



ANNUAL REPORT 2004-05



Government of India

Ministry of Petroleum & Natural Gas



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"SAVE OIL" Two-Wheeler Women's Rally at Delhi organised by PCRA

CHAPTER I



1. INTRODUCTION

1.1 The Ministry of Petroleum & Natural Gas is concerned with exploration & production of oil & natural gas (including import of Liquefied Natural Gas), refining, distribution & marketing, import, export and conservation of petroleum products. The work allocated to the Ministry is given in Appendix-I. The names of the Public Sector Oil Undertakings and other organisations under the Ministry are listed in Appendix-II.

1.2 Shri Mani Shankar Aiyar assumed the charge of Minister of Petroleum & Natural Gas w.e.f. 22.05.2004. Shri Ram Naik held the charge of this Ministry w.e.f. 13.10.1999 to 22.05.2004.

1.3 Shri S.C. Tripathi assumed the charge of Secretary, Ministry of Petroleum & Natural Gas on 01.07.2004. Shri B.K.Chaturvedi, worked as Secretary, Petroleum & Natural Gas from 02.04.2002 to 14.06.2004.

1.4 PRINCIPAL ACHIEVEMENTS

The important statistical data relating to the physical performance of the oil & gas sector is given in Appendix-III.

1.5 INDIA HYDROCARBON VISION – 2025

The India Hydrocarbon Vision – 2025 Report, which encapsulates Government's long-term policy for this sector, was developed by a Group of Ministers constituted for this purpose, consisting of Ministers of Petroleum, Finance and External Affairs and Deputy Chairman, Planning Commission. The Report was presented to the Prime Minister in March, 2000 and also placed on the Table of both Houses of Parliament. The long-term policy enunciated therein covers exploration, refining, marketing, infrastructure, gas and all other related matters in the hydrocarbon sector.

1.6 CRUDE OIL & NATURAL GAS PRODUCTION

During 2003-04, crude oil production in the country was 33.37 Million Metric Tonnes (MMT) and gas production was 31.96 Billion Cubic Metres (BCM) as against the production of 33.04 MMT of crude oil and 31.39 BCM of natural gas in 2002-03. Crude

oil production and natural gas production targets for 2004-05 are 33.64 MMT and 31.07 BCM respectively.

1.7 In the last three years, the Government has undertaken concerted efforts for enhancing "Energy Security". Tenth Five Year Plan formulated thereunder represented a paradigm shift over earlier plans in as much as exploration areas would be awarded through international competitive bidding in a deregulated scenario. Appraisal of 35% of the total sedimentary basins is targeted together with acquisition of acreages abroad and induction of advanced technology. The results of the initiatives taken since 1999 have begun to unfold.

1.8 ONGC-Videsh Limited (OVL), a wholly owned subsidiary of ONGC, is pursuing to acquire exploration acreages and oil/gas producing properties abroad. OVL has already acquired discovered/producing properties in Vietnam, Russia and Sudan. The production from Vietnam and Sudan is around 7.54 Million Metric Standard Cubic Meters Per Day (MMSCMD) of gas and 2,50,000 barrels of oil per day (BOPD) respectively. The Sakhalin-I project in Russia is under development stage. In addition to above, OVL is also having participating interests in one exploration block each in Iran, Myanmar, Iraq, Libya, Australia, Cote d' Ivoire, Syria, Qatar and Egypt. OVL's overseas reserves are about 82.56 MMT of oil and 116.47 BCM of gas as on 31.03.04. Oil & Gas production from abroad is about 3.868 MMT of oil equivalent.

1.9 New Exploration Licensing Policy (NELP) provides an international class fiscal and contractual



Minister of Petroleum & Natural Gas, Shri Mani Shankar Aiyar, inaugurating the Road Show in Delhi for the fifth offer of blocks for exploration of oil and natural gas under New Exploration Licensing Policy (NELP-V)

framework for Exploration and Production of Hydrocarbons. In the first four rounds of NELP, spanning 2000-2004, contracts for 90 blocks covering an area of about 9.0 lakh sq. km. have been signed and total area under exploration has gone up to 12,40,000 sq. km. Today, as much as 74% of the area under Exploration and Production belongs to the NELP Blocks. The exploration investment in the three phases covering these 90 blocks is about Rs. 19,050 crore, which is expected to substantially increase with discoveries of hydrocarbons. Within a short period, investment made in exploration as on September, 2004 has exceeded Rs. 4,275 crore in NELP blocks. What is more important is that 19 discoveries have been made, out of which gas discovery in Krishna Godavari (KG) basin, announced in October 2002 is the most significant with an initial estimated availability of 14 Trillion Cubic Feet (TCF) (390 Billion Cubic Meters) of gas.

Under the fifth round of NELP, 20 exploration blocks (i.e. 12 onland, 2 shallow water and 6 deepwater Blocks) covering an area of 1.15 lakhs sq.kms. have been offered.

1.10 COAL BED METHANE (CBM)

Coal Bed Methane is an environment friendly clean fuel similar to conventional natural gas. To give impetus to its Exploration & Production, Government has formulated a CBM policy. Contracts with PSUs/ Private Companies for 13 blocks under the two rounds of CBM policy and for 3 blocks on nomination basis have been signed for exploration & production of CBM. The estimated investment in these blocks is about Rs. 560 crore and estimated CBM resources amount to 850 Billion Cubic Meters (BCM). Commercial production of CBM from some of these blocks is expected to start in 2-3 years.

1.11 IMPORTS AND EXPORTS

The total quantity of Crude oil & Petroleum products imported during 2003-04 were 90.434 MMT and 7.897 MMT valued at Rs 83,528 crore and Rs 9,677 crore respectively. In the same period 14.620 MMT of Petroleum products valued at Rs 16,781 crore were exported.

During the first three quarters of the financial year 2004-05, 71.818 MMT valued at Rs. 85,695 crore of Crude oil and 5.610 MMT valued at Rs. 9,164 crore of Petroleum products have been imported and 13.025 MMT valued at Rs. 20,705 crore of Petroleum products have been exported.

There was an increase of 7.3% in quantity and 41.8% in value of crude oil imported during April to December, 2004 over the preceding year. Crude oil imported during April to December, 2003 amounted to 66.941 MMT valued at Rs. 60,450 crore vis-à-vis 71.818 MMT valued at Rs 85,695 crore during the period April to December 2004.

Product imports during April to December 2004 amounted to 5,610 TMT valued at Rs. 9,164 crore as compared to 5,896 TMT valued at Rs. 6,825 crore respectively during the corresponding period of year 2003-04. The change in import of products during April to December 2004 vis-à-vis imports during the corresponding period of preceding year was thus 4.65% lower in terms of quantity but there was a 34.3% increase in terms of value of the products imported. As far as export of petroleum products is concerned, this went up by 20.8% in terms of quantity and 74.4% in terms of value during April to December 2004 in comparison to the same period in the preceding year. The export of petroleum products went up to 13,024 TMT (valued at Rs. 20,705 crore) during April to December 2004 as compared to 10,780 TMT (valued at Rs. 11,872 crore) during the same period in the year 2003-04.

Petroleum products were exported to several countries including USA, Singapore, Iran, Brazil, Malaysia, Mexico, Sri Lanka, Japan etc.

During the year 2004-05, the public sector refineries purchased crude oil on term contract and spot basis. The countries from where term contract purchases were made included Saudi Arabia, Kuwait, UAE, Iran, etc.

1.12 STRATEGIC STORAGE OF CRUDE OIL

Availability of oil is vital for all countries. Oil Security is of particular concern for the countries like India with high oil import dependency, at present over

70%. The gap between domestic crude availability and demand for crude indicates the vulnerability of the Indian economy to oil imports. At present, about 67% of India's crude oil imports come from the Middle East region. The general political instability in this region is a further cause of anxiety from the oil supply security perspective.

Taking into account the oil security concern of India, the Government has decided to set up a 5 million metric tonne (MMT) of strategic crude oil storage at various locations in the country. This strategic storage would be in addition to the existing storage of crude oil and petroleum products with the oil companies and would provide an emergency response mechanism in case of short-term supply disruptions. The proposed facility would be managed by Indian Strategic Petroleum Reserve Limited (ISPRL) a Special Purpose Vehicle, owned by IOC.

The proposed Strategic Crude Oil Storage would be in underground rock caverns / concrete structures and is projected to come up in a period of around four years. It is estimated that the total capital cost for construction may be around Rs.1,650 crore and annual operating cost around Rs. 40 crore. Further, an amount of Rs. 5,000 crore may be required for purchasing 5 MMT of crude oil. The financing mechanism of the project is being finalised.

1.13 INTERNATIONAL ENERGY FORUM SECRETARIAT (IEFS)

India is a member of the International Energy Forum (IEF) which provides a platform for biennial meetings of the Ministers from the energy producing and consuming countries. This forum was earlier known as "Producer-Consumer Dialogue" between the oil producing and consuming Countries. The permanent secretariat of the IEF is in Riyadh. The mission of the secretariat is to further strengthen and enhance the process of global dialogue on energy at the political level. The Ministerial dialogue in the IEF has its focus on security of energy supply and

demand, as well as on the links between energy, environment and economic development.

At present, India is also a member of the Executive Board (EB) of IEF. The total membership of EB is 15 viz. 13 member countries, OPEC and IEA. Besides India, the other member countries are Saudi Arabia, Iran, China, Norway, Russia, Mexico, Venezuela, Qatar, Japan, The Netherlands, Italy and South Africa.

1.14 ROUND TABLE CONFERENCE IN NEW DELHI

MOP&NG organised a one-day Round Table conference of Ministers of Principal oil buying and selling countries in Asia in New Delhi on 6th January, 2005 with a view to furthering regional cooperation in the oil economy. The theme of the round table was stability, security and sustainability through mutual interdependence.

Asia has emerged as a major oil consumption centre, with the present consumption being around 40% of total world consumption of around 82 million barrels per day. 64% of West Asian crude supplies came to Asia during 2003. As Asia is projected to continue to be the dominant consuming centre in the next 20/25 years and West Asia is projected to be a major supplier of crude, the interdependence between the two cannot be overstated.

The round table was attended by the Ministers from Saudi Arabia, Iran, Kuwait, Malaysia, Oman, UAE, Qatar and Japan. Besides these countries, delegations from China, Korea, OPEC (oil producing & exporting countries), IEA (International Energy Agency) and IEF (International Energy Forum) participated. The Round Table was a grand success and helped in a clearer understanding of the producing and consuming countries' views on various aspects of Asian Oil and Gas Economy. There was a broad consensus on the need of mutual cooperation between the Asian countries in the oil and gas sector. It was also agreed to maintain the instrumentality of Round Tables, with the next Round Table to be hosted by Saudi Arabia within the next one year.

On the sidelines of the conference, Minister (P&NG) had bilateral meetings with the Ministers / heads of the delegations from different participating countries for furthering mutual cooperation in the hydrocarbon sector.

On the basis of the bilateral meetings with different countries, action points were identified for pursuing various issues and further action is being taken accordingly.



A view of BPCL's Refinery Modernization Project

1.15 REFINING CAPACITY

The domestic refining capacity as on 01.04.2004 was 127.37 Million Metric Tonnes Per Annum (MMTPA). Availability of petroleum products during 2004-05 from domestic refineries and non-refineries was adequate to meet the domestic demand except for Liquefied Petroleum Gas (LPG). In fact, the availability of products like petrol, diesel and Aviation Turbine Fuel (ATF) was in excess of the domestic requirements and such products were exported during the year.

1.16 NATIONAL AUTO FUEL POLICY

In line with the road map laid down in the Auto Fuel Policy, the Oil Public Sector Undertakings (PSU) are implementing quality upgradation projects to supply Euro-III equivalent fuel in metros/identified cities by April, 2005 and in the rest of the country by April, 2010. The proposed schedule for introduction of Euro-III equivalent norms in the entire country from 01.04.2010, is subject to review in the year 2006 after the introduction of Bharat Stage-II norms in the entire country and Euro-III equivalent norms in identified cities with effect from 01.04.2005.

1.17 CONSERVATION OF PETROLEUM PRODUCTS

Oil and gas conservation is an important part of the country's energy management strategy primarily because domestic production of these resources is far below demand. As energy consumption is projected to grow at a high annual rate in coming years to meet the needs of the country's growing economy, our oil imports will grow from the current level of 70% to about 85% in the

next 10-15 years. In order to ensure the country's energy security in a deficit scenario, efforts are required to increase the availability of oil and gas through intensified exploration and production within the country and outside to bridge the widening supply-demand gap.

India is at present one of the least energy efficient countries in the world with identified scope of reducing energy consumption by 20%-30% in all major sectors through conservation measures. As there are millions of consumers in the country, any savings achieved by individual consumers will cumulatively amount to large quantities and obviate the need to produce or import equivalent amount of new energy on a recurring basis.

Increasing use of petroleum products is also responsible for environment pollution. Deteriorating ambient air quality in the urban areas due to polluting emissions from transport vehicles has been a matter of grave concern in recent years. Apart from better quality fuels, improved combustion efficiency through effective conservation techniques would minimize this hazard and protect the environment.

In order to create awareness on the importance and need for conservation through efficient utilization of petroleum products among consumers and assist them in this regard, Petroleum Conservation Research Association (PCRA) was

set up as a registered society under the Ministry of Petroleum and Natural Gas in 1978. Its mandate was to promote conservation of petroleum products in the major consuming sectors of transport, industry, households and agriculture through direct technical assistance, R&D, educational and training programmes and mass awareness campaigns.

PCRA has been active in energy conservation awareness campaigns and energy services for more than two & half decades in the major economic sectors of transport, industry, agriculture and households. Starting with just petroleum conservation, PCRA's activities now cover conservation of all energy sources, development, evaluation and commercialization of efficient equipment and additives, popularizing petro-crop cultivation and production of bio fuels, environment protection and a host of other activities.

PCRA's sector specific activities include energy audits and institutional training programmes for industries, specially designed driver training programmes for transport including State Transport Undertakings (STUs) and other large fleet operators, Defence Services, model depot studies for STUs, emission control and good driving habits for motorists. Similarly PCRA helps farmers, both financially and technically, to improve the efficiency of their lift irrigation pump sets. As the results of PCRA's efforts depend largely on voluntary compliance with conservation techniques and practices, educating and motivating the concerned target groups is a big task. This is achieved through various mass media campaigns, seminars, training programmes, printed literature, essay and quiz competitions etc.

