
Sharjah*	0.7	0.5	0.5	0.3	-30.0	neg.	neg.
Africa	293.3	267.8	191.9	181.3	- 5.5	6.7	6.7
Of which :							
Nigeria*	113.5	101.8	71.2	64.0	-10.1	2.5	2.4
Libya*	98.9	85.9	54.3	54.5	+ 0.4	1.9	2.0
Algeria*	53.2	51.5	37.4	32.0	-14.4	1.3	1.2
Gabon*	10.3	8.9	7.6	7.4	- 2.6	0.3	0.3
Angola/Cabinda	6.7	7.4	7.2	6.5	- 9.7	0.3	0.2
Tunisia	5.5	5.6	5.4	5.4	-	0.2	0.2
Congo	2.6	2.6	3.1	3.9	+25.8	0.1	0.1
Zaire	1.0	1.0	1.0	1.0	-	neg.	neg.

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WORLD ESTIMATED CRUDE OIL PRODUCTION - 1979-1982

(Million Tonnes)

Country	1979	1980	1981 (Revised)	1982 (Estd.)	% change 1982/1981	% share 1981	% share 1982
1	2	3	4	5	6	7	8
West Europe	108.9	117.6	125.7	141.3	+12.4	4.4	5.2
Of which :							
U.K.	77.9	80.5	89.4	102.5	+14.7	3.1	3.8
Norway	18.3	24.0	23.5	24.0	+ 2.1	0.8	0.9
West Germany	4.8	4.6	4.4	4.3	- 2.3	0.2	0.2
Austria	1.7	1.5	1.3	1.3	-	neg.	neg.
Netherlands	1.6	1.6	1.6	1.7	+ 6.3	0.1	0.1
Italy	1.8	1.8	1.5	1.5	-	0.1	neg.
France	1.2	1.4	1.7	1.7	-	0.1	0.1
Spain	1.2	1.6	1.3	1.4	+ 7.7	neg.	neg.
Denmark	0.4	0.3	0.8	1.8	+125.0	neg.	0.1
Far East	142.7	134.9	136.4	128.6	- 5.7	4.7	4.7
Of which :							
Indonesia*	79.1	78.5	78.6	65.0	-17.3	2.7	2.4
Australia	20.6	18.0	18.6	17.5	- 5.9	0.6	0.6
India	12.8	9.4	14.9	19.7(p)	+32.2	0.5	0.7
Malaysia	13.4	13.2	12.6	14.5	+15.1	0.4	0.5
Brunei	12.0	12.5	8.7	8.5	- 2.3	0.3	0.3
Burma	2.0	1.4	1.3	1.5	+15.4	neg.	neg.
Japan	0.5	0.4	0.4	0.5	-	neg.	neg.
Pakistan	0.5	0.5	0.5	0.6	+20.0	neg.	0.1
Taiwan	0.2	0.2	0.2	0.2	-	neg.	neg.
Non-Communist Area	2474.5	2328.0	2133.3	1982.8	- 7.1	74.4	72.9
Western Hemisphere	837.7	860.3	869.1	879.9	+ 1.2	30.3	32.3
Eastern Hemisphere	1636.8	1467.7	1264.2	1102.9	-12.8	44.1	40.6
Of which :							
OPEC Countries	1524.0	1340.0	1120.6	921.2	-17.8	39.1	33.9
USSR & East Europe	608.3	625.0	631.6	635.7	+ 0.7	22.0	23.4
USSR	586.0	603.0	609.0	612.4	+ 0.6	21.2	22.5
Rumania	12.3	11.5	11.6	12.0	+ 3.4	0.4	0.4
Yugoslavia	4.1	4.2	4.4	4.5	+ 2.3	0.2	0.2
Hungary	2.0	2.0	2.0	2.0	-	0.1	0.1
Albania	3.0	3.5	3.8	4.0	+ 5.3	0.1	0.1
Poland	0.4	0.3	0.3	0.3	-	neg.	neg.
East Germany	0.1	0.1	0.1	0.1	-	neg.	neg.
Bulgeria	0.3	0.3	0.3	0.3	-	neg.	neg.
Czechoslovakia	0.1	0.1	0.1	0.1	-	neg.	neg.
China	106.2	106.0	101.2	101.7	+ 0.5	3.6	3.7
Cuba	0.1	0.1	0.4	0.4	-	neg.	neg.
WORLD TOTAL	3189.1	3059.1	2866.5@	2720.6@	- 5.1	100.0	100.0

* OPEC countries. (p) = Provisional. @ Excluding production of LNG.
(a) = Crude oil plus gas condensates where known. Figures for USA, Canada & Mexico include substantial quantitites of natural gas.
(b) = Including share of production from partitioned zone(formerly neutral zone).

Source : Petroleum Economist, January 1983.

WORLD NATURAL GAS PRODUCTION 1976 & 1980 TO 82.

(Million Tonnes) of Oil Equivalent.

COUNTRY/ AREA.	1976	1980	1981	1982	%Change 1982 Over 1981.	%age share 1982.
1.	2.	3.	4.	5.	6.	7.
U. S. A.	487.2	493.6	495.0	451.3	- 8.8	32.9
Canada	69.3	69.1	67.4	63.0	- 6.5	4.6
Total North America	556.5	562.7	562.4	514.3	- 8.6	37.5
Latin America.						
Argentina	6.6	7.0	7.5	8.7	+15.1	0.6
Bolivia	1.6	2.1	2.5	2.5	+00.6	0.2
Chile	3.6	2.5	2.1	2.8	+31.8	0.2
Mexico	14.7	27.2	31.3	32.7	+ 4.6	2.4
Trinidad	2.0	2.2	2.2	2.2	+ 0.1	0.1
Venezuela	12.2	15.0	15.0	14.7	- 1.9	1.1
Other Latin America	3.3	4.3	4.7	5.1	+ 8.5	0.4
Total Latin America	44.0	60.4	65.3	68.7	+ 5.2	5.0
Total Western Hemisphere	600.5	623.1	627.7	583.0	-7.1	42.5
Western Europe.						
France	6.6	7.0	6.6	7.8	+18.2	0.6
Italy	15.6	10.3	11.6	12.3	+ 5.7	0.9
Nethorland	73.6	68.9	67.6	54.6	-19.3	4.0
Norway	0.3	23.5	22.7	20.9	- 7.9	1.5
United Kingdom	33.7	32.0	31.9	32.4	+ 1.6	2.4
West Germany	14.1	14.1	16.7	14.6	-12.5	1.1
Other Western Europe	3.6	3.5	3.0	3.0	- 1.3	0.2
Total Western Europe	147.5	159.3	160.1	145.6	- 9.1	10.7
Middle East.						
Abu Dhabi	1.2	5.2	5.4	11.8	+117.7	0.8
Iran	19.4	7.5	6.5	6.5	neg.	0.5
Kuwait	5.0	6.2	4.8	4.3	- 9.8	0.3
Saudi Arabia	6.1	13.2	13.2	13.1	- 0.5	1.0
Other Middle East	6.0	9.9	8.4	8.5	+ 1.5	0.6
OtTotal Middle East	37.7	42.0	38.3	44.2	+15.6	3.2
Africa.						
Algeria	8.9	19.3	22.1	23.0	+ 3.9	1.7
Libya	3.4	4.7	3.6	3.6	- 0.1	0.3
Nigeria	0.6	1.0	1.9	1.0	-49.5	0.1
Other Africa	0.8	1.8	1.8	2.8	+51.4	0.2
Total Africa	13.7	26.8	29.4	30.4	+ 2.8	2.3
South Asia.						
Of which India	2.2	1.9	3.5	4.7	+34.3	0.3
Pakistan	4.7	6.2	6.1	7.9	+28.8	0.6
Other South Asia	2.4	4.6	6.6	9.0	+35.1	0.6
Total South Asia	9.3	12.7	12.7	16.6	+32.1	1.2
South East Asia.						
Indonesia	2.1	16.7	17.3	17.5	+ 1.0	1.3
Other South East Asia	9.9	10.7	10.9	10.9	+ 0.7	0.8
Total South East Asia	12.0	27.4	28.2	28.4	+ 0.9	2.1
Japan	2.2	2.0	2.2	1.6	-27.7	0.1
Australasia	7.0	10.9	11.1	12.4	+ 4.6	0.9
U.S.S.R.	289.2	380.2	411.8	451.3	+ 9.6	32.9
Eastern Europe	46.7	45.2	46.3	46.5	+ 0.4	3.4
China	10.0	12.2	11.6	10.0	-13.8	0.7
Total Estern Hemisphere	575.3	718.7	752.5	787.3	+ 4.6	57.5
World(Excl.USSR,E. E.Europe & China)	829.9	904.2	910.5	862.5	- 5.3	63.0
Of which OPEC		95.9	95.4	101.0	+ 5.8	7.4
WORLD TOTAL:	1175.8	1341.8	1380.2	1370.3	- 0.7	100.0

SOURCE:- B.P. Statistical Review -1982.

CRUDE OIL PRODUCTION* IN OPEC MEMBER COUNTRIES

(Million Tonnes)

OPEC COUNTRIES	1970	1973	1975	1978	1979	1980	1981 r)	1982
1.	2.	3.	4.	5.	6.	7.	8.	9.
Algeria	49	51	48	59	56	48	40	38
Eduador	Neg.	10	8	10	11	10	11	10
Gabon	5	8	11	10	10	9	8	7
Indonesia	42	66	65	82	79	79	80	65
Iran	191	293	268	261	158	74	66	98
Iraq	77	99	111	129	171	130	45	48
Kuwait	139	138	94	109	113	71	56	35
Libya	160	105	71	96	101	86	55	55
Nigeria	53	100	89	94	114	102	72	64
Qatar	18	27	21	23	25	23	21	16
Saudi Arabia	178	305	344	422	470	493	490	329
U.A.E.	37	74	82	90	89	83	75	60
Venezuela	195	179	125	116	125	116	106	98
TOTAL	1144	1515	1337	1501	1522	1324	1125	923

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

r : Revised.

CRUDE OIL EXPORTS* BY OPEC MEMBER COUNTRIES

(Million Tonnes)

OPEC COUNTRIES	1970	1973	1975	1978	1979	1980	1981 r)
1.	2.	3.	4.	5.	6.	7.	8.
Algeria	48.7	49.7	43.9	50.2	48.0	35.8	26.1
Ecuador	Neg.	9.8	7.3	6.1	6.1	5.5	5.3
Gabon	4.2	6.0	10.3	8.7	8.2	7.6	6.2
Indonesia	31.3	50.6	49.7	63.4	56.2	51.7	52.5
Iran	165.5	263.8	233.5	222.4	120.3	39.8	40.8
Iraq	74.8	96.3	102.9	119.2	163.8	122.9	34.9
Kuwait	129.0	132.1	90.2	88.1	104.2	64.8	40.7
Libya	165.6	108.7	71.6	92.7	98.3	84.5	48.0
Nigeria	52.5	98.9	85.7	91.4	110.5	98.0	61.4
Qatar	18.1	28.5	21.4	24.0	24.7	23.3	19.6
Saudi Arabia	160.8	350.7	330.0	385.3	440.9	461.2	450.9
U.A.E.	34.7	76.1	83.1	90.8	90.3	84.9	71.9
Venezuela	121.7	106.2	73.6	62.2	70.4	64.4	63.3
TOTAL	1006.9	1377.4	1203.2	1304.5	1341.9	1144.4	921.6

Source: OPEC Annual Statistical Bulletin - 1974 & 1980

* Conversion: = I Mn. Tonnes/Year = 20,000 bbl/day

r)= Revised.

PRODUCTIVITY OF PRODUCING WELLS IN SELECTED FIELDS IN THE WORLD-1982.

Country/ Field.	Discovery date.	Depth (Metres)	Wells Flowing	Wells Pumping	Daily average first six month 1982 ('000 'bbls)	API° gravity.	t/w/d
1.	2.	3.	4.	5.	6.	7.	8.
Algeria							
All fields Since	1956	458-3834	n.a.	n.a.	800	43.3[a]	n.a.
Libya							
Gialo	1961	671-1922	-	205	89	35.7	58
Waha	1960	2013	-	33	38	36.0	154
BU Attifel	1968	4362	20	-	69	41.0	449
Intisar D	1967	2867	15	-	61	39.0	535
Defa	1969	1647-1800	-	107	106	35.6	133
Nasser	1959	1678-2318	n.a.	n.a.	n.a.	-	n.a.
Iran.							
On-shore	1923	488-3721					
Off-shore	1960	2288-3355	n.a.	n.a.	1504	32.0[a]	n.a.
Iraq.							
All Fields since.	1909	854-3813	n.a.	n.a.	1030	33.6[a]	n.a.
Kuwait.							
All Fields	1938	1464-3050	530	-	633	32.2[a]	164
Saudi Arabia.							
On shore							
Abqaic	1940	2040	46	-	549	37.0	1590
Ghawar	1948	2111	192	-	3772	34.0	2664
Off-shore.							
Berri	1964	2532	34	-	392	34.0	1564
Safaniyah	1951	1556	168	-	1259	27.0	983
Zuluf	1965	1769	11	-	420	32.0	5239
Burma.							
All Fields Since	1902	30-2044	170	275	30	37.2	9
India.							
On-shore since	1890	92-3902	n.a.	n.a.	384	14.44	n.a.
Off-shore Since:	1981	1302-1412					
Indonesia.							
On-shore since.	1893	61-4423	545.	3182	851	35.0[a]	31
Off-shore Since.	1970	726-3401	352	271	536	31.5[a]	118

t/w/d.= Tonne/Wells/Day. n.a.= Not Available.

*= Flowing, pumping and shut in wells including wells used for injection purposes.

SOURCE :- Oil & Gas Journal, December, 27, 1982.

WORLD OIL REFINING CAPACITIES AT END 1982 AND 1981.

(Million Tonnes Per Annum)

COUNTRY/ AREA.	Refining Capacities		% share of Total	Percentage Change	
	1982	1981	1982	Over 1982/81	Annual Average 1977/82
1.	2.	3.	4.	5.	6.
U.S.A.	866	911	21.9	-4.9	+0.5
Canada	104	107	2.6	-3.5	-1.3
Total North America	970	1018	24.5	-4.8	+ 0.3
Latin America					
Argentina	34	34	0.9	-	+ 0.8
Brazil	76	76	1.9	-	+ 5.4
Mexico	76	76	1.9	-	+ 9.3
Netherlands Antilles	39	39	1.0	-	- 1.5
Trinidad	19	23	0.5	-17.6	- 4.3
Venezuela	68	70	1.7	- 3.2	- 1.2
Other Latin America	126	133	3.2	- 5.7	- 0.6
TOTAL LATIN AMERICA	438	451	11.1	- 3.1	+ 1.5
TOTAL WESTERN HEMISPHERE	1408	1469	35.6	- 4.2	+ 0.7
Western Europe					
Belgium	33	48	0.8	-31.5	-8.9
France	137	161	3.5	-15.1	-4.6
Italy	174	199	4.4	-12.3	-3.9
Netherlands	79	88	2.0	-10.5	-2.8
Spain	77	77	1.9	-	+5.0
United Kingdom	106	118	2.7	- 9.7	-4.3
West Geermany	125	147	3.2	-14.7	-3.9
Other Western Europe	166	158	4.2	+ 5.1	+2.7
TOTAL WESTERN EUROPE	897	996	22.7	- 9.9	-2.5
Middle East.					
Bahrain	12	12	0.3	-	-
Iran	31	31	0.8	-	-8.3
Iraq	13	13	0.3	-	+7.3
Kuwait	27	26	0.7	+ 2.6	-1.2
Neutral Zone	4	4	0.1	-	-
Saudi Arabia	43	33	1.1	+31.1	+6.6
Southern Yemen	9	7	0.2	+24.5	-4.5
Other Middle East	36	35	1.0	+ 8.9	+12.8
TOTAL MIDDLE EAST	177	161	4.5	+ 9.7	+1.9
Africa	118	102	3.0	+15.5	+ 9.6
South Asia	50	44	1.3	+13.0	+ 4.9
Of which India	37	32	0.9	+15.6	+ 3.1
South East Asia					
Indonesia	26	26	0.6	-	-0.5
Singapore East	51	51	1.3	-	-0.4
Other South / Asia	99	99	2.5	-	+4.2
TOTAL SOUTH EAST ASIA	176	176	4.4	-	+2.0
Japan	274	282	6.9	-3.0	-0.8
Australia	41	41	1.0	-	+1.5
USSR, E.Europe & china	813	796	20.6	+2.1	+4.2
TOTAL EASTERN HEMISPHERE	2546	2598	64.4	-2.0	+1.0
World (Excl. USSR, E.Europe & China	3141	3271	79.4	-4.0	+0.2
W O R L D	3954	4067	100.0	-2.8	+0.9

SOURCE :- BP Statistical Review of World Energy-1982.

World Natural Gas Consumption

(Million Tonnes Oil Equivalent)

Country/Area	1976	1980	1981	1982	% change 1982 over 1981	% age share 1982
USA	510.0	516.5	501.8	463.0	-7.7	35.3
Canada	46.0	49.3	47.8	43.0	-10.0	3.2
Total North America	556.1	565.8	549.6	506.0	- 7.9	38.5
Latin America	40.5	53.0	54.4	60.0	+10.3	4.6
TOTAL WESTERN HEMISPHERE	596.6	618.8	604.0	566.0	- 6.3	43.1
Western Europe						
Austria	4.1	4.2	3.9	3.8	-2.6	0.3
Belgium & Luxembourg	10.3	10.3	9.5	7.2	-24.2	0.5
Denmark	-	-	-	0.5	-	neg.
Finland	0.8	0.8	0.6	0.6	-	neg.
France	19.0	23.6	24.5	23.0	-6.1	1.8
Greece	-	-	-	-	-	-
Iceland	-	-	-	-	-	-
Republic of Ireland	-	0.5	0.9	1.0	+11.1	0.1
Italy	22.0	22.9	22.8	22.9	+ 0.4	1.8
Netherlands	33.0	30.3	30.0	27.3	-9.0	2.1
Norway	-	-	-	-	-	-
Portugal	-	-	-	-	-	-
Spain	1.5	1.8	2.1	3.2	+52.4	0.2
Sweden	-	-	-	-	-	-
Switzerland	0.5	0.8	0.8	0.8	-	0.1
Turkey	-	-	-	-	-	-
United Kingdom	34.6	41.4	42.4	41.6	-1.9	3.2
West Germany	36.3	44.4	41.4	38.6	- 6.8	2.9
Yugoslavia	1.5	3.4	3.7	3.8	+2.7	0.3
Cyprus/Gibraltar/ Malta	-	-	-	-	-	-
Total Western Europe	163.6	184.4	182.6	174.3	- 4.5	13.3
Middle East	26.9	34.1	35.3	38.0	+7.6	2.9
Africa	5.1	17.5	19.9	18.0	- 9.5	1.4
South Asia	8.8	7.3	8.9	11.8	+32.6	0.9
South East Asia	4.2	7.1	7.3	7.7	+5.5	0.6
Of which India	1.1	1.5	2.0	2.6	+30.0	0.2
Japan	9.3	23.4	24.2	24.7	+2.1	1.9
Australasia	6.1	9.8	11.6	12.0	+ 3.4	0.9
USSR	253.1	328.0	353.7	380.0	+ 7.4	29.0
Eastern Europe	57.5	64.0	69.4	70.1	+1.0	5.3
China	9.8	11.7	10.4	9.5	-8.7	0.7
TOTAL EASTERN HEMISPHERE	544.4	687.3	723.3	746.1	+3.2	56.9
WORLD(excl. USSR, E.Europe & China)	820.6	902.4	893.8	852.5	-4.6	65.0
TOTAL WORLD	1141.0	1306.1	1327.3	1312.1	-1.1	100.0

Source: B.P. Statistical Review - 1982. neg. Negligible.

WORLD OIL CONSUMPTION

(MILLION TONNES)

COUNTRY/AREA.	1976	1980	1981	1982	Percentage Yearly Change 1982 Over 1981	Percentage Change 1982 Over 1977	Share of Total 1982.
1.	2.	3.	4.	5.	6.	7.	8.
U. S. A.	822.4	794.1	746.0	703.0	-5.8	-4.1	24.9
Canada	85.9	87.6	81.7	73.0	-10.6	-3.1	2.6
Total North-America	908.3	881.7	827.7	776.0	-6.2	-4.0	27.5
Latin America	181.6	222.8	227.2	235.4	+3.6	+4.0	8.4
TOTAL WESTERN - HEMISPHERE	1089.9	1104.5	1054.9	1011.4	-4.1	-2.4	35.9
Western Europe							
Austria	11.6	12.2	11.0	10.5	-4.5	-1.1	0.4
Belgium & Luxembourg	28.0	26.6	24.5	22.8	-6.9	-4.0	0.8
Denmark	16.7	13.6	12.8	11.7	-8.6	-6.8	0.4
Finland	12.8	12.8	12.3	11.3	-8.1	-2.0	0.4
France	119.5	109.9	99.0	92.4	-6.7	-4.2	3.3
Greece	10.6	12.4	11.9	11.9	-	+2.0	0.4
Iceland	0.6	0.6	0.5	0.5	-	-2.5	Neg.
Republic Ireland	5.3	5.9	5.2	4.6	-11.5	-4.1	0.2
Italy	98.8	97.9	95.7	90.7	-5.2	-1.1	3.2
Netherlands	39.2	38.5	35.7	30.4	-14.8	-4.2	1.1
Norway	9.0	7.9	7.5	7.8	+4.0	-2.4	0.3
Portugal	7.1	8.5	8.8	9.1	+3.4	+5.0	0.3
Spain	48.3	52.2	50.4	46.5	-7.7	+0.4	1.6
Sweden	29.6	25.0	21.8	19.7	-9.6	-6.9	0.7
Switzerland	13.0	12.8	11.9	11.2	-5.9	-3.0	0.4
Turkey	15.4	14.8	15.4	16.5	+7.1	+0.2	0.6
United Kingdom	91.4	80.8	74.7	75.6	+1.2	-3.8	2.7
West Germany	138.9	131.1	117.6	112.4	-4.4	-3.9	4.0
Yugoslavia	13.2	15.1	14.4	14.1	-2.1	+0.3	0.5
Cyprus/Gibraltar/Malta.	1.3	1.5	1.4	1.4	-	+0.1	Neg.
TOTAL WESTERN EUROPE	710.3	680.1	632.5	601.1	-5.0	-2.9	21.3
Middle East	74.7	82.0	84.7	86.7	+2.4	+1.9	3.1
Africa	56.9	71.9	75.9	79.0	+4.1	+5.9	2.8
South Asia	32.6	40.4	43.4	45.1	+3.9	+5.5	1.6
Of which India	24.9	31.6	32.5	33.5	+3.1	+4.1	1.2
South East Asia	88.7	121.9	123.3	121.0	-1.9	+4.8	4.3
Japan	253.5	237.7	223.9	207.0	-7.5	-4.5	7.3
Australasia	36.5	36.4	35.8	35.5	-0.8	-1.3	1.3
U.S.S.R.	384.9	436.0	441.1	448.5	+1.7	+2.3	15.9
Eastern Europe	89.7	102.6	102.4	101.1	-1.3	+1.0	3.6
China	76.9	88.0	84.6	82.4	-2.8	+0.1	2.9
TOTAL WESTERN - HEMISPHERE	1804.7	1897.0	1850.8	1807.4	-2.3	-0.4	64.1
World (excl. USSR E.Europe & China)	2343.1	2374.9	2274.4	2186.8	-3.9	-1.9	77.6
TOTAL WORLD	2894.6	3001.5	2905.7	2818.8	-3.0	-1.1	100.0

Source: BP Statistical Review of World Energy- 1982.

MAIN PRODUCT CONSUMPTION (INCLUDING BUNKERS)

(Million Tonnes)

COUNTRY/AREA	1976	1980	1981	1982	Average Yearly Percentage Change 1982 Over 1972	1982 Over 1977
1.	2.	3.	4.	5.	6.	7.
U.S.A.						
Gasolines	320.4	305.7	297.9	295.2	-0.2	-2.2
Middle Distillates	206.3	207.9	199.2	186.6	-0.3	-3,6
Fuel Oil	146.8	133.0	110.6	89.5	-3,9	-11.0
Others	148.9	147.5	138.3	131.7	-1.3	-2.8
T O T AL	822.4	794.1	746.0	703.0	-1.0	-4.1
CANADA						
Gasolines	29.6	32.2	31.3	27.7	+1.3	-1.4
Middle Distillates	27.3	27.5	25.0	22.7	-1.1	-3.2
Fuel Oil	17.1	14.2	11.2	9.6	-5.4	-9.5
Others	11.9	13.7	14.2	13.0	+0.3	-0.4
T O T A L	85.9	87.6	81.7	73.0	-0.8	-3.1
WESTERN EUROPE						
Gasoline	134.4	142.4	131.0	131.6	+0.5	-0.2
Middle Distillates	242.0	234.0	223.8	217.1	-0.6	-2.3
Fuel Oil	244.3	211.7	186.9	163.4	-4.4	-6.4
Others	89.6	92.0	90.8	89.0	Neg.	-0.8
T O T A L	710.3	680.1	632.5	601.1	-1.5	-2.9
JAPAN						
Gasolines	43.6	42.1	39.8	38.6	+0.1	-2.9
Middle Distillates	54.2	59.9	60.6	57.6	+3.4	+0.6
Fuel Oil	125.7	103.5	91.2	78.3	-4.6	-9.5
Others	30.0	32.2	32.3	32.5	+0.8	+0.9
T O T A L	253.5	237.7	223.9	207.0	-1.2	-4.5
AUSTRALASIA.						
Gasoline	12.5	13.4	13.6	14.1	+2.9	+1.9
Middle Distillates	10.2	10.4	10.0	10.0	+2.5	-1.5
Fuel Oil	9.0	7.9	7.5	6.6	-2.8	-6.2
Others	4.8	4.7	4.7	4.8	+0.5	-1.6
T O T A L	36.5	36.4	35.8	35.5	+1.1	-1.3
REST OF WORLD (excl. USSR.E.EUROPE. & CHINA						
Gasoline	76.8	97.8	100.5	105.7	+5.0	+5.7
Middle Distillates	142.5	174.9	181.6	186.9	+6.0	+3.9
Fuel Oil	154.4	192.9	193.4	194.7	+3.4	+3.6
Others	60.8	73.4	79.0	79.9	+5.1	+4.9
T O T A L	434.5	539.0	554.5	567.2	+4.8	+4.2
WORLD (excl.U.S.S.R., E.EUROPE & CHINA)						
Gasoline	617.3	633.6	614.1	612.9	+0.8	-0.5
Middle Distillates	682.5	714.6	700.2	680.9	+1.3	-1.0
Fuel Oil	697.3	663.2	600.8	542.1	-2.2	-5.1
Others	346.0	363.5	359.3	350.9	+0.5	-0.4
T O T A L	2343.1	2374.9	2274.4	2186.8	Neg.	-1.9

SOURCE:- B.P. Statistical Review of World Energy - 1982.

WORLD OIL PRODUCTION, CONSUMPTION AND RELATIVE DEFICIT/ SURPLUS IN EACH REGION/COUNTRY DURING 1982 & 1973

(Million Tonnes)

Country/Region	1982 Production	1982 Consumption	1982 Deficit-Surplus	1982 % extent of dependence	1973 Production	1973 Consumption	1973 Deficit Surplus	1973 % extent of dependence
1.	2.	3.	4.	5.	6.	7.	8.	9.
North America (including Canada)	557.5	776.0	-218.5	28.2	621.3	901.7	-280.4	31.1
Latin America	326.4	235.4	+91.0	*	272.1	168.3	+103.8	*
West Europe	148.9	601.1	-452.2	75.2	22.6	748.9	-726.3	97.0
Middle East	630.8	86.7	+544.1	*	1052.5	62.2	+990.3	*
Africa	222.4	79.0	+143.4	*	290.0	49.5	+240.5	*
South & South East Asia (excluding India)	92.6	130.9	- 38.3	29.3	83.6	85.2	- 1.6	1.9
India	19.7	35.2	- 15.5	44.0	7.4	23.7	- 16.3	68.9
Japan	0.3	207.0	-206.7	99.9	0.7	269.1	-268.4	99.7
Australia	18.0	35.5	- 17.5	49.3	18.5	34.8	- 16.3	46.8
U.S.S.R.	612.2	448.5	+163.7	*	429.0	325.7	+103.3	*
Eastern Europe	20.1	101.1	- 81.0	80.1	19.2	75.1	- 55.9	74.4
China	101.7	82.4	+ 19.3	*	54.8	53.8	+ 1.0	*
T O T A L	2750.6	2818.8	- 68.2	2.4	2871.7	2798.0	+73.7	*

* Oil Surplus Countries

Source:- B.P. Statistical Review on World Oil Industry- 1982.

Country-wise Imports & Exports of Crude Oil & P.O.L. Products- 1982.

(Million Tonnes)

Country/Area.	IMPORTS		EXPORTS	
	Crude	Products	Crude	Products
1.	2.	3.	4.	5.
U.S.A.	172.5	76.1	11.7	31.2
Canada	17.3	2.9	10.4	13.6
Latin America	90.1	14.6	121.3	83.0
Western Europe	383.0	83.1	29.6	18.3
Middle East	6.4	10.7	544.0	34.7
North Africa	2.6	2.3	93.0	13.3
West Africa	0.3	2.9	72.7	1.9
East and South Africa	19.6	4.5	-	1.2
South Asia	21.2	6.9	1.4	1.9
Of which India	17.3	4.9	4.4	0.65
South East Asia	78.8	19.6	52.9	20.4
Japan	180.8	25.4	-	0.4
Australasia	10.0	6.0	-	1.3
U.S.S.R., E. Europe & China.	8.1	6.4	61.4	50.2
Destination not known*	7.7	10.0	-	-
T O T A L :-	998.4	271.4	998.4	271.4

Source:- B.P. Statistical Review of World Energy - 1982.

Figures for India insered.

* Includes changes in the quantity of oil in transit losses, minor movements not otherwise shown, unidentified military use, etc.

CRUDE OIL IMPORTS FROM OPEC MEMBER COUNTRIES BY REGIONS 1960-1981

(Million Tonnes)

Import Region	1960	1965	1970	1973	1974	1975	1976	1977	1978	1979	1980	1981
North America	61.0	65.9	68.5	149.1	160.4	171.0	220.4	274.9	279.8	279.5	213.6	146.6
Of which : USA	43.9	49.6	46.7	120.3	128.9	136.3	181.8	253.5	255.6	255.9	190.7	130.1
Latin America	55.9	71.5	96.8	149.4	156.0	145.2	187.0	171.5	128.7	136.9	115.3	90.4
Western Europe	157.5	315.1	564.6	683.9	651.9	519.2	577.1	531.0	517.8	521.3	454.5	359.8
Of which :												
France	31.8	63.2	107.3	135.9	138.0	104.6	122.3	108.5	109.0	114.5	100.2	72.1
Germany	21.2	45.5	69.0	64.1	69.0	62.6	73.2	75.0	64.6	74.7	66.1	49.2
Italy	24.8	59.9	109.5	122.4	106.1	87.0	86.9	90.4	92.9	94.7	67.8	66.4
Netherlands	14.7	27.7	72.4	105.5	69.6	76.2	92.2	74.3	78.5	64.9	53.7	38.3
Spain	7.2	13.1	28.7	37.8	42.1	39.6	46.2	47.2	45.4	44.0	40.8	29.7
U.K.	43.1	74.7	107.4	146.4	150.0	80.0	81.3	63.4	56.0	33.9	34.6	24.4
Eastern Europe	-	-	2.4	21.5	13.0	15.2	20.8	20.1	19.7	23.9	17.2	6.3
Middle East	17.0	16.7	20.3	17.8	19.3	15.6	21.4	25.2	18.9	21.2	21.9	19.4
Africa	1.5	13.0	23.8	32.8	31.9	31.4	28.9	28.3	22.7	18.7	16.2	14.6
Asia and Far East	34.4	88.6	215.5	312.2	307.2	280.0	298.1	314.0	306.5	310.7	288.6	273.4
Of which :												
Japan	24.4	66.4	162.6	229.3	226.2	199.9	206.8	205.6	196.7	196.4	179.0	157.0
Oceania	10.1	15.4	15.2	10.7	9.4	8.9	10.2	11.3	10.3	10.8	10.8	11.0
Unspecified	-	2.2	4.1	-	13.8	16.7	9.2	5.8	Neg.	18.9	6.3	0.1
TOTAL WORLD	337.4	588.4	1011.2	1377.4	1362.9	1203.2	1373.1	1382.1	1304.4	1341.9	1144.4	921.6

Source : OPEC Annual Statistical Bulletin - 1981.

Figures converted to million tonnes using the conversion factor : 20,000 barrel/day = 1 million tonnes/year.

Country-wise Export of Crude Oil by Main OPEC Producers - 1981

(Million Tonnes)

Country	Algeria	Indonesia	Iran	Iraq	Kuwait	Libya	Nigeria	Qatar	Saudi Arabia	UAE	Venezuela
NORTH AMERICA	10.4	12.4	-	0.6	0.3	7.9	19.9	0.1	69.6	4.4	14.4
Of which :		-	-	-			-	-		-	
Canada	0.3	-	-	-	0.3	0.4	-	-	8.5	-	7.0
U.S.A.	10.1	12.4	-	0.6	-	7.5	19.9	0.1	61.1	4.4	7.4
LATIN AMERICA	1.1	8.0	3.4	3.1	1.2	1.9	12.7	1.4	19.6	3.2	31.9
Of which :											
Argentina											neg.
Brazil	1.0				1.2			0.8			4.1
Chile											1.0
Netherlands								0.6			13.9
Jamaica											0.3
Puerto Rico											2.1
Panama											0.5
Trinidad & Tobago		3.9									
WESTERN EUROPE	13.3	0.9	16.5	21.9	8.2	35.4	24.6	9.2	191.3	16.3	13.4
Of which :											
Austria	.1					0.8					
Belgium	0.1						0.3				0.7
France	3.2	0.1	1.5	2.3	1.0	1.5	5.4	2.1	46.2	5.9	2.0
Germany(FR)	3.9		1.5	0.2	0.4	10.5	3.8	0.1	25.8	2.2	0.8
Ireland					0.1						
Italy	3.2		2.8	7.8	0.1	10.6	2.8	1.9	31.6	1.4	3.8
Netherlands	0.4	0.2	0.5	0.1	3.8	0.7	7.4	3.2	16.6	3.6	1.1
Spain	0.7		5.0	2.3	0.3	4.5			14.0		2.7
U.K.	0.2		1.3	0.4	2.2	0.3	0.2	0.3	17.4	1.0	1.0
Switzerland						0.6					
Norway							0.1				
Sweden							1.3				0.6
EASTERN EUROPE	-	-	0.6	2.8	1.1	0.7	0.8	-	-	0.2	0.1
MIDDLE EAST	-	-	0.4	0.5	0.8	1.0	-	-	15.7	1.1	-
Yemen		-			0.4					1.1	
AFRICA	0.3	-	0.2	0.9	0.7	0.1	2.1	0.1	7.6	1.7	0.7
ASIA & FAREAST	1.1	28.8	19.5	5.1	27.9	1.0	1.3	8.5	140.3	25.8	2.8
Of which :											
Japan		26.5	6.8	3.0	12.3	1.0	0.9	6.8	67.8	20.6	2.0
Malaysia/Singapore		1.0			2.6						
Phillippines		0.7			0.9						
Taiwan					6.8						
Thailand								1.2			
Korea					5.0						
OCEANIA	-	2.4	0.2	-	0.5	-	-	0.3	6.8	0.8	-
Of which:											
Australia		1.6			0.4			0.1	5.5	0.8	
Newzealand					0.1						
Unspecified											
GRAND TOTAL	26.1	52.5	40.8	34.9	40.7	48.0	61.4	19.6	450.9	53.5	63.3

* Abu Dhabi. Source : OPEC Annual Statistical Bulletin, 1981.

Conversion factor : 1 million tonne/yr. = 20,000 barrels/day.

OIL REVENUES OF OPEC MEMBER COUNTRIES : 1972-81
(Billion US $)

OPEC MEMBER COUNTRIES	1972	1974	1977	1978	1979	1980	1981
Algeria	0.61	3.30	4.25	4.59	7.52	10.79	10.50
Ecuador	0.03	0.41	0.50	0.50	0.80	1.20	1.50
Gabon	0.02	0.17	0.60	0.60	0.90	1.60	1.70
Indonesia	0.50	1.37	4.69	5.20	8.10	10.50	14.00
Iran	2.40	17.82	21.21	19.30	20.50	11.60	9.30
Iraq	0.58	5.70	9.63	10.20	21.29	25.98	9.80
Kuwait	1.40	6.54	7.52	7,70	16.86	18.02	15.00
Libya	1.56	6.00	8.85	8.40	15.22	22.53	15.70
Nigeria	1.12	6.66	9.60	7.90	15.90	20.00	18.00
Qatar	0.26	1.85	1.99	2.20	3.64	5.38	5.30
Saudi Arabia	2.74	22.57	36.54	32.23	57.52	102.21	115.50
UAE	0.55	5.54	9.03	8.20	12.86	19.34*	19.20
Venezuela	1.90	9.27	8.11	7.32	11.96*	16.34	17.44
TOTAL OPEC	15.67	87.20	122.52	114.34	193.07	265.49	252.94

REVENUES PER BARREL OF EXPORTS
($/bbl)

OPEC MEMBER COUNTRIES	1972	1974	1977	1978	1979	1980	1981
Algeria	1.69	10.10	11.27	12.54	21.43	41.32	55.13
Ecuador	1.18	6.91	9.90	11.16	17.88	29.83	38.95
Gabon	0.47	2.62	9.12	9.47	14.96	28.99	37.29
Indonesia	1.70	3.61	9.70	11.23	19.76	27.81	36.52
Iran	1.46	9.09	11.94	11.89	23.33	39.89	31.23
Iraq	1.10	8.45	12.17	11.72	17.81	28.95	38.50
Kuwait	1.31	8.14	12.67	11.98	22.18	38.07	50.50
Libya	1.93	11.03	12.48	12.41	21.21	38.49	44.84
Nigeria	1.74	8.37	12.96	11.85	19.71	27.95	40.15
Qatar	1.74	9.91	13.31	12.56	20.16	31.63	37.14
Saudi Arabia	1.38	7.81	11.63	11.46	17.87	30.36	35.09
UAE	1.26	8.98	12.43	12.37	19.52	31.22	36.56
Venezuela	2.44	14.36	16.81	16.11	22.66	34.78*	37.74
T O T A L	1.56	8.76	12.14	12.01	19.68	31.60	30.81

* = Revised.