1.18 HYDROGEN AS AN AUTO FUEL

Use of hydrogen (H_2) as an auto fuel has generated global interest. To reduce dependence on traditional fuels, the US has proposed \$ 1.2 billion for research for developing clean hydrogen powered automobiles and the European Union has committed \$ 3.56 billion. H_2 does not occur naturally in a free state in large quantities and the economics of hydrogen fuel cell technology is a major hurdle to its commercialization.

In June 2003, Ministry of Petroleum & Natural Gas decided that IOC (R&D) may constitute a dedicated team to work on hydrogen fuel, inducting persons from other organisations to prepare a road map for 2 years for petroleum & gas sector covering work in identified areas such as production of hydrogen from various sources and its storage, organise large scale demonstration trials by 2008 in collaboration with vehicle manufacturers and to set up hydrogen dispensing stations.

For development of hydrogen as a fuel, the Ministry of Petroleum & Natural Gas has set up a Hydrogen Corpus Fund with contribution from five major oil companies and OADB. A roadmap has been set up by IOC (R&D), the nodal agency for the hydrogen research project, for hydrogen production, dispensing, storage applications and its utilization in scooters, 3 wheelers and buses.

The first meeting of the proposed H_2 group was held under the chairmanship of Secretary, P&NG on 20.09.2004 in which shares of each company and OADB's contribution towards the proposed Hydrogen Corpus Fund, two tier system to manage the R&D projects (a Technical Committee and a Steering Committee), designation of IOC (R&D) as the nodal agency for receiving project proposals for funding, involvement of Scientific Advisory Committee of the Ministry in projects on hydrogen, were discussed and decided. IOC, R&D have prepared a Draft Feasibility Report for Hydrogen Research Activities in Oil and Gas Sector. This also contains a project worth Rs. 25 crores (approx) on the use of hydrogen - CNG (10-30%) mixture in automotive vehicles, which is under examination.

1.19 BIO-DIESEL

Bio-diesel is a chemically treated vegetable oil/ animal fat which can be mixed with conventional diesel to be used as a transport fuel. Both edible oils as well as non-edible oils can be used. While in countries abroad, rape seed oils, soya oils etc. are used, in India, it is extracted from the seeds of trees like Mahua, Karanja, Kusum as well as Rubber-seed, Mango Kernel, Jatropha etc. Many of these plants can be grown in waste and degraded lands.

The oil marketing companies are experimenting with blending of bio-diesel in diesel in collaboration with State Governments in the transport sector and the automobile industry. BIS has already amended the specifications of diesel to permit blending of bio-diesel in it.

The Planning Commission brought out a Report on Bio-Fuel in 2003. The report has proposed launching of a National Mission on Bio-Diesel, which, inter alia, includes plantation of Jatropha on a large scale, collection of seeds, extraction of oil, transesterification of the oil so extracted and its marketing. The Ministry of Rural Development has been made the nodal Ministry to implement it and they have appointed The Energy and Resources Institute (TERI) to prepare a Detailed Project Report (DPR). A Detailed Draft Project Report (DPR) has been prepared by TERI which, after acceptance by the sponsoring Ministry in consultation with other stake-holder Ministries/Departments in the Government, will be considered by Planning Commission for support.

The Ministry of Petroleum & Natural Gas, on its part, is committed to promote use of bio-diesel in diesel when bio-diesel becomes commercially available from indigenous sources under the National Mission.

1.20 IMPLEMENTATION OF ETHANOL-BLENDED PETROL PROGRAMME

To reduce dependence on imported oil by way of encouraging use of indigenous sources of energy, the Ministry of Petroleum & Natural Gas had notified the scheme of supplying 5% ethanol-blended petrol (EBP) in 9 States and 4 UTs w.e.f. 1.1.2003. In terms of the Notification, only 5% ethanol-blended petrol was required to be supplied by Oil Manufacturing Companies in these 9 States and 4 Union Territories. However, procurement of ethanol remained a problem due to complex tax structure and its limited availability. As such, the original Notification had to be modified from time to time to allow more lead time to companies for such coverage. By May, 2004, out of the notified 9 States, the programme had been fully implemented in 7 States and partially in 2 States. Similarly out of 4 Union Territories, 3 Union Territories had been fully covered by end of 2003

while one of them remained totally uncovered, being linked with the State of Tamil Nadu where the programme had been implemented only in 9 districts out of a total of 23 districts. Due to adequate availability of ethanol in the State of Uttar Pradesh, the State of Uttaranchal was also covered with its sale w.e.f. 01.01.2004.

Since late 2003 and in 2004, the Oil Manufacturing Companies reported short supply of ethanol in the States of Maharashtra, Goa, Gujarat, Karnataka and Andhra Pradesh. Also, difficulties were reported in finalising tenders for future supply of ethanol in Uttar Pradesh and Uttaranchal. The prices of ethanol were marginally higher than the import parity price of petrol from the very outset. But after the reported short supply, the rates of ethanol went up considerably. Thus, both sourcing of ethanol and its availability at reasonable rates became very difficult.

Under these circumstances, the Ministry of Petroleum & Natural Gas issued an amending Notification on 27.10.2004, in supersession of all earlier Notifications on the subject, making sale of ethanol-blended petrol mandatory if :

- (a) The price of sourcing indigenous ethanol for supply of ethanol-blended petrol is comparable to the price of indigenous ethanol for alternative uses,
- (b) The delivery price of ethanol at the locations is comparable to the import parity price of petrol at that location, and
- (c) The indigenous ethanol industry is able to maintain uninterrupted supply of ethanol for ethanol-blended petrol programme at such prices.

The oil marketing companies have invited tenders for procuring ethanol in terms of the Gazette Notification dated 27.10.2004. The Ministry of Petroleum & Natural Gas has been monitoring the progress of implementation of the ethanol blended petrol programme on a fortnightly basis. An Inter-Ministerial Task Force has been constituted under chairmanship of Additional Secretary (P&NG) with representatives of the Department of Food and Public Distribution, Department of Chemicals &

Petrochemicals, Ministry of Panchayati Raj, Planning Commission etc., so that all stake-holders in the ethanol blended petrol programme can have a common platform to oversee the implementation of the programme.

1.21 PLAN OUTLAY

The revised Plan Outlay of PSUs of Ministry of Petroleum & Natural Gas for the year 2004-05 is Rs. 24,615.12 crore and Budget Estimate for the year 2005-06 is Rs. 29,623.48 crore. These outlays will be met from internal and extra budgetary resources of the Public Sector Undertakings.

1.22 EARNINGS OF OIL PUBLIC SECTOR UNDERTAKINGS

The profit before tax and the profit after tax made by the Public Sector Undertakings in the oil sector during 2003-04 were Rs. 36,649.50 crore and Rs. 24,395.49 crore respectively. The profit before tax and the profit after tax for 2004-05 is expected to be about Rs. 33,716.32 crore and Rs. 21,793.55 crore respectively.

1.23 LPG MARKETING BY PUBLIC SECTOR OIL MARKETING COMPANIES (OMCs)

Four Public Sector Oil Marketing Companies (OMCs) viz., Indian Oil Corporation Limited, Bharat Petroleum Corporation Limited, Hindustan Petroleum Corporation Limited and IBP Co. Limited are engaged in marketing of LPG in the country. With increased availability of LPG, the number of LPG customers enrolled by them has also been increasing. The number of LPG customers served by them, as on 1.1.2005, was about 823 lakh through their network of 8,808 LPG distributors.

Consequent upon liquidation of LPG waiting list in urban areas and availability of new LPG connections across the counter, in existing markets throughout the country, OMCs had set the target for release of about 63 lakh new LPG connections during financial year 2004-05 with a thrust on smaller towns/rural areas which were hitherto virgin markets. Earlier, Government had also envisaged setting up of about 540 exclusively rural distributorships under Marketing Plan of 1996-98

and 700 more distributorships at Block/ Tehsil level. OMCs have already commissioned 535 distributorships. During April-December 2004, OMCs have released about 51 lakh new LPG connections and commissioned nearly 462 distributorships.

1.24 PARALLEL MARKETING SCHEME (PMS) OF LPG & SKO

In order to increase the availability of LPG and Kerosene (SKO) and to foster competition, the private sector was allowed to participate in the scheme of parallel marketing of LPG and Kerosene in April 1993 by decanalising imports of these petroleum products. Under the scheme, a private party can undertake import of LPG and Kerosene after obtaining a rating certificate from one of the approved rating agencies given in the LPG (Regulation of Supply and Distribution) Order, 2000 and Kerosene (Restriction on Use and Fixation of Ceiling Price) Order, 1993. These products are to be sold at market-determined prices by the private parties. LPG imports during 2004-05 (upto 31.12.2004) have been about 181.2 TMT against about 166.1 TMT during the same period last year.

Recently Government have authorized ONGC, GAIL & RIL to market their seasonally surplus LPG through parallel marketing system or directly, subject to the condition that the sale of Bulk LPG would not be more than 20% of total sale of LPG. RIL and MRPL have also been allowed to sell their surplus SKO production in the open market.

1.25 MARKETING OF 5 KG LPG CYLINDERS BY OMCs

PSU Oil Companies had launched 5 Kg cylinders on 16th August 2002 at Shimla, Himachal Pradesh. Since then, the scheme has been expanded to all other States as per demand.

Basic purpose for launching 5 Kg cylinder was that the small size LPG cylinder in the domestic sector will help in fulfilling the demand of low income groups in urban, semi-urban and rural pockets and also extend its reach to hilly terrain and interior areas on account of convenience in transportation. The LPG connection with 5 Kg domestic cylinder

in terms of deposit of Rs. 350/- per cylinder and low cost of refills costing approximately Rs. 90/- is affordable for the low income groups. This will also help in meeting the requirement of economically weaker sections of the society for LPG refills and help in restricting deforestation, ensuring a pollution free, happy and healthy environment.

During April-December, 2004, OMCs have released approximately 81,862 number of 5 Kg connections.

1.26 LPG AS AUTO FUEL

Government has permitted use of LPG, being a clean and environment friendly fuel, as an auto fuel. For this purpose, MOP&NG along with other concerned Ministries/departments has formulated necessary Legislative and Regulatory framework for the safe usage of LPG as an automotive fuel.

Hon'ble Supreme Court has mandated conversion of old vehicles to LPG/CNG in cities which are equally or more polluted than Delhi and as per Hon'ble Court, the critically polluted cities are Ahmedabad, Agra, Bangalore, Chennai, Hyderabad, Kanpur, Kolkata, Lucknow, Mumbai, Surat, Sholapur and Pune.

Public Sector Oil Companies had initially identified 228 Locations for setting up of Auto LPG Dispensing Stations in various Metros and some other major cities. However, in view of directive of the Hon'ble Supreme Court classifying the cities into three categories, oil marketing companies are at present primarily concentrating on category-I and category-II cities and as on 1st January, 2005 have commissioned 99 ALDS out of about 159 planned in 16 cities and balance ALDS would be commissioned in a phased manner.

Auto LPG pricing is market determined and there is no subsidy on Auto LPG. At present, about 13 manufacturers of Conversion kits for 4 Wheeler vehicles and about 11 manufacturers of Conversion kits for 3 Wheeler vehicles have been approved by various Testing Agencies like ARAI Pune, VRDE Ahmednagar & IIP Dehradun.

1.27 LPG PIPELINE

GAIL have mechanically completed 1.1 MMTPA capacity Vizag-Secunderabad LPG Pipeline in

August 2003 at a capital cost of Rs.490.65 crore. The entire pipeline was commissioned on 21st July 2004 after getting the required quantity of LPG from oil marketing companies.

1.28 NATURAL GAS PIPELINE

Dahej-Vijaipur Pipeline : GAIL commissioned 610 Km Dahej-Vijaipur pipeline at a capital cost of Rs.1800 crore on 31st March 2004 to transport regassified LNG from Dahej LNG terminal of Petronet LNG Limited.

1.29 SIGNING OF MOU WITH MYANMAR FOR IMPORT OF NATURAL GAS

In order to pursue the policy of 'Energy Security', Minister (P&NG) led a delegation to Myanmar from 11-13th January, 2005 to attend a tripartite meeting between Myanmar-Bangladesh-India to discuss the issues relating to import of natural gas from Myanmar through an onland pipeline via Bangladesh to India. The tripartite meeting was held at the initiative of His Excellency, Minister of Energy, Government of Myanmar. The tripartite meeting was held in a very cordial and positive atmosphere. The discussions culminated in signing of an MoU between Government of India and Government of Myanmar which would pave way for import of natural gas from Myanmar to the gas starved Eastern States of India. At the end of the Summit, a Joint statement was issued by India, Bangladesh and Myanmar, expressing their willingness to consider the proposed Myanmar-Bangladesh-India Pipeline in the interest of the people of three countries.

1.30 GAS PIPELINE POLICY

Under the existing policy, any entity can set up gas transmission and distribution networks without any Authorization/license from the Government. Natural gas/LNG is under Open General Licence (OGL) and 100% Foreign Direct Investment (FDI) is permitted for natural gas pipeline projects. However, as natural gas pipelines are highly capital intensive projects, they are considered natural monopolies and, therefore, the Government proposes to regulate them. Based on the feedback received from various stakeholders, including major domestic and international oil and gas companies, different Chambers of Commerce and Industries,

State Governments, etc., and after inter-ministerial consultations, the Government proposes a Pipeline Policy which envisages the development of a nation-wide gas grid in a competitive environment, involving both the public sector and private sector, under the overview of a Regulator. The Pipeline Policy aims to encourage competition, efficiency and greater investment in this sector, all of which will ultimately benefit the consumer and the economy in general.

1.31 INDO - IRAN COOPERATION IN GAS SECTOR

The gas sector cooperation with Iran is being pursued bilaterally between Government of India and Government of Islamic Republic of Iran to examine all the three options of gas trade i.e. Deep Water Gas Pipeline, Overland Gas Pipeline and LNG. Recently a high level delegation led by Minister(P&NG) visited Iran to hold 'conversations without commitment' with the Iranian side to discuss the issue of import of natural gas through an onland pipeline via Pakistan and import of LNG. During the meeting between the Prime Minister Dr. Manmohan Singh and President Musharaf in New York on 24.9.2004, the issue of gas pipeline via Pakistan was discussed in the larger context of expanding trade and economic relations between the two countries. Minister (P&NG) proposes to discuss this matter with his counterpart in Pakistan.