Source : OPEC Annual Statistical Bulletin-1981.

OFFICIAL DEVELOPMENT ASSISTANCE FROM OECD AND OPEC MEMBERS - 1978- 1981.

Countries	Amount (Million of U.S. $.)				As percentage of G.N.P.			
	1978	1979	1980	1981	1978	1979	1980	1981
OECD								
Itlay	376	273	683	670	.14	.08	.17	.19
New Zealand	55	67	72	67	.34	.33	.33	.29
United Kingdom	1465	2105	1851	2194	.46	.51	.35	.43
Finland	55	86	110	135	.16	.21	.23	.28
Australia	588	620	667	649	.55	.52	.48	.41
Japan	2215	2637	3353	3170	.23	.26	.32	.28
Canada	1060	1026	1075	1187	.52	.46	.43	.43
Austria	154	127	178	317	.27	.19	.23	.40
United States	5663	4684	7138	5760	.27	.20	.27	.20
Netherlands	1074	1404	1630	1510	.82	.93	1.03	1.08
France	2705	3370	4162	4022	.57	.59	.64	.71
Belgium	536	631	595	574	.55	.56	.50	.59
Norway	355	429	486	467	.90	.93	.85	.82
Denmark	388	448	474	405	.75	.75	.73	.73
Sweden	783	956	962	916	.90	.94	.79	.83
Germany(FR)	2347	3350	3567	3182	.37	.44	.43	.46
Switzerland	173	207	253	236	.20	.21	.24	.24
Total	19992	22420	27256	25461	.35	.35	.38	.35
OPEC								
Nigeria	38	30	42	7	.07	.04	.05	
Algeria	44	272	83		.82	1.08	.27	
Iran	278	25	3	7	.37	.03	.00	
Iraq	172	847	829		.76	2.53	2.12	
Venezuela	109	83	130		.27	.17	.22	
Libya	160	105	281		.93	.45	.92	
Saudi Arabia	1719	2298	3040		2.64	3.01	2.60	
Kuwait	1270	1055	1188		7.37	4.09	3.88	
U.A.E.	717	1115	1062		5.05	5.87	3.96	
Qatar	106	277	319		3.57	5.89	4.80	
Total OAPEC	4186	5968	6803 P		2.64	2.90	2.83	
Total OPEC	4613	6107	6977P		1.39	1.51	1.47	

* Estimated r. Revised P= Provisional

Source = World Development Report-1982.

LOAN ASSISTANCE FROM OPEC AND OTHER OIL SUPPLYING NATIONS- 1974-75 TO 1981-82.

(Rs. Crores)

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82
I. U.S.S.R								
Authorisation	-	-	-	208.3	-	-	485.7	-
Utilisation	148.9	26.9	26.3	25.7	22.0	34.4	35.4	24.6
II. OPEC								
1. Abu Dhabi Fund								
Authorisation	-	-	-	-	-	-	-	-
Utilisation	-	-	-	-	-	6.5	2.0	-
2. OPEC Fund								
Authorisation	184.0	1020.5	125.6	12.1		16.3	39.8	-
Utilisation	160.9	401.9	245.6	208.1	11.5	-	3.4	-
3. Saudi Arabian Fund for Development								
Authorisation	-	-	-	86.4	-	-	-	29.2
Utilisation	-	-	-	-	3.2	41.1	13.1	6.0
4. Kuwait Fund for Arab Economic Development								
Authorisation	-	-	-	-	29.0	-	-	77.5
Utilisation	-	-	-	-	12.3	-	8.6	10.1
5. International Fund for Agricultural Development								
Authorisation	-	-	-	-	-	85.6	13.9	-
Utilisation	-	-	-	-	-	-	-	-
6. Iraq								
Authorisation	-	-	-	-	-	-	82.9	-
Utilisation	-	-	-	-	3.8	1.4	0.7	-
7. Iran								
Authorisation	-	-	-	-	-	-	-	-
Utilisation	-	-	-	-	70.1	12.6	17.3	-
GRAND TOTAL								
Authorisation	184.0	1020.5	125.6	306.8	29.0	101.9	622.3	106.7
Utilisation	309.8	428.8	271.9	233.8	122.9	96.0	80.5	40.7

Source: Economic Survey, 1982-83.

KEY CRUDE OIL PRICE POSTING AROUND THE WORLD.

($/Barrel)

CRUDE	Gravity	1970.		1971				1972				1973		
		Pre-Nov. 14	Nov.14	Feb.15	June1	July1	Oct.1	Jan.20	March18	April 1.	July 1.	Jan. 1.	April 1.	June 1.
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
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	1.720	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			2.373b)				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
Qatar 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	2.410	2.410		3.211d)	3.188	3.166	3.136a)	3.402g)	3.373	3.353	3.484	3.712	3.921
Libyan Light	40	2.530	2.530		3.447d)	3.423	3.399	3.386a)	3.673g)	3.642	3.620	3.777	4.024	4.252
Nigerian Medium	26	2.280	2.280		3.104d)	3.087	3.070	3.068a)	3.328g)	3.306	3.291	3.440	3.659	3.868
Nigerian Light	37	2.420	2.420		3.212d)	3.195	3.178	3.176a)	3.446g)	3.424	3.409	3.561	3.787	4.003
VENEZUELAN CRUDES.														
Tia Juana	26	2.0114	2.0114	2.0164a)	2.590c)			2.901a)				3.0596	3.355f)	
Tia Juana	31	2.193	2.193	2.1984a)	2.665c)			2.035a)				3.215	3.575f)	
Officina	35	2.339	2.339	2.344 a)	2.725c)			2.211a)				3.362	3.768f)	

a) Effective Jan.,1. b) Effective Jan.,2. c) Effective March,18. d) Effective March,20.
e) Effective Feb.,15. f) Effective March,13. g) Effective Jan.,20.

KEY CRUDE OIL PRICE POSTINGS AROUND THE WORLD

($/Barrel)

Crude	Gravity	1973 July 1	1973 Aug. 1	1973 Oct. 1	1973 Oct.16	1973 Nov. 1	1973 Dec.1	1974 Jan. 1	1974 Nov. 1
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	2.989	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		
Libyan Light	40	4.416	4.582	4.604	8.925	9.061		15.768	14.600
Nigerian Medium	26	3.997	4.148	4.147	8.072c)	8.163		14.481	11.453
Nigerian Light	37	4.135	4.291	4.287	8.310c)	8.404		14.691	11.663
VENEZUELAN CRUDES									
Tia Juana	26		3.7667	4.095a)	4.2332b)	6.5693	6.7697	11.797	12.333 d)
Tia Juana	31		4.0137	4.3635a)	4.5108b)	6.8712	7.0700	12.097	12.647 d)
Oficina	35		4.2306	4.5993a)	4.7546b)	7.1105	7.3124	12.337	12.898 d)

a) Effective Sept. 1.
b) Effective Oct. 1.
c) Effective Oct. 20.
d) w.e.f. July 1.

KEY CRUDE OIL PRICE POSTINGS AROUND THE WORLD

($/Barrel)

Crude	Gravity	1975 Jan. 1	1975 Oct. 1	1976 July 1	1976 Oct. 1	1977 Jan. 1	1977 July 1	1978 Jan. 1	1978 May. 1
Arab Light	34		12.376			13.000	13.660		
Arab Berri	39		12.768			13.420	14.220		
Arab Medium	31		12.184	12.129 c)		12.570	13.250		
Arab Heavy	27		11.978	11.871 c)		12.230	12.920		
Iran. Light	34		12.495			13.774			
Iran. Heavy	31		12.360	12.258 b)	12.183 d)	13.430			
Iran. Darius	34		12.344						
Kuwait	31		12.151			13.301			
Abu Dhabi -									
Umm Shaif	37	11.446	12.575			13.200	14.020		
Murban	39	11.686	12.815			13.440	14.260		
Zakum	40	11.586	12.715			13.340	14.160		
Iraq Basrah	35		12.400 a)				13.624		
Qatar Marine	36		12.540			13.979			
Qatar Dukhan	40		12.740			14.183			
Oman	34						13.677 e)		
MEDITERRANEAN & AFRICAN CRUDES									
Iraq Kirkuk	36								
Libyan Light	40		16.060	16.350		18.250	17.780	18.340	18.170
Nigerian Medium	26		13.499	13.610	13.780	14.609	14.534 f)	14.443	14.318 f)
Nigerian Light	37		13.709	13.820	13.990	15.291	15.523 f)	15.182	14.943 f)
VENEZUELAN CRUDES									
Tia Zuana	26		13.436	13.185					
Tia Zuana	31		14.091	13.828					
Oficina	35	14.402	14.402	14.133					

a) National price. b) Effective Feb. 14 c) Effective June, 1

d) Effective June, 9 e) Effective Feb. 1 f) Effective April, 1

KEY CRUDE OIL PRICE POSTINGS AROUND THE WORLD.

($/Barrel)

CRUDE	GRAVITY	1 Jan. 1	Feb. 21	9 April 1	7 May 17	9 June 1	July 1	Nov. 1	Dec. 17
1.	2.	3.	4.	5.	6.	7.	8.	9.	10
Arab. Light	34	14.343		15.461		19.355		25.806	
Arab. Berri	39	15.118		17.710	19.215 b)	22.929		26.582	
Arab. Medium	31	13.856		15.110		18.868		25.319	
Arab. Heavy	27	13.453		14.670		18.465		24.916	
Iran. Light	34	14.462							
Iran Heavy	31	14,043							
Iran. Darius	34								
Kuwait	31								
Abu Dhabi—									
Umm Shaif	37	14.820	15.720 a)	18.151	19.011		22.968	29.419	
Murban	39	15.160	16.258 a)	18.387	19.247		23.183	29.634	
Zakum	40	15.060	16.161 a)	18.290	19.151		23.075	29.527	
Iraq Basrah	34								
Qatar Marine	36								
Qatar Dukhan	40								
Oman	34								
MEDITERRANEAN & AFRICAN CRUDES.									
Iraq Kirkuk									
Libyan Light	40	19.250	20.210	21.200 h) 24.280	25.280 c)	25.830 d)	31.620	35.530e)	40.800g)
Nigerian Medium	26	15.073							
Nigerian Light	37	15.732		19.926	22.722 c)		25.574	28.722f)	32.960

a) Effective Feb., 15. b) Effective May, 15. c) Effective May, 16. d) Effective May, 27.
e) Effective Oct., 15. f) Effective Nov., 6. g) Effective Dec., 13. h) Effective March, 3.

KEY CRUDE OIL PRICE POSTINGS AROUND THE WORLD.

($/bbl)

CRUDE	Gravity.	1980					1981		1982
		Jan.,1	April,1.	May,1.	August 1.	November,1.	Jan.,1.	Oct.,1	Nov.,1.	Jan.,1.
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
Arab. Light	34	27.957	30.108		32.258	34.409		36.559		36.559
Arab. Berri	39	29.591	31.742		33.892	36.043		36.280		38.065
Arab. Medium	31	27.370	29.520		31.671	33.822		35.484		34.839
Arab. Heavy	27	26.882	29.032		31.183	33.333		33.871		33.333
Iran. Light	34									
Iran. Heavy	31									
Iran. Dariius	34									
Kuwait (Export)	31									
Abu Dhabi:-										
Umm Shaif	37	31.750		33.720		35.871d)	39.097		38.172	37.957
Murban	39	31.785		33.935		36.086d)	39.312		38.387	38.172
Zakum	40	31.677		33.828		35.978d)	39.204		38.280	38.064
Iraq Basrah	34									
Qatar Marine	36									
Qatar Dukhan	40									
MEDITERRANEAN & AFRICAN CRUDES.										
Libyan Light	40	47.470								
Nigerian Medium	26									
Nigerian Light	37		38.347	40.358a)	40.949b)		44.358			
VENEZUELAN CRUDES										
Tia Juana	26									
Tia Juana	31									
Oficina	35									

a) = Effective May, 22. b)= Effective July, 1. d)= Effective Sept.,1.

OFFICIAL SELLING PRICES OF KEY OPEC CRUDES.

($/ Barrel)

CRUDE	Gravity.	EFFECTIVE DATES										
		1974	1975		1976				1977		1978	
		Nov. 1	Jan. 1	Oct. 1	Feb. 14	June 1	July 1	Oct. 1	Jan. 1	July 1	Jan. 1	April 1.
Arab. Light	34	10.463		10.510					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	11.33b)			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			12.39			12.62		13.92	14.20	13.97	13.85
Nigerian Light	37			12.70			13.10	13.25	14.31	14.61c)	14.31	14.10
Nigerian Medium	26						12.55	12.52	13.71		13.66	13.55
Sumatra Light	34	12.60		12.80					13.55			
VENEZ-UELAN CRUDES.												
Tia Zuana	26				11.12a)	11.22c)	11.32	11.65	12.72	12.82c)		12.70
Tia Zuana	31				12.30a)			12.35	12.54			
Officina	35				12.80a)				13.99			

A a)= Effective Jan.,1. b)= Effective June,9. c)= Effective April,1. c)=Effective Oct.1.

OFFICIAL SELLING PRICES OF KEY OPEC CRUDES

($/Barrel)

CRUDE	Gravity	(EFFECTIVE DATES) Jan.,1.	February,15	March,3	April,1	May,17	June,1	July,1	Oct.,20	Nov.,1	Dec.,17
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
Arab. Light	34	13.339			14.546		18.000			24,000	
Abab. Berri	39	14.060			16.470	17.870d)	21.324			24.721	
Arab. Medium	31	12.886			14.052		17.547			23.547	
Arab. Heavy	27	12.511			13.643		17.172			23.172	
Iran. Light	34	13.45			16.57	17.17d)	18.47	22.00	23.50i)		28.50m)
Iran. Heavy	31	13.06			16.04	16.64d)	17.74	19.90	22.77i)		27.77m)
Kuwait	31	12.830	14.030a)		15.800	16.40d)		19.490	21.43i)	25.500	
Abu Dhabi-											
Umm Shaif	37	13.780	14.620		16.880	17.68		21.360		27.360	
Murban	39	14.100	15.120		17.100	17.90		21.560		27.560	
Zakum	40	14.010	15.030		17.010	17.81		21.460		27.460	
Iraq Basrah	35	13.21			15.60	16.20c)	16.94	19.96	21.96	23.96	25.96m)
Qatar Marine	36	13.77	14.71		16.85	17.65		21.23		27.23	
Qatar Dukhan	40	14.03	15.05		17.04	17.84		21.42		27.42	
Oman	34	13.94									
MEDITERRANEAN AFRICAN CRUDES.											
Iraq Kirkuk	36	13.41			15.82	16.42c)	17.16	21.25	22.18	24.18	26.18m)
Libyan Light	40	14.69	15.37b) 16.07m)		18.25	18.95e)	21.26f)	23.45	26.22j)		29.95n)
Nigerian Light	37	14.80			18.50	20.96e)		23.47		26.24k)	29.97
Nigerian Medium	26	14.23			17.50	20.00e)		22.00		24.77k)	28.70
INDONESIAN CRUDE.											
Sumatra Light	34	13.90			15.65	16.15e)	18.25g)	21.12		23.50l)	25.50
VENEZUELAN CRUDES.											
Tia Zuana	26	13.36			15.76	16.36e)		19.31	19.48i)		23.48p)
Tia Zuana	31	14.22			16.70	17.30e)		20.90			24.90p)
Oficina	34	14.69			17.21	17.81		22.45			26.75p)

a) Effective Feb.,20. b) Effective Feb.,21. c) Effective May, 1.
d) Effective May,15. e) Effective May,16. f) Effective May,27.
g) Effective June,15 h) Effective July,15. i) Effective Oct.,1.
j) Effective Oct.,15. k) Effective Nov.,6. l) Effective Nov.,17.
m) Effective Dec.,1. n) Effective Dec.,13. p) Effective Dec.,14.

OFFICIAL SELLING PRICES OF KEY OPEC CRUDE

($/Barrel)

CRUDE	TYPE	(EFFECTIVE DATES) 1980 Jan.1	Feb.1	April 1	May 1	July 1	Augu.1	Sept. 1	Nov. 1
Arab. Light	34	26.000		28.00			30.00		32.00
Arab. Borri	39	27.520		29.52			31.52		33.52
Arab. Meduum	31	25.454		27.454			29.454		31.454
Arab. Heavy	27	25.000		27.00			29.00		31.00
Iran. Light	34	30.00	31.00	35.37					
Iran. Heavy	31	29.27	30.27	34.37					
Kuwait	31	27.500			29.50	31.50			
Abu Dhabi :-									
Umm Shaif	37	29.360			31.36			33.36	
Murban	39	29.560			31.56			33.56	
Zakum	40	29.460			31.46			33.46	
Iraq Basrah	35	27.96			29.96	31.96			
Qatar Marine	36	29.23			31.23	33.23			
Qatar Dukhan	40	29.42			31.42	33.42			
Oman	34					32.20 c)	33.40		
MEDITERRANEAN & AFRICAN CRUDES.									
Iraq Kirkuk	36	28.18			30.18	32.18			
Libyan Light	40	34.67			36.67	37.00			
Nigerian Light	37		34.18 c)	34.69	36.69 b)	37.00			
Nigerian Medium	26		32.91 c)	33.42	35.42 b)	35.73			
INDONESIAN CRUDE.									
Sumatra Light	34	27.50			31.50 d)				
VENEZUELAN CRUDE.									
Tia Zuana	26	25.20	26.70 a)		29.28 d)	29.88			
Tia Zuana	31	26.90	28.90 a)		32.40 d)	33.00			
Oficina	35	28.75	30.75 a)		34.25 d)	34.85			

a) Effective Feb.6. b) Effective May,22. c) Effective June,,30. d) Effective May,26. e)Effective Feb.,4.

OFFICIAL SELLING PRICES OF KEY OPEC CRUDES.

(EFFECTIVE DATES)

($/Barrel)

CRUDE	Type	1973 Jan.,1	1973 July 1	1973 Oct.,1	1973 Nov.,1	1974 Jan.,1	1974 Feb.,12	1974 Feb.,23	1974 March 20	1974 April 1	1974 July 1	1974 Aug.,1
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
Arab. Light	34			34.00		34.00			34.00			
Arab. Berri	39			35.60		35.40			34.52			
Arab. Medium	31			33.00		32.40			32.40			
Arab. Heavy	27			31.50		31.00			31.00			
Iran Light	34	37.00			34.60	34.20	32.20	30.20			31.20	
Iran Heavy	31	36.00			34.40	32.30	30.30	28.30			29.30	
Kuwait	31	35.50			33.00	32.30						
Abu Dhabi-												
Umm Shaif	37	36.36			35.50	35.30			34.36			
Murban	39	36.56			35.70	35.50			34.56			
Zakum	40	36.46			35.60	35.40			34.46			
Iraq Basrah	35	35.96		33.96	34.71	33.46			34.21			
Qatar Marine	36	37,23			35.50	35.30			34.30			
Qatar Dukhan	40	37.42			35.65	35.45			34.49			
Oman	34	39.50	35.50- 36.00*	34.00- 34.50*		35.00		32.000)	34.30			34.00
MEDITERRANEAN & AFRICAN CRUDES.												
Iraq Kirkuk	36	36.18		34.18		34.18			34.18			
Libyan Light	40	41.00	40.00		37.50	37.00				35.50		
Nigerian Light	37	40.00		36.00a)	36.50b)	36.50			35.50			
Nigerian Medium	26	33.70		34.70a)	35.20b)	33.75			33.50			
INDONESIAN CRUDE.												
Sumatra Light	34	35.00										
VENEZUELAN CRUDES.												
Tia Zuana	26	32.88			32.88							
Tia Zuana	31	36.00			35.00							
Oficina	35	38.06			37.06							

* = Lower price is for buy-back crude, higher is GSP for equity crude.

a)= Effective Aug.,26. b)= Effective Oct.,1. c)= Effective March,,1.

OFFICIAL SELLING PRICES OF KEY OPEC CRUDES.

($/ Barrel)

CRUDE	TYPE	(EFFECTIVE DATES) 1983. Feb.1	March 1	March 15	Aug.26
1.	2.	3.	4.	5.	6.
Arab. Light	34		29.00		
Arab. Berri	39		29.52		
Arab. Medium	31		27.40		
Arab. Heavy	27		26.00		
Iran. Light	34			28.00	
Iran. Heavy	31			26.90	27.10 c)
Kuwait	31		27.30		
Abu Dhabi :-					
Umm Shaif	37		29.36		
Murban	39		29.56		
Zakum	40		29.46		
Iraq - Basrah	35			29.21	
Qatar - Marine	36		29.30		
Dukhan	40		29.49		
Oman	34			29.00	
MEDITERRANEAN & AFRICAN CRUDES.					
Iraq Kirkuk	36			29.93	
Libyan Light	40	30.40 a)			
Nigerian Light	37	30.00 b)			
Nigerian Medium	26	28.00 b)			
INDONESIAN CRUDE					
Sumatra Light	34	29.53 a)			
VENEZUELAN CRUDES					
Tia Zuana	26			27.88	27.03
Tia Zuana	31			29.84	
Oficina	35			31.09	

a) w.e.f. Feb.,23. b) = Harbor fee of 2cts/bbl not included.

c) Effective August, 10

OPEC'S WEIGHTED* AVERAGE PRICE OF CRUDE OIL

Short-term trend in weighted average Official Prices of OPEC Crude Vs. their Spot Assessment since June, 1980.

WEEK ENDING.	OPEC'S WEIGHTED AVERAGE		DIFFERENCE
	Official Prices.	Spot Assessment	(+)Premium (-)Discount
1.	2.	3.	4.
19-6-80	30.83	34.80	+3.97
26-6-80	30.83	34.80	+3.97
3-7-80	31.30	34.34	+3.04
2-10-80	31.97	31.32	+1.15
9-10-80	31.97	35.27	+3.30
30-10-80	31.76	37.62	+5.86
7-11-80	31.76	38.78	+7.02
14-11-80	31.96	39.77	+7.98
21-11-80	31.79	41.46	+9.67
28-11-80	31.79	40.07	+8.28
19-12-80	32.65	38.62	+5.97
25-12-80	32.65	39.06	+6.41
9-1-81	34.26	38.93	+4.67
16-1-81	34.34	38.92	+4.28
23- 1-81	34.80	38.49	+3.69
30- 1-81	34.83	37.55	+2.72
6- 2-81	34.83	37.02	+2.19
13- 2-81	34.83	36.27	+1.44
20- 2-81	34.83	36.27	+1.44
27- 2-81	34.83	36.72	+1.89
6- 3-81	34.83	36.72	+1.89
13- 3-81	34.82	36.34	+1.76
20- 3-81	34.83	36.34	+1.51
27- 3-81	34.83	36.19	+1.31
3- 4-81	34.83	35.90	+1.07
10- 4-81	34.82	35.84	+1.02
17- 4-81	34.82	35.43	+0.61
24-4-81	34.82	34.34	-0.48
1- 5-81	34.82	33.90	-0.92
8- 5-81	34.80	32.69	-2.11
15- 5-81	34.80	32.68	-2.12
22- 5-81	34.80	33.14	-1.66
29- 5-81	34.80	32.75	-2.05
5- 6-81	34.75	31.84	-2.91
12- 6-81	34.77	31.61	-3.16
19- 6-81	34.77	31.21	-3.56
26- 6-81	34.77	31.07	-3.70
2- 7-81	34.77	31.04	-3.73
10- 7-81	34.77	31.23	-3.54
17- 7-81	34.62	31.66	-2.96
24- 7-81	34.62	31.40	-3.22
28- 8-81	34.66 (34.32)	31.60	-3.06
4- 9-81	34.66 (34.32)	31.48	-3.18
11- 9-81	34.64 (34.32)	31.48	-3.16
18- 9-81	34.64 (34.32)	31.50	-3.14
24- 9-81	34.64 (34.32)	31.67	-2.97

....Contd.../-

*= The weightings given are based on each nation's production relative to OPEC total.

Short-term trend in weighted average Offical Prices of OPEC

Of OPEC Crude Vs.their Spot Assessment

($/Barrel)

Week ending	OPEC's weighted average		Difference (+) Premium (-) Discount
	Official Prices	Spot Assessment	
2.10.81	34.64 (34.32)	31.58	-3.06
9.10.81	33.94 (33.79)	31.45	-2.49
16.10.81	33.94 (33.79)	31.75	-2.19
23.10.81	33.94 (33.73)	31.79	-2.97
30.10.81	33.95	32.60	-1.35
6.11.81	33.95	32.88	-1.11
13.11.81	33.95	33.32	-0.63
20.11.81	33.96	33.32	-0.64
25.11.81	33.96	33.15	-0.81
4.12.81	33.96	33.12	-0.84
11.12.81	33.80	33.07	-0.73
18.12.81	33.84	33.16	-0.68
23.12.81	33.80	33.12	-0.68
30.12.81	33.78	33.15	-0.63
8.1. .82	33.74	33.28	-0.46
15.1.82	33.74	33.33	-0.41
22.1.82	33.74	32.96	-0.78
29.1.82	33.69	32.44	-1.25
5.2.82	33.68	30.74	-2.94
12.2.82	33.62	29.56	-4.06
18.2.82	33.53	28.48	-5.07
26.2.82	33.43	28.85	-4.58
5.3.82	33.36	28.69	-4.67
19.3.82	33.36	27.85	-5.51
26.3.82	33.24	27.96	-5.28
2.4.82	33.24	27.92	-5.32
8.4.82	33.20	29.24	-3.96
15.4.82	33.10	29.58	-3.51
23.4.82	33.10	29.58	-3.51
30.4.82	33.10	31.84	-1.25
7.5.82	33.16	31.69	-1.47
14.5.82	33.14	32.60	-0.54
21.5.82	33.14	32.25	-0.89
28.5.82	33.14	32.28	-.85
4.6.82	33.14	32.10	-1.04
11.6.82	33.14	32.10	-0.74
18.6.82	33.14	32.11	-1.04
25.6.82	33.23	31.42	-1.80
2.7. 82	33.23	31.33	-1.90
9.7.82	33.23	31.59	-1.64
16.7.82	33.23	31.59	-1.64
23.7.82	33.18	31.12	-2.06
30.7.82	33.18	31.36	-1.82

Contd/-

(Figures in brackets are after allowing discounts on official selling prices by Nigeria)
The weightings given are based on each nations production relatives to OPEC total.

Short-term trend in weighted average Official Prices of OPEC Crude vs. their Spot Assessment

($/Barrel)

Week ending	OPEC's weighted average		Difference
	Official Prices	Spot Assessment	(+)Premium (-)Discount
6.8.82	33.18	30.87	-2.31
13.8.82	33.18	30.61	-2.57
20.8.82	33.18	30.61	-2.57
27.8.82	33.18	31.06	-2.12
3.9.82	33.18	31.60	-1.58
10.9.82	33.18	31.62	-1.56
17.9.82	33.18	32.08	-1.10
26.9.82	33.18	32.30	-0.88
1.10.82	33.18	32.41	-0.77
8.10.82	33.18	32.41	- 0.77
15.10.82	33.18	32.41	-0.77
22.10.82	33.18	32.29	-0.89
29.10.82	33.18	32.31	-0.87
5.11.82	33.18	32.10	-1.08
12.11.82	33.17	31.46	-1.30
19.11.82	33.17	30.16	-2.01
26.11.82	33.17	30.90	-2.27
3.12.82	33.17	29.73	-3.93
10.12.82	33.17	29.79	-3.38
16.12.82	33.17	29.86	-3.31
23.12.82	33.17	29.85	-3.32
7.1. 83	33.17	29.90	-3.27
14.1.83	33.17	29.90	-3.27
28.1.83	33.17	29.44	-3.73
4.2.83	33.17	28.78	-4.39
11.2.83	33.17	28.78	-4.39
18.2.83	33.17	28.74	-4.43
25.2.83	32.87	27.87	-5.00
4.3.83	32.83	27.56	-5.27
11.3.83	32.83	27.46	-5.37
18.3.83	32.83	27.46	-5.41
25.3.83 *	28.87	27.35	-1.52

* Reflect new prices.

DEVELOPMENTS OF LOWEST POSTED PRICES OF POL PRODUCTS AT BANDAR MASHAR

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	"	"
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
1.1.81	-	-	-	106.3	102.5
1.1.82	-	-	-	109.8	104.0
1.1.83	-	-	-	100.8	97.0
14.4.83	-	-	-	87.0	81.0
8.8.83	-	-	-	"	"
12.8.83	-	-	-	91.0	85.0

No change upto 22.8.83

Price as on	Middle Distillates (US ¢ / US Gallon)				
	Turbine Fuel 58F	Kerosene	Diesel Index	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	"	"	"	"	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
1.1.81	110.0	105.5	102.0	-	31.00
1.1.82	112.5	110.0	104.5	-	32.95
1.1.83	109.5	107.0	100.0	-	31.25
14.4.83	94.5	93.5	87.0	-	27.50
8.8.83	88.0	86.0	84.0	-	"
12.8.83	"	"	"	-	28.35

No Change upto 22.8.83

Source:- Platt's oil gram.

Quarterly Development of Spot Prices of Major Petroleum Products during 1982 and 1983 in Key Trading Centres/Countries.

Product/Type	1982 Jan.	1982 April	1982 July	1982 Oct.	1983 Jan.	1983 April	1983 July
I. Naphtha (US ¢/US Gallon)							
1. N.W. Europe	81.5	76.0	79.9	81.6	79.1	N.A.	77.2
2. Mediterrian	80.7	70.4	77.6	80.5	77.6	N.A.	76.0
3. Caribbean	85.0	78.0	86.0	86.0	77.0	79.0	80.0
4. Arabian/P.Gulf	80.0	70.0	75.0	76.0	77.0	71.0	73.5
5. Singapore	76.5	70.0	77.0	78.5	78.5	71.5	75.5
II. Regular Gasoline (US ¢/US Gallon)							
1. N.W.Europe	90.7	83.2	93.6	94.7	80.0	N.A.	83.5
2. Mediterrian	88.6	79.5	88.4	91.8	76.4	N.A.	80.5
3. Caribbean	88.0	85.0	88.0	88.5	78.0	85.0	82.0
4. Arabian/P.Gulf	95.0	90.0	91.0	91.0	91.0	85.0	86.0
5. Singapore	95.0	88.0	91.0	92.0	92.0	86.0	90.0
III. Jet Kerosene (US ¢/US Gallon)							
1. N.W. Europe	103.8	84.3	91.7	101.1	91.2	N.A.	81.9
2. Mediterrian	102.6	84.2	88.0	99.0	88.3	N.A.	80.2
3. Caribbean	-	-	-	-	-	-	-
4. Arabian/P.Gulf	104.0	90.0	93.0	96.0	91.0	83.0	80.0
5. Singapore	109.3	95.5	95.0	101.5	96.5	85.0	81.0
IV. Gas Oil (US ¢/US Gallon)							
1. N.W. Europe	101.1	86.0	87.1	100.1	86.7	N.A.	77.3
2. Mediterian	99.3	84.9	86.1	97.8	86.3	N.A.	75.3
3. Caribbean	99.0	84.0	87.0	97.5	85.0	78.0	78.0
4. Arabian/P.Gulf	100.0	88.0	93.0	94.0	88.0	76.0	77.0
5. Singapore	99.0	88.5	93.5	95.5	92.0	77.5	77.0
V. Fuel Oil ($/barrel)							
1. N.W. Europe 1%	25.13	26.42	25.97	24.82	25.82	N.A.	26.61
2. Mediterian 1%	24.48	23.97	25.96	28.09	25.89	N.A.	26.37
3. Caribbean 1%	27.15	27.00	26.00	30.15	24.25	25.0	27.60
4. Arabian/P.Gulf 1%	25.00	24.40	25.30	26.51	25.15	25.75	25.00
5. Singapore 3.5%	26.51	24.62	26.05	26.96	25.60	26.05	25.90

Source : Various Issues of Petroleum Intelligence Weekly, 1982-1983.

RETAIL PRICES INCLUDING DUTY AND TAXES OF-SOME SELECTED PRODUCTS IN DIFFERENT COUNTRIES AS ON 1 - 1 - 1982

(US $/USG)

COUNTRY	REGULAR GASOLINES				HOUSE HOLD KEROSENE			
	Consumer Price	Tax	v.a.t.	Import Duty	Consumer Price	Tax	v.a.t.	Import Duty.
1.	2.	3.	4.	5.	6.	7.	8.	9.
NORTH AMERICA.								
Canada	X	X	X	None	X	X	X	None
Mexico	.87	.60	X	None	.22	.02	X	None
United State	1.22	.03	X	None	1.22	X	X	None
CENTRAL SOUTH AMERICA AND CARIBEEA-N.								
Argentina	X	X	X	None	X	X	X	None
El.Salvador	2.90	.30	X	0.29+6%	1.84	Neg.	None	None
Venezuela	.13	.01	X	None	.09	Neg.	X	None
EUROPE.								
Austria	2.64	.80+8%	+18%	.06	4.02@	.71	+13%	.03
Belgium	2.77	1.49	X	None	1.47	.21	X	None
Denmark	2.86	1.52	X	None	1.67	.30	X	None
France	X	X	X	X	X	X	X	X
West Germany	X	X	X	X	X	X	X	X
Italy	X	X	X	X	X	X	X	X
Netherlands	2.59	X	.39	.87	1.62	X	18%	.05
U. Kingdom(London)	2.46	.99	+15%	None	1.46	0.06	X	None
Yugoslavia	2.66	.96	X	None	2.26	.29	X	None
MIDDLE EAST								
Iran	X	X	X	None	X	X	X	None
Israel	1.84	.40	+12%	None	1.37	.15	+12%	None
Turkey	1.47	.06	X	Neg.	1.01	.06	X	Neg.
AFRICA								
Ethiopia	2.18	.23	X	None	1.20	None	X	None
Kenya	X	X	X	X	X	X	X	X
South Africa (Cape Town)	2.27	.92	X	X	1.49	.22	X	X
ASIA								
Burma	X	X	X	None	X	X	X	None
India	2.53	1.09	X	None	.75	.16	X	None
Indonesia	X	X	X	None	.15	.03	X	None
Japan	2.74	.91	+3.5%	.04	1.53	-	+3.5%	.02
Pakistan	1.93	.34	X	.34	1.05	None	None	None
Phillipines	2.36	1.18	X	None	1.46	.15	X	None
Singapore	X	X	X	X	X	X	X	X
Sri Lanka	X	X	X	X	X	X	X	X
Thailand	1.87	.64	X	.48	1.01	.06	X	.01
AUSTRALASIA								
Australia	X	X	X	X	X	X	X	X

X = Not reported.

Vat = Value added tax is noted where the percentage figure is known; otherwise any value added tax is included in the tax column figure.

@ = Average retail price.

Source : International Energy Annual, 1981.

RETAIL PRICES INCLUDING DUTY AND TAXES OF SOME SELECTED PRODUCTS IN DIFFERENT COUNTRIES AS ON 1.1.82

(U.S.$/Barrel)

Country	Distillate Fuel Oil				Medium Fuel Oil			
	Consumer Price	Tax	Vat	Import duty	Consumer Price	Tax	Vat	Import Duty
NORTH AMERICA								
Canada	X	X	X	None	X	X	X	None
Mexico	15.23	1.40	X	None	4.93	.49	X	None
United States	45.15	X	X	None	32.38	X	X	None
CENTRAL SOUTH AMERICA AND CARIBBEAN								
Argentina	X	X	X	None	X	X	X	None
Brazil	X	X	X	None	X	X	X	None
El Salvador	38.13	.34	X	-20+ 6%	X	X	X	X
Venezuela	2.03	X	X	None	X	X	X	X
EUROPE								
Austria	X	X	X	X	49.30	X	13%	.57
Belgium	59.62	8.66	X	None	44.45	6.46	X	None
Denmark	71.06	21.51	X	None	X	X	X	None
France	X	X	X	X	X	X	X	X
West Germany	X	X	X	X	X	X	X	X
Italy	X	X	X	X	X	X	X	X
Netherlands	X	X	X	X	X	X	X	None
U.Kingdom(London)	X	X	X	X	47.51	2.31	X	None
Yogoslavia	59.10	4.22	X	None	56.15	1.90	X	None
MIDDLE EAST								
Iran	X	X	X	None	X	X	X	None
Israel	58.88	4.21	12%	None	38.48	4.12	+12%	None
Turkey	41.07	2.57	X	.03	29.63	1.66	X	.01
AFRICA								
Ethiopia	46.58	6.53	X	None	X	X	X	None
Kenya	X	X	X	X	X	X	X	X
South Africa	72.56	20.58	X	X	72.40	20.58	X	X
ASIA								
Burma	X	X	X	X	X	X	X	None
India	41.82*	9%	X	None	41.22	4%	X	None
Indonesia	X	X	X	None	X	X	X	None
Japan	74.20	17.17	3.5%	3.54	34.41	5X.41	3.5%	2.13
Pakistan	X	X	X	X	X	X	X	X
Phillipines	40.83	3.93	X	None	40.83	3.93	X	None
Singapore	X	X	X	X	X	X	X	X
Sri Lanka	X	X	X	X	X	X	X	X
Thailand	49.11	6.55	X	3.66	30.83	.01	X	.01
AUSTRALASIA								
Australia	X	X	X	X	X	X	X	X

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.
.* = Excludes sales tax.

Source : International Energy Annual, 1981.

RETAIL PRICES INCLUDING DUTY AND TAXES OF SOME SELECTED PRODUCTS IN DIFFERENT COUNTRIES AS ON 1.1.1982

(U.S.$/U.S.G.)

Country	Auto Diesel Fuel				L.P.G.			
	Consumer price	Tax	Vat	Import duty	Consumer price	Tax	Vat	Import duty
NORTH AMERICA								
Canada	X	X	X	None	X	X	X	None
Mexico	0.36	.03	X	None	0.30	None	None	None
United States	1.05	X	None	None	0.78	X	X	None
CENTRAL SOUTH AMERICA AND CARIBBEAN								
Argentina	X	X	X	None	X	X	X	None
Brazil	X	X	X	X	X	X	X	X
El Salvador	1.98	.03	X	.19+10 %	1.55	None	None	None
Venezuela	0.09	neg.	X	None	0.64	X	X	None
EUROPE								
Austria	2.49	.71+8%	+18%	.03	0.98	None	13%	4.6%
Belgium	2.20	.86	X	None	1.89	.27	X	None
Denmark	1.86	.54	X	None	1.39	0.38	X	None
France	X	X	X	X	X	X	X	X
West Germany	X	X	X	X	X	X	X	X
Italy	X	X	X	X	X	X	X	X
Netherlands	1.81	None	.28	.29	X	X	X	X
United Kingdom	2.50	.99	15%	None	X	X	X	None
Yugoslavia	2.41	.74	X	None	1.08	.23	X	None
MIDDLE EAST								
Iran	X	X	X	None	X	X	X	None
Israel	1.49	.10	12%	None	1.18	.44	+12%	None
Turkey	.98	0.06	X	Neg.	0.68	0.06	X	.08
AFRICA								
Ethopia	1.44	.16	X	None	1.29	1.12	X	None
Kenya	X	X	X	X	X	X	X	X
South Africa	2.30	.87	X	X	1.73	.21	X	X
ASIA								
Burma	X	X	X	X	X	X	X	None
India	1.26	.22	X	None	0.76	.09	X	None
Indonesia	X	X	X	X	X	X	X	None
Japan	1.95	0.41	3.5%	0.03	2.28	.16	X	.01
Pakistan	1.20	.10	X	.10	0.68	None	None	None
Phillipines	1.45	.21	X	None	1.43	.09	X	None
Singapore	X	X	X	X	X	X	X	X
Sri Lanka	X	X	X	X	X	X	X	X
Thailand	1.21	.16	X	.09	0.84	Neg.	Neg.	Neg.
AUSTRALASIA								
Australia	X	X	X	X	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, 1981.

POSTED AIRFIELD PRICES OF JET-A.I FUEL AT MAJOR INTERNATIONAL AIRPORTS AS ON 1-6-80, 1-12-80, 1-1-81 1-12-81, 1-6-82 1-12-82 & 1-3-1983.

(U.S.Ø./U.S. Gallon)

Countries/Port.	PRICES OF JET-A-I, FUEL AS ON						
	1-6-80	1-12-80	1-6-81	1-12-81	1-6-82	1-12-82	1-3-83.
1.	2.	3.	4.	5.	6.	7.	8.
Australia.							
Perth	121.05	132.42	138.49	146.86	140.73	135.94	146.14
Sydney	121.05	132.42	138.49	146.86	140.73	135.94	146.14
Bahrain	159.35	159.35	167.68	165.03	160.13	160.13	160.13
Belgium							
Brussels	164.00	169.00	174.00	174.00	174.00	174.00	174.00
Egypt.							
Cairo	155.20	155.20	162.77	162.77	143.84	151.41	151.41
Ethopia							
Addisababa	156.06	172.48*	182.24	183.41	183.41	176.38	176.38
France.							
Paris	151.33	147.14	150.00	145.00	145.00	145.00	145.00
Germany							
Frankfurt	157.30	146.15	153.50	154.18	146.50	146.50	146.50
Holland							
Amsterdam	143.20	165.00	159.80	153.80	138.00	138.00	138.00
Italy.							
Rome	165.00	155.00	145.00	145.00	145.00	153.00	153.00
Kenya.							
Nairobi	144.00	167.00	175.00	180.00	180.00	180.00	180.00
Lebanon.							
Beirut	185.00	185.00	185.00	185.00	185.00	185.00	185.00
Malaysia							
Kualalumpur	137.00	136.72	155.00	145.00	145.00	145.00	145.00
Mauritius.							
Plaisance	140.00	145.00	150.00	150.00	145.00	145.00	145.00
Singapore.							
Paya lebar	137.00	137.00	152.50	151.00	151.00	141.00	141.00
Switzerland.							
Geneva	155.60	155.87	153.36	155.51	143.65	142.40	145.59
U.A.E.							
Abu Dhabi	161.74	163.97	172.08	169.35	159.66	124.26	124.27
Sharjah/Dubai	161.74	163.97	172.08	169.35	159.66	159.61	159.66
UNITED KINGDOM.							
London (H)	168.02	177.97	167.27	187.12	169.33	171.37	162.11
Kerachi.	123.28	166.10	175.50	175.50	175.50	175.50	175.50
Kuwait	120.64	130.92	137.86	133.05	132.60	124.06	124.06
New York	112.00	91.12	108.21	102.70	96.90	99.40	92.95
Tehran (1)	137.89	137.89	140.74	122.13	122.13	122.13	122.13
Tokyo.							
Narita	127.01	127.01	127.50	130.05	128.05	128.05	127.05
Bombay	153.46	151.43	155.45	144.33	140.77	136.09	131.72
Delhi.							
Palam	158.74	157.37	162.28	152.30	152.06	146.91	134.09

*= Less rebate 2.00 Ø USG. (1)- Monopoly Price.
(2)- Air India Contract Price.

WORLD DEVELOPMENT OF AVERAGE FREIGHT RATES ASSESSMENT (AFRA)

(Percentage)

PERIOD		General Purpose 16500-24999dwt	Medium range 25000-44999dwt	IRI 45000-79999dwt	IB-2 80000-159999 dwt	VLCC 160000 dwt above	ULCC 320000-54999 dwt.
1.		2.	3.	4.	5.	6.	7.
Average	1974	221.2	179.4	120.6	97.0	78.6	
"	1975	139.5	124.8	83.2	62.7	56.9	
"	1976	132.7	117.6	77.1	57.0	50.3	
" "	1977	151.7	114.7	74.7	54.8	47.9	
"	1978	155.5	116.5	72.2	53.5	44.8	
"	1979	255.2	200.4	124.5	80.5	52.4	49.0
"	1980	233.9	184.8	108.7	72.6	46.7	39.4
"	1981	194.9	147.7	85.6	59.9	41.0	35.1
1982							
January	1982	180.6	137.1	76.1	54.2	39.5	32.5
February	"	184.8	138.3	77.2	54.8	39.6	32.0
March	"	177.6	130.7	73.2	51.8	39.0	32.5
April	"	169.5	130.9	71.1	49.8	38.4	29.3
May	"	169.2	125.7	69.9	49.3	38.7	28.8
June	"	164.8	125.2	69.2	50.7	38.0	30.3
July	"	177.7	130.7	73.2	52.7	38.1	32.1
August	"	172.5	126.0	72.6	50.6	37.4	32.1
September	"	170.0	125.6	71.2	50.1	37.5	31.3
October	"	165.3	127.7	70.0	49.1	37.4	31.4
November	"	178.6	128.5	70.9	48.3	41.1	35.7
December	"	178.2	131.9	73.6	48.1	40.8	41.0
Averages	1982.	173.6	129.9	72.4	50.8	38.8	32.4
1983.							
January	1983	175.0	136.5	75.3	48.7	38.4	38.7
February	"	170.9	136.8	73.5	48.9	37.8	37.8

WORLD TANKER FLEET BY FLAG 1971 TO 1982.

(Million dwt.)

FLAG	1971	1976	1979	1980	1981	1982
1.	2.	3.	4.	5.	6.	7.
U. S. A.	9.5	11.6	15.7	16.2	16.4	16.8
United Kingdom	25.0	30.8	24.8	24.8	21.8	17.6
Norway	18.9	29.6	24.4	24.0	24.5	21.2
Other Western Europe	38.9	71.2	76.8	74.9	76.8	70.7
Convenience	46.6	109.8	114.2	112.5	106.0	100.3
Japan	18.0	32.4	30.0	30.0	29.7	28.5
Rest of World	12.0	35.3	42.0	42.4	45.6	48.6
TOTAL :	170.9	320.7	327.9	324.8	320.2	303.7

SOURCE:- B.P Statistical Review of the World Energy.

WORLD TANKER FLEET BY SIZE 1971 TO 1982.

(Million dwt.)

SIZE OF TANKER	1971	1976	1979	1980	1981	1982.
1.	2.	3.	4.	5.	6.	7.
10-25 000 dwt	24.1	17.5	14.2	14.1	13.8	13.5
25-45 000 dwt	28.0	27.3	24.2	24.6	26.0	27.2
45-65 000 dwt	22.6	19.9	15.3	16.1	16.6	16.1
65-125 000 dwt	39.4	54.4	51.2	52.5	55.4	51.8
125-205 000 dwt	12.0	28.7	33.4	33.0	31.2	30.2
205-285 000 dwt	42.5	138.8	142.2	139.1	131.2	118.3
285 000 dwt and over	2.3	34.1	47.4	45.4	46.0	46.6
TOTAL :-	170.9	320.7	327.9	324.8	320.2	303.7

SOURCE :- B.P. Statistical Review of the World Energy.

INTER - AREA TOTAL OIL MOVEMENTS - 1982.

(Million Tonnes)

FROM TO	U.S.A.	Canada	Latin America	Western Europe	Africa	South East Asia
1.	2.	3.	4.	5.	6.	7.
U. S. A.	-	4.5	16.7	12.6	0.4	3.2
Canada	23.1	-	-	0.6	-	-
Latin America	100.7	8.8	20.7	37.2	4.9	0.5
Western Europe	28.7	1.3	1.4	-	7.7	0.5
Middle East	38.2	4.6	44.5	229.8	14.2	81.6
North Africa	12.1	0.8	6.3	74.5	0.8	-
West Africa	30.2	0.2	5.1	34.9	2.2	-
East & South Africa	-	-	-	-	0.9	0.3
South Asia	-	-	-	2.3	-	0.3
South East Asia	13.4	-	-	1.2	1.1	-
Japan	-	-	-	0.1	-	0.1
Australasia	0.2	-	-	-	-	-
U.S.S.R., E. Europe & China	2.0	-	10.0	72.9	-	11.9
TOTAL IMPORTS :-	248.6	20.2	104.7	466.1	32.2	98.4

Contd.

FROM TO	Japan	Australasia	Other Eastern Hemisphere.	Destination not Known.	Total Export.
8.	9.	10.	11.	12.	13.
U. S. A.	3.7	0.6	0.5	0.7	42.9
Canada	0.3	-	-	-	24.0
Latin America	7.3	-	7.4	16.8	204.3
Western Europe	-	0.3	8.0	-	47.9
Middle East	137.0	8.0	20.8	-	578.7
North Africa	2.2	-	9.4	0.2	106.3
West Africa	-	-	2.0	-	74.6
East & South Africa	-	-	-	-	1.2
South Asia	0.1	0.1	0.5	-	3.3
South East Asia	44.1	6.7	6.8	-	73.3
Japan	-	0.2	-	-	0.4
Australasia	1.1	-	-	-	1.3
U.S.S.R., E. Europe & China	10.4	0.1	4.3	--	111.6
TOTAL IMPORTS :-	206.2	16.0	59.7	17.7	1269.8

SOURCE :- B.P. Statistical Review of the World Energy- 1982.

WORLD PRIMARY ENERGY CONSUMPTION - 1982.

(Million Tonnes Oil Equivalent)

COUNTRY/AREA.	Oil	Natural Gas	Coal	Water Power	Nuclear Energy	TOTAL
1.	2.	3.	4.	5.	6.	7.
U. S. A.	703.0	463.0	394.6	90.1	77.7	1728.4
Canada	73.0	43.0	22.7	59.0	9.7	207.4
Total North America	776.0	506.0	417.3	149.1	87.4	1935.8
Total Western Hemisphere	1011.4	566.0	434.5	198.2	87.9	2298.0
Western Europe						
Austria	10.5	3.8	3.2	7.3	-	24.8
Belgium & Luxembourg	22.8	7.8	11.4	0.1	3.3	44.8
Denmark	11.7	0.5	5.9	-	-	18.1
Finland	11.3	0.6	1.9	3.5	4.1	21.4
France	92.4	23.0	26.8	15.5	22.9	180.6
Greece	11.9	-	4.0	0.9	-	16.8
Iceland	0.5	-	-	0.8	-	1.3
Republic of Ireland	4.6	1.0	2.2	0.2	-	8.0
Italy	90.7	22.9	14.4	11.0	2.4	141.4
Netherlands	30.4	27.3	4.7	-	1.0	63.4
Norway	7.8	-	0.3	23.7	-	31.8
Portugal	9.1	-	0.4	2.5	-	12.0
Spain	46.5	3.2	17.8	5.4	2.1	75.0
Sweden	19.7	-	1.7	9.5	6.7	37.6
Switzerland	11.2	0.8	0.4	9.6	3.7	25.7
Turkey	16.5	-	8.2	3.2	-	27.9
United Kingdom	75.6	41.6	65.4	1.4	9.4	193.4
West Germany	112.4	38.6	79.7	5.5	14.2	250.4
Yugoslavia	14.1	3.8	15.9	7.0	0.7	41.5
Cyprus/Gibraltar/Malta	1.4	-	+	-	-	1.4
Total Western Europe.	601.1	174.3	254.3	107.1	70.5	1217.3
Middle East	86.7	38.0	+	1.0	-	125.7
Africa	79.0	18.0	70.1	14.2	-	181.3
South Asia	45.1	11.8	91.5	14.0	0.6	163.0
Of which India	35.2	4.2	88.7	4.0	0.2	132.3
Japan	207.0	24.7	62.0	19.5	27.0	340.2
South East Asia	121.0	7.7	58.3	8.8	4.4	200.2
Australasia	35.5	12.0	33.3	8.7	-	89.5
USSR	448.5	380.0	345.0	49.5	19.0	1242.0
Eastern Europe	101.1	70.1	270.0	7.0	7.2	455.4
China	82.4	9.5	412.2	18.0	-	522.1
Total Eastern Hemisphere	1807.4	746.1	1606.7	247.8	128.7	4536.7
WORLD(excluding USSR, E.Europe & China).	2186.6	852.5	1014.0	371.5	190.4	4615.4
WORLD	2818.8	1312.1	2041.2	446.0	216.6	6834.7

+ = Less than 0.05 million tonnes oil equivalent.

Source:- BP Statistical Review - 1982.

ESTIMATED PER CAPITA PRIMARY ENERGY CONSUMPTION - SOME INTERNATIONAL COMPERISONS (1982)

(In Kgm. Oil equivalent)

COUNTRY/ AREA.	OIL	NATURAL GAS	COAL	WATER POWER	NUCLEAR ENERGY	TOTAL
1.	2.	3.	4.	5.	6.	7.
1. WESTERN HEMISPHERE	1597	894	686	313	139	3629
OF WHICH						
NORTH AMERICA	3033	1978	1631	583	342	7567
U. S. A.	3038	2001	1705	389	336	7469
Canada	2992	1762	930	2418	398	8500
2. EASTERN HEMISPHERE:						
a) Western Europe	1605	465	706	286	188	3250
of which						
Austria	1394	505	425	969	-	3293
Belgium & Luxembourg	2224	703	1112	10	322	4371
Italy	1581	399	251	192	42	2465
Netherlands	2124	1908	328	-	70	4430
Norway	1898	-	73	5766	-	7737
Portugal	901	-	40	247	-	1188
Spain	1230	85	471	143	55	1984
Sweden	2365	-	204	1141	804	4514
Switzerland	1753	125	63	1502	579	4022
Turkey	348	-	173	68	-	589
U. K.	1351	744	1169	25	168	3457
Germany West	1819	624	1290	89	230	4052
Yugoslavia	622	168	702	309	31	1832
b) Middle East	568	249	neg.	6	-	823
c) Africa	162	37	143	29	-	371
d) South Asia of	48	12	97	15	1	173
which India	50	4	127	6	neg.	187
e) South East Asia	289	18	140	21	11	479
f) Japan	1764	211	528	166	230	2899
g) Australasia	1667	563	1563	409	-	4202
h) U.S.S.R.	1648	1397	1268	182	70	4565
i) Eastern Europe	880	610	2349	61	63	3963
j) China	82	9	410	18	-	519
3. WORLD(excl. USSR, E. Europe & China)	690	269	320	117	60	1456
4. WORLD(incl. USSR, E. Europe & China)	618	287	447	98	48	1498

SOURCE:- i) BP Statistical Review of the World Industry, 1982.
ii) World Development Report, 1982 and International Financial Statistics, May 1983 for population.

ESTIMATED PER CAPITA CONSUMPTION OF MAIN PETROLEUM PRODUCTS- SOME INTERNATIONAL COMPARISONS (1982).

Country/Area	Kg./Per Capita				
	Gasoline	Middle Distillates	Fuel	Others *	Total
1.	2.	3.	4.	5.	6.
U.S.A.	1276	806	387	569	3038
Canada	1135	930	394	533	2992
W. Europe	351	580	436	238	1605
Japan	329	491	667	277	1764
Australia	662	470	310	225	1667
Rest of the World (excl. U.S.S.R.E. Europe & China	44	78	81	33	236
World(Excl USSR, Europe (China)	193	215	171	111	690

* Includes refinery gas, LPG solvents, petroleum Coke . bitumen and refinery fuel and loss.

Pattern of Refinery Production in Main Consuming countries of the World 1982.

Products	Percentage By Weight			Percentage by volume		
	North America	Western Europe	Japan	North America	Western Europe	Japan
1.	2.	3.	4.	5.	6.	7.
Gasoline	44	24	21	50	27	24
Middle Distillates	29	36	33	30	36	33
Fuel oil	10	24	37	9	21	33
Other products (incl. Refinery fuel and loss)	17	16	9	11	16	10
Total	100	100	100	100	100	100

Source:- BP Statistical Review of the world oil industry 1982.

COMMERCIAL PRIMARY ENERGY PRODUCTION AND CONSUMPTION BY COUNTRY GROUPS. 1970 - 1990.

(Million b/d of oil equivalent)

COUNTRY	1970		1980		1990	
	Production	Consumption	Production	Consumption	Production	Consumption.
1.	2.	3.	4.	5.	6.	7.
I. Industrial Market Economics	43.2	60.6	50.6	72.4	64.3	87.0
Petroleum	12.7	29.9	14.5	35.0	16.4	37.4
Natural Gas	13.0	12.8	13.8	15.0	13.2	16. 2
Solid Fuels	13.0	13.3	13.9	14.0	20.4	19.1
Primary Electricity.	4.5	4.6	8.4	8.4	14.3	14.3
II. Non-Market Industrial Economics	28.8	27.6	45.2	43.0	63.4	62.1
Petroleum	8.0	7.2	13.7	13.1	17.9	17.3
Natural Gas	3.8	3.8	7.7	7.0	12.6	12.3
Solid Fuels	16.3	15.7	21.8	20.9	29.8	29.4
Primary Electricity	0.9	0.9	2.0	2.0	3.1	3.1
III. Capital Surplus-Oil Exporters.	12.8	0.3	18.6	0.9	21.7	1.7
Petroleum	12.7	0.2	18.3	0.7	20.4	1.1
Natural Gas	0.1	0.1	0.3	0.2	1.3	0.6
Solid Fuels	-	-	-	-	-	-
Primary Electricity	-	-	-	-	-	-
IV. Developing Countries.						
i) Oil Exportors.	13.7	2.8	16.7	5.5	25.2	10.0
Petroleum	12.7	1.8	14.2	3.6	18.3	5.5
Natural Gas	0.7	0.7	2.0	1.4	5.9	3.5
Solid Fuels	0.1	0.1	0.1	0.1	0.3	0.3
Primary Electricity	0.2	0.2	0.4	0.4	0.7	0.7
ii) Oil Importers.	4.7	7.8	7.5	13.7	15.1	24.3
Petroleum	1.2	4.2	1.5	7.3	2.8	11.2
Natural Gas	0.3	0.3	0.5	0.7	1.6	1.6
Solid Fuels	2.3	2.4	3.5	3.7	5.6	6.4
Primary Electricity	0.9	0.9	2.0	2.0	5.1	5.1
TOTAL WORLD.	103.2	99.1	138.6	135.5	189.7	185.1
Petroleum	47.3	43.3	62.2	59.7	75.8	72.3
Natural Gas	17.9	17.7	24.3	24.3	34.6	34.2
Solid Fuels	31.5	31.5	39.3	38.7	56.1	55.2
Primary Electricity	6.5	6.6	12.8	12.8	23.2	23.2
[illegible] & Others		2.9		3.1	-	4.6

Average Annual Growth Rate of World Supplies(%)

	1970 - 80	1980 - 90
To[illegible]rld	3.0	3.2
Petrole[illegible]	2.8	2.0
Natural Gas	3.1	3.6
Solid Fuels	2.2	3.6
Primary Electricity	7.0	6.1

SOURCE:- World Bank Development Report - 1981.

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 100M.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 along 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 demage due to flood.

1979: In July, construction of the 6th power generating unit of 110 M.W. capacity was started.

1980: Attempts were made for replacement of coke-oven Battery No.5 under DPL.

1982: Letter of intent was issued by the company to M/s Atto India (P) Ltd. for installation of coke-oven Battery No.5 consisting of 40 ovens.

(ii) Durgapur Chemicals Limited

1963: On 31st July, Company was incorporated and Certificate of Commencement of Business was issued.

On 1st September, the assets and liabilities of this Project were taken over by the Company.

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 & CID India(P) Ltd., 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.

1969: In June, Pentachlorophenol Plant was commissioned.

1970: In May, Phenol Plant was finally commissioned after repeated failures of guarantee test.

(iii) Herdillia Chemicals Limited

1963: On 1st July, the Company was incorporated.

1964: Agreement was finalised to lease about 300 aeres of land at Thana-Balapur 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 condensation process for the manufacture of Cumene. The same was guaranted by U.O.P.

1968: On 18th February, the plant was inaugurated, Commercial production of phenol, acetone, diacotone alcomol, 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 demage.

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 acetophenne from Phenol Plant for sale.

1974: Through progressive debettlenaoking the installed capacity of the phenol plant was increased to 14000 tonnes per annum.

The installed capacity of the Phthalates plants 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 furnance.

The installed capacity of phenol plant was again increased from 14000 MT year to 14300MT year by installation of balancing equipment.

1976: As a result of successful laboratory scale trials, Phenel content in the effluent was further reduced by dephenolation of waste streams.

A 750 KVA diesel generating set was installed to augment power supply.

1977: A second 730 KVA diesel generating set was installed to augment power supply.

R&D Laboratory was recognised by Department of Science & Technology.

1978: A stand-by 250 pisg package type boiler, 5000 KVA, 22/11 KV stand-by transformer and 75 tonnes refrigeration stand-by units were installed.

1979: A third exidiser in the Phenol plant was commissioned.

In September, a letter of intent was received for the manufacture of Alpha Methyl Styrene(900 M.T.), Acetephenene (500 M.T.) and Cumyl Phenels (900 M.T.). A pilot scale plant for manufacture of Alpha Methyl Styrene was also successfully commissioned.

1980: Based on Company's R&D process, a pilot plant for the production of 30 TPA of Diallyl phthalate was commissioned.

1981: The original industrial licence of the Company was endorsed for the manufacture of 900 TPA Alpha Methyl Styrene. 500 TPA Acetophenene, 900 TPA Cumyl Phenols and 360 TPA Fumaric Acid.

A letter of intent for the manufacture of 2000 TPA capacitor fluids and 6250 TPA Phthalates was received.

1980-81: Phenol plant was modernised & renovated to increase the installed capacity to match with the licensed capacity of 15250 MTPA.

1981-82: Fourth oxidiser in Phenol Plant was commissioned.

1982-83: Industrial licence for recovery of Alpha Methyl Styrene was implemented and production started.

(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, USA.

1962: Incorporated as Hindustan Polymers Limited.

1964: Collaboration agreements between the Company and BS 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 was commenced.

1967: Alcohol distillary commenced production.

1969: Polystyrene plant commenced production.

1972: The management of the Company was taken over by Delhi Cloth & General Mills.

1973: Styrene Plant was commissioned. But the capacity utilisation was low due to technical problems on account of bad and unproven technology for alcohol ethylene manufacture.

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.

1981: The company commissioned a heat recovery scheme by installing imported conection Box.

A collaboration agreement was signed with a France Company for process technology modernisation to reduce production cost.

Company received letter of intent for expandable polystyrene plant.

Technical collaboration Agreement for process technology for expandable polystyrene plant was signed.

1982: Collaboration Agreement for process technology modernisation of another section of Styrene plant was signed with the existing American Collaborator. Technical Collaboration agreement with Norwegion party for process technology for expandable polystyrene plant was signed.

Company was formally amalgamated with M/s. McDowall & Co. Ltd.

1983: Licenced capicity was got endorsed for 13936 MTPA of styrene and 10156 MTPA of Polystyrene.

(v) Indian Organic Chemicals Limited

1960: Company was incorporated.

1962: Commercial production of Acetic Acid was started.

1964: 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 Microbial Auxillaries was received.

1981: Received Industrial Licence for manufacture of Microbial Auxiliaries.

1982: Commercial production of Dalapon, carboxy Methyl Cellulose and cinnamaldhyde was commenced.

(vi) Indian Petrochemicals Corporation Ltd.:

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.

1963: (Contd) 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 GNBH Chemieanlagenbau of West Germany.

1969: In March, IPCL was incorprated and the Government assigned 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 in Low Density Polyethylene Project commenced in April.

In May, civil construction work on Ethylene Glycol and Detergent Alkylate Projects 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.

1975: In March, Training Centre was inaugurated.

Civil construction 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, mechnical erection of equipment and piping for Low Density Polyethlene Plant commenced.

In February, mechanical erection in the Detergent Alkylate Plant commenced.

Br-idge loading 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 BBH Units of Olefins project commenced.

Civil works for R&D Centre completed.

Mechnical 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.

1976: (Contd.) 33 KV and 6.6 KV Power distibution 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 Pelyethylene 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 commission 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 pump in UB-II completed service water system of UB-II commissioned for Polybutadiene Rubber Project.

Instrumentation erection for the Polypropylene Project c ommenced.

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 for DMT Expansion Project was received. Utility Block No.2 of IOP (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 compresser High purity Nitrogen Plant in IOP were also successfully completed.

In March, propylene compresser 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.

1977: (Contd.) In April, the Gujarat State Safety Award was awarded to IPCL, Civil foundation for all the pumps in BPR 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, indentification 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 unleading distribution system and DM Water distribution system was commissioned in IOP.

In June, pre-commissioning activities on all system 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 its full lead capacity was started in IBP and Process Water Treatment Plant in Integrated Offsite Project were mechanically completed.

In July, work on cooling tower in Ethylene Glycol Project. Tray erection work in all the three towers of Polybutadiene Rubber Plant, Control room building air-conditioning system in PBR Project, cooling water recirculation line and instrument air line from IOP to Linear Alkyl Benzene Plant and Jalampura radial well for water supply started.

GHH air compressor erection work for Acrylic Fibre Project, Erection and alighnment of instrumentation control panel for AF Project and process water treatment plant under IOP integrated offsite Project commissioned.

In August, letter of intent for manufacture of 5500 TPA of Polyvinyl chloride was received. Engineering work for EG main plant as well as for ethylene exide storage area and for Linear Alkyl Benzene were generally completed.

In September, the Rs.1 crore refrigeration plant for Polybutadiene Rubber Plant was inaugurated. Engineering work and BBH units and Polypropylene Project was completed. Ground floor air-conditioning plant in Acrylonitrile Project completed and was commissioned.

1977: Contd.) Besides this phosphate desing pump for LAB/EG cooling water treatment plant under Integrated Offsites Project and fire Water Pump in IOP were commissioned.

In October, in-take of low Sulphur Heavy Stock(LSHS) for the IPCL boilers from Gujarat Refinery commenced. Detailed engineering performance guarantee run of DM plant and LAB/EG hydraulic testing of chemicals design system in IOP, cooling tower for PE/PP was also mechanically completed and the fire fighting system in IOP was commissioned.

In November, the Rs.3 crores refrigeration system of Integrated Offsites Project was inaugurated. All civil and structural works including additional work for Ethylene Glycol Project completed. Detailed engineering work for Polybutadiene Rubber Project, Acrylic Fibre Project, Linear Alkyl Benzene(LAB) Project, all structual steel work in LAB Project and cooling tower for PP/LDPE were completed.

In December, all process systems except one of PGH, Benzene and Butadiene units flushed and tested. Low Pressure Steam, Cooling Water, instrument air, plant air and N2 flushed and commissioned. Contracts for chemicals cleaning for BHH units awarded and preparation for chemical cleaning in Benzene unit was started. Works like underground piping, equipment erection, aluminium piping and chemical cleaning for LDPE, Project was completed. Trial run for extruder/with Nitrogen in LDPE Project was also successfully completed. Investment approval for Polyvinyl Chloride, Acrylate and DMT Expansion Project was received from Government of India.

/ with imported polythylene and for hyper compressor

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 balck feedstock 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.

1978: Contd) In October, two major products, viz. 'Indethene' (Low Density Polyethylene) and 'Keylene'(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 Clefins 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 R&D appointed by the Government of India visited IPCL to review the work of IPCL R&D Centre.

1980: In January, extension of validity of letter of intent upto 27-2-81 in respect of DMT Expansion to manufacture 30,000 MTA was received from the Ministry. Design Conference in respect of VC/PVC Project was held with process licensors in USA.

In February, foreign collaboration agreements in respect of VC/PVC Project was taken on record by the Govt. of India.

In March, civil construction work in respect of Time office, were house and operational building of VC/PVC project was commenced.

In June, industrial licence for manufacture of 6000 MTA DMT, 60 MTA Methyl Benzeate and 40 MTA Dimethyl Isophthalate was received for DMT Expansion Project.

In August, letter of intent for manufacture of 5000 MTA Petroleum Resins was received.

1980: (Cond.) In November, letter of intent for manufacture of 2500 MTA of Diethyl Glycol and 250 MTA Triethylene Glycol was received. A feasibility report in respect of FCCO Gas Utilisation Project, Baroda was submitted to the Government.

In December, proliminary feasibility reports in respect of Tolune Extraction, Linear Alkyl Benzene Expansion, Kerosene Prefractionation, Naphtha Prefractionation, DMT expansion Phase II, Acrylic Fibre Expansion Projects were submitted to the Government.

1981: In March, industrial licence in respect of manufacture of solvents was received. Industrial Licence for manufacture of 55,000 MTA of Polyvinyl Chloride, 57,300 MTA of Vinyl Chloride & 100000 MTA of Ethylene Dichloride was received. Bhoomi puja of VC/PVC project was performed during the same month.

In September, feasibility Reports in respect of DMT. Expansion Phase-II, Acrylic Fibre Expansion, Naphtha prefractionation/Xylenes Production, Kerosene Prefractionation/LAB Expansion were submitted to Government of India.

In November, extension of validity of letter of Intent upto 10-5-82 for the manufacture of Diethylene glycol (2500 MTA) and Triethylene glycol(250 MTA) was received.

1982: In March, a new product viz. Ammonium Sulphate with the annual capacity of 12,000 tonnes per year was included in the industrial licence issued earlier for manufacture of Acrylates.

In October, proposal of investment for expansion of DMT production capacity from 30,000 MTA to 40,000 MTA was approved by the Government.

In November, first phase of expansion of the DMT plant capacity from 24,000 MTA to 30,000 MTA was completed and commissioned.

In December, investment proposals for setting up facilities for production of additional xylenes at 56,000 MTA, Acrylic Fibres 42,000 MTA, polypropylene (25,000 MTA) and Disobutylwas approved by the Government.

(vii) Mysore Petrochemicals Limited

1969: On 9th June, the Company was incorporated in the name of Premier Petrochemicals Ltd.

1970: On 3rd September, the name was subsequently changed to Mysore Petrochemicals Ltd.,

The project was promoted by the Karnataka State Industrial Investment & Development Corporation Ltd; Bangalore and Shekhavati Investment Corporation Ltd; Calcutta.

1972: On 4th August, the Industrial licence for the manufacture of 6000 tonnes Phthalic Anhydride per annum and 3000 tonnes Plasticisers per annum was issued to the Company.

1976: On 16th May, commercial production of Phthalic Arhydride was commenced.

1980: To meet with large shortfall in power, one 1100 KVA/11KV 'SKL' DG set together with two other DG sets of 250 and 166 KVA respectively were installed. Implementation of Phthalate Plasticizer Projects was in progress.

1982: On 1st March, letter of intent for increasing manufacturing capacity of Phthalic Anhydride upto 12,000 tonnes per annum was received. Implementation of Phthalic Anhydride expansion project was in progress.

1983: First stage of expansion of production capacity to 9500 MTPA was taken up.

(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 Roayl 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 Polylefins Industries Ltd., took place.

Various plants of the complex such as Glycols Plant, PVC Plant and Solvents Plant were commissioned.

1969: In September, Alcohols Plant and PVC Compounding Unit were commissioned.

1970: In September, Technical Service Laboratory was inaugurated.

In October, a Jetty for bulk exports was completed.

1974: 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 Yavatmal district of Maharashtra with 2500 families living in backward and draught prone villages.

1980: New site in backward area of Ratnagiri, Maharashtra was selected for Agrochemicals operations.

1981: R&D Centre was constructed, Effluent Treatment Plants Phase I & II were completed and work on Monocrotophos Project was started.

Government's approval for revamping of certain plants and industrial licence for Monocrotophos was obtained.

1982: In November, Phase II of effluent Treatment plant was completed.

1983: Computer Centre was opened and Monocrotophos plant was commissioned.

(ix) Polychem Limited

1955: Company was incorporated.

1957: On 26th May, the Polystrene plant was brought on stream.

On 16th June, the plant was formally inaugurated.

1958: Facilities for production of High Impact Polystyrene Sheet were commissioned.

1959: Production capacity of the plant was doubled to 12 million lbs (5500 tonnes) per years.

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 Monmor 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 Distilley 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.

Production of natural spirit and Indian made Foreign Liquors as well as Country Liquors was started utilising surplus alcohol subsequent to the availability of Petroethylene.

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: Production capacity of the Polystyrene plant was increased to 16,000 tonnes per year.

Polystyrene Plant received second prize for the reduction in frequency rate of accidents for the period 1972-74 from the Council of Industrial Safety.

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: Divinyl benzene plant of 150 tonnes/year capacity was built based on self developed technology.

1975: To improve gloss and abrasian 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.

Bunch 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 resins 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 and 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 Mortgage Debentures of Rs.100 each for cash at par were subscribed by members, depositers and associate companies, etc.

1981: Letter of intent for the expansion of the Vinyl Acetate Monomer(VAM) Plant from 5,000 MTPA to 10,000 MTPA was received.

Production of Styrene, Polystyrane, industrial Alcohol and other products was seriously hampered during
/to the year due/fire at the Polystyrene Plant followed by the strike of the workmen from 23-3-81 to end of February, 82.

1982: Construction of VAM plant of 5,000 MTA was almost complete for commissioning in June, 82.

1983: Vinyl Acetate Monomer Plant of 5,000 MTPA capacity was commissioned.

(x) Sirsilk Limited

1946: The Company was incorporated.

Collaboration agreement was entered into with M/s. Lansils Ltd; of Lancaster, England.

1954: Bleached cotton linter pulp, Cellulose acetate plant, Acetic Acid Plant, Acetic Anhydride Plant, Acetone Plant, Acetate Rayon Filament Yarn, and Ethyl Acetate plants were commissioned during the year.

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: Annual 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 synthetic 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 machineries like Hot Air Stenter, Beam Dyeing Machine and Thermo wereinstalled.

1981: Scheme for modernisation of cellulose Acetate, Spinning and Weaving Plants was forwarded by Ministry of Commerce to Industrial Development Bank of India, Bombay for consideration under the Soft Loan Scheme.

1982: Plant for Acetic Anhydride at Nandesari was commissioned.

(xi) Somaiya Organics (India) Limited

1964: On 1st June, the Company was incorporated 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 promoters of the Company.

1969: Civil construction work of the factory was commenced.

1970: Erection of Butanol and Butyl Acetate plants was completedand trial production was undertaken on 11th November.

1971: 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 manufacture of 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 effectivness, out of a waste which was till then being drained out, was started.

1974: A third Furnace was added in the Main Plant. Trial Production of Ethyl 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.

1980: Letter of intent for production of 300 lakh litres per annum of Alcohol was received and application of industrial licence was made.

1981: Industrial licence for production of 300 lakhs litres per annum of Alcohol was issued by the government.

(xii) Union Carbide India Limited

1926: Everady Company(India) Limited started manufacturing flashlight batteries in Calcutta.

1934: The Eveready Company (India) Limited was incorporated in India as a Private Company.

1941: National Carbon Company (India) Ltd. was formed 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 Polyethlene production capacity to 20,000 tonnes per annum. The letter of intent was converted into an Industrial Licence.

1978: The Company received letter of intent to manufacture 1000 tonnes of 2 Ethyl Hexoic Acid and 500 tonnes of 2 Ethyl Hexyl Acetate for implementation in the existing facilities at Trombay.

1979: Implementation of industrial licence for substantial expansion of the Bombay Plant of 20,000 tonnes per annum of Polyethylene was completed.

1982: Industrial licence for the manufacture of 35 tonnes of catalysts for capitive use was received.

1983: Capacity for LDPE was re-endorsed at 26,549 TPA.

(xiii) Bongaigaon Refinery & Petrochemicals Ltd.

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

1977: The share capital of the Company was increased to Rs. 100 crores and work on xylene and DMT Units was started.

1978: Work on petrochemicals offsites was started.

1979-80: The implementation of Xylene and DMT Projects and selection of foreign technology for polyester Fibre Plant was under way.

1980-81: Work on the Xylene, DMT plant and the offsites Phase-II was progressed further.

The technology selected for the Polyester Staple Fibre Plant was approved by the Government.

1981-82: Work on Polyester Staple Fibre Plant was started.

1982-83: In July, basic engineering package of Polyester Fiters Plant was finalised.

In October, Nitrogeu Plant offsite was mechanically completed.