With regard to import of LNG from Iran, an agreement has been recently reached with Iran for import of 5 MMTPA of LNG with a provision for additional quantity of 2.5 MMTPA.

The Government has recently approved this Ministry's proposal for pursuing various transnational gas pipelines proposals.

1.32 LIQUEFIED NATURAL GAS (LNG) IMPORT INITIATIVES

At present there is acute shortage of Natural Gas in the country. As against allocation of 119 MMSCMD, the supply is only 67 MMSCMD. Import of LNG is one of the feasible options to bridge the gap between the demand and supply in short to medium term.

Petronet LNG Limited (PLL), a JV promoted by GAIL, IOCL, BPCL and ONGC was formed for import of LNG to meet the growing demand of natural gas. PLL has constructed a 5 MMTPA capacity LNG terminal at Dahej in Gujarat. The terminal was commissioned in February 2004 and commercial supplies commenced from March 2004. PLL is undertaking expansion of this terminal to 10 MMTPA capacity to meet the growing demand of LNG.

Shell's 2.5 MMTPA capacity LNG terminal at Hazira is also expected to be commissioned by the first quarter of 2005. PLL Board has taken a decision to construct a 2.5 MMTPA LNG terminal at Kochi in Kerala. Dabhol LNG terminal may also become operational in next 2-3 years time subject to resolution of various legal and financial disputes. LNG terminals at Mangalore in Karnataka and Ennore in Tamil Nadu are also under active consideration and may fructify in next 4-5 years time.

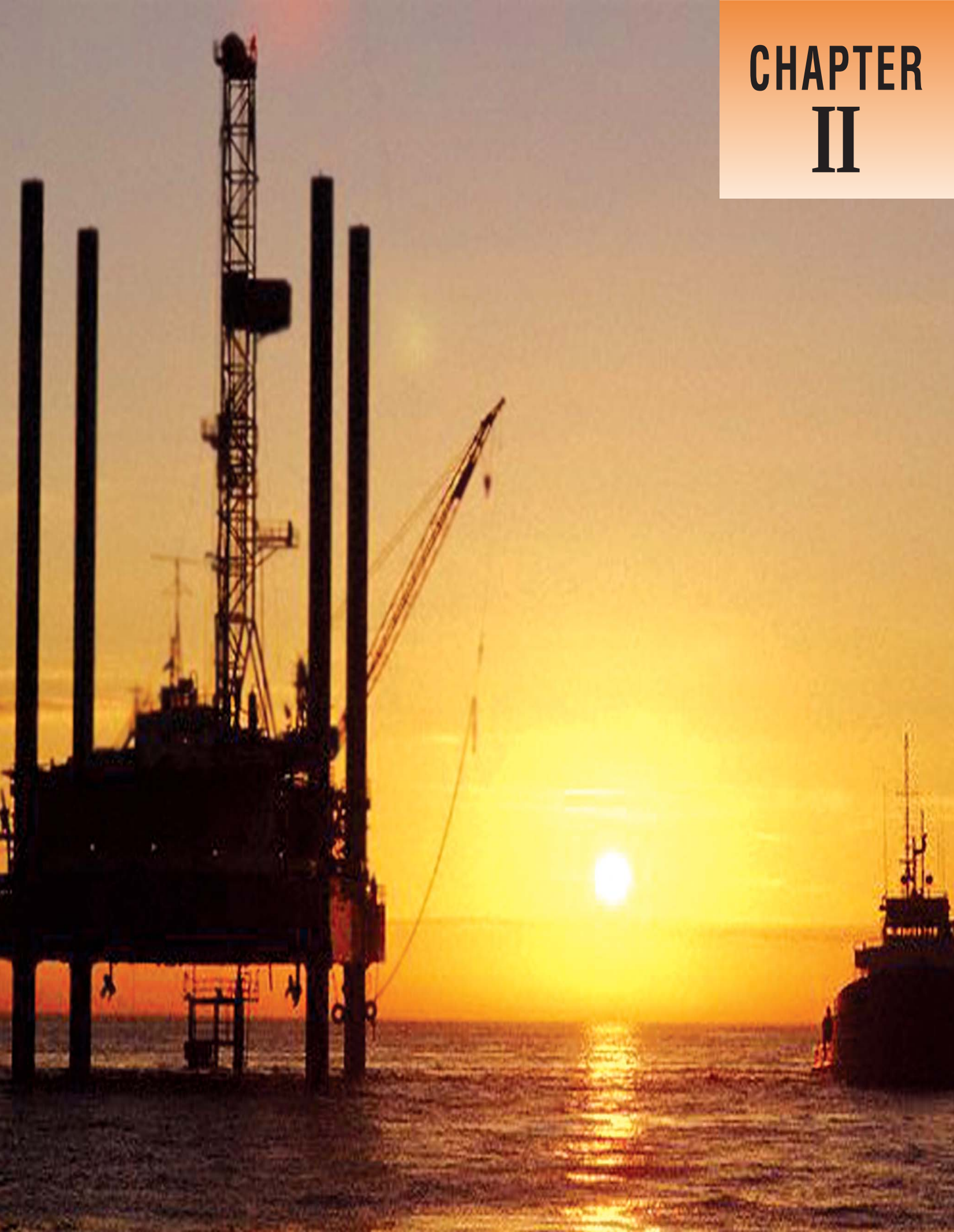
1.33 SUPPLEMENTARY GUIDELINES FOR LAYING PETROLEUM PRODUCT PIPELINES

In a major decision towards deregulation of oil sector and to attract investment in the petroleum product pipelines, in November, 2002, Government had laid down a new Petroleum Product Pipeline Policy for laying pipelines in the country on common carrier principle. Guidelines for laying petroleum product pipelines were notified on 20.11.2002. Supplementary guidelines in this regard have also been notified on 26.10.2004.

1.34 RO DEALERSHIPS/ LPG DISTRIBUTORSHIPS/ SKO-LDO DEALERSHIPS COMMISSIONED

The number of retail outlet dealerships (petrol pumps), LPG distributorships and SKO-LDO dealerships set up by the Oil Marketing Companies during the year 2004-05 (April-December, 2004) were 2,283, 470 and 30 respectively. 776 retail outlets, 126 LPG distributorships and 2 SKO-LDO dealerships are likely to be established during the period January-March 2005.

CHAPTER II



2. EXPLORATION AND PRODUCTION

2.1 CRUDE OIL & GAS PRODUCTION

2.1.1 Oil and Natural Gas Corporation Limited (ONGC) and Oil India Ltd. (OIL), the two National Oil Companies (NOCs), and private and joint-venture companies are engaged in the Exploration and Production (E&P) of oil and natural gas in the country. Crude oil production during 2003-04 was 33.37 MMT by ONGC, OIL and Private/JV companies. Crude oil production target for 2004-05 is 33.64 MMT.

The gas production during the year 2003-04 was 31.96 BCM from ONGC, OIL and private/JV companies. The gas production target during 2004-05 is set at 31.07 BCM.

2.1.2 Measures taken to enhance hydrocarbon reserves and increase production are :

- i) Major thrust on exploration in the frontier areas like deep water and other geologically and logistically difficult areas and also ensuring continuation of exploration in the existing and unexplored areas.
- ii) Development of new fields and additional development of the existing fields through implementation of Improved Oil Recovery (IOR) and Enhanced Oil Recovery (EOR) projects in major fields and medium size fields. These projects are being implemented by ONGC & OIL.
- iii) Implementation of specialized technologies like extended reach drilling, horizontal drilling and drain hole drilling.
- iv) Obtaining the services of international experts whenever considered necessary.
- v) Maintenance of reservoir health through work-over operations and pressure maintenance methods.
- vi) Better reservoir delineation through three dimensional (3D) seismic survey of old fields.
- vii) Optimization and redistribution of water injection.

viii) Infill drilling in the unswept areas of the reservoirs.

2.1.3 Consequent upon liberalization of the petroleum sector, Government of India is encouraging participation of foreign and Indian companies in the exploration and development activities to supplement the efforts of national oil companies to narrow the gap between supply and demand. A number of contracts have been awarded to both foreign and Indian companies for exploration and development of fields on production sharing basis.

2.1.4 Since 1991, Government of India has been inviting bids on a regular basis with several rounds of bidding carried out till operationalisation of New Exploration Licensing Policy (NELP).

After the operationalisation of NELP under the first four rounds, Production Sharing Contracts (PSCs) for 90 blocks have been signed. Further, the fifth round of NELP (NELP-V) was opened on 4th January, 2005 for International bidding by offering 20 exploration Blocks i.e. 12 onland Blocks, 2 shallow offshore Blocks and 6 deepwater Blocks. The bid closing date is 31st May, 2005.

2.2 STRATEGY OF X PLAN

During X Plan, strategy identified for E&P activities includes :

- i) Accelerated exploration efforts in deepwater areas.
- ii) Optimisation of production of crude oil and natural gas from domestic basins and existing fields.
- iii) An optimal mix of intensive exploration with main thrust in producing areas and extensive exploration in other areas including frontier areas and deep waters for increasing the reserve base.
- iv) Improvement of recovery factor in major fields.
- v) Emphasis on quality of exploration for enhanced success.
- vi) Acquisition of equity oil abroad.
- vii) Exploration of Coal Bed Methane.
- viii) Efforts to exploit the potential of gas hydrates and Underground Coal Gassification (UCG).

2.3 ACQUISITION OF EQUITY OIL ABROAD

Considering the oil demand scenario vis-à-vis domestic production level, Government is encouraging oil sector PSUs to venture abroad to access exploration blocks and oil producing properties for equity oil either on its own or through strategic alliances/joint ventures. OVL has already acquired discovered/producing properties in Vietnam (gas field-45% share), Russia (oil & gas field-20% share) and Sudan (oil field-25% share). The production from Vietnam and Sudan is around 7.54 Million Metric Standard Cubic Meters Per Day (MMSCMD) of gas and 2,50,000 Barrels of Oil Per Day (BOPD) respectively. The Sakhalin-1 project in Russia is under development stage. In addition to above, OVL is also having participating interests in one exploration block each in Iran (40% share), Myanmar (20% share), Iraq (100% share), Libya (49% share), and Syria (60%). By acquiring 4 more exploration blocks during 2004-05 in Australia, Cote d' Ivoire, Egypt and Qatar, OVL has presence in 12 countries.

2.4 NEW EXPLORATION LICENSING POLICY (NELP)

Government has formulated New Exploration Licensing Policy (NELP) to accelerate and expand exploration of oil and gas in the country. So far, Government has invited four rounds of bidding under NELP. Contracts for a total of 90 exploration blocks have been signed in these rounds. Till September 2004, a total investment of about Rs. 4,275 crore has been made in these blocks by private companies/ NOCs. NELP has been able to achieve its objective of expanding and accelerating exploration especially in deep water areas. Exploration under NELP has shown very positive results with big gas discoveries in Krishna Godavari and North East Coast basins and oil/ gas discoveries in Cambay basin. In order to give a further push to its exploration efforts, the fifth round of NELP (NELP-V) was opened on 4th January, 2005 for International bidding by offering 20 exploration Blocks i.e. 12 onland, 2 shallow offshore and 6 deepwater Blocks. The bid closing date is 31st May, 2005.

2.5 COAL BED METHANE (CBM) POLICY

In order to explore and produce new sources of natural gas from coal bearing areas, Government had formulated a CBM policy providing attractive fiscal and contractual framework for exploration and production of CBM in the country. Government has signed contracts for 16 blocks in the states of Jharkhand, Madhya Pradesh, Chhattisgarh, Maharashtra, Rajasthan, Gujarat and West Bengal for exploration and production of Coal Bed Methane (CBM) which is an environment friendly fuel. More CBM blocks have been identified for offering in the third round of CBM. Data generation/compilation and block delineation is in progress for these blocks. Additionally, CBM blocks are being identified for offering in the third round of CBM.

2.6 OIL AND NATURAL GAS CORPORATION LTD. (ONGC)



Oil & Natural Gas Commission was established on 14th August, 1956 as a statutory body under Oil & Natural Gas Commission Act, for the development of petroleum resources and sale of petroleum products. As per the decision of the Government, ONGC was converted into a Public Limited Company under the Companies Act, 1956 and named as "Oil and Natural Gas Corporation Limited" with effect from February 1, 1994. The Government disinvested around 10% of the equity shares of ONGC in March 2004 through a public offer in the domestic capital market at Rs. 750 per share. After the above disinvestment, the shareholding of the Government in ONGC came down to around 74.15%. At present, the authorized share capital of ONGC is Rs. 15,000 crore and paid-up equity capital is around Rs. 1,426 crore.

2.6.1 Highlights for the Year 2004-05 (up to December 2004)

- Project "Sagar Sammriddhi" for deepwater exploration is in progress. First well G-4-2 is gas bearing.
- Sagar Vijay and two charter hired deepwater drilling rigs (Belford Dolphin & Transocean Discoverer) are engaged in drilling deepwater locations.

- Exploratory efforts resulted in some significant leads.
- ONGC bagged 37 exploration blocks out of 79 blocks offered by Government of India in NELP I, II and III bidding rounds. ONGC & ONGC JVs obtained 15 out of the 21 blocks offered in NELP-IV.
- Four out of 12 IOR/EOR Projects in onland Assets, for augmenting recovery of oil & gas in onshore, have been commissioned; total Rs. 2,130 crore being invested to add over 44 million tonnes producible reserves.
- Four projects including Mumbai High under implementation in offshore for augmenting recovery, total Rs. 8,842 crore being invested to add 69 million tonnes producible reserves. One project has been successfully completed.
- In Frontier Basins, drilling has been undertaken in Himalayan Foothills at Hamirpur-1.
- In Bengal Basin, drilling of well GBAA has given gas indication.
- As per the MOU, ONGC and Coal India Ltd. (CIL) have planned to carry out joint CBM

activities in the two nomination PEL blocks, Jharia & Raniganj.

- ONGC & IOC consortium got 2 CBM blocks (Bokaro and North Karanpura) under first CBM bidding round.
- ONGC received 5 Blocks in CBM-II round out of the 9 Blocks offered.
- Acquisition of 71.62% of MRPL's share making MRPL a subsidiary of ONGC w.e.f. 30.03.2003.
- 23% equity at a cost of Rs 38.341 crore acquired in Petronet Mangalore-Hassan-Bangalore pipeline.
- Promoter of Petronet LNG (PLL) with 12.5% stake (Investment 100 crore). PLL has completed the construction of India's first LNG Terminal at Dahej in time and commercial sales of re-gassified LNG have commenced.
- ONGC invested in 21.5% of equity capital of Pawan Hans Helicopters Ltd (PHHL) which provides helicopter services.
- C2-C3 & LPG recovery plant is being set up at Dahej at a cost of Rs 900.92 crore.



Presentation of final dividend cheque for the year 2003-04 from ONGC

2.6.2 Physical Performance during 2003-04 & 2004-05

		2003-04 Actual	2004-05 BE/MOU	2004-05 Actual upto 31.12.04*
Seismic Survey				
Onland Offshore	2D (GLK)	2,686	2,678	1,379.23
	3D (Sq. Kms.)	1,470	1,336	1,258.33
	2D (GLK)	3,307	2,500	14,377.08
	3D (Sq. Kms.)	18,421	14,620	9,513.26
Drilling				
Exploratory	Meterage ('000m)	324.79	499.91	223.232
	Wells (Nos.)	124	178	78
Development	Meterage ('000m)	412.72	413.16	288.691
	Wells (Nos.)	197	182	128
Total (Expl. + Dev)	Meterage ('000m)	737.51	913.07	511.923
	Wells (Nos.)	321	360	206
Production				
Crude Oil	MMT	26.057	26.174	19.945
Natural Gas	MMSCM	23,584	22,127	17,482
LPG	000'T	1172	940	829
C2-C3	000'T	533	483	386
SKO	000'T	213	187	135
ARN/LAN	000'T	1,625	1,326	1,231
Others	000'T	84	67	55
TOTAL VAP	000'T	3,627	3,003	2,636

2.6.3 Financial Performance during 2004-05

(Rs. Crore)

Parameters	2003-04 (Actual)	2004-05 (BE)	2004-05 (Actual) upto Sept.'2004*
Plan Outlay	6,851.98	10,000.00	3,629.76
Total Income (Incl. Interest Income)	34,045.31	31,681.98	20,583.53
Net Profit	8,664.46	7,228.82	5,692.08

*Provisional Data

2.6.4 Achievements

- ONGC posted a profit of Rs. 5,692.08 crore during first six months of 2004-05 as compared to Rs. 4,960 crore for the corresponding period of 2003-04. ONGC posted a turnover of Rs 22,290 crore during the first half this year, up

33% over Rs 16,712 crore for the corresponding period of 2003-04.

- For monetisation of idle assets, six onshore oil fields have been outsourced to private firms by way of service contracts with ONGC retaining the production from the fields.

- CRINE (Cost Reduction Initiatives in New Era) concept, proven in North Sea E&P Development, introduced in all major projects.
- State-of-the-art technologies inducted in hardware & software for seismic data acquisition, processing & interpretation, and in well logging.
- Advanced drilling techniques for sidetracks, multilateral and extended reach wells absorbed and implemented on fast track. Engineering design audit introduced with significant cost savings.
- MOU signed with Skochinsky Institute of Mining, Russia for undertaking Underground Coal Gassification Project.

2.6.5 Progress of Projects

The following major projects of ONGC are under various stages of implementation .

Sl. No.	Name	Approved Cost (Rs. in crore)	Completion Time
1.	Mumbai High North Development	2,929.40	December 2005
2.	Mumbai High South Redevelopment	5,255.97	March 2007
3.	Improved Oil Recovery-Neelam	347.69	January 2005, Delayed
4.	Improved Oil Recovery-Gandhar	692.46	December 2004
5.	Improved Oil Recovery-Rudrasagar	113.90	March 2006
6.	Improved Oil Recovery-Geleki	390.09	March 2007
7.	Improved Oil Recovery – Lakwa-Lakhmani	345.10	March 2007
8.	D-1 Development	506.52	March 2005 (Ph-I)
9.	Bassein East Development	985.17	March 2006
10.	G-1 & GS-15 Development	429.82	April 2006
11.	Mumbai High Uran Trunk Pipeline	2,792.50	May 2005
12.	C2-C3 & LPG Plant, Dahej	1,493.49	December 2006
13.	Addl. development of Bassein & installation of second stage Booster compressors	1,770.69	March 2007

2.6.6 Major Initiatives

i) Strategic Initiatives

- Comprehensive organizational restructuring – “Corporate Rejuvenation Campaign” (CRC) – conceptualized and launched across the entire organization changing from Business Group concepts to Asset/Basin Management with focus on results rather than activities.
- Substantive decentralization of administrative authorities together with delegation of financial authorities carried out to empower the field executives.

ii) Strategic goals set for two decades 2001-2020

- Doubling Reserve Accretion to 12 billion Mt O+OEG
- Improving Recovery Factor to the order of 40%
- Production of 20 MMTPA O+OEG equity oil and gas from acquisitions abroad.

iii) Infocom Projects

Comprehensive review of Information Technology, Communication and Control Networks carried out. Plans are underway for modernization, expansion and integration of all Infocom systems over a period of three years with investment of the order of Rs. 600 crore. Project PROMISE and ICE are in progress.

- iv) Terms and conditions for Purchase & Project Contracts rationalized to improve competitiveness and consequently cost effectiveness.

v) **Human Resource Development**

The following initiatives have been taken in the field of human resource development :

- Transparency in work culture, including Transfers, promotions etc., being enhanced through extensive internal communication.
- Effective grievance redressal mechanism for serving and retired employees.
- Thorough review of HR Policies & Procedures
- SHRAMIK (SYSTEM OF HUMAN RESOURCE AUTOMATED MANAGEMENT OF INFORMATION FOR KAIZEN), a HR Automated Management system introduced by using ERP to re-orient the HR Processes and align them with Corporate Mission and Objectives.
- Vacancy-based promotions on merit.
- School of Maintenance Practices (SMP) has been set up to train officers and workers in maintenance techniques and specialisation.
- “Unnati Prayas” & “Super Unnati Prayas” (Endeavour for Advancement), a qualification up-gradation programme introduced.
- An innovative programme, Sangasapthak, was launched at the Indian School of Banking (ISB), Hyderabad to train senior managers for Board-level assignments.
- ONGC has taken up steps to provide Urban Amenities in Rural Areas (PURA), a vision of His Excellency, the President of India. PURA envisages bridging the rural-urban gap and achieving balanced socio-economic development. ONGC has set up the ONGC-PURA Trust with a seed capital of Rupees Ten crore. To begin with, it would operate in the states of Tripura, Assam, Nagaland, Andhra Pradesh, Maharastra and Gujarat.

- ONGC Group of companies are responsible for Corporate Citizenship and Promote Education, Healthcare and Entrepreneurship in the community and support Water Management and Disaster Relief in the country
- Volunteer Retirement Scheme (VRS) 2004 was introduced from 1.3.2004 to 31.5.2004 and approximately 522 employees opted for it.

2.6.7 CBM Projects of ONGC

ONGC is carrying out CBM operations in West Bengal (Raniganj coalfield) and Jharkhand (Jharia coalfield).

ONGC signed MOU with Coal India Ltd. to undertake joint exploration in N. Raniganj (356 sq. km.) as well as Jharia (84.55 sq. km.). Govt. of India has awarded these blocks on nomination basis, jointly, to ONGC and CIL.

In the CBM Bidding Round-I, two blocks i.e. BK-CBM-2001/1 (Bokaro) and NK-CBM-2001/1 (N.Karanpura) have been awarded to a consortium of ONGC and IOC. The contracts have been signed with GOI. In CBM-II, ONGC received 5 out of the 8 blocks awarded.

2.6.8 Health, Safety and Environment

In terms of its corporate objective of ‘commitment to environment’, ONGC has adopted the latest technologies for pollution control and effluent disposal to protect and maintain the environment and the ecological balance around the operational areas.

- Safety Mission statement was reviewed and revised. Independent audit was undertaken, showing overall compliance of 78%
- In underwriters’ audit, ONGC risk was rated as acceptable, and coupled with no-claim record for three years, led to substantial reduction in insurance premium.
- Independent audit of all Effluent Treatment Plants has been completed. Two projects for bio-remediation of sludge are in progress.
- Employee awareness on environmental protection is being actively promoted.

- Efforts are being made to obtain various ISO & ISRS accreditations for institutes/ installations. As a result, sixty-nine ISO 14001 certifications, twenty-nine ISRS certifications ranging from Level-4 to Level-8 and eighteen ISO 9001 have been obtained.
- However, ONGC has set a challenging target for itself to obtain QHSE (Quality, health, Safety and Environment) accreditation for 100% of its operational facilities.
- Occupational Health Centres are being set up at major plants and facilities, manned by specialists.
- The resources of the Crisis Management Team (CMT) are being augmented with modern equipment.

2.6.9 Conservation of Energy and Petroleum Products

ONGC is actively pursuing energy conservation measures. The conservation of petroleum products namely HSD, Lube oil and natural gas are important activities. These measures include :

- Improving the efficiency of HSD consuming activities.
- Increase in lube oil change period resulting in substantial saving.
- Natural gas flaring has been reduced and the same is being supplied to consumers.
- Use of small DG sets and waste heat recovery equipment at offshore platforms, rigs, LPG plants at Hazira and Uran.
- Use of energy efficient equipment and devices such as Top drives, and turbo expanders at Hazira and Uran.
- Use of gas engines in place of diesel ones for power generation.
- Natural gas geysers at Mehsana are in use
- Thermal energy cost reduction achieved by maintenance of steam traps at processing plants.
- Conducting Energy audit on regular basis and identification of Petroleum Products Conservation Opportunities (PPCOs).

- Harnessing solar energy by using solar water heaters/ photo-voltaic panels at various locations.

2.7 ONGC VIDESH LIMITED (OVL)

ONGC Videsh Limited (OVL) is a wholly owned subsidiary company of Oil & Natural Gas Corporation Ltd. OVL has the mandate to undertake overseas projects for Exploration & Production of petroleum and other petroleum projects in order to augment the oil security of the country and to bring equity oil from its overseas ventures. The Authorized and Paid-up Capital of the Company, as on 31.3.2004, is Rs.500 crore and Rs.300 crore respectively. The company earned a profit of Rs.428.449 crore during 2003-04 as compared to Rs.58.99 crore in 2002-2003.

OVL presently has 15 active projects in 12 countries, of which two are in production, one is under development, gas discovered recently in one, and the remaining are in various exploration phases.

OVL's overseas reserves are 82.56 MMT of oil and 116.47 BCM of gas as on 31.3.04. Oil & gas production from abroad is about 3.868 MMT of oil equivalent.

2.8 OIL INDIA LIMITED (OIL)

Oil India Limited (OIL), under the administrative set-up of the Ministry of Petroleum & Natural Gas, is engaged in the business of exploration, production and transportation of crude oil and natural gas. OIL was incorporated in 1959 as a company with two-third's share of Burmah Oil Company / Assam Oil Company and one-third share of Government of India. In 1961, OIL became a joint venture company with equal share of Government of India and Burmah Oil Company. On 14th October, 1981, OIL became a Government of India Enterprise, a wholly owned Public Sector Undertaking.

The Company produces crude oil & natural gas from its oilfields in Assam and Arunachal Pradesh and non-associated gas from its fields in Western



Rajasthan. The Company has presently operational areas in Assam, Arunachal Pradesh, Western Rajasthan, Orissa onshore and Ganga Valley in Uttar Pradesh and Uttaranchal.

OIL has also acquired 13 exploration blocks under the four rounds of New Exploration Licensing policy (NELP) bidding either independently or in consortium with other JV partners. In five of these blocks, OIL is the operator. Besides that, OIL has Participating or Carrying Interest in four JV Blocks (two onshore and two offshore). The company has a production sharing interest of 40% in its own oil field at Kharsang in Arunachal Pradesh, which is under a Production Sharing Contract between GOI and a Consortium of three other parties since 16th June, 1995.

The Company operates a trunk crude oil pipeline in the North-East for transportation of crude produced by both OIL and ONGCL in the region to

feed Numaligarh, Guwahati & Bongaigaon refineries and a branch line to feed Digboi refinery. OIL has started reverse pumping of RAVVA crude to BRPL through its existing Barauni-Bongaigaon Trunk Pipeline since April, 2003.

The natural gas produced in Assam is sold to different customers, viz. BVFCL, ASEB, NEEPCO, IOC (AOD), AGCL, APL and nearby Tea gardens. In addition, a small quantity produced in Rajasthan is sold to Rajasthan Rajya Vidyut Utpadan Nigam Limited (RRVUNL). The Company also produces Liquefied Petroleum Gas (LPG) at its plant at Duliajan, Assam.

2.8.1 Performance during the year

During the year 2004-05 (upto 31.12.2004), two Eocene discoveries have been made in North Tinali, located about 3 Km. East of Shalmari Structure and West Zaloni located about 5 km. from Well NHK 542.

2.8.2 Physical Performance

Parameters	Unit	2003-04 (Actual)	Target 2004-05	Actual upto 31.12.2004
Seismic Survey				
Onshore	2D	2,088.22	1,600	1,237.20
	3D	352.02	750	426.97
Offshore	3D	NIL	NIL	NIL
Drilling Exploratory	(‘000Mtr.)	49.283	54.70	31.778
Well	Nos.	13	13	6
Development	(‘000Mtr.)	59.340	85.10	83.257
Well	Nos.	14	21	27
Production				
Crude Oil Production	(MMT)	3.002	3.21	2.386
Natural Gas Production	MMSCM	1,886.968	2,059	1,475.56
Natural Gas Sale	MMSCM	1,377.967	1,545	1,079.83
LPG Production	‘000 Tonnes	51.51	50.00	36.85

2.8.3 Financial Performance during 2004-05

(Rs. in crore)

Parameter	2003-04 Achievement	2004-05 BE/MOU	Achievement Upto 31/12/04
Plan Outlay	577.85	975.00	538.49
Total Income	3,476.58	3,109.83	3,370.02
Net Profit	949.70	647.18	823.99
Internal/Resource	1,087.04	761.51	1,105.38



View of the Digboi Oil Field in Upper Assam. Digboi field is the oldest producing oil field in the world

2.8.4 Other Achievements :

- OIL has recently formulated its Strategic & Corporate Plan with the help of a reputed consultant. Strategic issues have been identified and are presently under implementation.
- Subsequent to signing of an agreement on 29.11.2002 with PDVSA Intevep Inc., Venezuela for technical collaboration for experimental pilot scale production of heavy oil/bitumen from its fields in the Bikaner Nagaur basin of Rajasthan, the first phase of work was completed in July, 2004. Presently, works are in hand for Phase-II of the project.
- In order to drill horizontal wells in four locations, necessary arrangements are being made.
- In order to convert the relatively abundant resources of coal in North-East to liquid fuels, a pilot plant for coal liquefaction has been set up in Duliajan and studies are underway in collaboration with M/s Hydrocarbon Technology Inc. (HTI), New Jersey, USA, a part of M/s Headwaters Technology Innovations Group.