(B) PLASTIC RAW MATERIALS

(i) The Alkali & Chemicals Corporation of India Limited.

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 the equity shares, 1 % was held by the Indian public and balance 99 % was held by ICI(India) Private Ltd., a wholly owned subsidiary of ICI(U.K.).

1940: Production of caustic soda/chlorine plant was started 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 Colorine.

A benzene hexachloride plant with a capacity of 500 tonnes was set up at Rishra.

1958: Equity share capital of the company was expanded to Rs.310 lakhs by a fresh issue, with this issue the shares held by the Indian public went up to 24.1% and the remainder 75.9% held by ICI(India). Later 56.5% of the equity held by ICI (India) was transferred to ICI(U.K.).

1959: Polyethylene plant was set up at Rishra.

1963: The Company set up India's first rubber chemicals plant.

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. per annum.

1966: The capacity of the rubber chemicals plant was expanded from 2250 to 2700 tonnes per annum.

Equity share capital was increased to Rs.434 lakhs by the issue of bonus shares.

1967: The capacity of the BHC Technical plant was expanded to reach a figure of 5,200 m.t.p.a.

1971: A new paints plant with a capacity of 2350 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 KL per annum of Gramexane 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.resulting in reduction of ICI(U.K.) interest to 51% and ICI(India) to 9%.

1977: Production at the formulation unit of the pharmaceuticals plant was commenced.

1978: Production at the Gramoxone and Bulk Drung plants was commenced.

1982: In July, the company ceased manufacture of caustic/chlorine/Hydrochloric Acid.

(ii) Ahmedabad Manufacturing & Calico Printing Company Limited.

1880: Calico (Textiles) was established at Ahmedabad. The Company is now Public Company with limited liability. Today it has three Main Division- Textiles, Chemicals Plastics and Fibres and Marketing Division and four wholly owned subsidiaries as under :

a) Ilac Limited
b) Rajindra Dyeing & Printing Mills Ltd.,
c) Gujarat Nets Ltd.,
d) Varma Industries Ltd. (Subsidiary of Rajindra Dyeing & Printing Mills Ltd.)

1958: A common industrial licence for the manufacture of Calcium Carbide and Polyvinyl Chloride was obtained. Permission to manufacture PVC Fabricated products was also obtained on the same licence.

1959: Industrial licences for manufacture of Polyvinyl Alcohol, Plastic Moulded and Extruded Articles was obtained.

1960: Industrial licence for manufacture of PVC coated wires & cables was obtained.

1961: The Industrial licences for manufacture of calcium Carbide, Polyvinyl Chloride, PVC Fabricated products, Plastic Moulded & Extruded Articles and PVC coated wiring and cables Articles were implemented.

1965: Polyvinyl Alcohol Plant was commissioned.

1967: Industrial licence for effecting substancial expansion of Polyvinyl Chloride & its Copolymers was obtained.

1973: P.V.C. (Bulk Polymerisation) plant was commissioned.

1976: On 28th February, the Company obtained industrial licence for manufactures Polyvinyl Pyrrolideone.

1978: Polyvinyl Pyrrolidone plant 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 machniery 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 (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, Swedan, U.A.E.

Managing Agency terminated.

1969: Hylam Limited and Balkelite (India) Private Limited merged to form Bakelite Hylam Limited on 4th December.

1970: Expansion taken in hand.

1971: Expansion work on schedule. Press No. 30 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 Goneration 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.

1979: Effluent treatment plant was established at the factory for pollution control.

A new material, Phonolic Foam Based Marine Board, was developed at company's R&D Laboratory, to replace imported asbestos-filled Marine Board used in ship building.

1980: Letter of intent for the manufacture of Rigid PF foam and Phenolic Foam based Marine Board were received.

1981: Letter of intent for the manufacture of Marine Board and expansion of Industrial Laminate capacity was received.

1982: Non-resident's interest in the company was deduced to 40% of the paid up capital.

(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.

1[illegible]: 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 of PVC capacity to 13,500 tonnes per annum was completed.

1975: Permission was granted by the State Government to set up a capitive 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 conduit 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 captive 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.

1980: Debottlenecking programme to achieve 20,000 tonnes of PVC resins per annum was completed.

Production had to be suspended due to workers strike from February 12 to April 16.

1982: Project for VCM containment technology was completed and the plant was commissioned. Production of PVC resin was shifted from alcohol and chlorine to Ethylene dichloride an imported intermediary raw material. The plant also shifted from FO to LSHS as fuel. The licenced capacity for PVC pipes and fittings was also inclosed to 10,250 MT p.a. during the year.

(v) Chemo-Pharma Laborateries 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 powder 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 Isoniazid 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 stisfactory results.

1980: Manufacturing technology of Trimethoprim was developed in R&D Department of the Company.

(vi) East Anglia Plastics (India) Limited

1956: The Company was incorporated in West Bengal with an authorised capital of Rs.5 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 tonnes 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 for Fertilizer Industry as a by-product was made.

1979: Trial production of ABS Plastic Sheets, a new kind of Plastics introduced in India was commenced.

1980: Production of Polythene Master Batches in compounding was taken up and successful trials for different types of plastics were made in the Film & Foil Division.

1981: Letter of intent for production of 350 MT p.a. Plastic Moulded Goods was received.

1982: On 4th April, recognition of R&D laboratory was received from the Deptt. of Science and Technology.

(vii) Indian Plastics Limited

1946: M/s. Bestolite Moulding Company of India, a British firm having its factory at Jogeshwari 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 theremosetting Synthetic Resins for commercial sale was undertaken.

1950: The factory was shifted from Jogeshari to a more spacious site at Poisar Bridge Kandivli, Bombay.

Started manufacturing of Valve set Radios with the technical know-how from LEYLAND'S INSTRUMENTS LIMITED, LONDON.

1956: Started manufacture of Urea Formaldehyde Moulding Powedr.

1962: Entered into collaboration agreement for 10 years with BAKELITE GESELISCHAFT MBH, West Germany for the technical know-how for the manufacture of thermosetting moulding powder-Phenol Formaldehyde, Urea 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 technical know-how developed at R&D Section for the first time in India.

1976: Many new types of Phenolic Moulding Powders and resins (mainly for import substitution) were formulated by the R&D Division of the company.

1977: R&D Laboratory was recognised by the Government of India, Department of Science & Technology.

Licence under IS Spacification 3389 - 1965 for U.F. Moulding Powder was received.

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.

1980: Developed P.F. Moulding Powder and substitutes for various types of imported rubber grade/resins.

1981: Designed and installed pilot plant for the bulk trials of special types of polyester resins. Injection grade P.F. Moulding material was also developed.

1982: Special items like Fibre tube blonks, injection grade PhenolformaloreHyde moulding powders were developed.

(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 Bangalore to manufacture various derivatives of Collulose 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., Ootacamund, 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 manhinery 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 machinnery 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 maoulding 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 viz. 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, ie. Diethyl Phthalate was commissioned in July to manufacture Diethyl Phthalate required for captive use. The plant was designed and commissioned entirely by the Company repersonnel.

1974: The direct solution process for the manufacture of Cellulose Secondary Acetate was commissioned in September.

1975: The Secondary Acetate solution process was stablised 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 photopaper.

1980: Company developed and started manufacture of Di-Ethyl Pthalate of Agarbati Grade.

1981: Manufacture of Ethyl Acetate was started.

1982: In order to being down fuel consumption contract for a Producer Gas Plant of 40 tons per day capacity was finalized.

(ix) Nuchem Plastics Limited

1951: Started as Button moulders, Rattanchand Harjasrai (Plastics) Ltd. at Amritsar with a paid up capital of 3.11 lakhs.

1952-54: Developmental work on moulding powders and collection of valuable data regarding manufacture of U.F. Moulding Powder in tropical conditions was undertaken.

1955-56: Agreement was concluded with M/s. British Industrial Plastics (Chemicals) Ltd. Birmingham for Technical Collaboration.

1957: U.F. Moulding Powder production was started.

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.

1965: Resin plant was commissioned.

1970: Formaldehyde plant was installed.

1971: International Division was set up to acclorate exports, Production of 5000 tonnes Moulding Powders per annum was taken up.

1972: Research & Development Centre started functioning.

1973: Hexamine Plant was commissioned.

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.

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 prosses 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 form a Joint sector company to exploit CMC know-how, developed by the country.

1980: The Company exported its technology for Phenolic Resins to Burma through NRDC, New Delhi.

Submitted application for grant of Industrial licence for the production of 2000 tonnes of specialised Phenolic Resins.

1981: Licensed capacity for U.F. Moulding Powder was increased to 3600 tonnes per annum.

1982: First ever export order for moulds/dies was executed.

(x) Plastics Resins and Chemicals Limited

1962: The Company was incorporated under the Companies Act, 1956.

1971: Commenced manufacturing of PVC Compound with own technical know-how.

1972: Set up a Research Laboratory for quality control and Technical Service Laboratory for customer service in Bombay.

1973: Exported 462 tons of PVC resins.

Exporter's Award by Plastic Lineleum 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.

1978: From 4th February, manufacturing operation was stopped due to uneconomical working conditions.

1979-80: Plant remained closed due to uneconomical working conditions.

1980-81: Plant continued to remain closed.

The Company applied for an industrial licence for the manufacture of 10,000 tonnes per annum of 1,1,1 Trichloro Ethane.

1983: Production of PVC suspension Resin, based on imported VCM, is proposed to recommence from July, 83.

(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 Ziogler 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 Kreditanastaltfur Wederfbar (KfW), a German Reconstruction Bank gave direct loan toa 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 simulatn-ously production of Zieglor Catalyst, viz. Ethyl Alumi-nium Sesoui Chloride and Ethyl Aluminum mono- Chloride essential raw materials required for manufacture of HDPE. The Company successfully developed in-digenously 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 Dosulphurisation Plant. In the latter part of the year, the Company developed HDPE top up con-tainers 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 loading 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.

Production of barrels and jorrycane 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 corresive chemicals and offluents, 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 Bight 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.

1972: (Contd.) 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-Butens-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 MT.

1975: Decided to set up a joint venture project in Malaysia for production of HDPE Pipes.

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.

1979: Collaboration Agreement with Hoechst Agreement was extended for 5 years. A decision was taken to set up a High Density Polyethylene Pipes manufacturing plant at Akola in Maharashtra.

1981: On 1st January, Mindia Chemicals Ltd., was amalgamated with Polyolefins industries Ltd.,

1982: Letter of intent for manufacture of 4000 tons of Reinforced Polypropylene was received.

(xii) <u>Shriram Fertilizers & Chemicals Industries.</u>

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 and the foundation stone of the plant was laid.

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.

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: 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.

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 received.

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 60,000 tons per annum was received.

1981: In October, installed capacity of PVC plant was increased to 33,000 MTPA.

1982: In February, agreement for supply of 25 MW additional power for Vinyl Plants was signed with RSEB.

In December, PVC plant modernisation project was commissioned.

(xiii) The Industrial Plastics Corporation Pvt. Ltd. Private Limited.

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 Formaldehyde Resins/compounds with Phillips, Holland.

1961: Central Excise was levied on P.F. Resins/Compounds.
Appointed an thermosetting panel of ICI.

1964: Established as a regular suppliers of Phenolic Resins/compunds to companies like Indian Telephone Industries, BHEL, HAL, BEL, etc. who were hitherto required to im- their raw material based on Phenol and formaldehyde.

1968: Established Research & Development Wing on the most modern scale. Developed serveral 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 special purpose Phonolic Resins for foundries Brakelining Industries, etc.

1970: Celebrated silver jubliee year.

1971: Joined Release Order scheme to supply P.F. Resins compounds at International Prices to domestic manufacturers of compounents for export production.

1972: AIPMA celebrated its silver jubilee on which occasion the Chairman, Shri B.K. 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, continuous 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.

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 an all time high, value of total supplies exceeded Rs. 7 lakhs approximately.

1978: Exported Mfg. resine to USA and realised foreign exchange worth Rs.1,82,125.

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.

(xiv) Rattanchand Harjasrai(Mouldings) Private Limited.

1966: Company was formed.

1979: Production of Melamine Formaldehyde Moulding Powder and resins was commenced.

(xv) Deccan Plasti-Chem Limited

1974-75: Company was incorporated under the company's Act, 1956.

1978: Commercial production of Urea Formaldehyde Moulding Powder was started.

1980: Commercial production of Malamine Formaldehyde Moulding Powder was commenced.

(C) SYNTHETIC FIBRES

(i) Ahmedabad Manufacturing & Calico Ptg. Company Limited.

1880: Calico (Textiles) was established at Ahmedabad.

The Company is now a Public Limited Company with three Main Division (Textiles, Chemicals & Plastics and Synthetic Fibres Division) and following four wholly owned subsidiary companies.

a) Ilao Limited.
b) Rajindra Dyeing & Ptg. Mills Ltd.,
c) Gujarat Nets Limited.
d) Verma Industries Ltd.(Subsidiary of Rajindra Dyeing & Ptg. Mills Ltd.)

1970: Industrial licence for manufacture of polyesterstaple fibre at Baroad was received.

1974: In May, the Spinning and Processing Unit of Polyester Fibre Plant was 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 all Govt. formalities for doubling the PSF production capacity, viz. issuance of the industries Licence, Capital goods Licence were completed.

1980: In March, the Tow/Top Convertor Unit was commissioned to market worsted tops.

In September, additional high tenacity cotton type polyester staple fibre spinningand processing equipment was commissioned which increased the overall plant capacity from 6100 tonnes to 7400 tonnes per annum, within the permissible maximum limit under the IDR Act, 1951.

1981: Agreement for the transfer of know-how for the Doubling Project was taken on record and approval of technical collaboration was recived.

In June/November, Industrial/capital goods licences was received.

(ii) Baroda Rayon Corporation Limited

1958: In May, the Company was incorporated.

1959: In September, an Industrial Licence for the manufacture of Filament Rayon Yarn, was received.

1960: About 320 acres of land was acquired from Government.

1962: Viscose Section of the Rayon Plant was commissioned on 31st October.

On 23rd December, Rayon Plant was formally inaugurated.

1965: Finer counts such as 30 and 40 denier were produced for the first time in the country.

1968: In May, expansion of the Spinning Division was completed 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 metric tonnes per annum to 2100 metric 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 December, 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 Type Yarn fabrics from 1000 tonnes to 1700 tonnes per annum was issued by the Government.

1980: Agreements approval for selling up caprolactum Recovery Plant was received.

1981: In October, commercial production of Nylon Tyre Cord was started.

In December, letter of intent for increasing capacity of Nylon Tyre Yarn/Tyre Cord from 2000 MT to 4000 MT per annum was received.

1982: In July letter of intent was received for increasing the capacity Nylon Tyre-Cord Fabrics from 1700 tonnes to 3400 tonnes per annum was received.

In August, licence for increasing the capa-city of Nylon Tyre yarn Fabric from 1000 MT to 1700 MT was received.

Endorsement for increasing capacity of Polyester Filament Yarn to 1777 tonnes per annum was received.

(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 licence 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.

1979: Industrial licence for manufacture of Engineering Plastics Polymer Resins was received.

1980: An application was submitted for expansion of licensed capacity of Nylon Plant from 4000 to 60000 tons per annum. Another application for an Industrial Licence to manufacture Polyester Yarn upto a capacity of 6000 tons per annum was also submitted.

1981: Project for manufacture of Engineering Plastic Polymer Resins was commissioned.

The first stage of moderisation of the nylon plant was completed.

1982: An application for endorsement of increased capacity of polyester yarn. Letter of intent for manufacture of 2200 tpa of Nylon Industrial Yarn/Tyre cord was received.

(iv) Chemicals and Fibres India Limited

1961: Company was incorporated and licence for manufacture of Polyester Staple Fibre was obtained.

1963: Possession of land was taken over from the 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.

1980: In August, expansion programme was completed.

(v) Gareware Nylons Limited

1962: Factory at Poona with a production capacity of 500 kgs. per day was set up. It was the first Nylon Plant in the country set up without any foreign collaboration.

1965: Plant for polymerisation of Caprolactum to Nylon chips was set up.

1968: Substantial expansion was carried out, raising the capacity of Nylon Yarn to 756 tons per annum.

1969: Letter of intent to increase the capacity of Nylon Yarn to 2000 tonnes.was received.

1970: The Company became a Public Limited Company.

Licenced capacity was increased to 2000 tonnes.

1972: The Industrial licence for 2000 tonnes was implemented raising the total capacity of production of Nylon Yarn. to 2394 tonnes per annum. 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 Malysia.

1975: Commercial production of Polyester filament yarn was commenced.

1976: On 20th March, Deploymerisation plant to recover basic raw material (viz. Caprolactum) from Nylon waste was inaugurated.

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.

1978: Construction/erection work of Ethylene Glycol recovery plant was started.

1979: Some operations of the plant were shifted from Poona to Ahmednagar.

Ethylene Glycol Recovery Plant was commissioned.

1980: Modernisation programme of Nylon Filament Yarn was completed.

1981: An application for regularisation of excess capacity of Nylon Yarn from 3352 MT to 4830 MT & Polyester Filament Yarn from 576 MT to 1576 MT based on 40 Denier was submitted.

In December letter of intent for manufacture of 2000 MT of Tyre cord/industrial yarn was received.

1982: Government's approval for increasing licence capacity of Nylon Yarn from 3352 MT to 5216 MT per annum and Polyester Yarn from 576 to 1700MTper annum was received.

(vi) Indian Organic Chemicals Limited
(Fibre Division)

1960: The Company was incorporated.

1969: Site for the Polyester Staple Fibre Plant was selected.

1970: Industrial licence for the manufacture of 6100 metric tonnes of Polyester Staple Fibre per annum was granted.

1971: In February, foundation stone was laid.

In November, machinery erection was commenced.

1972: In August, the plant was commissioned.

1973: In January, commercial production was started.

1974: Pilot plant was set up in R&D Laboratory.

R&D Unit was recognised by the Department of Science and Technology.

First Diesel Generator set was commissioned.

1976: Second Diesel Generator set was commissioned.

In December, production of high performance polyester fibre was started.

1977: Licence for importing capital goods by way of balancing equipment was received.

In December, letter of intent for increasing the existing production capacity was received.

1978: In March, commercial production of Polyester fibre from waste was started.

In August, production of high tenacity polyester fibre was started.

1979: Capital goods licence for expansion was received.

1980: In October, foundation stone for expansion was laid.

1982: Erection of machinery for expansion project was completed.

(vii) J.K. Synthetics Limited

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.

1962: Country's first Nylon Plant with a capacity of 800 Kgs. per day was inaugurated.

1963: Technology was developed for production of high tenacity industrial Nylon Yarn to cater to defence requirements of the country.

1963: (Contd.) 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.

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 lakhs during the year. Initited research for development of technology for manufacture of polyester filament yarn from chips.

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.

Trial production in nylon tyre cord plant and synthetic 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 Petrochemicals Corporation, Baroda for their proposed polyester filament plant.

1973: (Contd.) 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 was laid for Sir Padampat Research Centre, Kota.

Developed successfully the process of differential dyeable nylon yarn knownas "Nova colour nylon" for first time in India.

1974: Approval for foreign technical collaboration with M/s. Technicent 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, Padampat Research Centre recognised by the Govt. 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.

First ever agreement for supply of know-how and engineering 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.

Letter 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 licence 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 pa. 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.

1980: Received letter of intent for expansion Polyester filament yarn capacity from 960 tonnes p.a. to 6960 tonnes p.a.

Received Government approval for foreign technical collaboration with M/s. Zimmer AG, West Germany as well as capital goods clearance for the expansion of Polyester staple fibre capacity from 6000 tonnes to 12,000 tonnes per annum.

1981: Received approval for the import of capital goods for expansion of Polyester filament yarn capacity from 960 tonnes p.a. to 6960 tonnes p.a.

Received letter of intent for expansion of Acrylic fibre capacity from 4000 to 10000 tonnes per annum.

Received Industrial Licence for expansion of Nylon Tyre Cord fabrics capacity from 800 to 2760 tonnes per annum.

Received letter of intent for expansion of Nylon Tyre Cord fabrics capacity from 2760 to 4460 tonnes per annum.

Received industrial licence for expansion of Polyester filament yarn capacity from 960 to 6960 tonnes per annum.

Received industrial licence for expansion of Plyester staple fibre capacity from 6000 to 12000 tonnes per annum.

Import licences were granted for the import of plant and machinery for expansion projects of Polyester staple fibre from 6000 to 12000 tonnes per annum and of Polyester filament yarn from 960 to 6960 tonnes per annum.

Implemented expansion of Polyester staple fibre capacity from 3000 to 6000 tonnes per annum.

1982: Received letter of intent for expansion of Nylon Industrial Yarn/Tyre Cord capacity to 5000 tonnes per annum, and A. Fibre from 10000 to 12000 tonnes per annum.

1983: Received letter of intent for expansion of Nylon Filament Yarn capacity upto 6000 tonnes per annum.

(viii) Modipon Limited

1965: Company was incorporated and industrial licence was received.

1967: Corner stone was laid.

1968: In March, commercial production was started.

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 from 1800 tonnes to 3000 tonnes per annum.

C.O.B. licence for the manufacture of 360 tonnes per annum of polyester filament yarn was received.

Expansion project of the Company was commissioned.

1973: In January, production of Polyester filament yarn was started.

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.

On 29th December, capacity to produce higher tonnage of Polyester filament yarn as a result of shift in the average deniers from finer to Coarser denier, was recognised by the Government.

1978: Polyester chips plant was commissioned.

1979: Under diversification programme drawtexturing machine was installed using directly spun yarn for texturing, i.e. avoiding drawtwist stage.

1980: High speed drawtexturing machine was installed in R&D Cell.

Letter of intent was received for 2000 tonnes per annum for manufacture of Nylon Tyre Yarn.

1981: Two high speed polyester drawtexturing machines were installed and one high speed spinning machine was installed in R&D Cell.

POY was for the 1st time manufactured by Modipon.

Technical Agreement with M/s. Unitika for Tyre Yarn was submitted for Government approval.

1982: Polyester licence capacity was increased from 576 MT to 1723 MT per annum and three high speed spinning machines for POY polyester were installed.

1983: Licenced capacity for Nylon was increased from 4760 MT to 6000 Mt per annum.

(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.7.5 crores and Preference Shares 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.

1965: The annual licensed capacity of Nylon Textile Yarn was increased from 1872 tonnes to 2520 tonnes and that of Nylon Tyre Cord 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.

1970: (Contd.) Machinery for setting up of the Tyre Cord 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 licenced capacity for manufacturing polyester filament yarn was increased from 360 tonnes to 576 tonnes.

1974: Polycondensation plant was commissioned.

Installed capacity of Nylon Tyrecord was increased from 1440 tonnes to 2190 tonnes p.a.

1975: Plant for the recovery of Glycol and Methanol was commissioned.

Commenced work on Deploymerisation 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 belting, 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 lisecnced 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.

1981: Production of Nylon conveyer Belting was started.

Export orders for V-Belt were received.

1983: Licensed capacity for Nylon was increased from 3528 tonnes to 5308 tonnes p.a., Polyester from 922 tonnes to 2655 tonnes p.a., and Tyrecord from 2109 tonnes to 4000 tonnes p.a.

(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 was set up at Madras.

1974: On 31st December, trial runs were commenced.

Industrial licence for 2000 tonnes of yarn was endorsed for manufacture of 1000 tonnes of Nylon Fabric.

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 per annum of Nylon chips and 600 tonnes per annum of Nylon Industrial yarn was issued by the Government.

By September, technology for the manufacture of Nylon Chafer 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 of NTY.

1979: On 31st December, letter of intent was issued by the Government for increasing the Fabric conversion capacity from 1000 MT to 2550 MT per annum, including 200 MT chafer Fabric within the over all limit of 2550 MT.

1980: Government recognition for the R&D Centre of the Company was received.

Letter of intent for manufacture of 200 MT of Chafer Fabric was also received.

1981: Letter of intent for expansion of Nylon Tyre Yarn capacity from 3000 MT p.a. to 5000 MT p.a. was received.

1982: Capacity was re-endorsed to manufacture 6335 TPA.

Plans for installation of Deplovmerisation Plant for converting solid waste into caprolactam was undertaken.

Letter of intent for expansion in Tyre Fabric capacity from 1000 tonnes to 2550 tonnes was converted into industrial licence.

(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: In January, production of Stretch Nylon Yarn was commenced.

1969: 1st plant for manufacture of knitting fabric was commissioned.

1973: Spinning plant for the manufacture of nylon was installed.

On 6th October, commercial production of nylon yarn was commenced.

1976: Permission for production of 135 MTA of Polyester Filament Yarn was obtained.

1977: Steps of erection of Polymerisation plant ware started.

1978: In January, licence for substantial expansion of capacity for production of Nylon Yarn from 540 MT to 4200 MTPA was granted.

1979: Government's clearance for import of machinery for expansion scheme was obtained.

1980: LA for production of 135 MTPA Polyester Yarn was converted to Industrial Licence.

1981: Work for installation of Polymerzation Plant was started.

(xiii) Shree Synthetics Limited

1968: Shreeram Silk Mills Ltd., Calcutta, a unit of Hastings Mills was incorporated with an authorised capital of Rs.5 crores.

An Industrial licence was received for the manufacture of 1080 tonnes/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 licences for 1740 MT p.a. of nylon 576 MT p.a. of Polyester Fibre were received.

Four draw texturising machines were commissioned for manufacture of textile yarn.

1980: First Phase of nylon expansion was completed and commercial production was started.

The authorised capital of the company was increased from Rs.5 crores to Rs.7 crores.

The company approached the Government of India for enhancement of its capacity of nylon yarn from 1740 tonnes to 6000 tonnes and polyester yarn from 576 tonnes to 1800 tonnes.

1981: With the commissioning of balance equipments, expansion of nylon plant was completed.

1982: Poly condensation plant for manufacture of Polyester Chips and 6 Draw Twisting machines were commissioned.

The licensed capacity for production of nylon yarn was increased from 1740 MT to 3452 MT per annum.

(xiv) Swadeshi Polytex Limited

1970: In 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 palnt and equipment was completedand trial runs were commenced.

1973: In March, commercial production was commenced.

In August, normal 1.4 and 2.1 deniers of polyester fibre were 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: In March, low and high shrinkage fibre was for the first time introduced in India.

In September, Research & Development activities were recognised by the Government of India.

1977: Jailene polyester khadi (hand spun on Amber 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.

1981: In November, letter of intent for expansion of capacity to 12,200 tonnes per annum was received.

There was labour strike for 119 days during the year The plant was however, operated by officers/supervisors to 50% capacity for 70 days.

1982: On17th January, the licensed capacity of Polyester Staple fibre was endorsed from 6000 tonnes to 8131 tonnes per annum.

Letter of intent for expansion of productincapacity from 6100 tonnes to 12,000 tonnes per annum was extended to 6th November, 1983.

(xv) Petrofils Cooperative Limited

1970: In July, Govt. of India conveyed decision for manufacture of polyester filament yarn by IPCL and Co-operatives.

In November, Feasibility Report for manufacture of 10 tonnes/day of polyester filament yarn alongwith a preliminary Feasibility Report was submitted to the Government by IPCL.

1971: In February, Industrial licence application was submitted to Government by IPCL for a plant to produce 3500 tonnes/year of polyester filament yarn.

1972: In March, Government gave formal investment sanction to IPCL for the setting up a polyester filament yarn plant with an initial capacity of 3500 tonnes per year expandable to 7000 tonnes per year at an estimated initial investment of Rs. 15.39 crores with a foreign exchange component of Rs. 7.38 crores. Government also directed that a new company with 60:40 equity participatio pation between the Government and co-operatives be set up to implement the project.

1973: During March-May, a sub-committee of the Board of directors of IPCL was constituted for evaluating and recommending the arrangements for technical collaboration and supply of imported and Indian main plant equipment.

In August, Board of Directors of IPCL approved the selection of the officer of Karl Fischer/J.K. Synthetics for technical collaboration and supply of equipment for the project.

In September, an application for approval of the Foreign Collaboration was submitted to the Foreign Investment Board. Government of India. Industrial Licence for the production of 3500 tonnes/year of polyester filament Yarn was also received during the same month.

1974: In January, first import licence application was submitted to the Government.

In March, FIB approval to Foreign Collaboration was received.

In April, Government's approval to Collaboration Agreement has received.

In May, Collaboration Agreements was signed and taken on records by the Government.

In August, site office at plant site adjacent to ethylene glycol plant site was ready for occupation.

In September, Petrofils Co-operative Limited was registered.

In December, possession of new land was taken from GIDC.

1975: In February, Know-how and basic engineering documents received from Collaboration. Members to the Board of Directors nominated by the Government.

In March, Foundation stone was laid by the Honourable Minister of Petroleum, Shri K.D. Malaviya and civil works started.

1976: In January, Government's approval to the revised estimated capital cost amounting to Rs.24.76 crores was received.

In April, Government permission to increase the equity capital from Rs. 8.0 crores to Rs.10.0 crores was received and mechanical and electrical erection of the plant was started.

1976: (Contd.) In July, Civil work of main plant and Utility Block was completed.

1977: In May-August, mechanical erection of main plant and Utility was completed.

In November, First spinning line was commissioned (B.Line).

1978: In April, the second spinning line was commissioned (A Line).

In September, the 3rd Spinning line was commissioned (A 2 Line).

1979: In February, the Fourth Spinning line was commissioned (C Line).

In July, proposal for expansion by conversion of R&D lines into high speed spinning (POY) and installation of SD/Texturisers was submitted to Government.

1980: In April, approval for expansion was received from Government.

1981: In January, the approval of the Government of India was received for the manufacture of Nylon 6/66 filament yarn.

In February, Application for Foreign Collaboration for manufacture of POY and D/Texturised yarn was submitted. Application for Industrial Licence for expansion project was also submitted.

In May, the Government of India gave approval to the expansion to doubling the capacity of PFY from 3500 MT to 7000 MT per annum.

In June, the first line of the Poly Condensation (Chips) Plant was commissioned.

In September, the second line of Polycondensation Plant was commissioned.

1982: In January, first of the nine drawtexturisers was commissioned and proposals for setting up 6000 MTA Nylon-6/66 project, 10,000 MTA polyester Draw Texturised yarn Plant and 20 TPD Chips plant (balancing facilities) were submitted to the government.

In April, the third line of Polycondensation Plant was commissioned.

In May, approval of the Govt. for setting up a 250 MTA dyeing plant was received.

In June, all the 9 high speed Draw Texturisers were commissioned for production.

(D) SYNTHETIC RUBBER

M/s Synthetic & Chemicals Ltd.

1958: Chairman visited U.S.A. for foreign collaboration.

1959: Agreement was signed 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 styrere, 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 was laid at Bareilly.

1962: Technical Service Laboratory at Bombay was commissioned to help rubber consuming industries in the field of application of synthetic rubbers.

1963: All plants were commissioned and commercial production was started.

1964: Imports of SBR manufactured by the company were banned by the Government of India.

1965: Explosion at Butadiene Plant caused temporary stoppage of production for about six months.

Production of self-reinforcing rubber 1958 was started for the first time.

Developed other grades, i.e. S-1714, S-570 and S-1006.

1968: Developed emulsion polymerised polybutadiene rubber-EBR.

1969: Government applied for the first time statutory control under the Essential Commodities Act on the prices of Company's SYNAPRENT rubber.

Developed new rubbers, S-1513.

1970: For the first time Excise duty at the rate of Rs.300 per tonne was levied by the Government.

1971: The company developed and marketed a special high solids and high bound styrene S-2000 latex for use in cord dipping operations.

1972: Letter of intent for manufacture of 2000 MT year of nitrile rubber was received.

Pilot plant was received for nitrile rubber was completed.

Agreement with NCL/NRDC on Nitrile Rubber was signed. Agreement for ABS technology based on process know-how of Shri Ram Institute was also signed with NRDC.

1973: Developed and produced low based styrene rubber, viz. S-0052 and S-0212 on experimental basis.

1973: (Contd.) Letter of intent for the manufacture of Steel Cord, Textile Rainforced and Solid PVC conveyor belting was received.

R&D Centre of the Company was recognised by Department of Science & Technology and NCST.

1974: Developed and produced S-1552, S-1752, S-1941 and S-5812 based on low bound styrene.

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 was 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 for manufacture of 200 MT/year Vinyl pyridine Monomer and 800 MT/year Vinyl Pyridine Latex, was received.

A pilot plant for ABS plastics resins for development of technology and commenced trial production in a few grades of ABS was set up.

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. Uniroyal, USA was approved by the Government.

Letter of intent for manufacture of ABS resins and plastics was received.

1977: Commercial production of Nitrile Rubber was started.

Also developed and produced S-1511 on experimental basis.

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.

Industrial licence for the manufacture of Butadiene Catalyst was received and 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 Fianancial Institutions.

1978: M/s. Croda Synthetic withdraw their foreign collaboration prcopsals for VP Monomer as the terms & conditions laid down by the Govt. of India were not acceptable to them.

First charge of rejuvenated Butadiene Catalyst manufactured in the Batadiene Catalyst Plant was charged into Butadiene Convertor.

A foreign collaboration proposal for the sale of manufacturing know-how for V.P. Latex was received from M/s. Firestroe Tire & Rubber Company, U.S.A.

Production of Butadiene Catalyst using imported silica gel from M/s. W.R. Grace was started for the first time.

1979: Industrial licence application for expansion of SBR manufacturing capacity to 60,000 MTPA from 30,000 MTPA, manufacture of Vinyl Pyridien Latex @ 800 MTPA (dry basis) and manufacture of 400 MTPA of Styrenated Phen Phenol was submitted.

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 the by-product crude ethylene streams from our Butadiene Plant was erected and commissioned during the year.

Third Styrene Reactor alongwith its balancing equipment was installed.

1980: The validity of Industrial Licence granted for manufacture of 2000 MTPA of ABS Resins and Plastics was extended upto December, 1981.

1981: There was labour problem on bonus issue resulting in lockout of the factory for about 3 weeks.

One additional rubber coagulation and drying line was completed and commissioned to increase the production capacity to 37,500 MTPA.

1982: The expansion of Industerial licence capacity for production of SBR from 30,000 MTPA to 60,000 MTPA was not approved by the Government. The validity period for ASB @ industrial licence was, however, extended to the 31-12-1982 for reduced capacity of 1,000 MTPA.

II. CAPACITY AND PRODUCTION

Annual Installed Capacity and Production of Petro-chemicals in India during the years 1970, 1975, 1980 and 1982.

(Tonnes)

Name of the Industry/Item	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
Dichlore 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 Filament 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, 1980 and 1982.

(Tonnes)

Name of the Industry/Item	1980			1982		
	No.of Units	Installed capacity (p.a.)	Production	No.of Units	Installed capacity (p.a.)	Production
Organic Heavy Chemicals						
Benzene	11	139000	83030	11	137060	92524
Butadiene	3	54400	15061	3	54400	23112
Butyl Acetate	4	8730	3684	4	8230	3822
Butyl Alcohol	4	15440	8521	4	14190	9719
Diacetone Alcohol	2	5800	4167	2	7800	3800
Diethylene Glycol	1	600	241	1	700	382
Dichlore Ethane	1	30000	27079	1	30000	33150
Dripolene A+B	1	5000	4375	1	5000	3992
2-Ethyl Hexanol	2	10700	6891	2	11600	6713
Ethylene	3	210000	121330	3	213000	163949
Ethylene Oxide	2	17000	10482	2	17000	13497
Monoethylene Glycol	2	30000	9375	2	30000	16375
Methyl Isobutyl Ketone	1	3700	495	1	3700	702
Isopropanol	1	4000	2148	1	2500	2238
Phthalic Anhydride	5	27300	22605	6	35800	27242
Polyethylene Glycol	1	1000	870	1	1500	917
Propylene	3	123300	62608	3	117300	84056
Styrene	3	35000	19976	3	38936	19600
Toluene	9	25755	21271	9	41755	20121
DMT	1	24000	25305	1	24000	23242
Ortho-xylene	1	21000	18379	1	21000	12382
Para-xylene	1	17000	14470	1	17000	9994
Mixed-xylene	1	2500	2497	1	2500	5064
Vinyl Chloride(M)	1	30000	14592	1	30000	18697
Caprolactum	1	20000	13945	1	20000	10622
Carbon Black Feedstock	1	17900	4515	1	17900	8291
Acrylonitrile	1	24000	6808	1	24000	16941
Linear Alkyl Benzene	1	30000	16772	1	30000	26969
Synthetic Fibres						
Nylon Acrylic Fibre	2	16000	7674	2	16000	16246
Nylon filament yarn	8	21976	19994	9	27002	26494
Nylon Indl.yarn/tyre cord	4	10490	11113	5	17250	16130
Polyester Staple Fibre	5	32050	22664	5	31140	28314
Polyester filament yarn	8	8046	9246	11	31411	19174
Synthetic Rubber						
Styrene Butadiene Rubber	1	30000	16361	1	30000	14420
Polybutadiene Rubber	1	20000	6264	1	20000	14652
Plastic Raw Material & Thermosets						
CA Moulding Powder	2	7200	256	2	7200	592
MF Moulding Powder	4	1740	221	4	1740	367
PF Moulding Powder	3	5000	4657	3	5000	4293
UF Moulding Powder	6	5400	2891	6	5850	2924
Thermo-plastics						
Polyethylene L.D.	3	110000	77014	3	109000	105243
Polyethylene H.D.	1	30000	20943	1	30000	30983
Polystyrene	2	23500	10527	2	23500	10396
PVC Resins	5	77900	37068	5	85750	39796
Polypropylene	1	30000	12074	1	30000	23556

Note : Installed Capacity as per DGTD on 1.4.1983.

Production of Petro-chemicals in India - 1970-71, 1975-76 & 1980-81 to 1982-83

(Tonnes)

Products	Annual Installed Capacity as on 1.4.83	1970-71	1975-76	1980-81	1981-82	1982-83
1	2	3	4	5	6	7
Organic Chemicals						
Benzene	137060	53190	71224	79726	81660	100093
Butadiene	54400	18183	16323	18070	22720	25408
Butyl Acetate	8230	2691	3703	3860	4024	3910
Butyl Alcohol	14190	4231	5587	8844	9399	10740
Diethylene Glycol	700	527	681	249	339	425
Diacetone Alcohol	7800	2572	2351	4099	3423	3971
Dichlore Ethane	30000	642	24557	31150	23604	33853
Dripolene A+B	5000	4476	3730	4852	5190	4119
2-Ethyl Hexanol	11600	7938	8340	6610	6959	7881
Ethylene	213000	58668	64257	139846	147754	170274
Ethylene Oxide	17000	1513	9921	11787	11426	14677
Monoethylene Glycol	30000	4500	7287	11989	15491	17361
Methyl Isobutyl Ketone	3700	1236	960	460	438	1033
Isopropanol	2500	1650	1346	2501	1823	2623
Phthalic Anhydride	35800	7984	6429	23081	24651	29934
Polyethylene Glycol	1500	563	872	1227	637	962
Propylene	117300	5663	32766	72691	67638	89152
Styrene	38936	-	16436	19524	15963	21664
Toluene	41755	8385	15292	19012	25365	19799
DMT	24000	-	19018	23136	27319	22835
Ortho-xylene	21000	-	7888	18059	15930	13632
Para-xylene	17000	-	12412	13221	12212	10486
Mixed xylene	2500	-	4336	2844	5247	4115
Vinyl Chloride(M)	30000	-	13812	16759	11768	19766
Caprolactum	20000	-	13270	13089	9917	13247
Carbon Black Feedstock	17900	-	-	5881	7749	8682
Acrylonitrile	24000	-	-	9326	13979	17961
Linear Alkyl Benzene	30000	-	-	17062	30399	27788
Synthetic Fibres						
Acrylic Fibre	16000	-	-	10275	13592	16157
Nylon Filament Yarn	27002	9338	14037	20822	23380	25675
Nylon Indl.Yarn/Tyre cord	17250	440	4000	11766	14332	15507
Polyester staple fibre	31140	5423	16018	22381	29707	25970
Polyester filament yarn	31411	602	2297	10707	15410	24360
Synthetic Rubber						
Styrene Butadiene Rubber	30000	29791	25195	18968	17391	14580
Polybutadiene Rubber	20000	-	-	6469	11481	16176
Plastic Raw Materials & Thermosplastics						
CA Moulding Powder	7200	1084	1133	324	291	692
MF Moulding Powder	1740	78	120	214	328	386
PF Moulding Powder	5000	3286	3665	4794	4556	4290
UF Moulding Powder	5850	1735	1887	2845	3250	2938
Polyethylene L.D.	109000	24437	27635	87154	94293	106148
Polyethylene H.D.	30000	21153	20018	24293	31732	32702
Polystyrene	23500	8925	9203	10205	7642	12580
P.V.C. Resins	85750	41472	43818	42050	37037	41648
Polypropylene	30000	-	-	16729	20644	24048

Note : Installed Capacity as per D.G.T.D. records.

III. S A L E S /C O N S U M P T I O N.

Estimated/Consumption of Selected Petro-chemicals

(Qty. Tonnes)

PRODUCTS	1970-71	1975-76	1978-79	1979-80	1980-81
1.	2.	3.	4.	5.	6.
	Organice Intermediates				
Benzene	53209	72412	90373	95909	79746
Butadiene	18183	16323	19953	21766	18070
Diethylen Glycol	527	681	608	411	249
Dichlore Ethane	642	24557	39664	33528	31150
Ethylene	58668	64257	115779	126537	139846
Ethylene Oxide	1513	19921	13396	12134	11787
Ethylene Glycol	4805	7444	11534	13647	13230
2 Ethyl.Hexanol	7938	8340	9301	8564	6610
Isopropanol	1650	1346	2306	2077	2504
M.I.Ketone	1236	960	1430	712	1732
Phathalic Anhydride	13275	12931	23240	2404	26040
Propylene	5663	32766	56048	6608	72091
Polyethylene Glycol	563	872	1173	1181	1491
Styrene	-	16436	25476	22781	19514
Toluene	8327	15296	24544	23894	19084
	Plastics Raw Materials.				
M.F. Moulding Powder	78	120	178	245	214
P.F. Moulding Powder	3367	3661	4287	4753	5214
U.F. Moulding Powder	1663	1939	2506	3071	2870
C.A. Moulding	1170	1465	1093	689	5387
Polyethylene L.D	22988	35012	83770	73631	90544
Polyethylene H.D	13590	21479	54251	62706	59624
Polystyrene	8189	19610	15531	12457	10552
P.V.C. Resins	41452	44223	68736	81953	107768
	Synthetic Fibre				
Acrylic Fibre	195	3163	25330	5748	20936
Nylon Filament Yarn	9338	16890	23651	19858	22289
Nylon Industrial Yarn/Tyre Cord.	440	4000	8560	11194	11768
Nylon Polymides/ Staple Fibre	117	356	236	129	-
Polyesterfilament Yarn.	602	4456	14157	17783	17763
Polyester Staple Fibre	14166	16559	31822	33039	26399
Synthetic Rubber	24731	31592	42083**	47969**	40093

Note:- Estimated Consumption = Production + Imports - Exports.
*- Includes Imports and Exports of Natural & Reclaimed Rubber also. ** Included Polybutadene Rubber from IPCL, Baroda also.

IV. PRICES.

TREND IN EX-FACTORY PRICES OF CAPROLACTAM, DMT, MONO-ETHYLENE GLYCOL

(Rs./ Tonnes)

YEAR		Ex-factory Prices (Exclusive of Duties & Taxes) Caprolactam: Used for filament upto 225 Deniers.	Caprolactam: Used for Tyre Cord & Nylon Yarn (above 225 Deniers)	D.M.T.	Mono-ethylene Glycol: Bulk	Mono-ethylene Glycol: Packed
1.		2.	3.	4.	5.	6.
1970	January				4000	4450
	April				4200	4800
	June				4700	5300
1973.	April			6000		
	August			7000		
	December				4950	5550
1974.	January			12000		
	February				5700	6300
	March			16000	7100	7700
	August	26000	26000			
	December	22750	22750		7100	7900
1975.	April	22000	22000			
	December	21334	21334			
1976.	January				7550	8350
1977.	January			12000		
	April			11000		
	October	17147	17147			
1978.	January	16000	16000			
	March				7650	8450
	September	16000	13500			
1979.	April	17000	16000			
	May	21334	20026	15000		
	June				7650-7750	8750
	August	22174	20813	16000	10900-11000	11900-12000
	August, 17	23900	22431	16000		
1980.	January	25900	25900			
	April	26480	26480	16000	10900-11000	12300
	June				12000-12700	13400-14100
	August, 5	22000	22000			
1981.	January				12800-13300	14100-14700
	September	23850	23850	16000	13800-14050	15300-15500
1982.	May	24162	24162	16000		
	September	-	-	-	13800-14350	15300-15850
1983	April	-	-	16000	14500-14650	15800-16300

Source:- Handbook of Statistics on Man-made/Synthetic Fibre/Yarn Industry 1982 brought out by A.S.F.I.

EX-WORKS PRICES (BULK, EXCLUDING EXCISE DUTY) OF SELECTED PETROCHEMICALS.

(Rs./M.T.)

I T E M.	Manufactures	1-1-71	1-1-72	1-1-73	1-1-74	1-1-75	1-1-76
1.	2.	3.	4.	5.	6.	7.	8.
1. Polyethylene L.D.	UCI	5130	5400	5400	6140	9425	14703
	ACCI	4792	4792	4798	5122	8087	8087
2. Polyethylene H.D. (Natural Colour)	Polyolefins Inds. Ltd.	4212	4329	4346	4671	7744	7613
3. Styrene Monomer	Polychem Limited	3331	3293	3807	4060	9340	8230
4. Polystyrene (General-purpose)	Hindustan Polymers Limited	4250	-	-	-	9100	9100
5. P.V.C. (Resin)	NOCIL	3100	3100	3100	3800	6000	6000
	Chemicals & Plastics India Ltd.	2900	3050	3350	4200	6000	5150
	Calico Ltd.	2825	2825	2825	2750	5300	5300
6. Di-octyl Phthalate.	UCI Ltd.	7300	6000	6250	13000	11700	-
	IOC Ltd.	7150	4650	4300	11650	8600	8100
	H.C.L.	7400	5612	5798	9458	10800	10000
7. 2-Ethylene-Hexanol	NOCIL	5200	5200	4900	5200	8300	8750
	UCI Ltd.	5300	4900	5300	7700	8000	8650
8. Ethylene-Glycol.	NOCIL	4700	4300	4300	4550	6800	7250
9. Ethylene Oxide	NOCIL	8050	6100	6100	6350	8750	9300
10. Synthetic-Rubber (Price ex-Bombay)	Synthetic & Chemicals Limited.						
S-1500/502		4400	4400	4400	4400	4950	5050
S-1712		3900	3900	3900	3900	4450	4550
S-1958		6800	6800	6800	6800	7400	7600
11. Di-Butyl-Phthalate.	IOC	7000	5900	6150	16150	15550	10600

NOTE :- UCI stands for Union Carbide India Ltd., NOCIL for National Organic Chemicals Industries Ltd., HCI for Herdillia Chemicals Ltd., IOC for Indian Organic Chemicals Ltd., ACCI for Alkalies & Chemicals Corporation of India Limited.

(- = Not Available).

EX-WORKS PRICES(BULK)EXCLUDING EXICSE DUTY)
OF SELECTED PETROCHEMICALS

(Rs/MT)

I T E M	Manufactures	1.1.78	1.1.79	1.1.80	1.1.81	1.1.82	1.1.83
9	10	11	12	13	14	15.	16
1. Polyethylene L.D	UCI	13195	14041	[illegible]	20000	22000	21700
	ACCI	13195*	13500*	19469	19469	18250	18250
2.Polyethlene HD (Natural Colour)	Polyolefins Industries ltd.	7613	7900	13300	14539	14289	14289
3 Styrene Monomer	Polychem Limited	9225	8085	20420	20420	20000	20000
4. Polystyrene (General Purporse)	Hindustan Polymers ltd	9100	13500	24800	24250	26800	19952
5. PVC (Resin)	NOCIL	6000	6300	9000	9900	9250	9250
	Chemical& Plastics India ltd.	6150	6 50	11400	14500	12000	13000
	Calico ltd	6200	6800	7200	9400	11000	12700
6. Dioctyl Phtha-late	IOCltd.	9520	10230	17310	20400	16630	18100
	HCl	11600	11800	20550	20900	19900	19000
7. Di Butyl Phatholate	IOC	10160	10900	15210	20770	18580	18690
8. 2-Ethyle Hexanol	NOCIL	8750	8900	14700	16700	18750	18750
	UCI ltd	9650	9250	13700	18300	25600	22800
9. Ethylene Glycol	NOCIL	7550	7650	10900	12700	14050	14350
10. Ethylene Oxide	NOCIL	9550	9725	13950	16300	18400	18600
11. Syntheitc Rubber	Synthetic & Chem. ltd.						
(Price Ex-Bombay)							
-S-1712/1502		8800	9550	13500	17500	16700	18400
-S-1712		8300	9050	12500	15600	14900	16400
-S-1958 (B)		14450	14750	18700	21800	20900	22150

NOTE:- Prices shown against NOCIL include market charges.

*-- Selling Price.

AVERAGE BOMBAY MARKET PRICE QUOTATION OF SYNTHETIC FIBRE/YARN

(Rs. / Kg.)

Denier	1975	1976	1977	1978	1979	1980	1981	1982
1. NYLON FILAMENT YARN								
12-1-0	139.76	123.15	132.47	147.32	151.52	166.73	184.17	172.46
20-1-0	134.24	119.43	128.84	132.38	133.05	146.07	157.98	157.25
30-10-0	131.41	117.93	121.68	N.A.	N.A.	158.34	149.79	157.50
40-10-0 SD	124.77	109.32	110.36	114.03	121.49	134.50	145.79	137.32
111-24-0	102.19	90.19	89.75	85.80	95.78	107.87	117.90	110.59
2. POLYESTER FILAMENT YARN								
76-24-0	197.53	153.34	144.84	135.35	150.35	142.65	168.90	156.35
76-34-0	N.A.	N.A.	147.14	137.64	152.79	141.85	169.16	154.20
76-36-0	194.61	169.97	148.84	140.02	154.36	143.30	172.02	156.18
150-36-0	N.A.	N.A.	N.A.	N.A.	126.64	121.95	114.32	126.83
3. POLYESTER STAPLE FIBRE								
1.2.D	74.55	91.12	65.40	63.07	76.11	77.37	87.12	85.98
1.5.D	74.27	89.81	64.21	60.58	74.48	76.12	87.92	86.74
2.0.D	72.33	87.81	63.11	61.27	74.15	75.42	86.49	85.56

Source : Handbook of Statistics of Man-made/Synthetic Fibres/ Yarn Industry 1982 brought out by Association of Synthetic Fibres Industry.

V. EXCISE AND CUSTOMS DUTIES

Realisation of Excise & Custom Duties from Petrochemicals and Petro-based Items

(Rs./Crores)

Products	ACTUALS				1982-83 (RE)	1983-84 (BE)
	1978-79	1979-80	1980-81	1981-82		
EXCISE DUTIES						
1. Plastics materils & Synthetic resins	92	110	123	138	160	168
2. Synthetic Organic Dyestuffs	42	42	42	43	45	46
3. Carbon Black	4	7	10	12	15	17
4. Man-made Fabrics	3	5	6	9	10	11
5. Man-made Fibre & Man-made Filament Yarn	329	363	425	527	590	722
6. Synthetic Rubber	2	2	4	4	5	7
TOTAL (A)	472	529	610	733	825	971
CUSTOM DUTIES						
7. Artificial resins plastic materials and articles thereof.	90	108	142	178	230	267
8. Yarn of man-made fibres	79	98	160	217	300	220
9. Man-made fibres and filament two.	88	97	92	103	135	180
TOTAL (B)	257	303	394	498	665	667
GRAND TOTAL (A+B)	729	832	1004	1231	1490	1638

Figures rounded to nearest crore.

Source: Budget Papers of the Central Government for 1983-84.

Rates of Excise Duty on Petrochemicals, Synthetic Fibres/Yarn and Raw Materials w.e.f. 1.3.1983

Item	Unit	Basic Duty	Special Duty	Addl. Duty	Total
1.	2.	3.	4.	5.	6.
		(A) ORGANIC CHEMICALS			
Benzene	Rs/KL	2253.0	38.00	Nil	2253.0
	Rs	(472.50)		-	(472.50)
Butadiene	Adv.	20%+5%	Nil	-	25%
Ethylene	Adv.	20%+5%	Nil	-	25%
Ethylene Oxide	Adv.	10%	-	-	10%
Mono Ethylene Glycol	Adv.	10%	-	-	10%
Polyethylene Glycol	Adv.	10%	-	-	10%
Propylene(PG+CG)	Adv.	20%+5%	Nil	-	-
DMT		N i l			
Ortho-xylene	Rs/KL	450.0	Nil	-	450.0
Para-xylene	Rs/KL				
Mixed xylene	Rs/KL	2253.00	Nil	-	2253.0
		(472.50)			(472.50)
CBFS	Rs/KL	121.05	Nil	-	121.05
Linear Alkyl Benzene	Rs/KL	450.0	Nil	-	450.0
Acrylonitrile	Adv.	10%	-	-	10%
		(B) SYNTHETIC FIBRES			
Nylon Filament Yarn					
i) Below 35 Denier	Rs/KG	64.80	6.40	9.72	81.00
ii) 35 D & above but below 80 D	Rs/KG	57.80	5.78	8.67	72.25
iii) 80 D and above	Rs/KG	No change			
Polyester Filament Yarn/POY					
i) Below 30 D	Rs/KL	83.00	8.30	12.45	103.75
ii) 30 D & above but below 75 D	Rs/KL	76.00	7.60	11.40	95.00
iii) 75 D & above but below 100 D	Rs/KL	69.00	6.90	10.35	86.25
iv) 100 D & above but below 750 D	Rs/KL	55.00	5.50	8.25	68.75
v) Above 750 D	Rs/KL	No change			
Polyamide(Nylon) Texturned Yarn					
i) Below 38.5 D	Rs/KG	69.00	6.98	10.47	87.25
ii) 38.5 D & above but below 88 D	Rs/KG	62.80	6.28	9.42	78.50
iii) 88 D & above	Rs/KG	No change			
Polyester Texturised Yarn					
i) Below 33 D	Rs/KG	88.0	8.80	13.20	110.00
ii) 33 D & above but below 82.5 D	Rs/KG	81.0	8.10	12.15	101.25
iii) 82.5 D & above but below 110 D	Rs/KG	74.0	7.40	11.10	92.50
iv) 110 D & above	Rs/KG	60.0	6.00	9.00	75.00
Acrylic Fibre	Rs/KG	14.0	10%	-	15.75
		(C) PLASTIC RAW MATERIALS			
MF Moulding Powder	Adv.	15%	5%		15.75%
PF Moulding Powder	Adv.	15%	5%		15.75%
UF Moulding Powder	Adv.	15%	5%		15.75%
CA Moulding Powder	Adv.	15%	5%		15.75%
LDPE (Indothene)	Adv.	30%@	5%		31.5%
HDPE	Adv.	35%	5%		36.75%
Polystyrene	Adv.	15%	5%		15.75%
PVC Resins	Adv.	35%	5%		36.75%
Polypropylene(Koylene)	Adv.	27%	5%		28.35%
		(D) SYNTHETIC RUBBER			
Polybutadiene Rubber	Adv.	10%	10%		11%

Contd./-

Rates of Custom Duty on Petrochemicals, Synthetic Fibre/Yarn and Raw Materials w.e.f. 1.3.1983

Item	Basic duty %	Aux. duty %	C.V. Duty BED %	C.V. Duty SED %	Total %
(A) ORGANIC CHEMICALS					
Ethylene Oxide	70	35	10	-	
Monoethylene Glycol	70	35	10	-	
DMT	100	35	Nil	-	
Ortho-xylene	40	25	Rs.450/KL	-	
Para-xylene	40	25	Rs.450/KL	-	
LAB	70	35	Rs.450/KL	-	
Acrylonitrile	70	35	10%	-	
Caprolactum	75	10	-	-	
(B) SYNTHETIC FIBRE					
Acrylic Fibre	100	35	Rs.24/KL	-	
Nylon Filament Yarn	100	35			
Polyester Filament Yarn	200 +Rs.15/KG	20%	-	-	
Polyester Staple Fibre	145+Rs.9/KG	25%	-	-	
Acrylic Filament Yarn	100+Rs.30/KG	25%	-	-	
Nylon Tyre Cord	100+Rs.11/KG	25%	-	-	
(C) PLASTIC RAW MATERIALS					
MF Moulding Powder	150	35	15.75		229.88
PF Moulding Powder	150	35	15.75		229.88
Nylon Moulding Powder	150	35	15.75		229.88
U.F.Moulding Powder	100	35	15.75		229.88
CA Moulding Powder	100	35	42		233.70
LDPE	100	25	42		219.50
HDPE	50	25	42		148.50
Polystyrene	75	35	42		143.07
PVC Resins	150	Nil	35%	+5%	
Polypropylene	65	30	27%	+5%	
(D) SYNTHETIC RUBBER					
Polybutadiene Rubber	40	25	10%	+10%	

Foot-note for Excise duty :

Figures in parenthesis show concessional rates.

Source :(i) IPCL, Baroda. (ii) Association of Synthetic Fibre Industry, Bombay. (iii) All-India Plastics Manufactuers Association, Bombay.

Foot-note for Custom duty :

Source : IPCL, Baroda.
Association of Synthetic Fibre Industry, Bombay.
All India Plastic Manufactuers Association, Bombay.

IMPORTS/EXPORTS

VI. IMPORTS OF SELECTED PETRO-CHEMICALS

(Qty= Tonnes: Value in Rs. lakhs.)

Products	1975-76		1979-80		1980-81		1981-82(Apl-Sept.)	
	Qty.	Value	Qty	Value	Qty	Value	Qty	Value
A Organic Chemicals								
Acrylonitrile	-	-	231	22	38	5	-	-
Benzene	1191	48.2	1108	139	40	9	16	2
Butyl Alcohol (Butanol)	28	2.7	42	5	30	4	65	6
Butyl Acetate	161	14.5	135	15	57	7	69	88
DMT	248	13.0	7726	617	84	7	-	-
Epsilon Caprolactum	1985	200.2	11816	1616	21395	3210	4025	706
Ethylene Glycol	157	13.7	1865	205	1250	105	1108	78
Ethyl Alcohol undenatured	neg	0.1	12	2	12	1	-	-
Mothyl Isobutyl Ketone	-	(-)	128	12	272	26	632	53
Ethyl Alcohol Denatured	1	0.3	39	7	36	5	31	10
Phthalic Anhydride	6502	207.8	869	63	2959	154	1485	88
Toluene	4	0.3	6	3	69	5	-	-
B. Plastic Raw Materials								
C A Moulding Powder	332	30.3	62	5	63	6	6*	1*
PF Moulding Powder	1	0.5	165	12	421	34	137	10
Polyethylene LD	7376	311.9	2365	173	4063	314	1505	141
Polyethylene HD	1522	84.0	37361	2435	369	392785	16983	1048
Polystyrne Moulding Powder	416	27.0	424	28	347	32	433	34
PVC Resins	405	26.9	32062	2460	66355	4203	34759	1875
UF Moulding Powder	83	3.9	-	-	25	4	-	-
C. Synthetic Fibres								
Acrylic Fibres	3163	380.2	2378	272	661	102	20	3
Acrlic Filament Yarn	-	-	8	2	7	2	1	2
Nylon Filament Yarn	2853	587.0	2181	413	1481	483	2686	370
Polymide Fibre	356	60.9	129	21	87	17	46	10
Polyester Filament Yarn	2159	274.0	8754	1911	11072	2151	9553	1952
Syn.& Regenegerated Fibre	-	-	67316	8892	63427	8859	44007	6866
Polyester Staple Fibre	541	66.9	9422	1174	4018	568	1054	159
D. Synthetic Rubber								
Crude & Synthetic Rubber	6391	651.6	17661	1894	16635	2140	14021	1638

Neg. Negligible.
*- Now-Plasticised.
Surce:- Directorate General of Commercial Intelligence and Statistics, Calcutta.

EXPORT OF SELECTED PETRO-CHEMICALS

(Qty. Tonnes: Value in Rs lakhs)

PRODUCTS	1975-76		1979-80		1980-81		1981-82 (April-Sept.)	
	Qty	Value	Qty	Value	Qty	Value	Qty	Value
1	2	3	4	5	6	7	8	9
A. ORGANIC CHEMICALS								
Benzene	3	0.1	3	0.1	-	-	-	-
Butyl Alcohol	..	..	..	..	-	-	-	-
Ethyl Alcohol undenatured	..	..	13900	243	-	-	-	-
B. PLASTIC RAW MATERIALS								
PF Moulding Powder	5	0.3	4	1	-	-	-	-
Polyethylene L.D.	..	..	5	1	-	-	1	1
Polyethlene H.D.	51	5.6	35	10	-	-	1	1
Polystyrene Moulding Powder	9	2.8	3	1	-	-	-	-
PVC Resins	..	..	..	..	1	1	17	2
U.F.Moulding Powder	31	1.6	..	..	-	-	-	-
C. SYNTHETIC FIBRES								
Nylon Tyre Cord	..	..	37	7	-	-	-	-
Nylon Filament Yarn	..	..	9	6	16	5	54	12
Polyester Fibres-	..	..	..	-	-	-	-	-
Acrylic Filament Yarn	..	..	2	1	1	1	2	2
Synthetic & Regenerated Fibre	15	0.6	35	2	1	1	118	8
D. SYNTHETIC RUBBER								
Crude & Synthetic Rubber	1	0.7						

INTERNATIONAL STATISTICS

World Production of Textile Fibres

Year	MAN - MADE FIBRES							Raw cotton	Raw wool	Raw Silk	GRAND TOTAL
	Yarn	Staple	Cellu-losic	Yarn	Staple	Synth-etic	Total				
1950	874	738	1612	54	15	69	1681	6647	1057	- 19	9404
1955	1042	1236	2278	184	82	266	2544	9492	1265	- 29	13330
1960	1131	1476	2607	417	285	702	3309	10113	1463	- 31	14916
1970	1393	2043	3436	2363	2337	4700	8136	11782	1602	- 41	21561
1971	1401	2054	3455	2867	2742	5609	9064	13008	1566	- 41	23679
1972	1342	2217	3559	3213	3164	6377	9936	13669	1457	- 42	25104
1973	1363	2298	3661	3833	3807	7640	11301	13718	1432	- 43	26494
1974	1302	2230	3532	3785	3702	7487	11019	14046	1531	- 45	26641
1975	1136	1823	2959	3763	3590	7353	10312	11757	1538	- 47	23654
1976	1188	2022	3210	4128	4473	8601	11811	12480	1487	- 48	25826
1977	1172	2109	3281	4312	4837	9149	12430	13921	1488	- 49	27888
1978	1167	2151	3318	4603	5431	10034	13352	12973	1528	- 51	27904
1979	1176	2195	3371	4898	5710	10608	13979	14270	1573?	- 55	29877
1980	1161	2081	3242	4745	5747	10492	13734	142661	1581	- 56	29637
1981	1103	2089	3192	4808	5922	10730	13922	15387	1609	- 57	30975
1982	1326	2439	3765	6221	7536	13757	17522	-	-	-	-
Producation Capacity											
1983 Production Capacity	1325	2574	3899	6451	7691	14142	18041	-	-	-	-

Source : Handboom of Statistics on Man-made/Synthetic Fibre/Yarn Industry-1982 brought out by A.S.F.J.

WORLD PRODUCTION OF NON-CELLULOSIC FILAMENT FIBRES - 1971 to 1978

('000 Metric Tons)

Country	1971	1975	1976	1977	1978*
(A) Non-Cellulosic Continous Filaments					
World Total	2960	3820	4165	4400	4610
of which :					
Argentina	23.7	28.0	24.1	26.5	22.7
Australia	25.3	19.5	20.0	20.5	20.3
Brazil	31.2	80.1	96.6	95.6	105.7
Czechoslovakia	23.9	45.4	50.2	53.3	64.9
Canada	60.1	64.3	63.8	71.3	70.0
France	97.2	85.6	105.1	101.3	91.8
Germany Dem.Rep.of	24.6	49.0	51.0	53.0	53.5
Germany Fed.Rep.	335.2	323.9	374.8	337.7	337.9
India	10.9	20.1	24.2	25.6	30.0
Japan	530.7	490.6	566.9	640.9	644.5
Italy	129.6	123.2	142.7	133.4	132.5
Spain	31.3	45.8	54.5	55.1	60.0
Switzerland	38.6	44.8	49.4	49.0	49.8
U.S.S.R.	132.3	230.3	263.0	291.8	...
U.K.	191.2	184.0	200.4	176.7	181.2
U.S.A.	992.7	1455.6	1499.9	1666.2	1737.8
(B) Non-Cellulosic Discontinous Fibre					
World Total	2820	3600	4440	4670	5160
Canada	25.5	31.5	34.5	43.5	48.5
France	115.8	119.1	145.5	143.4	156.9
Germany Dem.Rep.	32.0	62.8	66.6	71.0	74.0
Germany Fed.Rep.of	268.8	309.1	396.4	375.2	408.3
India	6.0	14.6	21.8	21.8	25.8
Italy	173.9	198.7	284.8	253.9	284.7
Japan	633.9	570.6	678.6	715.4	774.2
Poland	38.7	65.1	68.4	65.4	67.0
Spain	44.8	74.4	91.7	104.6	129.1
U.S.S.R	70.8	134.3	145.4	167.5	...
U.K.	166.1	177.1	214.1	182.1	225.5
U.S.A.	954.2	1210.6	1504.9	1658.0	1793.2

Note : 1. Including production in New Zealand.
2. Beginning 1972, excluding Olefin. *Provisional.

Source : U.N. Statistical Year Book, 1979/80.

Production of Plastics & Resins in selected Countries of the World-1971-1978

('000 Metric Tons)

Country or Area and Product	1971	1975	1976	1977	1978*
Australia (Total)	255.6	362.4	406.8	464.8	494.4
Belgium					
Condensation	40.6	42.0	41.0	44.0	-
Polymerixation	410.4	615.6	866.2	1037.0	-
Others	21.1	20.9	22.0	22.0	-
Czechoslovakia (Total)	270.0	427.2	579.6	738.0	810.0
Condensation	14.0	25.2	25.1	26.7	28.0
Alkyd Resins					
Amino Plastics	2.3	2.0	2.3	2.2	2.2
Phonoplasts	15.6	18.5	18.5	18.0	18.5
Polymerization					
Polyethylene	29.4	30.6	60.5	112.2	139.9
Polypropylene	-	31.3	89.1	100.7	105.8
Polystyrene	25.7	42.6	43.1	47.0	50.2
Polyvinyl Chloride	43.4	82.9	140.3	174.3	188.5
Others					
Regen. Cellulose	17.0	17.7	17.9	18.5	18.4
Canada (Total)	387.0	722.4	-	-	-
Condensation					
Alkyd Resins	-	-	-	-	-
Polymerization					
Polyehtlene	179.7	246.1	300.9	345.0	477.5
Polystyrene	60.4	59.3	75.9	90.5	98.7
Polyvinyl Chloride	78.0	69.9	96.7	99.7	124.8
France					
Condensation	372.0	480.0	544.0	532.0	-
Alkyd Resins	28.5	38.4	43.8	46.4	47.4
Amino Plastics	91.9	203.9	207.4	194.8	173.4
Phenoplasts	46.2	61.1	73.9	65.4	57.2
Polymerization	1327.2	1479.0	2078.0	2243.0	-
Polyethylene	503.5	622.6	913.8	954.5	980.9
Polystyrene	149.3	160.6	238.7	233.3	239.9
Polyvinly Chloride	457.6	473.6	616.4	645.2	664.6
Others	69.6	57.0	66.0	67.0	-
Germany Dem. Rep.					
Total	420.0	604.8	679.2	734.4	762.0

Source : U.N. Statistical Year Book, 1979-80.

* Provisional.

Production of Plastics & Resins in Selected Countries of the World-1971-1978

('000 Metric Tons)

Country of Area and Product	1971	1975	1976	1977	1978
Germany Fed Rep of			1952.4	1929.6	2055.6
Condensation	1502.4	1611.6	101.6	99.0	113.5
Alkyd Resins	111.9	88.7	833.2	814.8	792.4
Amino Plastics	644.3	717.2	4310.4	4162.8	4521.6
Polym-Grization	3162.0	3278.4	1469.8	1433.6	1521.6
Polyethylene	928.2	1068.4	965.1	897.4	1006.3
Polyvinly Chloride	846.4	833.3	1813.2	177.6	177.6
Others	175.2	156.0			
India (Total)	103.2	82.8	87.6	103.2	115.2
Polyethylene	51.5	50.8	49.4	47.0	71.7
Polystyrene	11.0	9.1	12.3	14.7	12.7
Italy					
Condensation	234.0	208.8	224.4	231.6	250.8
Alkyd Resins	29.1	27.5	30.5	28.5	31.1
Phenoplastis	39.4	31.8	39.4	37.4	39.9
Polymerization	1602.0	1816.8	2013.6	2277.6	2188.8
Polyethylene	515.8	626.0	831.4	779.7	696.8
Polystyrene	181.9	211.0	267.3	262.3	277.9
Polyvinly Chloride	483.2	555.2	713.8	685.4	673.1
Others	35.2	27.0	27.8	28.8	26.9
Japan					
Condensation	1128.0	1014.0	1246.8	1240.8	1347.6
Alkyd Resins	229.6	217.3	265.2	275.1	310.2
Amino Plastics	647.9	573.7	665.3	665.8	706.5
Phenoplastis	217.6	195.6	253.8	246.2	267.5
Polymerization	4033.2	3358.8	3705.6	3736.8	4357.2
Polyethylene	1340.0	1290.6	1392.5	1466.7	1766.6
Polypropylene	627.2	594.5	669.0	607.8	744.1
Polystyrene	694.9	690.0	875.1	900.3	1031.8
Polyvinyl Chloride	1034.5	1125.4	1044.0	1030.8	1204.8
Netherlands					
Condensation	302.4	397.2	482.4	530.4	603.6
Alkyd Resins	49.3	52.5	61.2	60.3	58.6
Polymerization	574.8	913.2	1196.4	1209.6	1309.2
Others	37.2	39.7	44.0	42.6	49.4

Source : U.N. Statistical Year Book, 1979-80.

* Provisional.

Production of Plastics & Resins in Selected Countries of the World-1971, 1978

('000 Metric Tons)

Country of Area and Products	1971	1975	1976	1977	1978
Poland (Total)	256.8	538.8	559.2	583.2	603.6
Conensation					
Amino Plastics	4.1	7.4	8.5	10.2	12.9
Phenoplasts	18.8	19.6	19.1	16.6.	9.3
Polymerization					
Polyethylene	18.9	47.8	48.5	47.8	46.3
Polystyrene	22.1	32.0	32.5	33.8	33.9
Polyvinyl Chloride	93.8	124.9	124.9	122.2	125.5
Sweden					
Condensation	148.0	236.0	263.0	266.0	-
Alkyd resins	27.7	31.2	32.6	32.3	-
Amino Plastics	74.7	106.4	121.4	125.3	-
Phenoplasts	38.4	48.2	54.7	50.2	-
Polymerization	210.9	280.0	366.0	330.0	-
Polyethylene	104.0	147.6	204.4	173.4	-
Polystyrene	16.1	12.7	16.0	18.7	-
Polyvinyl Chloride	79.8	118.0	137.3	119.0	-
Others	10.8	13.0	13.0	-	-
U.S.S.R Total	1860.0	2844.0	3216.0	3300.0	-
United Kingdom					
Condensatiom	327.6	710.4	862.8	864.0	897.6
Alkyd resins	71.0	112.2	125.9	132.0	123.5
Amino Plastics	138.0	121.9	172.1	178.4	167.5
Phenoplasts	55.0	46.7	53.3	57.9	53.0
Polymerization	1059.6	1238.4	1581.6	1736.4	1755.6
Polyethlene	378.4	382.9	474.4	489.9	428.2
Polypropylene	92.0	169.7	250.7	248.2	291.7
Polystyrene	161.0	184.6	240.6	228.9	209.2
Polyvinyl Chloride	314.0	334.0	417.2	386.4	409.7
Others	93.6	108.0	111.6	109.2	111.6
Regen. Cellulose	-	64.6	81.4	77.7	79.8
United States					
Condensation	1130.4	799.2	1610.4	769.2	904.8
Alkyd resins	246.2	305.7	319.6	341.7	-
Amino plastics	349.1	479.4	557.7	617.2	-
Phenoplasts	535.5	578.2	708.0	815.2	800.1
Polymerization	6870.0	7618.8	9470.4	8438.6	8983.2
Polypropylene	607.4	863.2	466.0	1227.3	1346.5
Polyethylene	2894.0	3302.1	4056.0	4581.3	5026.5
Polyvinyl Chloride	1558.9	1634.5	2133.0	2389.2	2564.1
Others	1873.2	1788.0	2180.4	2329.2	2388.0
Regen. Cellulose	631.7	339.8	-	-	-
Polystyrne	1809.7	1757.3	1685.6	2360.2	2039.4

Source : U.N. Statiscal Year Book, 1979/80.
* Provisional.

Production of Synthetic and Reclaimed Rubber- 1971- 1978

('000 Metric Tons)

Country or Area	1971	1975	1976	1977	1978*
	A. SYNTHETIC RUBBER				
World Total	5230	5210	6275	6580	6675
of which :					
Argentina*	42.5	40.0	45.0	36.0	34.0
Australia.	43.4	37.6	42.2	43.5	43.5
Belgium*	60;0	65.0	115.0	125.0	130.0
Brazil .	78.2	128.8	164.0	188.1	206.1
Bulgaria	11.9	18.9	21.0	25.0	25.0
Canada	197.4	173.3	209.9	237.9	248.3
Czechoslovakia	52.2	56.7	57.0	58.8	58.9
France	323.1	350.4	437.0	479.0	491.5
Germany Demp Rep	129.3	143.9	145.5	146.9	145.0
Germany Fed.Rep.	306.4	315.9	372.6	414.3	407.0
India	33.0	23.0	23.3	27.4	28.3
Italy*	160-0	200.0	250.0	240.0	250,0
Japan.	779.8	788.7	941.3	971.0	1028.9
Maxico	48.7	60.0	69.4	62.6	80.3
Netherl-ands	191.0	215.9	246.6	240.0	222.8
Poland	66.2	107.9	116.9	119.4	125.6
Romania	71.0	98.9	95.2	136.2	147.5
South Africa	29.7	31.8	34.6	27.2	31.8
Spain	45.4	66.1	78.9	77.1	79.0
United Kingdom	285.4	260.8	320.4	329.2	293.7
United States	2277.0	1989.5	2425.5	2520.8	2604.7
	B. RECLAIMED RUBBER				
World Total	555	460	465	460	460
of which					
Australia	9.0	5.8	4.2	1.1	0.9
Brazil	22.0	28.5	31.6	31.6	32.6
Bulgaria	2.8	2.0	-	-	-
Canada	13.6	3.9	4.6.	33.4	3.5
Czechoslovakia	14.7	15.1	15.4	16.0	19.8
France	24.7	22.4	21.5	21.0	20.0
Germany Fed.Rep,	14.9	10.8	14.1	13.3	11.9
Hungary	2.7	1.7	1.5	0.1	-
Japan	59.5	47.8	58.1	56.7	59.6
Korea Rep. of	4.2	3.7	-	-	-
Sweden	8.3	5.9	3.9	-	-
U.S.S.R.	134.5	-	-	-	-
Bye-Lorussian SSR	(24.1)	(25.4)	(-)	(-)	(-)
United Kingdom .	30.0	24.6	24.3	23.0	20.7
United States	202.4	120.6	110.7	121.1	123.6
Yugoslavia	6.0	6.4	6.5	6.1	7.5

..* Provisional. - Not available.

Source :- U.N.Statistical Year Book, 1979- 80.