2.8.5 Progress of Projects

Following important projects related to regular E&P activities are at various stages of implementation :

Sl. No.	Name of the Project/Location	Approved Cost (Rs./Crores)	Status
1.	Exploitation of heavy oil in Rajasthan	45.00	1. Agreement with PDVSA signed on 29th Nov., 2002 2. Phase-I of the Pilot Study by PDVSA, Intevep, Venezuela completed in July, 2004 3. Works initiated for Phase-II of the project with drilling of shallow pilot wells, cyclic steam injection into the wells and setting up of pilot scale production facilities to establish efficiency of production of heavy oil/bitumen system as recommended by PDVSA
2.	Replacement of Telecommunication system of pipeline by installation of Optical Communication links from Duliajan to Barauni	48.96	Laying work is in progress and expected to be completed by 31.12.2005
3.	Intermediate Tank Farm at Tengakhat	30.00	Work is in progress. Effective date of completion : 31.03.2005
4.	Oil Collecting Station at Makum	16.00	Construction is in progress. Effective date of completion : 31.03.2005
5.	Development of non-associated gas fields in Upper Assam to increase gas production to meet increased demand of gas	20.00	2 Nos. Gas Gathering Stations at Chabua and Baghjan are planned. Tender for consultancy services and execution is under preparation. Effective date of completion : 30.06.2006
6.	Replacement of Generating sets at Pump Stations 3 & 5 of Trunk Pipeline : 3 Nos.	18.90	2 Nos. installed and commissioned. Installation of 1 no. set at PS-3, Jorhat is in progress. Effective date of completion : 31.03.2005
7.	Replacement of Mud Tank Systems with modern solid control equipment in drilling rigs : 7 sets	43.21	Procurement is in progress. Effective date of completion : 31.03.2005
8.	Power Pack for AC-SCR drilling rigs : 4 nos.	14.40	Order placed in April, 2004. Delivery to be completed by January 2005
9.	1000 HP self – propelled mobile drilling rig : 1 no.	43.42	Order placed in September, 2004. Delivery to be completed by February, 2005
10.	Gas pipeline from Kumchai to Doomdooma : 70 Km. long	19.86	LOI issued on 27.12.2004 for construction and operation and maintenance for 10 years. Effective date of completion : 31.12.2005
11.	Horizontal drilling of 4 nos. wells	45.00	Bids under evaluation. Effective date of completion for Phase-I (Designing, rig inspection and submission of report) : 27.03.2005. Mobilization of men and equipment: 28.06.2005. Completion of drilling of 4 nos. wells : June, 2006.

2.8.6 Policy Initiatives taken by OIL

In view of the changed scenario in the hydrocarbon sector and to meet the future challenges, Oil India Ltd. recently formulated a long term Strategic and Corporate Plan. The Plan aims at more than doubling its present level of crude oil production in the immediate future and bringing about a multifold increase over a longer time horizon, through two distinct sets of initiatives. The first relates to physical activities in the following three major focus areas :

- Maintaining and improving production from the existing acreages in the North East through intensive exploration and development initiatives,
- Enlarging the Company's production base in the rest of the country through aggressive activities in the NELP blocks available with the company, acquisition of new blocks under future NELP rounds and acquisition of producing properties available in the market and
- Acquiring prospective exploration and producing acreages abroad.

The second set of initiatives relate to transformation of OIL to a learning organization with inherent flexibility to adapt to changes. This is being achieved by focusing on enhancing employees' capabilities and competencies to realize a shared vision through the process of continuous learning in teams. The philosophy of mutually accountable

team activities aims at quantum improvement in performance and achievements.

The Plan also calls for a diversified business portfolio for the Company through selective presence in the oil and gas value chain covering, amongst others, refining, marketing / retailing, gas monetisation through cracker / power generation and extension of existing business of pipeline services and E&P services as a service provider.

The Plan is being implemented through six distinct modules :

1. Business and Organisation Restructuring and Creation of a New Performance Management System
2. Change Management and Creation of a new HR Policy to meet the requirements of the new and emerging competitive business environment
3. Implementation of Enterprise Resource Planning (ERP)
4. Performance Improvement and Cost Reduction
5. Manpower Redeployment
6. Corporate Governance Framework

The Plan is in an advanced stage of implementation.

2.8.7 Control of Pollution and other environmental initiatives

Oil India Ltd. takes its responsibility of minimizing environmental pollution and remedying the effects of any pollution caused by its operations very seriously. Concerted efforts in protecting the environment have resulted in a clear & green environment in OIL's operational areas. Measures taken by the Company to minimize different types of pollution are detailed below.

- a) Recycling of drilling effluent pit water in drilling operations to contain all effluents within the well site premises.
- b) The formation water produced alongwith crude oil is scientifically treated with oil soluble demulsifiers to separate oil and water. The



Drilling Operations in Assam – Oil India Ltd., like all other oil PSUs ensures Environmental Protection while carrying out its operations

separated formation water is disposed off into selected shallow disposal wells specially drilled for the purpose. Such wells have impermeable layers to prevent any vertical migration of disposed formation water to the surface. The water samples from the potable water wells in the vicinity of the disposal wells are regularly monitored to ensure that the discharged formation water does not contaminate the aquifers. The produced formation water after treatment, is also re-injected into the reservoir for energy replenishment.

- c) Deployment of low pressure booster compressor/jet compressors (ejectors) to reduce flaring of very low pressure gas.
- d) Ambient air quality monitoring in and around OIL's operation areas and other vulnerable places with the help of a mobile Air Quality Monitoring Van procured by OIL.
- e) Unavoidable flaring of natural gas due to either non-lifting of the committed quantity by consumers or technical reasons is done only in scientifically designed flare pits having brick walls with refractory lining. These flare pits have multiburner facility with downward tilt instead of a single burner. To reduce the luminosity of the flame, pits are designed for abundant supply of air.
- f) For abatement of noise pollution in Gas Compressor Stations, Power Houses, drilling rigs in the oil fields etc, noise barrier walls around the machineries generating noise are constructed.
- g) OIL makes provisions and develops Green Belts around all new installations in its operational areas.
- h) The use of weedicides and pesticides is avoided in OIL's installations as a policy and the company resorts to manual grass cutting for upkeep of its various premises.
- i) OIL has successfully carried out a project on Bio-Remediation of oily sludge in collaboration with TERI. Based on the study, OIL has initiated some specific projects like sludge treatment plant, land reclamation, etc.



'Award for Excellence' for Best performance improvement over the previous year and the upstream sector to Oil India Limited given by Shri Jaipal Reddy, Hon'ble Minister of Information & Broadcasting and Shri S.C. Tripathi, Hon'ble Secretary of Petroleum & Natural Gas in the Valedictory function of OGCF - 2005 held at Nehru Memorial Auditorium, Teen Murti Bhawan, New Delhi on 31.01.2005

- j) OIL, in collaboration with Assam Agricultural University, has been regularly carrying out EIA studies in its operational areas in Assam to assess the impact of the prime pollutants generated in oil fields on the environment. Some of the major areas covered by these studies are cold flaring of gas, effect of formation water on cultivation, effect of heat and light on germination etc. The findings of the studies play a major role in designing the pollution control policy of the company.
- k) Actions are in hand for ISO 9001/14000/18000 certifications of few of the installations like LPG plant, Central Power House and Tengakhat OCS Complex. ISO 9001 certification has already been obtained for LPG plant and Duliajan Central Power Station for QMS in 2003-2004. ISO-14001 Certification was also obtained for Trunk Pipeline in August, 2004.

2.8.8 Conservation of Petroleum Products

To meet the energy requirement of OIL's E&P activities, OIL is using natural gas as fuel for various operations like Oil Collecting Stations (OCSs), Tank Farms, Boilers, Prime mover engines of compressors/Pumps, Captive Power Generation, Domestic fuel etc. As a result of this, approx. 95% requirement of energy of OIL in the North-East is met with natural gas and this

facilitates conservation of 0.33 MMT of HSD per annum. Liquid fuel (HSD and Petrol) is used in the semi-mobile/mobile equipment like drilling rigs, workover outfits, material handling equipment and transport fleet. Besides this following conservation measures are also adopted in OIL.

- Underground storage of natural gas.
- Recovery of condensate from natural gas using environment friendly refrigeration principle.
- Reduction of flaring of natural gas by promptly installing gas evacuation facility, de-bottlenecking gas network, Surge control system etc.
- MART terminals with Solar photovoltaic panels.
- Solar power illuminations and energisation of Tanot gas gathering station at Rajasthan.
- Solar power hot water system.
- Use of energy efficient SON lamps and Sodium vapour lamps in industrial areas and street lighting in Duliajan.

As a result of the above, OIL is saving around 376 million Kilowatt energy equivalent per annum worth of Rs. 26 crore per annum.

2.9 GAIL (INDIA) LIMITED

2.9.1 Introduction

GAIL (India) Limited, a 'Navratna' enterprise, was established in the year 1984 and is primarily an integrated Natural Gas company, focussing on all



GAIL - Vijaipur Compressor Station



Night shot of a Drilling Rig in Upper Assam - in search of oil

aspects of the Gas supply and value chain including exploration, production, transmission, petrochemicals, processing, distribution and marketing of Natural Gas and other related, products & services.

The Authorized and Paid-up Capital of the Company is Rs.1,000 Cr. and Rs.845.65 Cr. respectively. The current holding of Government of India in GAIL, after current disinvestment, is 57.35%. The other equity holders are as follows:

• GDR holders	-	6.92%
• ONGC	-	4.83%
• IOC	-	4.83%
• Other Institutional and individual holders	-	26.07%

GAIL owns and operates a network of over 5,340 kms of Natural Gas high pressure trunk pipeline with a capacity to carry 118 MMSCMD of natural

gas across the country. It supplies nearly 63 million cubic metres of natural gas per day (21 BCM per annum) as fuel to power plants for generation of about 4,500 MW of power, as feedstock for gas based fertilizer plants to produce about 10 MMTPA of urea and to over 500 other small, medium and large industrial units to meet their energy and process requirements. LPG transmission business of GAIL includes the 1,900 km LPG pipeline networks which connect the Western and Northern parts of India and also in the Southern part of the country. It has a capacity to transport 3.8 MMTPA of LPG. GAIL's share of gas transmission business is 88 % and the company holds 81 % market share in gas marketing in India.

The Company has established North India's only gas based integrated petrochemical plant in Pata, Uttar Pradesh with a capacity of producing 3,00,000 TPA of Ethylene and 3,10,000 TPA of Polymers i.e. HDPE and LLDPE. Capacity expansion to the tune of 4,40,000 TPA is underway for the Ethylene plant and another HDPE plant of 1,00,000 TPA capacity is in progress.

In addition to gas marketing through its Trunk and Regional Transmission systems, GAIL has also formed joint venture companies for supplies to households, commercial users and for the transport sector. Presently, GAIL has set up Joint Venture companies in the cities of Delhi, Mumbai and Hyderabad to supply gas to the automobile and household sectors. Plans are afoot to introduce similar facilities in 25 more cities in the country under the project "Blue Sky". (A brief on each of the JV Companies is given below).

GAIL has also been operating its state-of-art telecommunication network. GAILTEL, the telecommunication service wing of GAIL (India) Limited, provides commercial bandwidth services under its Infrastructure Provider Category II (IP-II) and Internet Service Provider (ISP) Category A licenses. The Company has 8,200 kms of OFC network of capacity 160 GBPS connecting 73 cities, providing bandwidth as a Carrier's Carrier for telecom operations while maintaining an availability of 99.99%.

GAIL is an Equity Participant in 13 E&P blocks, including 11 blocks in India and 2 blocks in Myanmar as a consortium partner with national and international oil and gas majors. GAIL has struck oil in Cambay Basin in Gujarat in association with Gujarat State Petroleum Corporation. A commercial gas discovery has been made in the A-1 Block in Myanmar with estimated reserves of 5 tcf. GAIL is the preferred buyer for the gas from the A-1 Block.



(L to R) Sh. Proshanto Banerjee CMD, GAIL; Sh. Mani Shankar Aiyar, Hon'ble Minister MoP&NG; Sh. Omkar Singh Kanwar, President, FICCI, Dr. Amit Mitra, Sec. General, FICCI, during the inaugural function of 3rd Asia Gas Buyers' Summit on 14th February, 2005

In the direction of globalizing its operations, GAIL has successfully secured participation in two retail gas companies in Egypt i.e. Fayum Gas Company and Shell CNG, Egypt. GAIL has set up a wholly- owned subsidiary company - named as GAIL Global (Singapore) Pte Ltd in Singapore. GAIL is pursuing business opportunities in countries like Egypt, Turkey, Philippines, Iran, Bangladesh, Myanmar, United Kingdom, Syria, Jordan and Lebanon in the areas of exploration and production, gas transmission, CNG and city gas distribution, LNG and petrochemicals.

The Company has consistently been an 'Excellent' performer against the targets set forth in the MoU signed with the Government of India, with its turnover for the year 2003-04 touching a figure of Rs 12,225 crore as compared to Rs. 11,669 crore in the previous fiscal. Profit after Tax rose to Rs. 1,869 crore as compared to Rs. 1,639 crore in the preceding year. The company secured the perfect composite score of 1.00 securing first

position among Oil and Gas PSE's. It has been rated by the Global Platts Survey 2002-03, as the No. 1 Company among global gas utilities, in terms of Return on Invested Capital. The Company has also received the prestigious SCOPE Award for Excellence and Outstanding Contribution to Public Sector Management for the year 2002-03 from Hon'ble Prime Minister of India. In a latest 'FE-500' rankings (December 2004) GAIL has moved from the club of Top 10 Indian companies to the elite group of 'Top-5' Indian companies for the first time.

2.9.2 Joint Venture Companies

(a) **Mahangar Gas Limited (MGL)** – A Joint Venture with British Gas & Govt. of Maharashtra, this was incorporated in May 1995 to supply gas to domestic, commercial & small industrial consumers in Mumbai & CNG for transport sector. As on 1.1.2005, MGL is supplying piped gas to over 2,10,000 domestic consumers, 637 commercial consumers & 45 industrial consumers & supplying CNG to over 1,40,000 vehicles in Mumbai through 96 CNG outlets spread across the city. MGL is extending its service domain to Thane, Belapur and Mira Road area.

(b) **Indraprastha Gas Limited (IGL)** – A Joint Venture company with BPCL & Govt. of NCT of Delhi, IGL was incorporated in 1998 for the distribution of natural gas to the domestic, commercial & transport sector in NCT of Delhi. As on 1.1.2005, IGL is supplying piped gas to more than 20,000 domestic consumers, 145 commercial consumers and CNG to over 92,000 vehicles including DTC buses through 128 CNG outlets spread over the city. IGL is expanding in Faridabad, Noida and Gurgaon.

(c) **Petronet LNG Limited (PLL)** – A non Government joint venture company with ONGC, BPCL and IOC, it was formed for setting up of LNG import facilities. PLL has a long term LNG supply contract with Ras Gas, Qatar for import of 5 MMTPA at Dahej and 2.5 MMTPA at Kochi. The Dahej terminal has already been commissioned. As on 30th September, PLL received 57.22 Tera BTU of LNG i.e. equivalent to 1459 MMSCM of R-LNG. Against this it supplied 56.85 TBTU of R-LNG i.e. equivalent to 1449.7 MMSCM to the Off-takers.

(d) **Participation in GSEG Power Project at Hazira** - GAIL has participated with 12.85 %



Aerial view of Horton Sphere at LPG recovery unit - Vijaipur (GAIL)



The Petrochemical Plant at PATA (GAIL)

participating interest in 156 MW Power Project being developed by Gujarat State Electricity Generation Ltd. (GSEG) at Hazira in Gujarat. The project is gas based dual fuel combined cycle power plant. Natural gas is being supplied by GSPC- Niko from Hazira gas fields. The main promoter of the project is Gujarat State Petroleum Corporation Ltd. (GSPCL) with 31% equity participation. The Plant generated 523,633 MWH of electricity at a Plant Load Factor of 78.5%

- (e) **Bhagyanagar Gas Ltd. (BGL), Hyderabad**—BGL is a non – Government JVC formed on August 22, 2003 among GAIL & HPCL for distribution & marketing of CNG & Auto LPG as fuel for vehicles, Piped natural gas for domestic, commercial & industrial consumers in and around the cities in the state of Andhra Pradesh. GAIL's share in the joint venture is 22.5%.

2.9.3 Business Development Activities

Considering the gas sector outlook for the Indian market as well as overseas, GAIL's business development thrust would continue to be around the gas core covering supply, midstream, bulk and

retail gas marketing and gas based value added products. In addition, both the organic and inorganic growth routes are being pursued in India as well as overseas.

Improved scenario of gas supplies to the Indian market is now supporting the development of retail gas markets in the country. Over a period of time, 28 cities are being covered by PNG, CNG, commercial and small industrial gas supplies. This segment of business is being implemented through JV route involving other PSUs, State Governments and strategic partners/ investors. A majority equity position has also been acquired in Tripura Natural Gas Company Ltd., for further development of gas market in the State of Tripura, which would then support accelerated E&P activities. An equity position has been acquired in Egyptian Company Natgas, which is the largest private local distribution company. Similar opportunities are being pursued in other countries too.

Sourcing of gas for the Indian market, including LNG supplies, is receiving high priority for the development of business. The company is associated with almost all potential transnational gas pipeline projects to India and, in view of recent

positive developments on some of these; there is a distinct possibility of consolidation on the gas sourcing/supplying activities. Interstate gas pipeline infrastructure development would continue to be the main business activity driven by wider geographical spread of new gas supply sources for the Indian market.

New opportunities in the petrochemical sector both in India and abroad are being vigorously pursued.

The objective of business development activities is to develop a balanced business portfolio for GAIL combining regulated and unregulated businesses as, only such portfolio, can ensure long term sustainable growth. Keeping customers' requirement in mind and need for value added services the Energy Management Services Group is pursuing new domain of business development opportunities, involving efficient use of energy and advisory services to industries.

2.9.4 Performance of GAIL (India) Limited at a glance for the year 2003-04 & 2004-05 (Provisional upto December 2004 & projected for January, 2005 to March, 2005) is given below :

A) Physical

		ACTUALS 2003-04	2004-05 (upto Dec., 04) (Provisional)*	2004-05 (Jan'05 to Mar'05) (Projected)*
GAS SALES/TPTD. (including R-LNG TPTD.)	MMSCM	62.84	72.43	72.82
LPG/SBP/OTHERS PRODUCTION	('000 MT)	1,363	1,059	280
PETROCHEMICAL PRODUCTION	('000 MT)	278	216	80

B) FINANCIAL

DESCRIPTION	UNIT	ACTUALS 2003-04	2004-05 (upto Dec., 04) (Provisional)	2004-05 (Jan'05 to Mar'05) (Projected)*
PROFIT AFTER TAX	Rs. Crore	1,869	1,430	274
GROSS INTERNAL GENERATION (PAT+Deprn.)	Rs. Crore	2,530	2,145	507

*as per Revised Estimates 2004-05

GAIL (India) Limited has paid dividend of Rs. 763.20 Crore (including Corporate Dividend tax) for the year 2003-2004 against Rs.635.30 Crore (including Corporate Dividend Tax) paid for the previous year.

2.9.5 Operations

During the year, GAIL (India) Limited has maintained its high standards of reliable supply of

gas ensuring uninterrupted supply of gas to all its customers along the HBJ pipeline.

2.9.6 Major projects commissioned during the year

(a) DAHEJ VIJAIPUR PIPELINE (DVPL)

The DVPL project was commissioned on 31st March 2004, 6 months ahead of schedule. For the first time, R-LNG was transported and sold in India.

(b) VIZAG SECUNDERABAD LPG PIPELINE (VSPL)

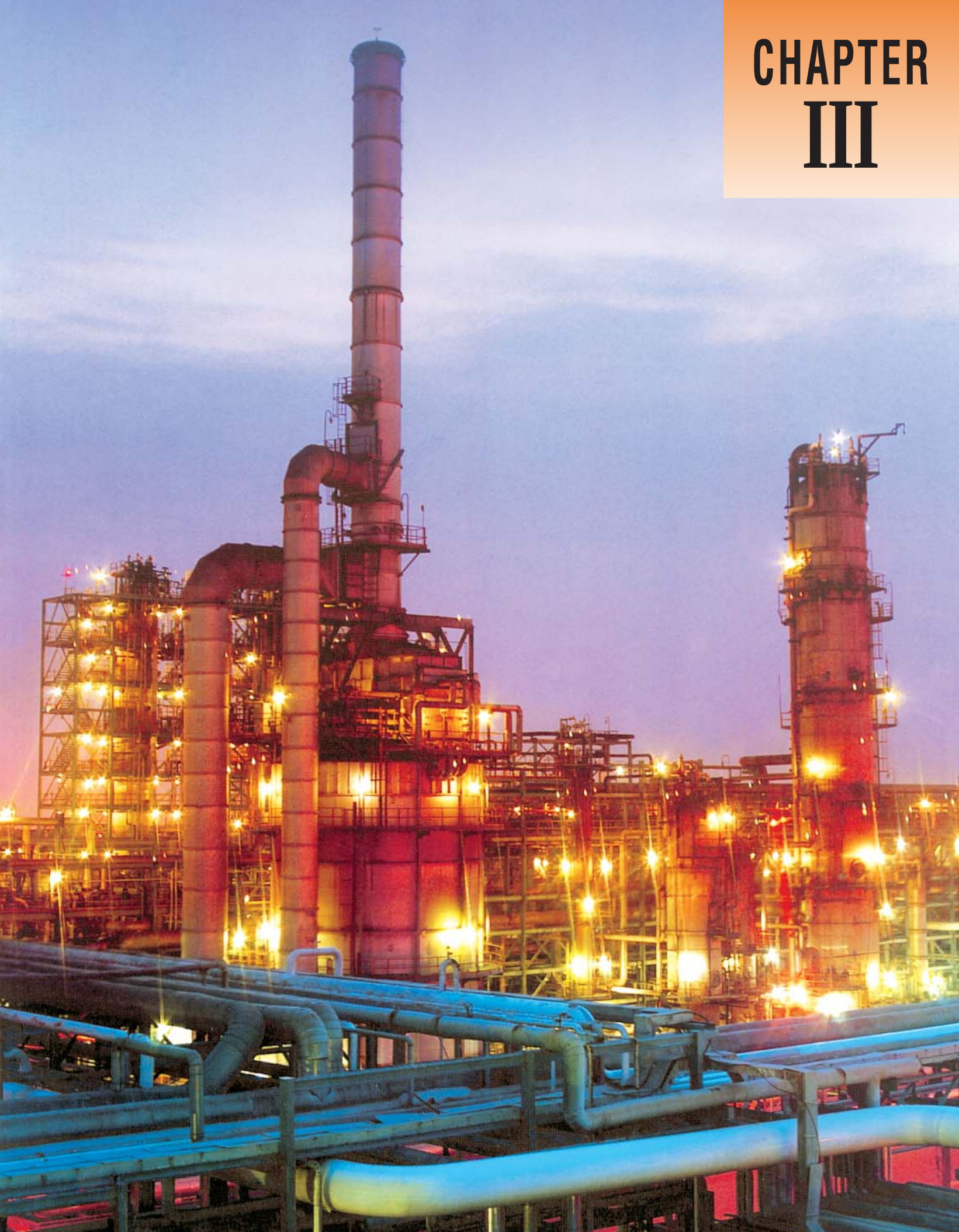
The VSPL project was mechanically completed on 22nd June 2003 ahead of scheduled completion of August 2003. The entire pipeline was commissioned on 21st July 2004 after getting the required quantity of LPG from OMC's.

2.9.7 Major projects under implementation

GAIL (India) Limited is implementing number of projects, which have been approved by the Board. Salient features of mega projects are as under :

Item	Dahej-Hazira-Uran Pipeline	Thulendi Phulpur Pipeline	Vijaipur Kota Pipeline	Pata Expansion Project
Location	Dahej-Hazira-Uran	Thulendi to Phulpur- U.P.	Vijaipur to Kota	Pata
Date of approval	27.12.2002 (Revised Cost Approval on 2nd Sep'04)	26-Sep-03	30-Jun-04	27-Nov-02
Commissioning	28-Feb-06 (Original) 4-Aug-06 (Revised)	26-Mar-05 (Original) 19-Apr-2006 (Revised)	31-Dec-06	April-2006 (Original) October-06 (Anticipated)
Capital Cost (Rs. in Crore)	1,416.00 (Original) 1830.77 (Revised)	220.00	299.84	647.38
Throughput Capacity at present	12 MMSCMD	3.0 MMSCMD	5.0 MMSCMD	Expansion to 4,40,000 TPA
Project Benefits	Extend availability of Gas to Gujarat & Maharashtra	Transport R-LNG to IFFCO Phulpur	Transport R-LNG to Kota Region	Expansion of Ethylene Capacity to 4,40,000 TPA from 3,00,000 TPA

CHAPTER III



3. REFINING

3.1 REFINING CAPACITY

The domestic refining capacity as on 1.4.2004 was 127.37 Million Metric Tonnes Per Annum (MMTPA). At present, there are 18 refineries operating in the country (17 in Public Sector and 1 in Private Sector). Mangalore Refinery and Petrochemicals Limited (MRPL) which was a Joint Sector Company became a PSU subsequent on acquisition of its majority shares by ONGC. Out of the 17 Public Sector refineries, 7 are owned by Indian Oil Corporation Limited, two each by Chennai Petroleum Corporation Limited (a subsidiary of IOCL), Hindustan Petroleum Corporation Limited, and Oil and Natural Gas Corporation Limited (ONGC), one each by Bharat Petroleum Corporation Limited, Kochi Refineries Limited (a subsidiary of BPCL), Numaligarh Refinery Limited (a subsidiary of Bharat Petroleum Corporation), and Bongaigaon Refineries and Petrochemicals (a subsidiary of IOCL). The private sector refinery belongs to Reliance Industries Limited.

3.2 PIPELINE DIVISION

Internationally transportation of products by pipelines is preferred to other modes of transport for the reasons of safety, operational convenience and its environmental benefits. In most cases, transportation of products by pipelines is cheaper in comparison to other modes like rail and road. In developed countries, around 60% of the total petroleum products are transported by pipeline. In India this percentage is presently around 29%. It is estimated that the share of pipelines in product transportation may touch around 45% over the next 2-3 years.

The Government had issued guidelines for laying petroleum product pipelines in November, 2002. Under the revised guidelines, the Government has called for Expression of Interest on behalf of GTCIL (a wholly owned subsidiary of Reliance Industries Limited), Hindustan Petroleum Corporation Limited and Essar Oil Limited for laying cross country pipelines.

3.3 CHENNAI PETROLEUM CORPN LIMITED (CPCL)



Chennai Petroleum Corporation Limited (CPCL) (formerly known as Madras Refineries Limited) was formed as a joint venture of the Government of India (GOI), Amoco India Inc., U.S.A. and National Iranian Oil Company (NIOC), Iran in 1965. Amoco Inc. disinvested its equity holding in favour of GOI in 1985. The Government of India has transferred its equity share of 51.81% to Indian Oil Corporation Limited in March, 2001.

CPCL has two refineries, with a combined refining capacity of 10.5 million metric tonnes per annum (MMTPA). The Manali refinery in Chennai with a capacity of 9.5 MMTPA is one of the complex refineries with Fuel, Lube, Wax and Petrochemical feedstocks production facilities. The second refinery with a capacity of 1.0 MMTPA is located in Cauvery Basin, Nagapattinam.

3.3.1 Physical Performance

During the year 2003-04, the company processed 7.04 Million Metric Tonnes (MMT) of crude oil. The capacity utilisation was 93.9%. The company achieved MoU Excellent rating for its overall performance during the year 2003-04.