Production of Basic Organic Chemcials in Selected Countries of the World-1971-1978

('0000 Metric Tons)

Country of Area and product	1971	1975	1976	1977	1978*
Bulgaria					
Ethylene	53.0	75.8	75.4	78.4	81.2
Propylene	45.6	59.2	60.5	62.2	62.1
Acetylene	7.3	14.7	12.7	12.2	13.1
Benzene	41.8	54,4	57.4	61.4	-
Toluene	44.5	52.1	55.1	48.0	36.0
Kylenes	30.4	34.7	34.5	30.9	32.4
Methyl Alcohol	26.1	27.5	27.2	27.3	24.3
Ethylene Oxide	7.4	9.6	9.8	10.4	10.4
Canada					
Ethylene	421.0	429.5	508.9	567.3	82.6
Acetylene	8.7	8.6	8.3	8.0	7.5
Benzene	263.9	247.7	411.3	435.0	3559
Toluene	132.8	53.5	182.4	-	-
Xylenes	51.1	75.7	161.8	-	-
Ethyl Alcohol	396	233	227	240	-
Czechoslovakia					
Ethylene	127.8	75.4	92.8	201.4	229
Propylene	62.9	36.3	46.5	98.8	108
Acetylene	14.1	15.7	15.8	16.1	16
Benzene	114.5	151.7	167.9	195.4	203
Toluene	40.8	38.8	46.0	48.5	49
Xylenes	20.8	87.7	106.0	96.8	115
Methyl Alcohol	83.9	92.8	99.4	104	110
Ethyl Alcohol	1719	1330	1528	1189	1130
Ethylene Oxide	5.9	7.7	8.5	11.1	11
France					
Propylene	567.0	647.0	874.0	941	-
Acetylene	114.0	-	-	-	-
Benzene	371.7	295.1	456.6	493.8	519
Toluene	90.5	57.6	73.9	70.5	54
Xylenes	49.4	47.1	75.0	72.5	111
Methyl Alcohol	225.2	287.1	345.2	345.7	347
Ethyl Alcohol	70.0	-	-	-	-
Ethylene Oxide	91.0	153.0	-	-	-
German Dem. Rep.					
Methyl Alcohol	172.4	240.1	243.5	240.1	-
Ethyl Alcohol	359	358	336	315	359

Source : U.N. Statistical Year Book , 1979/80.

* Provisional.

Production of Basic Organic Chemicals in Selected Countries of the World-1971-

('000 Metric Tons)

Country or Area and Product	1971	1975	1976	1977	1978*
Germany Fed.Rep. of					
Ethylene	2004.7	2140.1	2786.7	2999	3219
Propylene	903.2	1091.0	1431.6	1535.9	1704
Acetylene	335.1	260.2	251.5	203.8	209
Benzene	814.5	691.2	918.4	824.4	894
Toluene	181.2	176.2	232.8	243.1	225
Xylenes	278.9	349.4	474.2	455.8	412
Methyl Alcohol	876.7	771.0	1052.3	887.2	800
Ethyl Alcohol	2189	1829	2146	2116	1823
Ethylene Oxide	232.8	271.4	300.5	295.1	351
Italy					
Ethylene	1016.3	1128.1	1442.8	1414.0	1225
Propylene	617.5	704.2	868.6	830.2	748
Acetylene	203.7	157.7	188.2	164.5	122
Benzene	481.3	466.7	592.8	593.5	522
Toluene	388.4	374.7	466.0	424.9	358
Xylenes	285.0	322.00	371.7	342.4	312
Methyl Alcohol	277.9	230.5	294.1	232.7	156
Ethyl Alcohol	1851	234.6	-	-	-
Ethylene Oxide	69.3	75.3	82.9	78.6	76
Japan					
Ethylene	3536.8	3399.1	3802.9	3978.6	4389
Propylene	2455.3	2314.2	2635.5	2716.4	2964
Acetylene	73.5	61.8	58.1	53.7	51
Benzene	1699.0	1608.2	1878.6	1951.3	2015
Toluene	790.5	657.0	878.2	891.6	8884
Xylenes	855.6	894.8	1169.2	1212.6	1249
Methyl Alcohol	1010.7	719.0	951.2	762.0	907
Ethylene Oxide	333.8	509.1	546.8	537.6	631
Ethyl Alcohol	2289	2080	2216	2219	2278
Mexico					
Ethylene	68.7	213.0	227.9	229.9	258
Propylene	70.6	93.1	113.7	138	138
Benzene	74.6	90.0	99.2	74.5	79
Toluene	92.9	116.0	132	116	124
Xylenes	58.5	84	106	98	113
Methyl Alcohol	17.4	31.6	32.2	33.1	103
Ethylene Oxide	-	27.3	25.5	26.8	26
Ethyl Alcohol	596	586	528	763	785
Netherlands					
Ethylene	-	1406	1884	1780	1958
Propylene	-	764.0	980.0	985.0	1023
Benzene	280.2	729.0	456.0	-	-
Toluene	105.6	56.0	81.0	-	-
Xylenes	147.6	192.0	-	-	-
Ethyl Alcohol	1074	1351	1410	1448	1378
Ethylene Oxide	89.0	-	-	-	-

Source : U.S.Statistical Year Book, 1979/80* Provisional.

Production of Basic Organic Chemicals in Selected Countries of the World - 1971- 1978

('000 Metric Tons)

Country or area and Product	1971	1975	1976	1977	1978 *
Poland					
Ethylene	35.3	95.0	94.6	96.5	98.3
Propylene	25.3	58.6	50.9	83.7	96.3
Acetylene	11.7	14.0	16.6	16.8	15.5
Methyl Alchhol	86.3	148.6	197.5	193.5	196
Romania					
Ethylene	-	155.0	242.0	263.0	280
Propylene	-	121.0	163.0	170.0	182
Benzene	109-0	125.0	159.0	172.0	157
Toluene	125.0	117.0	148.0	157.0	149
Xyelence	137.0	180.0	221.0	221.0	195
Methyl Alcohol	93.9	207.0	124.3	227.9	273
Ethyl Alcohol	608	810	784	820	823
Ethylene Oxide	-	-	-	-	-
Spain					
Ethylene	110.3	231.9	282.5	346	-
Propylene	65.7	121.0	148.9	171	-
Acetylene	31.3	32.4	24.9	23.9	-
Benzene	151.9	197.4	162	199	-
Toluene	90.2	37.1	51.2	67.0	-
Xylenes	115.6	21.9	-	-	-
Methyl Alcohol	41.0	2.8	5.8	-	-
Ethyl Alcohol	1593	1594	-	-	-
Ethylene Oxide	16.5	23.1	25.8	-	-
United Kingdom					
Ethylene	1040.0	958.9	1286.1	1137.5	1096
Propylene	506.0	565.6	747.5	659.6	671
Benzene	550.0	581.8	927.7	844.6	695
Toluene	263.0	183.8	273	213	200
Ethyl Alcohol	1672	1982	2489	2717	2973
Ethylene Oxide	192.0	-	-	-	-
United States					
Ethylene	8367.2	8971.4	9991.0	11533.0	12761
Propylene	3125.3	3445.6	4426.0	6046	6520
Acetylene	386.2	102.4	109.7	91.3	149
Benzene	3562.0	3459.4	4795.0	4787	5037
Toluene	2861.3	2649.0	3708.0	3346	4190
Xylenes	2027.2	2330.5	2374	2667	-
Methyl Alcohol	2244.9	2347.9	2830.0	2927	2885
Ethyl Alchol	21575	21993	18910	18860	-
Ethylene Oxide	1631.5	1785.8	1852.0	1980	2194

Source : U.N. Statistical Year Book, 1979/80.
* Provisional.

PART - III

PLAN STATISTICS

Sixth Five year Plan Outlay for the Deptt. of Petroleum.

(Rs./Crores)

UNDERTAKING (1)	Sixth Plan Outlay Orgional (2)	Revised (3)
A. Exploration & Production	2873.58	7719.71
ONGC	2546.20	7143.0
OIL	327.38	576.71
B. REFINERY & MARKETING	1426.75	2340.28
IOC	706.94	941.03
BPCL	147.86	315.45
HPCL	208.80	488.00
CRL	62.14	166.80
MRL	85.82	240.83
BRPL	14.59	38.84
LIL	7.52	10.83
IBP	14.53	18.50
Deptt. of Petroleum	178.55	120.00
C. PETROCHEMICALS & OTHERS	934.67	981.63
IPCL	160.13	265.45
PCL	1.00	1.00
BRPL	166.56	213.04
BPCL	13.12	39.50
EIL	7.20	17.52
CIPET	2.28	1.87
CRL	-	-
IIP	7.00	-
Balmer Lawrie	14.13	17.00
Bridge & Roof	10.35	8.00
Biecco Lawrie	3.90	2.25
Deptt. of Petroleum	549.00	375.00
Grand Total (A + B + C)	5235.00	11041.62

ANNUAL PLAN OUTLAY/ACTUAL EXPENDITURE OF THE UNDERTAKINGS UNDER THE PURVIEW OF THE DEPARTMENT OF PETROLEUM

(Rs./Crores)

Name of the Undertakings	1979-80 (Actuals.....)	1980-81	1981-82	1982-83 (B.E.)	1982-83 (R.E.)	1983-84 (B.E.)
1.	2.	3.	4.	5.	6.	7.
(a) Exploration & Production	312.63	508.30	984.13	1518.23	1607.12	2260.0
1. ONGC	292.54	468.59	888.27	1400.00	1520.0	2085.0
2. OIL	20.09	40.71	35.86	118.23	87.12	175.0
(b) Refining & Marketing	185.64	248.96	282.03	441.09	433.24	559.45
3. IOC	140.19	156.25	156.19	149.31	144.01	147.18
4. BPCL	7.45	21.00	26.71	72.85	64.20	102.22
5. HPCL	10.68	25.00	39.80	85.50	91.59	159.84
6. IBP @@	4.38	4.14	6.28	9.56	10.93	9.10
7. MRL	1.21	7.70	25.12	66.35	59.13	69.90
8. CRL	0.91	9.80	19.33	40.00	45.01	54.51
9. LIL	-	0.68	1.15	2.67	2.37	2.90
Department of Petroleum	-	-	-	10.00	10.00	4.30
10. DRPL	20.82	24.39	7.45	4.85	6.00	9.50
(c) Petrochemicals	13.11	20.10	57.18	82.08	94.15	101.90
11. NFCL	13.01	20.00	26.01	43.98	50.00	46.80
12. BRPL	-	-	30.58	34.00	38.00	37.00
13. PCL	0.10	0.10	0.10	0.10	0.10	0.10
IPCL	-	-	0.49	-	6.00	13.00
CRL	-	-	-	4.00	0.05	5.00
(d) Consultancy & Engg. Services	0.76	2.24	5.29	3.60	4.85	5.65
14. EIL	0.35	1.64	4.98	3.10	4.35	4.95
15. IIP @	0.38	0.54	-	-	-	-
16. CIPET	0.03	0.06	0.31	0.50	0.50	0.70
GRAND TOTAL	512.14	780.60	1268.63	2045.00	2139.36	2927.0

@ Since transferred to CSIR.

@@ Including subsidiaries.

PHYSICAL PRODUCTION TARGETS FOR PETROLEUM AND PETRO-CHEMICALS FOR 1984-85.

INDUSTRY.	UNITS.	1979 - 80		1984 - 85			
		Capacity	Prodn.	Six Plan Projections		Mid-Term Estimates.	
				Capa-city.	Prodn.	Capa-city	Prodn.
1.	2.	3.	4.	5.	6.	7.	8.
1. Crude Oil	M.Tonnes	-	11.77	-	21.60	-	27.52
2. Petroleum Products.	M.T.	-	25.79	-	35.34	-	39.26
3. Thermo Plastics & Synthetic Rubber.							
1. L.D.Polyethylene	'000'T.	112	71.3	112	100	112	105
2. H.D.Polyethylene	,,	30	25.4	30	27	30	35
3. Polyvinyl Chloride	,,	77.9	49.9	173	128	175	120
4. Polypropylene	,,	30	13.4	30	27	30	27
5. Polystyrene	,,	23.5	12.0	23.5	20	23.5	15
6. Synthetic Rubbers Styrene Butadiene Rubber.	,,	30	21.6	30	27	30	30
7. Polybutadiene Rubber.	,,	20	8.7	20	18	20	18
4. Petro-chemicals Intermediates.							
1. Acrylonitrile	,,	24	3.7	24	20	24	20
2. D. M. T.	,,	24	27.9	66	56	135	65
3. Caprolactam	,,	20	13.5	20	18	20	18
5. Man-made Fibres.							
1. Nylon Filament Yarn	,,	21	17.7	31.4	28	31.4	28
2. Nylon Tyre Cord & Indl. Yarn.	,,	12.1	11.2	13.5	13.5	13.5	16
3. Polyester Staple Fibres.	,,	30.4	23.6	58.6	55	46.5	40
4. Polyester Filament Yarn.	,,	8	9.0	18	18	37.9	35
5. Acrylic Fibres	,,	16	3.4	16	14	16	16

SOURCE :- Sixth Five year Plan 1980 - 1985.

SIXTH PLAN TARGETS OF DOMESTIC CRUDE PRODUCTIONS.

(In Million Tonnes)

1.	1980-81 2.	1981-82 3.	1982-83 4.	1983-84 5.	1984-85 6.	T O T A L 7.
IN WESTERN REGION						
O.N.G.C.	3.4	3.2	3.1	3.0	2.8	15.5
EASTERN REGION						
O.N.G.C.	1.7	2.1	2.6	2.8	3.0	12.2
O. I. L.	2.8	3.2	3.0	2.8	2.6	14.4
TOTAL :-	4.5	5.3	5.6	5.6	5.6	26.6
TOTAL ONSHORE :-	7.9	8.5	8.7	8.6	8.4	42.1
OFFWHORE:-	5.2 (5.2)	8.4 (8.5)	11.8 (13.95)	12.7 (16.5)	13.2 (19.12)	51.30 (63.34)
GRAND TOTAL :-	13.1 (13.1)	16.9 (17.0)	20.5 (22.65)	21.3 (25.17)	21.6 (27.52)	93.4 (105.44)

NOTE :- Figures in parenthesis are/per sixth plan mid-terms apparaisal / as

MATERIAL BALANCE CRUDE PETROLEUM 1979-80 / 1984 - 85.

MMT.

	1979-80 Actuals	1984-85 Sixth Plan Projections	1984-85 Mid-terms Estimates.
a) Installed Refining Capicity	31.80	45.55	45.55
b) Production of POL Products	25.79	35.34	39.26
c) Crude Throughput	27.47	38.00	N.A.
d) Crude Production	11.77	21.60	27.52
e) Crude Imports	16.12	16.40	N.A.

MATERIAL BALANCE : PETROLEUM PRODUCTS -1979-80/1984-85.

(MMT)

Product Catogory	1979-80 Produ-ction	Impo-rts.	Exp & Re.Exp.	Cons-ump.	Produ-ction	1984-85(Projection) Impo-rts.	Export	Demand
1.	2.	3.	4.	5.	6.	7.	8.	9.
a) Light Distillates.	4.459	0.131	0.088	4.460	7.690	-	0.640	7.05
b) Middle Distillates	13.080	3.504	-	16.321	19.430	6.490	-	25.92
c) Heavy Ends	8.255	0.843	-	9.102	8.220	4.310	-	12.53
TOTAL :-	25.794	4.478	0.088	29.883	35.340 (39.26)	10.800	0.640	45.50 (39.7)

NOTE :- Figures in parenthesis are as per sixth plan mid-term Apparaisal.

PART - IV

FINANCIAL PERFORMANCE/STRUCTURES

1982 - 83.

Financial Review/Structure of the Public/Joint Sector Undertakings under the perview of Department of Petroleum 1981 - 82 and Quick Review 1982 - 83.

FINANCIAL REVIEW/STRUCTURE - 1981 - 82.

The Financial Structure of the Public/Joint Sector undertakings as per their annual published accounts/data submitted by them for the three years ending 31-3-1982 has been given in the attached statements. The glossary of the terms used has been given at the end. The Public Sector Undertakings have been divided into four broad categories Viz -(A) Oil Exploration and Production (B) Refining and Marketing (C) Petrochemicals and Other Down Stream Units and (D) Engineering Services. In the review/Analysis that follows, consolidated Financial Position of all the Public/ Joint Sector Undertakings has been Analysed, followed by an Analysis of the consolidated position under each of the above mentioned categories.

OVER-ALL FINANCIAL POSITION:

A consolidated picture of over-all financial structure and performance of the public sector undertakings during the three years Viz 1979 - 80, 1980-81 and 1981-82 is provided in tables 1 to 3. The following/the summary of the results. is

Rs./Crores.

I T E M	1979 - 80	1980 - 81	1981-82
1. Equity	830.27	841.67	883.66
2. Loans	836.42	1167.31	1590.5
3. Reserves & Surpluses	812.46	836.39	1498.4
4. Capital Employed	2132.33	2935.44	3769.4
4.1. Net Fixed Assets	1444.77	1713.57	2414.7
4.2. Working Capital	687.56	1221.87	1354.6
5. Net Worth	1589.36	1725.40	2319.1
6. Sales Turnover	8437.35	10901.53	15640.8
7. Adjusted Gross Profit	392.21	398.71	1302.1
8. Adjusted Net Profit	150.59	130.71	654.2
9. Dividend Paid	43.87	43.93	56.2
10. Corporate Tax	169.95	75.10	369.5

An Analysis of the individual items is briefly discussed below:

1. Capital Investment:- The Capital Investment defined as the sum total of paid-up Capital and long term loans registered an increase of 23.2% from Rs.2008.98 Crores in 1980-81 to Rs.2474.17 Crores in 1981-82. The corresponding increase during 1980-81 over 1979-80 was of the order of 20.5%.

The increase in the Capital investment during 1981-82 over 1980-81 was mainly on account of increase in the quantum of loans from Rs.1167.31 crores to Rs.1590.51 crores. The break-up of the increase in loans in 1981-82 over 1980-81 is as under.

Rs./Crores.

Name of the Company.	Loans in 1980-81	Loans in 1981-82	%age increase
1. O.N.G.C.	592.81	957.57	61.5%
2. I.O.C.	250.97	271.35	8.1%
3. H.P.C.L.	35.43	47.32	33.6%
4. C.R.L.	9.86	28.42	188.2%
5. M.R.L.	1.78	29.32	1547.2%
6. Balmer Lawrie Co. Ltd.	2.82	3.07	8.9%
7. Bridge & Roof Co.(India)	5.33	7.62	43.0%
8. B.R.P.L.	33.37	73.97	121.7%

Also there was an increase in the paid-up capital in 1981-82 over 1980-81 in respect of IOC, when the company in pursuance of the decision taken, issued bonus shares in the ratio of the one share for every two shares during the year 1981-82 by capitalizing a sum of Rs.41.09 crores from the general Reserves. The Indo-Burma Company increased its paid-up capital from 160 lakhs in 1980-81 to Rs.240 lakhs in 1981-82. There was an increase of Rs.10 lakhs in the paid-up capital of Petrofils Cooperative Ltd.

The position of the Foreign loans during the three years viz 1979-80 to 1981-82 is given below.

Rs./Crores.

	1979-80	1980-81	1981-82
Foreign Loans	47.43	143.14	269.20

ONGC was the recipient of the largest share of Foreign loans which were Rs.41.48 crores in 1979-80 and went up to Rs.139.62 crores in 1980-81 and to Rs.265.74 crores in 1981-82 respectively.

With these changes/increases in equity and loans, the equity/loans ratio declined from 0.99% in 1979-80 to 0.56 in 1981-82.

ii) Capital Employed :- Capital employed defined as the sum total of net fixed assets and working capital of the public sector undertakings went up by 28.4% from Rs.2935.44 crores in 1980-81 to Rs.3769.47 crores in 1981-82. The corresponding increase in the preceding year was 37.6%. The break-up of the figures has revealed that the major increase in the capital employed was mainly on account of increase in the fixed assets and the working capital of the under noted companies :-

A. Net Fixed Assets.

Rs./Lakhs.

Company.	1980-81	1981-82	%age increase
1. O.N.G.C.	84156	132102	57.0%
2. O.I.L.	7245	12231	68.8%
3. I.O.C.	36873	50167	36.1%
4. B.P.C.L.	3056	4143	35.6%
5. M.R.L.	707	819	15.8%
6. Petrofils Cooperative Ltd.	2536	3101	22.3%
7. B.R.P.L.	4043	7668	89.7%
TOTAL :-	138616	210231	51.7%

B. WORKING CAPITAL.

Rs./Lakhs.

Name of the Company.	1980-81	1981-82	%age increase.
1. O.N.G.C.	11951	30797	157.7%
2. M.R.L.	1728	1872	8.3%
3. I.B.P.	46	393	754.4%
4. Lubrizol	881	1012	14.8%
5. I.P.C.L.	15700	17109	8.9%
6. P.C.L.	986	1348	36.7%
7. B.R.P.L.	152	1615	962.5%
TOTAL:-	31444	54146	72.2%

iii) Sales Turnover :- The sales turnover of all the companies put together increased by 43.5% from Rs.10901.53 crores in 1980-81 to Rs.15640.84 crores in the year 1981-82. The corresponding increase in the preceding year was of the order of 29.2%. The increase in sales turnover has contributed to increase in gross profit.. The gross profit expressed as a percentage of sales turnover increased to 8.3% in 1981-82 from 3.6% in the year 1980-81. Out of total sales of Rs.15640.84 crores effected in 1981-82, the share of the major oil companies is as under :-

	% age
1. I.O.C.	50.8
2. B.P.C.L	9.7
3. H.P.C.L	12.6
4. O.N.G.C.	8.6
5. Others(14 Companies)	18.3
TOTAL :-	100.0

iv) Profitability :- A rising trend is perceptible in the over-all profitability of the Public Sector undertakings under the department of Petroleum. The adjusted gross profits have improved by 266.9% from Rs.398.21 crores in 1980-81 to Rs.1302.12 crores in 1981-82. The corresponding increase in the preceding year was 1.6%. Likewise the adjusted net profits have shown a remarkable improvement by 400.6% from Rs.130.71 crores in 1980-81 to Rs.654.27 crores in 1981-82. These adjusted net profits had declined in 1980-81, when compared with the year 1979-80. The adjusted net profits expressed as a %age of paid-up capital and net worth went up from 15.5% and 7.6% in 1980-81 to 74.0% and 28.2% in 1981-82 respectively. The return on capital employed measured in terms of gross profit before interest and taxation during the year 1981-82 has registeredan increase from 13.6% in 1980-81 to 34.5% in 1981-82.

v) Dividends :- There has been a steady increase in the quantum of dividend in respect of public sector undertakings over the three years beginning from 1979-80. This has been consistently increasing from Rs.43.83 crores in 1979-80 to Rs.43.93 crores in 1980-81 and Rs.56.29 crores in 1981-82. The highest amount of dividend declared in absolute terms was in respect of ONGC which stood at Rs.21.42 crores, followed by IOC at Rs.17.26 crores and CRL at Rs.5.07 crores. These three undertakings accounted for 77.7% of the total dividends declared during 1981-82 Biecco Lawrie Limited, Bridge & Roof Co.(India) Ltd., IPCL and BRPL did not declare any dividend during the year 1981-82.

Corporate Tax :- The contribution made by the Petroleum Sector to the National Exchequer by way of taxes etc during 1981-82 was Rs.369.39 crores. The amounts paid in respect of taxes during 1979-80 and 1980-81 were Rs.169.95 crores and Rs.75.10 crores respectively.

1. EXPLORATION AND PRODUCTION

See Table No. 4

This category includes the following enterprises and the data in respect of individual companies is given in table Nos. 5 to 7.

1. Oil & Natural Gas Commission .. .. (ONGC)
2. Hydro Carbons India Limited .. .. (HIL)
3. Oil India Limited .. .. (OIL)

Summary of the results of these undertakings under this category for the last three years is as under :-

Rs./Crores.

	1979-80	1980-81	1981-82
1. Equity	390.35	395.85	395.85
2. Loans	462.44	662.00	1010.59
3. Net Worth	615.69	617.50	1018.97
4.i) Net Fixed Assets	743.86	917.32	1446.08
ii) Working Capital	158.20	114.17	349.29
Capital Employed	902.06	1031.49	1795.37
5. Sales turnover	542.93	468.70	1607.88
6. Gross Profit (Adjusted)	168.29	38.56	889.26
7. Net Profit (Adjusted)	63.14	(-) 18.99	475.77
8. Dividends	24.16	20.37	25.62
9. Corporate Tax	72.69	Nil	306.13

Salient points of the analysis are given as under.

1. Capital Investment :- There has been an increase in the investment of capital from Rs.1057.85 crores in 1980-81 to Rs.1406.44 crores in 1981-82there-by registering a growth off 33%. The corresponding increase in the preceding year was of the order of 24.1%. The increase in capital investment during 1981-82 was on a/c of increase in loans of ONGC from Rs.592.81 crores in 1980-81 to Rs.957.57 crores in 1981-82. As a result of change/ increase in loans, the equity/debt ratio came down from 0.84 in 1979-80 to 0.60 in 1980-81 and to 0.39 in 1981-82. Thus, there is a declining trend during the two years.

2. Capital Employed :- The capital employed increased during 1981-82 from Rs.1031.49 crores in 1980-81 to Rs.1795.37 crores, thereby registering an increase of 74.1%. The Corresponding increase in the preceding year was of the order of 14.4%. The increase in capital employed comprised of increase in net fixed assets from Rs.917.32 crores in 1980-81 to Rs.1446.08 crores in 1981-82 (57.6%) and working capital from Rs.114.17 crores in 1980-81 to Rs.349.29 crores in 1981-82 (205.9%).

3. Sales turnover :- The sales turnover under this category increased by 243.1% from Rs468.70 crores in 1980-81 to Rs.1607.88 crores in 1981-82. There was, however, a decline in the sales turnover in 1980-81 as compared with 1979-80 sales turnover. The %age of sales turnover to capital employed decreased from 60.2% in 1979-80 to 45.4% in 1980-81 and again went up to 89.6% in 1981-82. The %age of gross profit to sa-les turnover also increased from 8.2% in 1980-81 to 55.3% in 1981-82.

4. Profitability :- The declining trend emerging from adjusted gross profit in 1980-81 was halted and gross profits improved from Rs.38.56 crores to Rs.889.26 crores in 1981-82. The adjusted net profits improved in 1981-82 from Rs.(-)18.99 crores in 1980-81 to Rs.475.77 crores in 1981-82. The ratio of net profit to paid up capital and net worth stood at 120.2% and 46.7% respectively in 1981-82.

The return on capital employed also improved considerably from 3.7% in 1980-81 to 49.5% in 1981-82.

5. Dividends :- The total dividend declared in 1979-80 went down from Rs.24.16 crores to Rs.20.37 crores in 1980-81 and again swing up to Rs.25.62 crores in 1981-82. The decline in dividend payment in 1980-81 was due to the fact that Oil India Limited did not pay out any dividend in 1980-81.

6. Corporate Tax :- The contribution made by the undertakings in this category by way of taxes etc was Rs.306.13 crores in 1981-82 and out of this amount ONGC contributed Rs.197.50 crores and Rs.108.63 crores was paid out by Oil India Limited during the year under review.

II. Refining and Marketing

Refer Table No. 8

Financial structure and performance of the individual companies during 1979-80 to 1981-82 have been given in table Nos.-9 to 19, while consolidated summary of the Refining and Marketing companies taken together has been given in table No-8. Summary of the results of the undertakings under this category for the three years is as under :-

Rs./Crores.

	1979-80	1980-81	1981-82.
1. Equity	140.44	146.07	187.96
2. Loans	198.07	315.41	395.47
3. Capital Employed	781.79	1426.58	1440.15
3.1. Net Fixed Assets	383.50	498.89	648.18
3.2. Working Capital	398.29	927.79	791.97
4. Sales	7639.24	10061.01	13447.06
5. Adjusted Gross Profit	193.40	290.70	320.55
6. Adjusted Net Profit	72.90	98.92	106.21
7. Dividends	10.90	22.68	29.71
8. Corporate Tax	97.25	73.30	61.00

An analysis of the salient features is as under.

Capital Investment :- Capital Investment under this category increased from Rs.461.48 crores in 1980-81 to Rs. 583.43 crores in 1981-82, thereby showing a growth of 26.4%. The corresponding growth in the preceding year was of the order of 36.3%. The increase in paid-up capital was due to the enhancement in the paid-up capital of IOC by 41.09 crores in 1981-82. The loans also contributed to the increase in capital investment as under.

Rs./Crores.

Name of the Company.	1980-81	1981-82	%age of Increase.
1. I.O.C.	250.97	271.35	8.1%
2. H.P.C.L.	35.43	47.32	33.6%
3. C. R. L.	9.86	28.42	188.2%
4. M. R. L.	1.78	29.32	1547.2%
5. Bridge & Roof Co.(India)	5.33	7.62	43.0%

As a result of changes in both Equity and loans the debt/equity ratio came down from 0.71 in 1979-80 to 0.46 in 1980-81 and went a little up to 0.48 in 1981-82.

2. Capital Employed :- The capital employed by the Refining and Marketing Companies increased by 1% from Rs.1426.68 crores in 1980-81 to Rs.1440.15 crores in 1981-82. The corresponding increase in the preceding year was 82.5% . This increase comprised of increase in the net fixed assets by 29.9%. The working capital went down from Rs.927.79 crores in 1980-81 to Rs.791.97 crores in 1981-82, the decrease being of the order of 14.7%.

3. Sales Turnover :- The sales turnover increased from Rs.10061.01 crores in 1980-81 to Rs.13447.06 crores in 1981-82, thereby registering a growth of 33.7%. The corresponding increase in the preceding year was 31.7%. The increase in the sales turnover in 1981-82 was accompanied by increase in gross profit which when expressed as a % age of sales turnover stood at 2.4% but was slightly lower than the previous years % age of 2.9%. IOC's sales increased by 39% in the year 1981-82 from Rs.5710.94 crores in 1980-81 to Rs.7940.05 crores in 1981-82.

4. Profitability :- There was an improvement in the profitability. The gross profits increased by 10.3% from Rs.290.70 crores in 1980-81 to Rs.320.55 crores in 1981-82. The corresponding increase in the preceding year was 50%. The adjusted net profits also increased from Rs.98.92 crores in 1980-81 to Rs.106.21 crores in 1981-82, the increase being of the order 7.4%. The % ages of net profit to paid-up capital and net worth were lower in 1981-82 when compared with 1980-81. The return on capital employed which stood at 20.4% at the end of 1980-81 went up to 22.3% in 1981-82.

5. Dividend :- During the year 1981-82 the companies in this category declared dividend to the tune of Rs.29.71 crores which was Rs.22.68 crores in the year 1980-81. In the quantum of dividend, IOC ranked at top with Rs.17.26 crores followed by CRL which paid out dividend to the tune of Rs.6.07 crores. Bridge & Roof Co.(India) Ltd. and Biecco Lawrie Ltd. did not declare any dividend during the three years i.e. 1979-80, 1980-81 and 1981-82.

6. Corporate Tax :- The contribution made by the ... marketing and Refining Cos to the national exchaquer by way of taxes etc amounted to Rs.61.00 crores in 1981-82. The amounts of taxes paid during 1979-80 and 1980-81 were Rs.97.25 crores & 73.30 crores respectively.

PETROCHEMICALS AND OTHER DOWN STREAM UNITS.

There are three companies under this category viz Indian Petrochemicals corporation Ltd., Petrofils cooperatives Ltd. and Bongaigaon Refining ... and Petrochemicals Limited. The combined Financial Structure of the three undertakings for three years has been given in Table No. .20, while those of individual companies are provided in Table Nos.21 to 23.

Summary of the results of the undertakings under this category for the three years is as under.

Rs./Crores.

	1979-80	1980-81	1981-82.
1. Equity	299.23	299.25	299.35
2. Loans	175.91	189.77	184.45
3. Capital Employed	438.77	461.55	516.83
3.1. Net Fixed Assets	313.63	293.17	316.11
3.2. Working Capital	125.14	168.38	200.72
4. Sales Turnover	241.80	348.01	563.28
5. Adjusted Gross Profit	28.46	65.02	86.90
6. Adjusted Net Profit	12.51	44.86	68.56
7. Dividends	0.73	0.80	0.88
8. Corporate Tax	0.01	Nil	0.01

Salient points of the analysis are given below.

1. Capital Investment :- The total capital investment of the three undertakings increased by 2.9% from Rs.475.14 crores in 1979-80 to Rs.489.02 crores in 1980-81 but it went down to Rs.483.80 crores at the close of 1981-82. As a result of some increase/changes in the equity and loans under this category equity/loan ratio declined from 1.70 in 1979-80 to 1.58 in 1980-81 but increased to 1.62 in 1981-82.

2. Capital Employed :- The capital employed by the three companies increased by 12% from Rs.461.55 crores in 1980-81 to Rs.516.83 crores in 1981-82. But there was a corresponding decline in the capital employed in 1980-81 by 5.2% as compared to 1979-80. The net fixed assets and working capital with increase/decrease during the years 1980-81 and 1981-82 are as under :-

NET FIXED ASSETS.

Name of the Company	Rs./Crores. 1980 - 81	1981-82	%Age (+)Increase (-)Decrease
H.P.C.L.	227.38	208.42	(-) 8.3%
Petrofils	25.36	31.01	22.2%
B.R.P.L.	40.43	76.68	89.7%
TOTAL:-	293.17	316.11	7.8%

WORKING CAPITAL

Name of the Company	Rs./Crores 1980-81	1981-82	% Age (+) Increase (-) Decrease
I.P.C.L.	157.00	171.09	9.0%
Petrofils	9.86	13.48	36.7%
B.R.P.L.	1.52	16.15	962.5%
TOTAL	168 .38	200.72	19.2%

3. Sales Turnover :- There was an improvement in the sales turnover as the sales increased by 61.9% from Rs.348.01 crores in 1980-81 to Rs.563.28 crores in 1981-82. The corresponding increase in the proceding year was of the order of 43.9%. The increase in the sales turnover was accompanied by an increase in the gross profit which when expressed as a percentage of sales turnover stood at 15.4 in 1981-82. But it was lower than the percentage of 1980-81 which was 18.7%.

4. Profitability :- There was also an improvement in the profitability in this category. The gross profits increased from Rs.65.02 crores in 1980-81 to Rs.86.90 crores i.e. by 33.7%. The corresponding increase in the preceding year was of the order of 128.5%. The adjusted net profits also went up by 52.8% from Rs.44.86 crores in 1980-81 to Rs.68.56 crores in 1981-82. The percentages of net profit to paid-up capital and net worth were also higher in 1981-82 when compared with 1980-81. The return on capital employed which stood at 14.6 at the close of 1980-81, went up to 16.8% at the end of 1981-82.

5. Dividend :- During the year only one company viz Petrofils Cooperative Ltd. declared dividend amounting to Rs.88 lakhs. IPCL & HRPL did not pay out any dividend in any of the three years.

ENGINEERING SERVICES.

(Refer Table No.24)

There is only one company under this category viz Engineers India Limited. The Financial structure over the three years has been given in table No.24.

Summary of the results of this company for the three years is as under :-

Rs./Crores.

	1979 - 80	1980 - 81	1981 - 82.
1. Paid-up Capital	0.25	0.50	0.50
2. Loans	Nil	Nil	Nil
3. Capital Employed	9.71	15.72	17.12
3.1. Net Fixed Assets	3.78	4.19	4.42
3.2. Working Capital	5.93	11.53	12.70
4. Income from service rendered	13.38	23.81	22.62
5. Adjusted Gross Profit	2.06	4.43	5.41
6. Adjusted Net Profit	2.04	5.92	3.73
7. Dividend	0.04	0.08	0.08
8. Corporate Tax	Nil	1.80	2.25

From the figures given above it would be seen that the income of the company has gone down from Rs.23.81 crores in 1980-81 to Rs.22.62 crores in 1981-82, the decline being of the order of 5%. The adjusted gross profits improved by 22.1% from Rs.4.43 crores in 1980-81 to Rs.5.41 crores in 1981-82. The adjusted net profits declined by 37% from Rs.5.92 crores in 1980-81 to Rs.3.73 crores in 1981-82. The dividend paid by the company during the year 1981-82 was Rs.8 lakhs and this amount was also paid during the preceding year. The contribution made by the company to national exchequer increased from 1.80 crores in 1980-81 to Rs.2.25 crores in 1981-82, increase being of order of 25%.

Quick Review of Financial Structure - 1982-83.

During 1982-83, there were altogether 18 running enterprises under the purview of Department of Petroleum, three under the category "Exploration and Production" Eleven under the category "Refining and Marketing", three under the category "Petrochemicals" and one under "Engineering services". This includes petrofils which is in the cooperative sector.

According to the provisional figures on the Financial Position/performance of these undertakings available in E & S Division, the 18 Enterprises together employed a total capital of Rs.4324.59 crores and held- paid-up capital of Rs.884.64 crores as per details of enterprise wise financial performance in Annexure No.-I. During 1982-83, these enterprises had an annual sales turnover of Rs.19071.43 crores and they earned a gross profit of Rs.1929.20 crores, the corresponding figures in the year 1981-82 being Rs.15638.83 crores in respect of sales turnover and Rs.1249.72 crores in respect of gross profit. The net profit after tax and interest during the year 1982-83 amounted to Rs.979.61 crores as against Rs.730.82 crores in the year 1981-82. Thus while the sales turnover registered an increase of 21.9% the gross profit increased by 54.3% during the year under review.

The ratio of net profit to paid-up capital and net worth worked out to 110.8% and 30.2% respectively compared with figures of 82.7% and 31.8% achieved during 1981-82. Figures for 1982-83 have shown a rema-rkable and perceptible improvement in respect of sales turnover, gross profit and net profit.

The over-all financial results for the year 1982-83 under each of the above mentioned 4 categories are summarized below.

Rs./Crores.