3.3.2. Financial Performance

During the year 2003-04, the company achieved the Turnover of Rs. 9,430.45 crore as against Rs. 8,636.52 crores in the previous year. The Gross Profit before Interest, depreciation and Tax, was Rs. 736.52 crore compared to Rs. 696.63 crore in the previous year. The Profit After Tax has increased during 2003-04 from Rs. 302.89 crore to Rs. 400.05 crore. The company has paid a dividend of 50% during 2003-04 against 35% during 2002-03.

3.3.3 Projects completed

Major portion of the 3 MMTPA Expansion cum Modernization project at Manali Refinery, one of the most prestigious project of CPCL was commissioned by March 2004 except Hydrocracker and Visbreaker Units. Visbreaker unit has been commissioned in April, 2004 and the Hydrocracker unit in August 2004.

3.3.4. On-going projects

A new “Zero Discharge” Project for treating the effluents from Refinery III and reusing the water is being set at a cost of Rs. 11 crore. The project is expected to be completed by March 2005.

A project to replace the existing 2 boilers with a new 100 TPH Boiler at a cost of Rs. 23.75 crore is under also implementation. This project will ensure reliable power supply for the operations of Manali Refinery. The project is expected to be completed by April 2005.



A view of CPCL's Crude Unit at Refinery III Complex, Manali

Besides, to meet the requirements of the Manali Refinery, a new 42 inches dia crude oil pipeline is being contemplated from Chennai Port to Manali Refinery along the route of the proposed Port Connectivity Project. The indicative project cost is about Rs.52 crore.

3.4 BONGAIGAON REFINERY & PETROCHEMICALS LIMITED (BRPL)



BRPL was incorporated on February 20, 1974 as an integrated Petroleum and Petrochemicals refinery. The installed capacity of the refinery was 1 MMTPA which was enhanced to 2.35 MMTPA in 1995-96. The Government of India has transferred its equity share of 74.46% to Indian Oil Corporation Limited in March, 2001 and hence BRPL has become the subsidiary Company of IOCL on 29th March, 2001.

The refinery processed 2.127 million metric tonnes of crude oil during the year 2003-04. Production



A view of Bongaigaon Refinery

of LPG in 2003-04 was 47.7 TMT as against the previous highest production of 31.8 TMT in 2002-03. MS production of 196 TMT was achieved in the year 2003-04.

The Company achieved record Profit After Tax of Rs. 304 crore in 2003-04. The anticipated profit for 2004-2005 is Rs. 450 crore.

3.5 NUMALIGARH REFINERY LIMITED (NRL)



Numaligarh Refinery Limited was incorporated on 22nd April, 1993 as a Public Limited Company under the companies Act, 1956. Presently, the Company is a subsidiary of Bharat Petroleum Corporation Limited.

The proposal for setting up a 3 MMTPA Refinery was included in the “Assam Accord” signed on 15th August 1985 as part of Government of India's economic package offered for providing required



A view of Numaligarh Refinery Ltd.

thrust towards speedy economic development of Assam. The Numaligarh Refinery and its adjacent Marketing Terminal have been completed at the approved cost of Rs. 2724 crore and commercial operations commenced from October, 2000.

During the year 2003-04, the crude throughput was 2,200 TMT against installed capacity of 3 MMTPA. During April, 2004 to September, 2004, the crude throughput was 906.6 TMT against target 1,387.5 TMT. The crude throughput was low due to product containment problem and suspension of refinery operation due to flood. Distillate yield of 85.48% was achieved by NRL during 2003-04.

During the period 2003-04, the company registered a profit (After Tax) of Rs. 214.95 crore. The company has paid Rs. 64.74 crore as dividend for the year.

3.6 KOCHI REFINERIES LIMITED (KRL)

3.6.1 Kochi Refineries Limited (KRL)'s installed capacity at the inception in September 1966 was 2.5 million metric tonnes per annum (MMTPA). The capacity of the Refinery has been expanded from time-to-time and at



A view of the Kochi Refineries Ltd.

present, it is 7.5 MMTPA. The secondary processing facilities have also been expanded to 1.4 MMTPA.

3.6.2 Performance

3.6.2 (a) Physical Performance

During the year 2003-04, the Refinery achieved an all time high record crude oil thruput of

7.85 million metric tonnes (MMT) with record in processing of imported crude oil, about 5.61 MMT. KRL set records in the manufacture of liquefied petroleum gas (LPG), mineral turpentine oil (MTO), motor spirit and natural rubber modified bitumen (NRMB) during the year. During the year 2004-05, crude oil thruput till 31.12.2004 (tentative) was 5.955 MMT. The anticipated crude oil thruput for the year 2004-05 is 7.75 MMT. During the year, the refinery is expected to post new records for the production of MTO and rubberised bitumen.

The Company has a proven record in the field of safety. As of 31.12.2004, the Company has completed 1.8575 million manhours of continuous accident free operation. The Refinery has received NPMP award for Excellence in Creativity & Innovation. KRL has also received special award for substantial and sustained effort and consistent exemplary performance in pollution control from Kerala State Pollution Board. The Company also received Golden Peacock National Award for outstanding innovation for indigenous development of NRMB.

KRL Scored an "Excellent" rating under the MoU parameters for 2003-04. This is the thirteenth successive year when the Company scored the "Excellent" rating under the MoU system of evaluation.

The Company continued to bestow utmost importance to conservation of energy by regular monitoring and analysis of fuel and utilities consumption, optimizing plant operations and proper upkeep of plant and machinery.

3.6.2 (b) Financial Performance

Turnover and Profits

During the year 2003-04, the Company achieved a net turnover (excluding excise duty) of Rs. 9,858.30 crore against Rs.9,258.32 crore during 2002-03. The profit before tax was Rs.909.76 crore as against Rs.696.52 crore in the previous year. The profit after tax was Rs.555.09 crore during 2003-04 as compared to Rs.456.02 crore in the year 2002-03. The Company declared dividend @ 120% as against 100% for the previous year.

The Company contributed a sum of Rs.2,802.70 crore to the exchequer by way of taxes, duties, etc during 2003-04, against Rs.2,200.60 crore in 2002-03. Key financial parameters anticipated for the financial year 2004-05 are given below :

(Rs in crore)

	Actuals up to Sept. 2004	2004-05 (Estimated)*
Turnover (excluding excise duty)	6,073	10,882
Profit Before Tax	532	800
Profit After Tax	329	495

* As per annual plan document submitted to the Ministry.

3.6.3 Projects

3.6.3 (a) Ongoing Projects

(i) Capacity Expansion cum Modernisation Project (CEMP) - Phase I

The project envisages implementation of facilities for quality upgradation of MS/HSD to meet Bharat Stage II equivalent emission norms through DHDS revamp by December 2004 and FCCU revamp by April/May 2005 along with the annual turnaround.

(ii) Crude Oil Receipt facilities

The project envisages implementation of facilities to set up Crude Oil Receipt Facilities (CORF) consisting of Single Buoy Mooring, Shore Tank Farm and associated pipelines. The CORF would facilitate transportation of crude oil in larger tankers, thereby lowering the cost incurred on transportation of crude oil. The approved project cost is Rs.622.82 crore.

(iii) Revamp of electrical distribution system Phase II

The project envisages segregation of CDU I, FCCU and Utility loads along with phasing out its old & outdated electrical switch boards. The estimated project cost is Rs.11 crore. The implementation of the project is on schedule for completion by March 2005.

(iv) Bitumen Emulsion plant

The project envisages setting up of a Bitumen Emulsion Plant having a capacity of 10 MT per

hour. The bitumen emulsion plant ordered and expected at KRL by 1st week of January 2005 and various site construction activities are in progress. The implementation of the project is on schedule for completion by February 2005.

3.6.3 (b) Project Proposals

Capacity Expansion cum Modernisation Project (CEMP) – Phase II

The project envisages implementation of facilities for quality upgradation of auto fuels to meet Euro III equivalent emission norms along with capacity expansion by 2 MMTPA /refinery modernization. The estimated project cost is Rs.1994.5 crore. The project is scheduled for completion by September 2009.

The Detailed Feasibility Report (DFR) for CEMP Phase II has been prepared, and action has been initiated for carrying out various pre-project activities. Selection of consultant for conducting EIA/RRA study is also in progress.

3.7 MANGALORE REFINERY & PETROCHEMICALS LIMITED (MRPL)



Mangalore Refinery and Petrochemicals Limited (MRPL), first joint venture company for setting up a crude petroleum refinery in India, was formed in 1987 jointly by Hindustan Petroleum Corporation Limited and Indian Rayon and Industries Limited and its associate companies (A.V. Birla Group). The Refinery project was commissioned in March, 1996 with an actual capacity of 3.69 MMTPA. The expansion project of MRPL, having capacity of 9.69 MMTPA, was commissioned in April, 2001. The refinery is located at Mangalore on the western coast of India, primarily conceived to maximize middle distillates such as kerosene and diesel. The performance of the company started deteriorating after dismantling of APM for refineries in April 1998 and the company came very close to becoming a sick company in March 2003.

With the approval of the Government, ONGC acquired the entire stake of Aditya Birla Group in MRPL for Rs.59.43 crore on 3.3.2003 and also

infused additional equity capital of Rs.600 crore on 28.3.2003 as part of the approved debt restructuring plan. With this, ONGC acquired 51% stake in the equity of MRPL and MRPL became a Government company within the meaning of Section 617 of the Companies Act, 1956. In June/ July 2003, ONGC acquired 35.80 crore equity shares held by banks and financial institutions issued against part conversion of their loans in terms of debt restructuring plan, increasing its stake in MRPL to 71.62%.

3.7.1 Physical Performance

(In MMT)

	2004-05 (budgeted)	2003-04 (Actual)	2002-03 (Actual)
Crude Throughput	11.00	10.05	7.26
Distillate Yield	8.30	7.25	5.23
Heavy End Yield	1.90	2.10	1.46
Fuel & Loss (%)	6.90%	6.91%	7.68%

3.7.2 Financial Performance

(Rs. crore)

	2003-04	2002-03
Turnover	11,390.64	8,058.76
Profit before Interest depreciation and tax	1,326.12	288.04
Interest	373.42	567.07
Depreciation	378.20	373.74
Profit/(Loss) before Tax	574.50	(652.77)
Provision for Tax	115.08	(240.96)
Net Profit/(Loss)	459.41	(411.81)



Green belt around MRPL Refinery

3.7.3 Ongoing Projects

3.7.3 (a) Euro Projects

In order to ensure that the auto fuels produced by the Company are Euro III / IV compliant, the Company has taken up installation of isomerisation unit and offsites involving an investment of Rs.524 crore. The project is likely to be completed in July 2006.

3.7.3 (b) Projects for value added products

The Company is planning to set up facilities for upgrading part of the light distillates to Mixed-Xylene. Tenders have been floated and orders are likely to be placed shortly.

3.7.3 (c) Projects for Energy savings

The Company has taken up installation of Variable Speed drives at an investment of Rs.19.52 crore which are likely to be completed shortly.

CHAPTER IV



4. MARKETING AND DISTRIBUTION

4.1 INDIAN OIL CORPORATION LIMITED (IOC)



4.1.1 Indian Oil Corporation Limited (IndianOil) is the country's largest commercial enterprise, with a sales turnover of Rs. 1,30,203 crore (US\$ 29.8 billion) and profits of Rs. 7,005 crore (US\$ 1,603 million) for fiscal 2003.

4.1.2 IndianOil is India's No.1 Company in *Fortune's* prestigious listing of the world's 500 largest corporations, ranked 189 for the year 2004 based on fiscal 2003 performance. It is also the 19th largest petroleum company in the world. IndianOil has been adjudged No.1 in petroleum trading among the national oil companies in the Asia-Pacific region, and is ranked 325th in the current *Forbes'* "Global 500" listing of the largest public companies.

4.1.3 The IndianOil group of companies owns and operates 10 of India's 18 refineries with a current combined installed capacity of 54.20 million metric tonnes per annum (MMTPA) or one million barrels per day (bpd). These include two refineries of subsidiary Chennai Petroleum Corporation Ltd. and one of Bongaigaon Refinery and Petrochemicals Limited. IndianOil owns and operates the country's largest network of cross-country crude oil and

product pipelines of 7,575 km, with a combined capacity of 56.85 MMTPA, as on 31st March, 2004. While there have been no additions to the refining capacity, the pipeline network has been expanded with the commissioning of the Panipat-Rewari product pipeline and increase in capacity of Digboi-Tinsukia line to over 7,730 kms and 58.62 MMTPA as on 31st December, 2004.

4.1.4 Countrywide Network

4.1.4.1 IndianOil's countrywide network of over 22,000 sales points (as on 1st April, 2004) is backed for supplies by its extensive, well spread out marketing infrastructure comprising 167 bulk storage terminals, installations and depots, 94 aviation fuelling stations and 87 LPG bottling plants. Its subsidiary, IBP Co. Ltd. is a stand-alone marketing company with a nationwide network of over 3,000 retail sales points.

4.1.4.2 IndianOil reaches Indane cooking gas to the doorsteps of 37.5 million households in over 2,000 markets through the country's largest network of 4,350 distributors. As of December 31st, 2004, the number of LPG distributors are 4566. The country's leading SERVO brand lubricants from IndianOil, with over 42% market share and 450 grades, are sold through the Company's retail outlets, besides a countrywide network of bazaar traders.

4.1.4.3 IndianOil's ISO-9002 certified Aviation Service, with 67% market share, meets the fuel and lubricants needs of domestic and international flag carriers, Defence Services and private aircraft operators.

4.1.4.4 Keeping the supply line of petroleum products flowing even in times of Natural calamities as India's flagship Oil Company has been the endeavour of IndianOil through the ages. During the Tsunami tragedy that befell Andaman and Nicobar Islands and other parts of India, IndianOil which is the only oil company to sell petroleum products in the islands, geared up to meet the challenge successfully against all odds. Supplies through the oil terminal, LPG bottling plant at Port Blair, and the Aviation Turbine Fuel (ATF) fuelling station at Car Nicobar were restored in the shortest possible time. Redoubled efforts in Tamil Nadu,



IndianOil's LPG Tanks

Pondicherry, Kerala and Andhra Pradesh also saw petroleum products reaching nook and corner of the affected areas.