	Explora-rion and Produc-tion	Refin-ing & Marke-ting.	Petro-chemi-cals and other down strea-m units.	Engi-neer-ing Ser-vices	TOTAL
1. Eqity	395.85	188.89	299.40	0.50	884.64
2. Loans	1668.50	588.40	198.48	Nil	2455.38
3. Net worth	1750.78	972.27	495.19	24.89	3243.13
4. Capital Employed	2307.43	1411.66	586.06	19.44	4324.59
5. Sales Turnover	2790.44	15634.03	605.96	41.00	19071.43
6. Gross Profit	1528.74	317.91	74. 80	7.75	1929.20
7. Net Profit	762.09	155.28	57.24	5.00	979.61
Percentage of :-					
1.Net profit to equity	192.5	82.4	19.1	1000.0	110.8
2.Net profit to net worth	43.5	15.9	11.6	20.1	30.2
3.Gross profit to Capital-Employed	66.3	22.5	12.8	35.9	44.6
4.Sales to Cap. Employed	120.9	399.1	103.4	210.9	441.0
5.Equity to Loan Ratio	0.24	0.32	1.51	Nil	0.36

It will be seen that with the exception of Hydro Carbons India Limited and Bleeco Lawrie Limited all the companies under the purview of Department of Petroleum have made profits. Oil & Natural Gas Commission (ONGC) has earned the highest gross profit of Rs.1306.54 crores with OIL standing close as second with Rs.221.57 crores. Likewise ONGC has earned the highest net profit of Rs.691.49 crores, followed by Indian Oil Corporation Limited with a net profit of Rs.114.12 crores during the year 1982-83. The third in line of succession to earn the highest net profit was OIL with a profit of Rs.70.73 crores.

R.A.P./

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FINANCIAL STRUCTURE/PROFITABILITY OF THE JOINT/PUBLIC SECTOR UNDERTAKINGS UNDER THE PURVIEW OF DEPARTMENT OF PETROLEUM-1982-83. (PROVISIONAL).

ANNEXURE- I.

Rs./Lakhs.

NAME OF THE UNDERTAKING	Paid-up Capital	Loans	Net Worth	Capital Employed	Sales Turnover	Gross Profit	Net Profit	Dividend	% age of Net Profit to Paid-up Capital	% age of Net Profit to Net Worth	% age of Gross profit to Capital Employed
1.											
A. Exploration & Prodn.	39585	166850	175078	230743	279044	152874	76209	3163	192.5	43.5	66.3
1. O.N.G.C.	34285	162003	156319	207137	242292	130654	69149	2743	201.7	44.2	63.1
2. H. I. L.	2500	Nil	2408	2408	205	63	- 13	Nil	-0.5	-0.5	2.6
3. O. I. L.	2800	4847	16351	21198	36547	22157	7073	420	252.6	43.3	104.5
B. Refining & Marketing.	18889	58840	97227	141166	1563403	31791	15528	2569	82.4	15.9	22.5
4. I. O. C.	12327	29511	69214	97653	972000	19667	11412	1726	92.6	16.5	20.1
5. H.P.C.L.	1520	10025	12056	17199	219293	4649	1535	213	101.0	12.7	27.0
6. B.P.C.L.	1454	2120	8641	13596	166430	3580	1210	204	83.2	14.0	26.3
7. C. R. L.	700	5642	1564	2605	71052	1385	526	105	75.2	33.6	53.2
8. M. R. L.	1288	8945	3078	4092	71368	796	308	193	23.9	10.0	19.5
9. I. B. P.	240	Nil	1157	754	47500	-541	-265	41	110.4	22.9	71.7
10. Biecco Lawrie	177	1088	-863	253	600	- 37	-199	Nil	Neg.	Neg.	Neg.
11. Balmer Lawrie	189	445	-765	2017	4762	337	98	23	51.9	12.8	16.7
12. Bridge & Roof	424	897	- 24	1168	4578	247	105	Nil	24.7	Neg.	21.2
13. Lubrizol India Ltd.	480	167	1435	1602	5511	570	244	60	50.8	17.0	35.6
14. Indian Oil Blending	40	Nil	204	227	309	56	24	4	60.0	11.7	24.7
C. Petrochemicals & Other-Down Stream Units.	29940	19848	49519	58606	60596	7480	5724	90	19.1	11.6	12.8
15. I.P.C.L.	18600	8952	34863	45179	44269	6330	5088	Nil	27.4	14.6	14.0
16. Petrofils	1490	994	4095	4589	3680	827	454	90	30.5	11.0	18.0
17. B.R.P.L.	9850	9902	10561	8838	12647	323	182	Nil	1.9	1.7	3.7
D. Engineering Services.	50	Nil	2489	1944	4100	775	500	8	1000.0	20.1	39.9
18. E. I. L.	50	Nil	2489	1944	4100	775	500	8	1000.0	20.1	39.9
GRAND TOTAL :-	88464	245538	324313	432459	1907143	192920	97961	5830	110.8	30.2	44.6

K.A.P./

TABLE No.-1.

CONSOLIDATED FINANCIAL STRUCTURE.- 1981-82.

NAME OF THE THE COMPANY :- All Categories.

Rs./Lakhs.

I T E M.	Exploration & Prodn.	Refining & Maktng.	Petrochemicals.	Engineering	TOTAL
1.	2.	3.	4.	5.	6.
1. Authorised Capital	8000	24295	32000	200	64495
2.i) Paid-up Capital	39585	18796	29935	50	88366
ii) Preference Capital	Nil	50	Nil	Nil	50
iii) Reserves & Surpluses	66725	67231	13944	1946	149846
3.i) Total Loans	101059	39547	18445	Nil	159051
ii) Of which Foreign	26595	36	289	Nil	26920
4. Cash Credits/Advances from Banks/Others	Nil	70733	2149	Nil	72882
5. Net Worth	101897	84145	43879	1996	231917
6.i) Net Fixed Assets	144608	64818	31611	442	241479
ii) Working Capital	34929	79197	20072	1270	135468
iii) Capital Employed (i+ii)	179537	144015	51683	1712	376947
7.Sales/Operating Income	160788	1344706	56328	2262	1564084
8.i)Total Emplyments (Including perks)	6781	11775	1763	1032	21351
ii) Of which Bonus	538	562	72	23	1195
iii) Average Emoluments per person	0.19	0.19	0.20	0.33	0.23
9. Inventories.	34538	175507	14285	17	224347
10. Adjusted Gross Profit	88926	32055	8690	541	130212
11. Adjusted Net Profit	47577	10621	6856	373	65427
12. Dividends Declared	2562	2971	88	8	5629
13. Corporate Tax	30613	6100	1	225	36939
% Age of :-					
a)Net Profit to Equity	120.2	56.5	22.9	746.0	74.0
b) Net Profit to Net Worth	46.7	12.6	15.6	18.7	28.2
c) Gross Profit to Cap.Emp.	49.5	22.3	16.8	31.6	34.5
d) Sales to Cap. Emp.	89.6	933.7	109.0	132.1	414.9
e) Gross Profit to Sales	55.3	2.4	15.4	23.9	8.3
f) Equity Loan Ratio	0.39	0.48	1.62	Nil	0.56

NOTE :- There is no authorised Capital for ONGC in Exploration & Production Category.

Source:- Annual Reports of the Companies.

TABLE-2.

CONSOLIDATED FINANCIAL STRUCTURE-1980-81.

NAME OF THE COMPANY:- All Categories.

Rs./Lakhs.

iI T E M	Exploration & Prodn.	Refining & Maktng	Petrochemicals.	Engineering	TOTAL.
1.	2.	3.	4.	5.	6.
1. Authorised Capital	8000	24295	32000	200	64495
2.i) Paid-up Capital	39585	14607	29925	50	84167
ii) Preference Capital	-	50	-	-	50
iii) Reserves & Surpluses	25200	59510	7347	1582	83639
3.i) Total Loans	66200	31541	18977	13	116731
ii) Of which Foreign.	13993	105	216	Nil	14314
4. Cash Credits/Advances from Banks/Others.	2055	82756	2084	Nil	86895
5. Net Worth	61750	72393	36765	1632	172540
6.i) Net Fixed Assets	91732	49889	29317	419	171357
ii) Working Capital	11417	92779	16838	1153	122187
iii) Capital Employed	103149	142668	46155	1572	293544
7. Sales/Operating Income	46870	1006101	34801	2381	1090153
8.i) Total Emoluments (including perks)	5876	10002	1407	885	18170
ii) Of which Bonus.	450	506	36	26	1018
iii) Average Emoluments per person.	0.19	0.21	0.18	0.30	0.22
9. Inventories.	25828	166400	13838	15	206081
10. Adjusted Gross Profit	3856	29070	6502	443	39871
11. Adjusted Net Profit	(-)1899	9892	4486	592	13071
12. Dividends Declared	2037	2268	80	8	4393
13. Copporate Tax	Nil	7330	Nil	180	7510
% Age of :-					
a) Net Profit to Equity	Loss	67.7	15.0	1184.0	15.5
b) Net Profit to Net Worth	Loss	13.7	12.2	36.2	7.6
c) Gross Profit to Cap. Emp.	3.7	20.4	14.0	28.2	13.6
d) Sales to Cap. Emp.	45.4	705.2	75.4	151.5	371.4
e) Gross Profit to Sales	8.2	2.9	18.7	18.6	3.6
f) Equity Loan Ratio	0.60	0.46	1.58	3.85	0.72

NOTE:- There is no authorised capital for ONGC in the Exploration and Production Category.

SOURCE:- Annual Reports of the Companies.

TABLE No.-3.

CONSOLIDATED FINANCIAL STRUCTURE-1979-80.

NAME OF THE COMPANY :- All Categories.

Rs./Lakhs.

I T E M.	Exploration & Prodn.	Refining & Mktng.	Petro-chemicals.	Engineering	TOTAL
1.	2.	3.	4.	5.	6.
1. Authorised Capital	8000	24295	32000	200	64495
2.i) Paid-up Capital	39035	14044	29923	25	83027
ii) Preference Capital	Nil	50	Nil	Nil	50
iii) Reserves & Surpluses	26526	50447	3294	979	81246
3.i) Total Loans	46244	19807	17591	Nil	83642
ii) Of which Foreign	4190	259	294	Nil	4743
4. Cash Credits/Advances from Banks/Others.	63	30685	730	Nil	31478
5. Net Worth	61669	63060	33203	1004	158936
6.i) Net Fixed Assets	74386	38350	31363	378	144477
ii) Working Capital	15820	39829	12514	593	68756
iii) Capital Employed (I + II)	90206	78179	43877	971	213233
7. Sales/Operating Income	54293	763924	24180	1338	843735
8.i) Total Emoluments (Including Perks)	5133	8858	1139	724	15854
ii) Of which Bonus.	427	580	54	29	990
iii) Average Emoluments Per Person.	0.21	0.20	0.16	0.27	0.2[illegible]
9. Inventories.	18777	98890	11302	10	12897[illegible]
10. Adjusted Gross Profit	16829	19340	2846	206	3922[illegible]
11. Adjusted Net Profit	6314	7290	1251	204	15059
12. Dividends Declared	2416	1890	73	4	43[illegible]
13. Corporate Tax	7269	7925	1	Nil	1699[illegible]
% Age of :-					
a) Net Profit to Equity	16.2	51.9	4.2	816.0	18.[illegible]
b) Net Profit to Net Worth	10.2	11.6	3.8	20.3	9.[illegible]
c) Gross Profit to Cap. Emp.	18.7	24.7	6.5	21.2	18.[illegible]
d) Sales to Capital Emp.	60.2	977.2	55.1	137.8	395.[illegible]
e) Gross Profit to Sales	31.0	2.5	11.8	15.4	4.[illegible]
f) Equity Loan Ratio	0.84	0.71	1.70	Nil	0.99

NOTE :- There is no authorised Capital for ONGC in the Production & Exploration Category.

SOURCE:- Annual Reports of the Companies.

TABLE No.-4.

CONSOLIDATED FINANCIAL STRUCTURE.

NAME OF THE COMPANY:- Exploration and Production.

Rs./Lakhs.

I T E M	1979 - 80	1980 - 81	1981 - 82.
1.	2.	3.	4.
1. Authorised Capital	8000	8000	8000
2.i) Paid-up Capital	39035	39585	39585
ii) Preference Capital	Nil	Nil	Nil
iii) Reserves & Surpluses	26526	25200	66725
3.i) Total Loans	46244	66200	101059
ii) Of which Foreign	4190	13993	26595
4. Cash Credits/Advances from Banks/Others.	63	2055	Nil
5. Net Worth	61669	61750	101897
6.i) Net Fixed Assets	74386	91732	144608
ii) Working Capital	15820	11417	34929
iii) Capital Employed(i+ii)	90206	103149	179537
7. Sales/Operating Income	54293	46870	160788
8.i) Total Emoluments (Including Perks)	5133	5876	6781
ii) Of which Bonus	427	450	538
iii) Average Emoluments Per Person	0.21	0.19	0.11
9. Inventories.	18777	25828	34538
10. Adjusted Gross Profit	16829	3856	88926
11. Adjusted Net Profit	6314	(-)1899	47577
12. Dividends Declared	2416	2037	2562
13. Corporate Tax	7269	Nil	30613
% Age of :-			
a) Net Profit to Equity	16.2	Loss	120.2
b) Net Profit to Net Worth	10.2	Loss	46.7
c) Gross Profit to Cap. Emp.	18.7	3.7	49.5
d) Sales to Capital Emp.	60.2	45.4	89.6
e) Gross Profit to Sales	31.0	8.2	55.3
f) Equity Loan Ratio	0.84	0.60	0.39

NOTE :- No authorised Capital has been fixed for ONGC.

SOURCE:- Annual Reports of the Companies.

TABLE No.-5.

CONSOLIDATED FINANCIAL STRUCTURE

NAME OF THE COMPANY :- Oil & Natural Gas Commission.

Rs./Lakhs.

I T E M	1979 - 80	1980 - 81	1981 - 82.
1.	2.	3.	4.
1. Authorised Capital	Nil	Nil	Nil
2.i) Paid-up Capita-l	33735	34285	34285
ii) Preference Capital	Nil	Nil	Nil
iii) Reserves & Surpluses	22055	24675	60230
3.i) Total Loans	39098	59281	95757
ii) Of which Foreign	4148	13962	26574
4. Cash Credits/Advance from Banks/ Others.	63	1819	Nil
5. Net Worth	52558	56485	90561
6.i) Net Fixed Assets	66265	84156	132102
ii) Working Capital	11274	11951	30797
iii) Capital Employed (i+ii)	77539	96107	162899
7. Sales/Operating Income	43150	43518	134849
8.i) Total Emoluments	4462	5223	5966
ii) (including perks)			
ii) Of which Bonus	355	370	457
iii) Average Emoluments per person.	0.17	0.19	0.19
9. Inventories	15347	22374	30115
10. Adjusted Gross Profit	13327	6894	69521
11. Adjusted Net Profit	5586	2044	41238
12. Dividends Declared	1996	2037	2142
13. Corporate Tax	5200	Nil	19750
% S Age of :-			
a) Net Profit to Equity	16.5	6.0	120.3
b) Net Profit to Net Worth	10.6	3.6	45.5
c) Gross Profit to Cap. Emp.	17.2	7.2	42.6
d) Sales to Capital Emp.	55.6	45.3	82.8
e) Gross Profit to Sales	30.9	15.8	51.6
f) Equity Loan Ra-tio	0.86	0.58	0.35

NOTE: i)No authorised Capital has been fixed for ONGC. ii) Net Fixed Assets include producing properties.

SOURCE:- Annual Reports of the Company for the years concerned.

TABLE No.-6.

FINANCIAL STRUCTURE

NAME OF THE COMPANY :- Hydro-Carbons India Limited.

Rs./Lakhs.

I T E M	Calendar Year 1979	Calendar Year 1980	1981
1.	2.	3.	4.
1. Authorised Capital	3000	3000	3000
2.i) Paid-up Capital	2500	2500	2500
ii) Preference Capital	Nil	Nil	Nil
iii) Reserves & Surpluses	491	322	279
3.i) Total Loans	Nil	Nil	Nil
ii) Of which Foreign	Nil	Nil	Nil
4. Cash Credits/ Advances from Banks/ Others	Nil	Nil	Nil
5. Net Worth	2331	2262	2320
6.i) Net Fixed Assets	417	331	27[illegible]
ii) Working Capital	1914	1791	204[illegible]
iii) Capital Employed (i+ii)	2331	2122	2320
7. Sales/ Operating Income	No sales	188	Nil
8.i) Total Emoluments (including perks)	3	2	2
ii) Of which Bonus	Negligible.	Negligible	Negligible.
iii) Average Emoluments Per Person.	0.33	0.25	0.2[illegible]
9. Inventories.	Nil	Nil	Nil
10. Adjusted Gross Profit	(-)106	(-)19	3[illegible]
11. Adjusted Net Profit	(-)106	(-)169	(-)4[illegible]
12. Dividends Declared	Nil	Nil	Nil
13. Corporate Tax	Nil	Nil	Nil
% Age of :-			
a) Net Profit to Equity	Loss	Loss	Loss
b) Net Profit to Net Worth	Loss	Loss	Loss
c) Gross Profit to Capital Emp.	Loss	Loss	1.[illegible]
d) Sales to Capital Emp.	Nil	8.1	Nil
e) Gross Profit to Sales	Loss	Loss	Nil
f) Equity Loan Ratio	Nil	Nil	Nil

SOURCE :- Annual Reports of the Company.

TABLE No.-7.

FINANCIAL STRUCTURE

NAME OF THE COMPANY :- Oil India Limited.

Rs./Lakhs.

I T E M	1979	1980	1981-82
1.	2.	3.	4.
1. Authorised Capital	5000	5000	5000
2.i) Paid-up Capital	2800	2800	2800
ii) Preference Capital	Nil	Nil	Nil
iii) Reserves & Surpluses	3980	203	6216
3.i) Total Loans	7146	6919	5302
ii) Of which Foreign	42	31	21
4. Cash Credits/ Advances from Banks/ Others	Nil	236	Nil
5. Net Worth	6780	3003	9016
6.i) Net Fixed Assets	7704	7245	12231
ii) Working Capital	2632	(-)2325	2087
iii) Capital Employed (i+ii)	10336	4920	14318
7. Sales/ Operating Income	11143	3164	25739
8.i) Total Emoluments (including perks)	668	651	813
ii) Of which bonus	72	80	81
iii) Average Emoluments per person	0.14	0.13	0.16
9. Inventories	3430	3454	4423
10. Adjusted Gross Profit	3608	(-)3019	19370
11. Adjusted Net Profit	834	(-)3774	6382
12. Dividends Declared	420	Nil	420
13. Corporate Tax	2069	Nil	10863
% Age of :-			
a) Net Profit to Equity	29.8	Loss	227.9
b) Net Profit to Net Worth	12.3	Loss	70.8
c) Gross Profit to Cap. Emp.	34.9	Loss	135.4
d) Sales to Capital Emp.	107.8	64.3	181.2
e) Gross Profit to Sales	32.4	Loss	74.7
f) Equity Loan Ratio	0.39	0.40	0.53

NOTE:- Figures for 1979&80 are on Calendar Years basis. These figures were being shown as provisional but on finalization of the accounts, figures have been firmed-up.

2. Figures for 1981-82, accounts in respect of which were prepared for 15 months have been annualized.

SOURCE:- Annual Reports of the Company.

TABLE No.8.

CONSOLIDATED FINANCIAL STRUCTURE

NAME OF THE COMPANY :- Refining & Marketing.

Rs./Lakhs.

I T E M	1979 - 80	1980 - 81	1981 - 82.
1.	2.	3.	4.
1. Authorised Capital	24295	24295	24295
2.i) Paid-up Capital	14044	14607	18796
ii) Preference Capital	50	50	50
iii) Reserves & Surpluses	50447	59510	67231
3.i) Total Loans	19807	31541	39547
ii) Of which Foreign	259	105	36
4. Cash Credits/ Advances from Banks/ Others	30685	82756	70733
5. Net Worth	63060	72393	84145
6.i) Net Fixed Assets	38350	49889	64818
ii) Working Capital	39829	92779	79197
iii) Capital Employed (i +ii)	78179	142668	144015
7. Sales/Operating Income	763924	1006101	1344706
8.i) Total Emoluments (including perks)	8858	10002	11775
ii) Of which Bonus	580	506	562
iii) Average Emoluments Per Person.	0.20	0.21	0.19
9. Inventories	98890	166400	175507
10. Adjusted Gross Profit	19340	29070	32055
11. Adjusted Net Profit	7290	9892	10621
12. Dividends Declared	1890	2268	2971
13. Corporate Tax	9725	7330	5100
% Age of :-			
a) Net Profit to Equity	53.9	67.7	56.5
b) Net Profit to Net Worth	12.0	13.7	12.6
c) Gross Profit to Capital Emp.	24.7	20.4	22.5
d) Sales to Capital Emp.	977.2	705.2	933.7
e) Gross Profit to Sales	2.5	2.9	2.4
f) Equity Loan Ratio	0.71	0.46	0.48

SOURCE :- Annual Reports of the Companies.

TABLE No.9.

FINANCIAL STRUCTURE

NAME OF THE COMPANY :- Indian Oil Corporation Limited.

Rs./Lakhs.

I T E M	1979 - 80	1980 - 81	1981 - 82.
1.	2.	3.	4.
1. Authorised Capital	15000	15000	15000
2.i) Paid-up Capital	8218	8218	12327
ii) Preference Capital	Nil	Nil	Nil
iii) Reserves & Surpluses	35452	42367	47201
3.i) Total Loans	16893	25097	27135
ii) Of which Foreign	230	105	36
4. Cash Credits/Advances from Banks/ Others	20759	50894	43326
5. Net Worth	43670	50585	59528
6.i) Net Fixed Assets	27280	36873	50167
ii) Working Capital	22323	58593	48462
iii) Capital Employed(i+ii)	49603	95466	98629
7. Sales/ Operating Income	447635	571094	794005
8.i) Total Emoluments (including perks)	4367	4803	6180
ii) Of which Bonus	274	295	353
iii) Average Emoluments per person	0.22	0.24	0.24
9. Inventories.	52104	97796	102409
10. Adjusted Gross Profit	12047	17627	17696
11. Adjusted Net Profit	5317	7677	7589
12. Dividends Declared	986	1150	1726
13. Corporate Tax	5425	2750	750
% Age of :-			
a) Net Profit to Equity	64.7	93.4	61.6
b) Net Profit to Net Worth	12.2	15.2	12.7
c) Gross Profit to Capital Emp.	24.2	18.5	17.9
d) Sales to Capital Emp.	902.4	598.2	805.0
e) Gross Profit to Sales	2.7	3.1	2.2
f) Equity Loan Ratio	0.48	0.32	0.45

SOURCE :- Annual Reports of the Company for the years Concerned.

TABLE No.10.

FINANCIAL STRUCTURE

NAME OF THE COMPANY :- Bharat Petroleum Corporation Ltd.,

Rs./Lakhs.

I T E M S	1979 - 80	1980 - 81	1981 - 82.
1.	2.	3.	4.
1. Authorised Capital	2500	2500	2500
2.i) Paid-up Capital	1454	1454	1454
ii) Preference Capital	Nil	Nil	Nil
iii) Reserves & Surpluses	4105	4979	6182
3.i) Total Loans	Nil	Nil	Nil
ii) Of which Foreign	Nil	Nil	Nil
4. Cash Credits/ Advances from Banks/ Others	1577	7895	8261
5. Net Worth	5559	6433	7635
6.i) Net Fixed Assets	2329	3056	4143
ii) Working Capital	3467	9519	8536
iii) Capital Employed (i+ii)	5796	12675	12679
7. Sales/ Operating Income	93618	121413	151542
8.i) Total Emoluments (including perks)	1185	1327	1427
ii) Of which Bonus	61	62	63
iii) Average Emoluments per person.	0.20	0.20	0.20
9. Inventories	15854	22679	26972
10. Adjusted Gross Profit	2383	2674	3063
11. Adjusted Net Profit	832	1029	836
12. Dividends Declared	174	204	204
13. Corporate Tax	1505	1267	1554
% Age of :-			
a) Net Profit to Equity	57.2	70.7	57.4
b) Net Profit to Net Worth	15.0	16.0	10.9
c) Gross Profit to Cap. Emp.	41.1	21.1	24.1
d) Sales to Capital Emp.	1615.2	957.9	1195.2
e) Gross Profit to Sales	2.5	2.2	2.0
f) Equity Loan Ratio	Nil	Nil	Nil

SOURCE :- Annual Reports of the Companies.

FINANCIAL STRUCTURE

TABLE No. 11.

NAME OF THE COMPANY :- Hindustan Petroleum Corporation Ltd.

Rs./Lakhs.

I T E M	1979 - 80	1980 - 81	1981 - 82.
1.	2.	3.	4.
1. Aurthorised Capital	2075	2075	2075
2.i) Paid-up Capital	1520	1520	1520
ii) Preference Capital	Nil	Nil	Nil
iii) Reserves & Surpluses	7054	8491	9719
3.i) Total Loans	1062	3543	4732
ii) Of which Foreign	Nil	Nil	Nil
4. Cash Credit/ Advances from Banks/ Others	5724	9232	9477
5. Net Worth	8114	9538	10734
6.i) Net Fixed Assets	5801	6804	6993
ii) Working Capital	8279	14069	13137
iii) Capital Employed (i+II)	14080	20873	20130
7. Sales/ Operating Income	110367	157383	197813
8.i) Total Emoluments (including perks)	1191	1313	1344
ii) Of which Bonus	65	67	58
iii) Average Emoluments per person	0.23	0.24	0.2
9. Inventories	17853	26577	2775
10. Adjusted Gross Profit	2623	4102	448
11. Adjusted Net Profit	719	831	69
12. Dividends Declared	182	213	21
13. Corporate Tax	1349	1735	159
% Age of :-			
a) Net Profit to Equity	47.3	54.7	45.
b) Net Profit to Net Worth	8.9	8.7	6.
c) Gross Profit to Cap. Emp.	18.6	19.7	22.2
d) Sales to Capital Emp.	783.9	754.0	982.7
e) Gross Profit to Sales	2.4	2.6	2.3
f) Equity Loan Ratio	1.43	0.42	0.32

SOURCE :- Annual Reports of the Company.

TABLE No.12

FINANCIAL STRUCTURE

NAME OF THE COMPANY :- Cochin Refineries Limited.

Rs./Lakhs.

I T E M	1979 - 80	1980 - 81	1981 - 82
1.	2.	3.	4.
1. Authorised Capital	1500	1500	1500
2.i) Paid-up Capital	700	700	700
ii) Preference Capital	Nil	Nil	Nil
iii) Reserves & Surpluses	509	330	443
3.i) Total Loans	236	986	2842
ii) Of which Foreign	29	Nil	Nil
4. Cash Credits/ Advances from Banks/ Others	1567	5847	3759
5. Net Worth	1209	1030	1143
6.i) Net Fixed Assets	1002	837	744
ii) Working Capital	1822	5887	3831
iii) Capital Employed (i+ii)	2824	6724	4575
7. Sales/ Operating Income	38538	56072	76803
8.i) Total Emoluments (including perks)	107	115	118
ii) Of which Bonus	6	6	6
iii) Average Emoluments per person	0.23	0.27	0.25
9. Inventories	4886	7953	6290
10. Adjusted Gross Profit	628	2051	3010
11. Adjusted Net Profit	6	197	584
12. Dividends Declared	240	382	507
13. Corporate Tax	487	560	968
% Age :-			
a) Net Profit to Equity	0.9	28.1	83.4
b) Net Profit to Net Worth	0.5	19.1	51.1
c) Gross Profit to Cap. Emp.	22.2	30.5	65.8
d) Sales to Capital Emp.	1364.7	833.9	1678.8
e) Gross Profit to Sales	1.6	3.7	3.9
f) Equity Loan Ratio	2.97	0.70	0.24

SOURCE :- Annual Reports of the Company.

TABLE No.13.

FINANCIAL STRUCTURE

NAME OF THE COMPANY :- Madras Refineries Limited.

Rs./Lakhs.

I T E M.	1979 - 80	1980 - 81	1981 - 82.
1.	2.	3.	4.
1. Authorised Capital	1350	1350	1350
2.i) Paid-up Capital	1288	1288	1288
ii) Preference Capital	Nil	Nil	Nil
iii) Reserves & Surpluses	1491	1545	1620
3.i) Total Loans	59	178	2932
ii) Of which Foreign	Nil	Nil	Nil
4. Cash Credits/ Advances from Banks/ Others	Nil	7348	4069
5. Net Worth	2755	2815	2896
6.i) Net Fixed Assets	738	707	819
ii) Working Capital	1840	1728	1872
iii) Capital Employed (i+ii)	2578	2435	2691
7. Sales/ Operating Income	43455	60443	79280
8.i) Total Emoluments (including perks)	97	105	115
ii) Of which Bonus	7	6	7
iii) Average Emoluments	0.19	0.22	0.22
9. Inventories	6104	8640	8962
10. Adjusted Gross Profit	843	1507	2752
11. Adjusted Net Profit	244	(-) 16	659
12. Dividends Declared	193	193	193
13. Corporate Tax	595	460	906
% Age :-			
a) Net Profit to Equity	18.9	(-)1.2	51.2
b) Net Profit to Net Worth	8.9	(-)0.6	22.8
c) Gross Profit to Cap. Emp.	32.7	61.9	102.3
d) Sales to Capital Emp.	1685.6	2482.3	2723.2
e) Gross Profit to Sales	1.9	2.5	3.8
f) Equity Loan Ratio	21.83	7.2	0.43

SOURCE :- Annual Reports of the Company.

TABLE No.14.

FINANCIAL STRUCTURE.

NAME OF THE COMPANY :- Indo-Burma Petroleum Co. Limited.

Rs./Lakhs.

I T E M.	1979 - 80	1980 - 81	1981 - 82
1.	2.	3.	4.
1. Authorised Capital	300	300	300
2.i) Paid-up Capital	160	160	240
ii) Preference Capital	50	50	50
iii) Reserves & Surpluses	379	517	642
3.i) Total Loans	Nil	90	Nil
ii) Of which Foreign	Nil	Nil	Nil
4. Cash Credits/ Advances from Banks/ Others	336	379	701
5. Net Worth	589	727	933
6.i) Net Fixed Assets	401	563	644
ii) Working Capital	(-)124	46	393
iii) Capital Employed(i+ii)	277	609	1037
7. Sales/ Operating Income	20562	28222	38255
8.i) Total Emoluments (including perks)	177	191	234
ii) Of which Bonus	17	16	19
iii) Average Emoluments per persons	0.16	0.16	0.18
9. Inventories	182	282	423
10. Adjusted Gross Profit	134	278	404
11. Adjusted Net Profit	65	113	197
12. Dividends Declared	28	32	4
13. Corporate Tax	40	139	176
% Age of :-			
a) Net Profit to Equity	40.6	70.6	82.1
b) Net Profit to Net Worth	11.0	15.5	21.1
c) Gross Profit to Cap. Emp.	48.4	45.6	38.9
d) Sales to Capital Emp.	7423.1	4634.2	3688.6
e) Gross Profit to Sales	0.7	1.0	1.1
f) Equity Loan Ratio	Nil	1.77	Nil

SOURCE :- Annual Reports of the Company.

TABLE No.15.

FINANCIAL STRUCTURE.

NAME OF THE COMPANY :- Lubrizol India Limited.

Rs./Lakhs.

I T E M	1979 - 80	1980 - 81	1981 - 82.
1.	2.	3.	4.
1. Authorised Capital	480	480	480
2.i) Paid-up Capital	60	480	480
ii) Preference Capital	Nil	Nil	Nil
iii) Reserves & Surpluses	969	679	730
3.i) Total Loans	Nil	Nil	20
ii) Of which Foreign	Nil	Nil	Nil
4. Cash Credits/ Advances from Banks/ Others	Nil	23	123
5. Net Worth	1029	1159	1210
6.i) Net Fixed Assets	272	276	318
ii) Working Capital	742	881	1012
iii) Capital Employed(i+ii)	1014	1157	1330
7. Sales/Operating Income	2829	3819	4396
8.i) Total Emoluments (including perks)	51	70	95
ii) Of which Bonus	3	4	4
iii) Average Emoluments Per Person	0.25	0.29	0.33
9. Inventories	795	945	1081
10. Adjusted Gross Profit	371	494	87
11. Adjusted Net Profit	160	190	51
12. Dividends Declared	53	60	53
13. Corporate Tax	210	301	16
% Age of :-			
a) Net Profit to Equity	266.7	39.6	10.6
b) Net Profit to Net Worth	15.5	16.4	4.2
c) Gross Profit to Cap. Emp.	36.6	42.7	6.5
d) Sales to Capital Emp.	279.0	330.1	330.5
e) Gross Profit to Sales	13.1	12.9	1.9
f) Equity Loan Ratio	Nil	Nil	24.0

SOURCE :- Annual Reports of the Company.

TABLE No. 16.

FINANCIAL STRUCTURE.

NAME OF THE COMPANY:- Balmer Lawrie & Co. Limited.

Rs./Lakhs.

I T E M	1979 - 80	1980 - 81	1981 - 82.
1.	2.	3.	4.
1. Authorised Capital	300	300	300
2.i) Paid-up Capital	189	189	189
ii) Preference Capital	Nil	Nil	Nil
iii) Reserves & Surpluses	336	431	501
3.i) Total Loans	266	282	307
ii) Of which Foreign	Nil	Nil	Nil
4. Cash Credits/ Advances from Banks/ Others	354	725	587
5. Net Worth	525	620	691
6.i) Net Fixed Assets	247	424	492
ii) Working Capital	767	1145	998
iii) Capital Employed (i+ii)	1014	1569	1490
7. Sales/ Operating Income	3852	4077	4172
8.i) Total Emoluments (including Perks)	258	283	346
ii) Of which Bonus	17	19	21
iii) Average Emoluments Per Person.	0.19	0.20	0.19
9. Inventories	635	985	844
10. Adjusted Gross Profit	291	354	379
11. Adjusted Net Profit	106	118	106
12. Dividends Declared	30	30	30
13. Corporate Tax	114	100	107
% Age of :-			
a) Net Profit to Equity	56.1	62.4	56.1
b) Net Profit to Net Worth	20.2	19.0	15.3
c) Gross Profit to Cap. Emp.	28.6	22.6	25.4
d) Sales to Capital Emp.	379.6	259.6	280.0
e) Gross Profit to Sales	7.6	8.7	9.1
f) Equity Loan Ratio	0.72	0.67	0.61

SOURCE :- Annual Reports of the Company.

TABLE No.-17.

FINANCIAL STRUCTURE.

NAME OF THE COMPANY :- Biecco Lawrie Limited.

Rs./Lakhs.

I T E M	1979 - 80	1980 - 81	1981 - 82.
1.	2.	3.	4.
1. Authorised Capital	250	250	250
2.i) Paid-up Capital	111	134	134
ii) Preference Capital	Nil	Nil	Nil
iii) Reserves & Surpluses	6	12	3
3.i) Total Loans	706	832	817
ii) Of which Foreign	Nil	Nil	Nil
4. Cash Credits/ Advances from Banks/ Others.	106	79	98
5. Net Worth	(-)425	(-)557	(-) 706
6.i) Net Fixed Assets	41	61	92
ii) Working Capital	228	190	196
iii) Capital Employed(i+ii)	269	251	278
7. Sales/ Operating Income	399	503	585
8.i) Total Emoluments (including perks)	183	202	191
ii) Of which Bonus	8	9	9
iii) Average Emoluments per person .	0.13	0.14	0.13
9. Inventories	228	250	240
10. Adjusted Gross Profit	(-)57	(-)49	(-) 1
11. Adjusted Net Profit	(-)140	(-)150	(-)139
12. Dividend Declared	Nil	Nil	Nil
13. Corporate Tax	Nil	Nil	Nil
% Age of :-			
a) Net Profit to Equity	Neg.	Neg.	Neg.
b) Net Profit to Net Worth	Neg.	Neg.	Neg.
c) Gross Profit to Cap. Emp.	Neg.	Neg.	Neg.
d) Sales to Capital Emp.	148.3	200.4	233.1
e) Gross Profit to Sales	Neg.	Neg.	Neg.
f) Equity Loan Ratio	0.15	0.16	0.16

SOURCE :- Annual Reports of the Company.

TABLE No.18.

FINANCIAL STRUCTURE.

NAME OF THE COMPANY :- Bridge & Roof Co. (India) Ltd.

Rs./Lakhs.

I T E M	1979 - 80	1980 - 81	1981 - 82.
1.	2.	3.	4.
1. Authorised Capital	500	500	500
2.i) Paid-up Capital	304	424	424
ii) Preference Capital	Nil	Nil	Nil
iii) Reserves & Surpluses	26	34	46
3.i) Total Loans	485	533	762
ii) Of which Foreign	Nil	Nil	Nil
4. Cash Credits/ Advances from Banks/ Others.	244	304	310
5. Net Worth	(-)125	(-)121	(-)103
6.i) Net Fixed Assets	121	155	245
ii) Working Capital	438	560	725
iii) Capital Employed(i+ii)	559	715	970
7. Sales/ Operating Income	2486	2836	3592
8.i) Total Emoluments (including perks)	1132	1470	1593
ii) Of which Bonus	14	14	14
iii) Average Emoluments per person.	0.11	0.12	0.14
9. Inventories	237	281	519
10. Adjusted Gross Profit	62	(-)10	135
11. Adjusted Net Profit	(-)28	(-)115	18
12. Dividend Declared	Nil	Nil	Nil
13. Corporate Tax	Nil	Nil	Nil
% Age O of :-			
a) Net Profit to Equity	Neg.	Neg.	4.2
b) Net Profit to Net Worth	Neg.	Neg.	Neg.
c) Gross Profit to Cap. Emp.	11.1	Neg.	13.9
d) Sales to Capital Emp.	444.7	396.6	370.3
e) Gross Profit to Sales	2.5	Neg.	3.8
f) Equity Loan Ratio	0.62	0.79	0.55

NOTE :- Figures for 1981-82 are unaudited and provisional.

SOURCE:- Annual Reports of the Company for 1979-80, 1980-81 and advice for 1981-82 from the Company.

TABLE No.19.

FINANCIAL STRUCTURE.

NAME OF THE COMPANY :- Indian Oil Blending Ltd.

Rs./Lakhs.

I T E M	1979 - 80	1980 - 81	1981 - 82.
1.	2.	3.	4.
1. Authorised Capital	40	40	40
2.i) Paid-up Capital	40	40	40
ii) Preference Capital	Nil	Nil	Nil
iii) Reserves & Surpluses	120	125	144
3.i) Total Loans	Nil	Nil	Nil
ii) Of which Foreign	Nil	Nil	Nil
4. Cash Credits/ Advances from Banks/ Others	18	30	22
5. Net Worth	160	165	184
6.i) Net Fixed Assets	118	133	161
ii) Working Capital	47	61	45
iii) Capital Employed(i+ii)	165	194	206
7. Sales/ Operating Income	183	239	265
8.i) Total Emoluments (including perks)	110	123	132
ii) Of which Bonus	8	8	8
iii) Average Emoluments Per Person	0.25	0.25	0.26
9. Inventories	12	12	15
10. Adjusted Gross Profit	15	42	49
11. Adjusted Net Profit	9	18	13
12. Dividends Declared	4	4	4
13. Corporate Tax	Nil	18	24
% Age of :-			
a) Net Profit to Equity	22.5	45.0	57.5
b) Net Profit to Net Worth	5.6	10.9	12.5
c) Gross Profit to Cap.Emp.	9.1	21.6	23.8
d) Sales to Capital Emp.	110.9	123.2	128.6
e) Gross Profit to Sales	8.2	17.6	18.5
f) Equity Loan Ratio	Nil	Nil	Nil

SOURCE :- Annual Reports of the Company.

TABLE No.20.

FINANCIAL STRUCTURE

NAME OF THE COMPANY :- Petrochemicals & Other Down-Stream Units. Consolidated

Rs./Lakhs.

I T E M	1979 - 80	1980 - 81	1981 - 82
1.	2.	3.	4.
1. Authorised Capital	32000	32000	32000
2.i) Paid-up Capital	29923	29925	29935
ii) Preference Capital	Nil	Nil	Nil
iii) Reserves & Surpluses	3294	7347	13944
3.i) Total Loans	17591	18977	18445
ii) Of which Foreign	294	216	289
4. Cash Credits/ Advances from Banks/ Others.	730	2084	2149
5. Net Worth	33203	36765	43879
6.i) Net Fixed Assets	31363	29317	31611
ii) Working Capital	12514	16838	20072
iii) Capital Employed(i+ii)	43877	46155	51683
7. Sales/ Operating Income	24180	34801	56328
8.i) Total Emoluments (including perks)	1139	1407	1763
ii) Of which Bonus	54	36	72
iii) Average Emoluments per person.	0.16	0.18	0.20
9. Inventories	11302	13838	14285
10. Adjusted Gross Profit	2846	6502	8690
11. Adjusted Net Profit	1251	4486	6856
12. Dividends Declared	73	88	88
13. Corporate Tax	1	Nil	
% Age of :-			
a) Net Profit to Equity	4.2	15.0	22.9
b) Net Profit to Net Worth	3.8	12.2	15.6
c) Gross Profit to Cap. Emp.	6.5	14.0	16.8
d) Sales to Capital Emp.	55.1	75.4	109.0
e) Gross Profit to Sales	11.8	18.7	15.4
f) Equity Loan Ratio	1.70	1.58	1.62

SOURCE:- Annual Reports of the Companies and Advice of Provisional data from B.R.P.L.

TABLE No.21.

FINANCIAL STRUCTURE.

NAME OF THE COMPANY :- Indian Petrochemicals Corporation Ltd.

Rs./Lakhs.

I T E M	1979 - 80	1980 - 81	1981 - 82.
1.	2.	3.	4.
1. Authorised Capital	20000	20000	20000
2.i) Paid-up Capital	18600	18600	18600
ii) Preference Capital	Nil	Nil	Nil
iii) Reserves & Surpluses	2213	5620	11174
3.i) Total Loans	15320	14616	10052
ii) Of which Foreign	294	216	147
4. Cash Credits/Advances from Banks/ Others.	672	2019	2034
5. Net Worth	20613	24220	29774
6.i) Net Fixed Assets	24935	22738	20842
ii) Working Capital	11093	15700	17109
iii) Capital Employed(i+ii)	36028	38438	37951
7. Sales/Operating Income	17263	28073	40622
8.i) Total Emoluments (including Perks)	902	1119	1365
ii) Of which Bonus	50	31	53
iii) Average Emoluments Per Person.	0.18	0.21	0.24
9. Inventories	9749	12310	10756
10. Adjusted Gross Profit	1882	5091	7104
11. Adjusted Net Profit	465	3390	5511
12. Dividends Declared	Nil	Nil	Nil
13. Corporate Tax	Nil	Nil	Nil
% Age of :-			
a) Net Profit to Equity	2.5	18.2	29.6
b) Net Profit to Net Worth	2.2	14.0	18.5
c) Gross Profit to Cap. Emp.	5.2	13.2	18.7
d) Sales to Capital Emp.	47.9	73.0	107.0
e) Gross Profit to Sales	10.9	18.1	17.5
f) Equity Loan Ratio	1.21	1.27	1.85

SOURCE :- Annual Reports of the Company.

TABLE No.-22.

FINANCIAL STRUCTURE.

NAME OF THE COMPANY :- Petrofils Cooperative Limited.

Rs./Lakhs.

I T E M	1979 - 80	1980 - 81	1981 - 82.
1.	2.	3.	4.
1. Authorised Capital	2000	2000	2000
2.i) Paid-up Capital	1473	1475	1485
ii) Preference Capital	Nil	Nil	Nil
iii) Reserves & Surpluses	828	1474	2241
3.i) Total Loans	1422	1024	996
ii) Of which Foreign	Nil	Nil	Nil
4. Cash Credits/Advances from Banks/ Others	Nil	21	142
5. Net Worth	2301	2948	3726
6.i) Net Fixed Assets	2128	2536	3101
ii) Working Capital	855	986	1348
iii) Capital Employed(i+ii)	2983	3522	4449
7. Sales/Operating Income	4509	6165	7047
8.i)Total Emoluments (including perks)	123	160	232
ii) Of which Bonus	4	5	19
iii) Average Emoluments	0.13	0.16	0.19
9. Inventories	821	588	1237
10. Adjusted Gross Profit	674	816	943
11. Adjusted Net Profit	532	701	816
12. Dividends Declared	73	88	88
13. Corporate Tax	1	Nil	1
% Age of :-			
a) Net Profit to Equity	36.1	47.6	54.9
b) Net Profit to Net Worth	23.1	23.8	21.9
c) Gross Profit to Cap. Emp.	22.6	23.2	21.2
d) Sales to Capital Emp.	151.2	175.0	158.2
e) Gross Profit to Sales	15.0	13.2	13.4
f) Equity Loan Ratio	1.03	1.44	1.49

SOURCE :- Annual Reports of the Company.

TABLE No.23.

FINANCIAL STRUCTURE.

NAME OF THE COMPANY :- Bongaigaon Refineries & Petrochemicals Limited.

Rs./Lakhs.

I T E M	1979 - 80	1980 - 81	1981 - 82.
1.	2.	3.	4.
1. Authorised Capital	10000	10000	10000
2.i) Paid-up Capital	9850	9850	9850
ii) Preference Capital	Nil	Nil	Nil
iii) Reserves & Surpluses	253	253	529
3.i) Total Loans	849	3337	7397
ii) Of which Foreign	Nil	Nil	Nil
4. Cash Credits/Advances from Banks/Others	58	44	115
5. Net Worth	10089	9597	10379
6.i) Net Fixed Assets	4300	4043	7668
ii) Working Capital	566	152	1615
iii) Capital Employed (i+ii)	4866	4195	9283
7. Sales/Operating Income	2408	563	8659
8.i) Total Emoluments (including perks)	114	128	166
ii) Of which Bonus	Nil	Nil	Nil
iii) Average Emoluments Per Person.	0.16	0.16	0.18
9. Inventories	732	940	2292
10. Adjusted Gross Profit	290	595	643
11. Adjusted Net Profit	254	395	529
12. Dividends Declared	-	-	Nil
13. Corporate Tax	-	-	Nil
% Age of :-			
a) Net Profit to Equity	2.6	4.0	5.4
b) Net Profit to Net Worth	2.5	4.1	5.1
c) Gross Profit to Cap. Emp.	6.0	14.2	6.9
d) Sales to Capital Emp.	49.5	13.4	93.2
e) Gross Profit to Sales.	12.0	105.7	7.4
f) Equity Loan Ratio	11.60	2.95	1.33

NOTE :- Figures for 1981-82 are provisional and Gross/Net Profit are unadjusted due to non-finalization of the accounts.

SOURCE:- Annual Reports of the Company.

TABLE No.24.

FINANCIAL STRUCTURE

NAME OF THE COMPANY :- Engineers India Limited.

Rs./Lakhs.

I T E M	1979 - 80	1980 - 81	1981 - 82
1.	2.	3.	4.
1. Authorised Capital	200	200	200
2.i) Paid-up Capital	25	50	50
ii) Preference Capital	Nil	Nil	Nil
iii) Reserves & Surpluses	979	1582	1946
3.i) Total Loans	-	13	Nil
ii) Of which Foreign	-	Nil	Nil
4. Cash Credits/Advances from Banks/ Others.	-	-	Nil
5. Net Worth	1004	1632	1996
6.i) Net Fixed Assets	378	419	442
ii) Working Capital	593	1153	1270
iii) Capital Employed (i+ii)	971	1572	1712
7. Sales/Operating Income	1338	2381	2252
8.i) Total Emoluments (including perks)	724	885	1032
ii) Of which Bonus.	29	26	23
iii) Average Emoluments per person	0.27	0.30	0.33
9. Inventories	10	15	17
10. Adjusted Gross Profit	206	443	541
11. Adjusted Net Profit	204	592	373
12. Dividends Declared	4	8	8
13. Corporate Tax	Nil	180	223
% Age of :-			
a) Net Profit to Equity	816.0	1184.0	746.0
b) Net Profit to Net Worth	20.3	36.3	18.7
c) Gross Profit to Cap. Emp.	21.2	28.2	31.6
d) Sales to Capital Emp.	137.8	151.5	132.0
e) Gross Profit to Sales	15.4	18.6	23.9
f) Equity Loan Ratio	-	3.84	Nil

SOURCE :- Annual Reports of the Company.

TABLE NO.25.

CONSOLIDATED FINANCIAL STRUCTURE - PETROCHEMICALS- PRIVATE SECTOR - ALL CATEGORIES.

Rs./Crores.

I T E M	1979 - 80	1980 - 81	1981 - 82.
1.	2.	3.	4.
No. of Undertakings.	39	39	36
1. Authorised Capital	356.10	402.70	438.10
2.i) Equity Capital	192.20	232.40	224.70
ii) Preference Capital	15.60	16.20	15.60
iii) Reserves & Surpluses	297.00	361.20	400.90
3. Total Loans.	270.60	317.50	339.30
i) Of which Foreign	19.90	22.60	18.90
4. Cash Credits/Advances from Banks/ Others	197.40	275.50	313.50
5. Net Worth	483.30	579.80	629.40
6.i) Capital Employed	835.90	1055.10	1208.80
ii) Net Fixed Assets	442.40	590.40	648.80
iii) Working Ca-pital	393.50	464.70	560.00
7. Sales/Operating Income	1611.10	2041.10	2333.10
8. Value of Production	1272.20	1585.90	1904.00
9. Net Value Added	552.50	593.60	642.50
10. Gross Profit	151.70	156.20	181.70
11. Net Profit	66.50	66.20	68.00
12. Dividends Declared	28.90	32.40	33.90
PERCENTAGES OF :-			
i) Net Profit to Equity	34.6	28.5	30.3
ii) Net Profit to Net Worth	13.8	11.4	10.8
iii) Gross Profit to Cap.Emp.	18.1	14.8	15.0
iv) Sales to Capital Emp.	192.7	193.4	193.0
v) Gross Profit to Sales	9.4	7.7	7.8
vi) Equity Loa-n Ratio	0.71	0.73	0.66

NOTE:- i) Three Consolidation is on the basis of latera summation of data of the companies/undertakings having different accounting periods.

ii) 3 companies have been excluded from the review of fina ncial analysis as they have not supplied data for the consecutive three years.

TABLE No.26.

CONSOLIDATED FINANCIAL STRUCTURE.

NAME OF THE UNDERTAKINGS :- Synthetic Fibre (Private)Sector)

Rs:/Lakhs.

I T E M	1979 - 80	1980 - 81	1981 - 82.
1.	2.	3.	4.
No. of the Companies.	14	14	14
1.Authorised Capital	14242	15739	18379
2.i) Equity Capital	7845	8549	8939
ii) Preference Capital	847	916	926
iii) Reserves & Surpluses	15063	16787	19590
3. Total Loans	11879	13929	15730
i) Of which Foreign	976	1060	936
4. Cash Credits/Advances from Banks/Others	5896	6927	9329
5. Net Worth	23050	25552	28515
6.i) Capital Employed	37947	44401	50968
ii) Net Fixed Assets	21894	27846	32588
iii) Working Capital	16053	16555	18400
7. Sales/ Operating Income	68215	81481	94845
8. Value of Production	45277	53642	64131
9. Net Value Added	22892	23816	26845
10. Gross Profit	7520	7836	9570
11. Net Profit	3654	3327	4728
12. Dividends Declared	1384	1611	1772
% Age of :-			
a) Net Profit to Equity	46.6	38.9	52.9
b) Net Profit to Net Worth	15.9	13.0	16.6
c) Gross Profit to Cap. Emp.	19.8	17.7	18.7
d) Sales to Capital Emp.	179.8	183.5	185.9
e) Gross Profit to Sales	11.0	9.6	10.0
f) Equity Loan Ratio	0.66	0.61	0.57

NOTE :- The consolidation is on the basis of lateral summation of data of the companies having different accounting years.

TABLE No.27.

CONSOLIDATED FINANCIAL STRUCTURE - PLASTICS.

(PRIVATE SECTOR)

Rs./Lakhs.

I T E M	1979 - 80	1980 - 81	1981 - 82.
1.	2.	3.	4.
No. of the Companies.	13	13	11
1. Authorised Capital	9738	9904	10799
2.i) Equity Capital	4613	4971	3757
ii) Preference Capital	391	376	333
iii) Reserves & Surpluses	6322	6337	7053
3.i) Total Loans	10175	11209	9468
ii) Of which Foreign	203	456	328
4. Cash Credits/Advances from Banks/ Others.	9663	10626	10487
5. Net Worth	9860	10362	11979
6.i) Capital Employed	23000	24733	29659
ii) Net Fixed Assets	11514	11817	12337
iii) Working Capital	11486	12916	17322
7. Sales/Operating Income	50297	59547	70956
8. Value of Production	44029	51734	65682
9. Net Value Added	17415	18291	18453
10. Gross Profit	2162	2673	3258
11. Net Profit	624	1383	327
12. Dividends Declared	557	564	591
PERCENTAGE OF:-			
a) Net Profit to Equity	13.6	27.8	8.7
b) Net Profit to Net Worth	6.3	13.4	2.7
c) Gross Profit to Cap.Emp.	9.4	10.8	10.9
d) Sales to Capital Emp.	218.7	240.8	239.2
e) Gross Profit to Sales.	4.3	4.5	4.6
f) Equity Loan Ratio	0.45	0.44	0.40

NOTE :- The Consolidation is on the basis of lateral summation of data of the companies having different accounting years.

TABLE No.28.

CONSOLIDATED FINANCIAL STRUCTURE :- 'Chemicals' (Private Sector)

Rs./Lakhs.

I T E M	1979 - 80	1980 - 81	1981 - 82.
1.	2.	3.	4.
No. of the Undertakings.	11	11	11
1. Authorised Capital	10130	13130	13130
2.i) Equity Capital	6180	9147	9194
ii) Preference Capital	326	326	296
iii) Reserves & Surpluses	7751	12415	12951
3. Total Loans	4910	6521	8240
i) Of which Foreign	798	725	620
4. Cash Credits/ Advances from Banks/ Others.	3670	9312	11014
5. Net Worth	14280	20917	21371
6.i) Capital Employed	20923	34452	38132
ii) Net Fixed Assets.	10136	18585	19127
iii) Working Capital	10787	15867	19005
7. Sales/Operating Income	39867	59815	64762
8. Value of Production	34653	50965	57134
9. Net Value Added	13683	15938	17560
10. Gross Profit	5204	5101	5450
11. Net Profit	2200	1902	1908
12. Dividends Declared	880	1063	1029
% Age of :-			
a) Net Profit to Equity	35.6	20.8	20.8
b) Net Profit to Net Worth	15.4	9.1	8.9
c) Gross Profit to Cap. Emp.	24.9	14.8	14.3
d) Sales to Capital Emp;	190.5	173.6	169.8
e) Gross Profit to Sales	13.1	8.5	8.4
f) Equity Loan Ratio	1:26	1.40	1.12

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TABLE No.29.

FINANCIAL STRUCTURE :- SYNTHETIC RUBBER.

NAME OF THE UNDERTAKINGS :- Synthetics & Chemicals Limited.

Rs./Lakhs.

I T E M	1979 - 80	1980 - 81	1981 - 82.@
1.	2.	3.	4.
1. Authorised Capital	1500	1500	1500
2.i) Equity Capital	575	575	581
ii) Preference Capital	-	-	Nil
iii) Reserves & Surpluses	562	577	495
3.i) Total Loans	93	89	519
ii) Of which Foreign	8	4	3
4. Cash Credits/Advance from Banks/Others	508	685	524
5. Net Worth	1137	1152	1076
6.i) Capital Employed	1720	1926	2092
ii) Net Fixed Assets	694	778	822
iii) Working Capital	1026	1148	1270
7. Sales/ Operating Income	2733	3266	2754
8. Value of Production	3259	3147	3531
9. Net Value Added	1256	1319	1391
10. Gross Profit	282	12	(-)105
11. Net Profit	167	12	(-)105
12. Dividends Declared	69	Nil	Nil
% Age of :-			
a) Net Profit to Equity	29.0	2.1	Loss
b) Net Profit to Net Worth	14.7	1.1	Loss
c) Gross Profit to Cap. Emp.	16.4	0.6	Loss
d) Sales to Capital Emp.	158.9	169.6	131.3
e) Gross Profit to Sales	10.3	0.4	Loss
f) Equity Loan Ratio	6.18	6.46	1.11

@ - For the year Ending 31 - 12 - 1981.

CAPITAL INVESTMENT OF THE PUBLIC/JOINT SECTOR UNDERTAKINGS
AS ON 1-4-1981, 1-4-82 & 1-4-1983.

Rs./Crores.

NAME OF THE UNDERTAKINGS.	AS ON 1-4-1981				AS ON 1-4-1982				AS ON 1-4-1983.			
	Equity	L.T. Loan	Total	Govts. Share	Equity	L.T. Loans	Total	Govts. Share.	Equity	L.T. Loans	Total	Govts. Share
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
A. Exploration & Prodn.	395.9	675.6	1071.5	492.2	395.9	999.1	1395.0	461.5	395.9	1668.4	2064.3	448.8
1. O.N.G.C.	342.9	592.2	935.1	398.9	342.9	946.8	1289.7	384.7	342.9	1620.0	1962.9	375.5
2. H. I. L.	25.0	–	25.0	–	25.0	–	25.0	Nil	25.0	–	25.0	–
3. O. I. L.	28.0	83.4	111.4	93.3	28.0	52.3	80.3	76.8	28.0	48.4	76.4	73.3
B. Refining & Marketing	146.5	283.6	430.1	282.4	188.4	346.4	534.8	317.3	188.9	579.1	768.0	303.2
4. I. O. C.	82.2	251.0	333.2	203.2	123.3	260.8	384.1	233.1	123.3	295.8	419.1	214.9
5. B.P.C.L.	14.5	–	14.5	14.5	14.5	–	14.5	14.5	14.5	40.6	55.1	14.5
6. H.P.C.L.	15.2	12.2	27.4	26.3	15.2	13.5	28.7	26.2	15.2	73.8	89.0	25.1
7. C. R. L.	7.0	9.9	16.9	10.7	7.0	28.4	35.4	10.2	7.0	56.3	63.3	10.2
8. M. R. L.	12.9	1.8	14.7	11.3	12.9	27.7	40.6	9.5	12.9	89.4	102.3	9.5
9. I.B.P.L.	2.1	–	2.1	1.1	2.9	–	2.9	1.6	2.9	–	2.9	1.6
10. Biecco Lawrie Ltd.	1.3	2.2	3.5	3.2	1.3	8.2	9.5	9.8	1.8	2.8	4.6	–
11. Balmer Lawrie Ltd.	1.9	1.6	3.5	–	1.9	1.8	3.7	–	1.9	9.7	11.6	11.2
12. Bridge & Roof Co. Ltd.	4.2	4.9	9.1	8.8	4.2	5.8	10.0	9.7	4.2	9.0	13.2	12.9
13. Lubrizol India Ltd.	4.8	–	4.8	2.9	4.8	0.2	5.0	2.9	4.8	1.7	6.5	2.9
14. Indian Oil Blending Ltd.	0.4	–	0.4	0.4	0.4	–	0.4	0.4	0.4	Nil	0.4	0.4
C. Petrochemicals & Other-Down Stream Units.	299.2	178.9	478.1	424.2	299.2	181.2	480.4	397.6	299.2	187.2	486.4	381.7
15. I. P. C. L.	186.0	135.4	321.4	287.3	186.0	98.3	284.3	260.4	186.0	71.8	257.8	244.5
16. Petrofils	14.7	10.2	24.9	13.2	14.7	10.0	24.7	13.2	14.7	10.5	25.2	13.2
17. B. R. P. L.	98.5	33.3	131.8	123.7	98.5	72.9	171.4	124.0	98.5	104.9	203.4	124.0
D. Engineering Services.	0.5	–	0.5	0.5	0.5	–	0.5	0.5	0.5	0.5	0.5	0.5
18. E. I. L.	0.5	–	0.5	0.5	0.5	–	0.5	0.5	0.5	0.5	0.5	0.5
GRAND TOTAL :-	842.1	1138.1	1980.2	1199.3 (60.5%)	884.0	1526.7	2410.7	1176.9 (48.7%)	884.5	2434.7	3319.2	1134.2 (34.2%)

NOTE :- Figures in brackets indicate %age of the Governments. / Share.

RKP/

CAPITAL INVESTMENT IN THE PUBLIC/JOINT SECTOR UNDERTAKINGS AS ON 1-4-1983.

Rs./Crores.

NAME OF THE UNDERTAKINGS.	PAID-UP CAPITAL			LONG TERMS LOANS			OF WHICH			RELATIVE %OF.	
	Total	Of which Govts. Share	%age of Govts. Share.	Total	Of which Govts. Share.	%age of Govts. Share.	Total	Govts. Share.	Non Govts. Share.	Govts. share	Non-Govts. Share.
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
A. Exploration & Prodn.	395.85	370.85	93.7%	1668.42	77.96	4.7	2064.27	448.81	1615.46	21.7	78.3
1. O.N.G.C.	342.85	342.85	100	1620.03	32.65	2.0	1962.88	375.50	1587.38	19.1%	80.9%
2. H. I. L.	25.00	Nil	Nil	Nil	Nil	Nil	25.00	Nil	25.00	Nil	100.00
3. O. I. L.	28.00	28.00	100.0%	48.39	45.31	93.6	76.39	73.31	3.08	95.9	4.1
B. Refining & Marketing.	188.89	176.94	93.7	579.11	126.26	21.8	768.00	303.20	464.80	39.5	60.5
4. I. O. C.	123.27	123.27	100%	295.83	91.65	30.9%	419.10	214.92	204.18	51.3%	48.7
5. B.P.C.L.	14.54	14.54	100%	40.60	Nil	Nil	55.14	14.54	40.60	26.4	73.6
6. H.P.C.L.	15.20	15.20	Nil	73.83	9.93	13.5	89.03	25.13	63.90	28.2	71.8
7. C. R. L.	7.00	4.20	60%	56.29	6.00	11.2	63.29	10.20	53.09	16.1	83.9
8. M. R. L.	12.88	9.53	73.9%	89.39	Nil	Nil	102.27	9.53	92.74	9.3	90.7
9. Indo-Burma Petroleum-Co. Ltd.	2.90	1.60	55.2%	Nil	Nil	Nil	2.90	1.60	1.30	55.2	44.8
10. Balmer Lawrie Co.Ltd.	1.89	Nil	Nil	2.82	Nil	Nil	4.71	Nil	4.71	Nil	100.0
11. Biecco Lawrie Co.	1.77	1.44	81.4	9.71	9.71	100%	11.48	11.15	0.33	97.1	2.9
12. Bridge & Roof Co.Ltd.	4.24	3.88	91.5	8.97	8.97	100%	13.21	12.85	0.36	97.3	2.7
13. Lubrizol India Ltd.	4.80	2.88	60.0	1.67	Nil	Nil	6.47	2.88	3.59	44.5	55.5
14. Indian Oil Blending.	0.40	0.40	100%	Nil	Nil	Nil	0.40	0.40	Nil	100%	Nil
C. Petrochemicals & Other Down Stream Units.	299.26	297.67	99.5	187.19	84.02	44.9	486.45	381.69	104.76	78.5	21.5
15. I.P.C.L.	186.00	186.00	100%	71.79	58.53	81.5	257.79	244.53	13.26	94.8	5.2
16. Petrofils.	14.76	13.17	89.2%	10.52	Nil	Nil	25.28	13.17	12.11	52.1	47.9
17. B.R.P.L.	98.50	98.50	100%	104.88	25.49	24.3	203.38	123.99	79.39	60.9	39.1
D. Engineering Services.	0.50	0.50	100%	Nil	Nil	Nil	0.50	0.50	Nil	100%	Nil
18. E. I. L.	0.50	0.50	100%	Nil	Nil	Nil	0.50	0.50	Nil	100%	Nil
GRAND TOTAL:	884.50	845.96	95.6%	2434.72	288.24	11.8	3319.22	1134.20	2185.02	34.2%	65.8%

RAP/

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 there on plus working capital but excluding capital works in progress.

4. Working-Capital. : Means 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.

RAP/

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APPENDIX

ABBREVIATIONS

(i) Companies/Organisations

ACCI	:	Alkali & Chemicals Corporation of India Limited
AOC	:	Assam Oil Company
BPCL	:	Bharat Petroleum Corporation Limited
BRPL	:	Bongaigaon Refinery & Petrochemicals Limited
B/Shell/BSM	:	Burmah 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.
HCL	:	Herdillia Chemicals Limited
HPCL	:	Hindustan Petroleum Corporation Limited
HIL	:	Hydrocarbons India Limited
IBPC	:	Indo-Burma Petroleum Company Limited
IPCL	:	Indian Petrochemicals Corporation Limited
IIP	:	Indian Institute of Petroleum
IPE	:	Institute of Petroleum Exploration
IOBL	:	Indian Oil Blending Limited
IOC	:	Indian Oil Corporation Limited
LIL	:	Lube India Limited
Lubrizol	:	Lubrizol India Limited
MRL	:	Madras Refineries Limited
OIL	:	Oil India Limited
ONGC	:	Oil & Natural Gas Commission
OPEC	:	Organisation of Petroleum Exporting Countries
TWOC	:	Tide Water Oil Company
PCL	:	Petrofils Cooperative Limited
NOCIL	:	National Organic Chemical Industries Limited
TIPCO	:	The Industrial Plastics Corporation Pvt. Ltd.
WIODC	:	Western India Oil Distributing Company Ltd.

(ii) Petroleum Products

ATF	:	Avitation 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): Gasolines, Naphtha, SBP Spirit/ Solvent Oils, Hexane, Benzene, Toluene, L.P.G., Refinery Gas and W.D. Mixture.

MIDDLE DISTILLATES : Kerosene, ATF/Jet-A1, Vaporising Oil, Aromex-Iomex, HSDO, LBO, LO and JDO Mineral Turpentine Oil, Chemisperse & LABFS.

(iii) Petrochemicals Products

CAMP	: Cellulose Acetate Moulding Powder
CBFS	: Carbon Black Feed-stock
DMT	: Dimethyl Teraphthalate
HDPE	: Polyethylene Resins & Compounds Low Pressure (High Density)
LAB	: Linear Alkyl Benzene
LDPE	: Polyethylene Resins & Compounds High Pressure (Low Density)
MEG	: Mono-Ethylene Glycol
MI Ketone	: Methyl Isobutyl Ketone
MF MP	: Malamine Fermaldehyde Moulding Powder
NSF	: Nylon Staple Fibre
NFY	: Nylon Filament Yarn
PSF	: Polyester Staple Fibre
PFY	: Polyester Filament Yarn
PF MP	: Phenol Formaldehyde Moulding Powder
PS	: Polystyrene
PP	: Polypropylene
PBR	: Polybutadiene Rubber
PVC	: Polyvinyl Chloride
SBR	: Styrene Butadiene Rubber
UFMP	: Urea Formal-dehyde Moulding Powder

(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 Petroleum 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 Visoosity Index
KL	: Kilometre
LR I	: Large Range I (45,000-79,999 dwt)
LR II	: Large Rante 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
Billion	: 10^9 or one thousand Million
Trillion	: 10^{12} or one million million
HV	: High Viscosity
P	: Provisional

METRIC UNITS

LINER

10	millimetre	= 1	Centimetre
10	Centimetres	= 1	decimetre
10	Decimetres	= 1	Metre
10	Metres	= 1	decametre
10	Decametres	= 1	Hectametre
10	Hectametres	= 1	Kilometre

AREA

100	sq millimetre	= 1	sq.centimetre
100	sq centimetres	= 1	sq decimetre
100	sq. decimetres	= 1	sq.Metre
100	sq. metres	= 1	sq. decametre
		= 1	Are
100	sq areas	= 1	sq. ares
		= 1	hectare
100	Hectares	= 1	sq. hectometre
		= 1	sq. kilometre

WEIGHTS

10	milligrams	= 1	centigram
10	centigrams	= 1	decigrams
10	decigrams	= 1	gram
10	grams	= 1	decagram
10	decagrams	= 1	hectogram
10	hectorgrams	= 1	kilograms
100	kilograms	= 1	quintal
1000	kilograms	= 1	matric 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.

L E N G T H

1 inch	=	25.4 millimetres(mm)
	=	0.0254 metre
1 foot	=	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 metre(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

A R E A

1 square inch	=	645.16 square millimetres (mm^2)
1 square foot	=	0.0929030 square metre(m^2)
1 square yard	=	9 square feet
	=	0.836127square metre(m2)
1 square metre	=	10,7639square feet
	=	1.19599 square yards
1 acre	=	4840 square metres (m^2)
	=	4046.86 sqyare metres(m^2)
	=	0.404686 hectares
1 hectare	=	10000 square metres(m^2)
	=	2.47105 acres
	=	0.01 square kilometre(km^2)
1 square kilmetre	=	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
1	Kilogram	= 2.20462 pounds
		= 0.01 quintal
1	hundreweight(cwt)	= 112 pounds
		= 50.8023 Kilgorams(kg.)
1	American(short)ton	= 2000 pounds
		= 0.907185 tonne
		= 0.892857 long ton
1	tonne(metric ton)	= 2204.62 pounds
		1 1000 kilograms(kg)
		= 1.10231 short tons
		= 0.984207 long ton
1	Imperial(long)ton	= 2240 pounds
		= 1.12 short tons
		= 1.01605 tonnes

ENERGY AND POWER

1	international table (IT) caloric	= 4.1868 Joules(J)
115	^{o}C caloric	= 4.1855 joules(J)
1	thermochemical Caloric	4.184 joules(J)
1	Kilocloric (IT)	= 1000 calories
		= 3.96832 British thermal units
		= 1.163 watt hours
		= 1 thermie
1	Kilowatt hour	= 3412.14 British thermal units
		= 859.845 kilocalories
		= 3.6 megajoules(MJ)
		= 1.34102 horse power hours
1	therm	= 100000 British thermal units(BTU)
		= 105.506 megajoules (MJ)
		= 29.3071 kilowatt hours
		= 25.1996 thermies
		= 25200 kilocalories
1	metric horsepower (Pferdestaerke or cheval vapeur)	= 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 horse power
1	Kilowatt	= 737.562 foot pounds force/second
		= 1.35962 metric horsepower
		= 1.34102 Imperial horsepower
		= 1000 watts.
1	BTU	= 0.252 Kilocalories
		= 1.055 Kilojoules

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
		=	0.219963 imperial gallons
		=	0.0353147 cubic foot.
1	hectolite	=	100 cubic decimetres(dm^3) or
		=	100 litres
1	American gallon	=	231 cubic inches
		=	3.78541 cubic decimetres or litre
		=	0.832674 Impeial 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
		=	1.20095 American gallon-litres
		=	0.160544 cubic foot
		=	0.028594 American barrel.
		=	0.00454609 cubic metre(m^3)
1	cubic foot	=	28.3168 cubic decimetres(dm^3)or
		=	7.48052 American gallongs litre.
		=	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
		=	42 American gallons
		=	34.9726 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
		=	25.3147 cubic feet
		=	6.28981 American barrels.
1	Kilolitre	=	1000 cubic decimetres(dm^3)orlitre
		=	6.28981 American barrels litre :
1	gross ton (shipping)	=	2.83168 cubic metres or 100 cubic feet ofpermanently enclosed space.
1	ton of liquified methane	=	approx. 16 barrels
		=	approx.1400 cubic metres of natural gas depending upon methane content.

(Vii)

PRODUCT CONVERSION FACTOR

(Coversion Factor from Volume to tonnes at Natural temp.)

PRODUCTS	Litres to Metric Tonnes	Tonnes Per K.L.	American barrels to Metric tonnes
1.	2.	3.	4.
Aviation Spirit 100/130	1421	0.7034	8.94
Aviation Spirit 114/145	1449	0.6901	9.11
Aviation Spirit 73 ON	1432	0.6983	9.01
Motor Spirit 79 ON	1427	0.7008	8.98
Motor Spirit 80 ON	1427	0.7008	8.98
Motor Spirit 93 ON	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
SBP/Alcohol Mixture	1414	0.7072	8.89
Methanol Mixture	1106	0.9042	6.96
Carbon Black Feed Stock	1134	0.8818	7.13
Carburetter Testing Fluid	1388	0.7205	8.73
Benzene	1131	0.8812	7.05
Toluene	1148	0.8711	7.19
Demineralised Water	1002	0.9930	6.30
S. Glass Kleanzit	1003	0.9970	6.31
Miscellaneous	1114	0.8977	7.01
Wax/P.Coke/Chemicals	1114	0.8977	7.01
Aromex	1221	0.8190	7.68

VOLUME PER METRIC TON OF PETROLEUM PRODUCTS

Products	Kilolitre - M^3	Imperial Gallons	U.S. Gallon	Barrel
1.	2.	3.	4.	5.
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	1.1494	252.415	293.522	6.988
Fuel Oil				
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

COVERSION FACTORS FOR DUTY REDUCTION FROM. 15° to 29.5° C

Product	Conversion Factor
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.C.	0.9879
8. Kerosene	0.9864
9. Light Diesel Oil	0.9887
10. Furance 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

PETROLUM SPECIFIC GRAVITYES

DEGREES A.P.I.	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	7.10	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	7.01
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	8.2-7.5
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

Calorific Value of Petroleum Fuels

PRODUCTS	Calorific Value of	
	K.Cal/Kg	BTU/Lb
Motor gasoline	11,200	20,160
Kerosine (Superior)	11,110	20,000
Kerosene(inferior)	10,950	19,700
ATF	10,910	19,650
HSDO	10,840	19,500
Fuel Oil light	10,300	18,540
Medium	10,110	18,200
Heavey	10,050	18,100
Crude Oil	10,170-10840	18,300-19500

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)

TO CONVERT ONE METRIC TONNE OF PETROLEUM PRODUCTS TO ONE TON OF OIL EQUIVALENT MULTIPLY BY

PRODUCT	MULLIPLIES
L P G	1.130
Naphtha	1.075
Aviation gasolines	1.070
Motor gasolines	1.070
Jet fuel	1.065
Kerosene	1.045
Gas/diesel	1.035
Residuel Fuel Oils	0.985
Others	0.960

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	1.3
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.C.; Refinery Fuel, LSHS HHS).	1 mt	2.0	2.0
Kerosene & LPG	1 mt	2.0	8.2
HSDO & IDO	1 mt	2.0	9.0
Motor Spirit & jet Fuel	1 mt	2.0	7.5
Natural Gas (9000 Kcal/kg)	$10^9 \times m^3$	1.8	3.6
Electricity	10^9 kwh	1.0	1.0

M = Million.
MT = Million Tonnes.

Approximate Calorific Equivalents
(Oil = 10,000 K Cal/Kg.)

1. Heat Units
One million tonnes of oil = 40 million BTUs
= 397 million therms
= 10,000 teracalories

2. Solid Fuels
One million tonnes of oil = 1.5 million tonnes of Coal
= 3.0 million tonnes of lignite.

3. Natural Gas (1 cub. ft.=1000 BTU) (1 cub meter=9000 K cal).
One million tonnes of oil = 1.111 thousand million cub metres (BCM)
= 39.2 thousand million cub. ft.

4. Town Gas (1 cub ft.=470 BTU) (1 cub meter=4200 Kcal)
One million tonnes of Oil = 24 thousand million cub. metres

5. Electricity (1 KWh=3412 Btu) (1 KWh=860 kcal) = 10 thousand million KWh

Heat Units and Others Expressed in Terms of Million Tonnes of Oil

		Million tonnes of oil (Approximate)
1. Heat Units		
10 million million Btu	=	0.25
100 million therms	=	0.25
10,000 teracalories	=	1.00
2. Solid Fuels	=	
1 million tonnes of coal	=	0.67
1 million tonnes of lignite approximates to	=	0.33
3. Natural Gas 1 thousand million cub. metres (BCM)	=	0.90
4. Town Gas 1 thousand million cub.metres (BCM)	=	0.42
5. Electricity 10 thousand million kWh	=	0.86

One million tonnes of oil produces about 4000 million units (kWh) of electricity in a modern power station.