4.1.5 Pioneering R&D

IndianOil's world-class R&D Centre has won recognition for its pioneering work in lubricants formulation, refinery processes, pipeline transportation and alternative fuels. It has developed over 2,100 formulations of SERVO brand lubricants and greases for virtually all conceivable applications - automotive, railroad, industrial and marine - meeting stringent international standards and bearing the stamp of approval of all major original equipment manufacturers. A wholly-owned subsidiary company, IndianOil Technologies Ltd., is commercialising the innovations and technologies of the Centre, which has over 140 national and international patents to its credit. Apart from leadership in development and commercialisation of bio-fuels, the R&D Centre is currently the nodal agency of the hydrocarbon sector in India for ushering in Hydrogen fuel in the country. As a

testimony to the capability of the Centre in pioneering indigenous technology, it was conferred with the prestigious National Award (for Science & Technology) for the year 2004, in recognition of successful commercialisation of indigenous INDMAX technology for process improvement resulting in superior quality products of better yield.

4.1.6 Business Development

The Corporation plans to achieve its Vision of being a "major, diversified, transnational integrated energy company" through a well planned strategy. It takes into account the current standing of IOC and the opportunities & challenges in the context of liberalisation measures in the country's economy and Petroleum sector in particular. Towards this



IndianOil's R&D Centre - Development of lubricants as well as providing support to refining process

march on its visionary path, IndianOil has been consolidating its core business and also venturing into new areas of integration, diversification and globalisation. These include ventures in Exploration & Production, Petrochemicals and Gas. Besides, IndianOil also achieved commendable success in Globalisation which offered the Corporation new vistas for expansion.

4.1.7 Exports – Products and Services

IndianOil's SERVO lubricants have gained wide acceptance outside India. A Lube hub is being established in Dubai, where the Corporation has also commenced blending operations for marketing SERVO lubricants in Middle East, Africa and CIS region. Besides Lubes, other POL products and Bitumen are also being exported to Bangladesh, Sri Lanka etc. Towards expanding the infrastructure for facilitation of exports, new Bitumen loading and evacuation lines have been commissioned in March 2004 at Haldia Refinery.

IndianOil is also pursuing business opportunities in the Middle East and African countries relating to major revamp/upgradation/product quality improvement projects at Refineries/ implementation of cross-country pipeline projects and equity participation in existing refineries including long term maintenance and contract. The implementation of the Integrated Management Systems at Oman Refinery Company has been completed in December 2004.

4.1.8 Exploration & Production

Vertical integration along the hydrocarbon value chain is the key strategy for growth of oil and gas business today. Work is also progressing in the 11-exploration blocks awarded under the NELP programme to the consortium of which IndianOil is a member. Besides, IndianOil has also acquired participating interest in on-shore

exploration block in Assam/Arunachal Pradesh and equity stake in another block in Assam. The first overseas exploratory well has been spudded in the Farsi exploration Block in Iran, awarded to the Corporation alongwith ONGC Videsh Ltd. and Oil India Ltd. The Corporation is also pursuing opportunities for oil equity abroad independently and plans to acquire a suitable medium-sized exploration and production company.

4.1.9 New Vistas for expansion

With Gas emerging as the preferred fuel of the utilities sector, viz. power, fertilisers and transportation, IndianOil has also taken a number of initiatives during the year to harness the tremendous growth potential. The Corporation entered into a 25 year agreement with Petronet LNG Limited (PLL).

IndianOil is also proposing to set up City Gas distribution systems alongwith GAIL (India) Ltd. in select towns and with GSPC (Gujarat State Petroleum Corporation) in Gujarat. The Corporation also has more than 50 Auto Gas (LPG) dispensing stations for supply of LPG to automobiles in metros and major cities.

IndianOil is also in the process of implementing an ambitious master plan of about Rs. 25,000 crore to emerge as a major player in petrochemicals.



IndianOil's Indane LPG cooking gas pioneered the marketing of 5 k.g. Indane LPG Cylinders in Rural and Hilly regions

4.1.10 Collaborations/ Partnerships

The Corporation has launched 11 joint ventures in partnership with some of the most respected corporates from India and abroad — Lubrizol, Nycosa, Petronas, Oiltanking GmbH, to name a few.

SERVO lubricants are being marketed in Dubai, Nepal, Bhutan, Kuwait, Malaysia, Bahrain, Indonesia, Sri Lanka, Kyrgyzstan, Mauritius, Bangladesh, etc.

4.1.11 Performance

4.1.11.1 Physical Performance

Parameter	Unit	2004-05 Apr.-Dec. (Prov.)	2003-04 Apr.-Dec.	2003-04	2002-03	Growth %
Refinery Crude throughput	MMT	27.5	27.26	37.66	35.29	6.72
Pipeline throughput	MMT	32.12	32.94	45.17	41.11	9.88
Product sales (domestic)*	MMT	35.81	34.45	46.80	46.46	0.73

* includes CNG.

In 2003-04, exports had been 1.81 MMT Vs 1.10 MMT in 2002-03, registering growth of over 64%. Exports were 1.2MMT during April-December 2004.

4.1.11.2 Financial Performance

The Corporation achieved a turnover of Rs. 1,30,203 crore in 2003-04 as against Rs. 1,19,884 crore in 2002-03. The profit before tax was Rs. 9,691crore and the profit after tax was Rs. 7,005 crore for the year 2003-04, registering growths of 15.2% and 14.6% against the corresponding figures in 2002-03 of Rs. 8,414 crore and Rs. 6,115 crore respectively. The Corporation declared a dividend of 210% amounting to Rs. 2,453 crore against 193% for the year 2002-03 (on the enhanced post-bonus share capital).

The spiraling prices of crude during the year 2004-05 have been a crucial factor in the performance of the Corporation. Good refining margins and the revision of prices at retail end was offset by the burgeoning subsidy onus for Kerosene (PDS) and LPG (Domestic). While the turnover during April–September'04 was Rs. 70,696 crore versus Rs. 60,509.49 crore for the corresponding period last year, the Profit after Tax has been Rs. 2,712 crore against Rs. 2,751 crore last year for the same period. Indian Oil Corporation (IOC) has paid an interim dividend of 45% amounting to Rs. 526 crore for the financial

year 2004-05, on the total share capital of Rs. 1,168 crore. Including this, IndianOil has so far paid a cumulative dividend of Rs. 8,974 crore to its shareholders.

4.1.12 New Initiatives

With an increasing emphasis on optimization of activities spanning the hydrocarbon supply chain, integrated software solution encompassing diverse activities from demand estimation to refinery production and distribution planning are being undertaken at the Corporate level.

In order to widen the crude basket and optimize on input cost, more than five new grades of crude in 2003-04 were processed at IndianOil Refineries. Another ten new crudes have been



A view of IndianOil's Mathura Jalandhar Pipeline

identified for trials in 2004-05 of which three more grades have been introduced e.g Djeno (Congo), EA (Nigeria) and Abu Safa (Saudi Arabia).

New products introduced include LS-FO (Low Sulphur FO, <1.0%) and H-150 BS, a new Grade-II LOBS product, ex Hadia Refinery; Carbon Black Feed stock (High BMCI) ex Barauni refinery; N-Pentane for use in LAB unit at Gujarat Refinery etc.

New initiatives in Marketing have seen renewed thrust on Rural marketing and trials for packaged fuel. Efforts are also on by IndianOil to commence supply of Euro-III standards by 1.4.05 in select towns/cities and extend supply of Bharat Stage -II MS and HSD (now in NCT/NCR, Mumbai, Kolkata, Chennai and other Major cities) quality standards throughout India.

The year 2003-04 saw IndianOil's strategic adaptation of instruments of Risk Management in international oil trading. IndianOil has commenced derivative trades to protect refining margins, and was the first among Oil PSUs in the country to do so.

4.1.13 Subsidiaries

a. Indian Oil Blending Limited

IOBL is a wholly owned subsidiary of IndianOil, engaged in manufacture of lubricants and greases. Though the industry showed a positive growth in 2003-04, the challenging market environment and shifting of volumes to the newly commissioned Plants of IndianOil at Asaoti and Taloja affected the capacity utilization of IOBL Plants and production was lower by 4%. IOBL's profit after tax was Rs.57 lakhs in 2003-04 against Rs.114 lakhs during 2002-03. In order to improve the optimal utilization of the Blending plants, improve synergies and integrate operations for cost effectiveness, it is proposed to merge the company with IndianOil.

b. Indian Oil Mauritius Limited

IndianOil has established IndianOil (Mauritius) Ltd. (IOML) as a wholly owned subsidiary in Mauritius. The subsidiary will own and operate

storage facilities, Retail Outlets and Aviation facilities. With the commissioning of the terminal at Mer Rouge in December 2003, the first Retail Outlet in November 2004, and also a state-of-the-art laboratory besides Aviation refueling services, IOML's operations have begun in right earnest to play a major role in the country's downstream oil business.

c. Lanka IOC (Pvt.) Limited (LIOC)

LIOC was incorporated as a wholly owned subsidiary of IndianOil on 29th August 2002. Commercial operations commenced on 14th February 2003. The Company's spectacular performance has been capped by the success of its \$34 million IPO of LIOC, oversubscribed nearly nine times, and its listing was the island's largest ever, surpassing the \$32 million initial public offering by Sri Lanka Telecom in late 2002.

d. IndianOil Technologies Limited (ITL)

A wholly owned subsidiary of IOC, under the aegis of the R&D Centre has been formed with an aim to commercialize the intellectual property rights of the Corporation through consultancy and licensing of in-house developed Hydrocarbon Technologies both within the country and abroad.

e. Chennai Petroleum Corporation Limited

IndianOil has an equity share of 51.8% in CPCL which owns and operates two Refineries at Manali and Narimanam in Tamil Nadu. The subsidiary recorded a turnover of Rs. 9,430.45 crore in 2003-04 Vs Rs.8,636.52 crore in 2002-03. Profit after tax was Rs. 400.05 crore in 2003-04 Vs Rs. 302.89 crore in 2002-03.

f. Bongaigaon Refinery and Petrochemicals Limited

Subsequent to the transfer of 74.46% equity share of BRPL to IndianOil in 2001, BRPL has become a subsidiary of the Corporation. The performance of the subsidiary has been greatly enhanced with the allocation of 1.52 MMT Ravva crude ex K-G basin and the subsidiary recorded a profit after tax of Rs. 304 crore in 2003-04 Vs Rs. 178 crore in 2002-03. Turnover in 2003-04 was Rs. 2,849 crore Vs Rs. 1,862 crore in 2002-03.

g. IBP Co. Limited



- i) IBP was incorporated in 1909 it became subsidiary of IndianOil in 1970. Thereafter it became an independent Government company in 1972. It again became subsidiary of IOC in February, 2002. IOC now holds 53.58% of equity.
- ii) IBP has three distinct business groups i.e. business group (petroleum), business group (explosive), business group (cryogenics).
- iii) Physical performance of company during 2003-04 in regard to sale of petroleum products to dealer/ customer was 51,94,000 KL. The volume estimated in 2004-05 is around 58,42,000 KL. The company has commissioned 688 ROs in the country during the year 2003-04 and is expected to commissioned around 500 ROs during 2004-05.
- iv) Total sales value of production of company was Rs. 10,249.69 crore during 2003-04, the sales value of 2004-05 would be around Rs. 13,200 crore. The company registered a profit of Rs. 332.60 crore before tax during 2003-04. The company has declared a dividend of Rs. 77.52 crore during the year 2003-04. The company is expected to incur loss in 2004-05 mainly due to :
 - (a) Non revision of product prices in proper time sequence to take care of incremental input costs arising out of increase in crude / product prices in international market.
 - (b) Reduction of subsidy rates on SKO/LPG.

4.1.14 Projects

4.1.14.1 Major projects completed during the year 2003-04 upto March'04

1. Solvent Dewaxing unit at Digboi Refinery.
2. Hydrotreater at Digboi Refinery
3. Replacement of Barauni Patna section of Barauni- Kanpur product pipeline
4. Viramgam Koyali Crude Oil Pipeline
5. Koyali-Viramgam-Sidhpur product pipeline

6. Kuruksetra – Roorkee- Najibabad product pipeline
7. Bottling Plant at 6 locations viz. Una, Etawah, Gurgaon, Chengalpet, Coimbatore and Shimoga
8. Port Terminal at Mauritius
9. New Depot at Gulbarga, Karnataka.
10. TOP at Roorkee, Uttaranchal
11. New pipeline from JNP terminal to Vashi terminal

4.1.14.2 Major Projects approved during the year 2003-04 upto March'04

1. MS Quality Upgradation Facilities at Haldia: Approved in May'03 at an estimated cost of 359 crore
2. MS Quality Upgradation Facilities at Gujarat: Approved in July'03 at an estimated cost of Rs. 390 crore
3. Paradeep – Haldia crude oil pipeline system approved at an estimated cost of Rs 1,178 crore.
4. Chennai-Trichy-Madurai product pipeline system-Approved at a cost of Rs. 363.21 crore in July 2003

4.1.14.3 Major Ongoing Projects as of December 2004

Sr. No.	Name of Project
1.	Linear Alkyl benzene (LAB) Project at Gujarat
2.	Diesel Hydrotreatment Facilities at Mathura
3.	MS Quality Upgradation Facilities at Mathura
4.	Integrated Para-xylene /PTA at Panipat
5.	Panipat Refinery Expansion Project
6.	MS Quality Upgradation Facilities at Haldia
7.	MS Quality Upgradation Facilities at Gujarat
8.	Panipat Refinery Expansion linked pipeline projects (a) Mundra-Kandla crude pl and conversion of Kandla-Panipat section of KBPL to crude (b) Sidhpur-Sanganer pl
9.	Chennai-Trichy-Madurai Product Pipeline System
10.	New depot at Pedapalli
11.	Depot at Sankari and terminals at Trichy, Chittorgarh and Jasidih
12.	Bottling Plants at Vasai, Ilayangudi and Raipur
13.	23 nos. Auto LPG Dispensing Stations (ALDs) in major cities

4.1.15 Safety, Health & Environment

Emphasis in IndianOil has always been on sustainable development. The Corporation has always been committed to providing a safe work place and in the enrichment of quality of life of employees, customers and the community. A comprehensive safety, health & environment management system is in place in all operating units and installations under which the facilities are periodically reviewed and upgraded from time to time for better performance. Safety systems are regularly audited for continuous improvement. Environment management systems of all refineries and major marketing and pipelines installations are certified to ISO-14001 standards.

All IndianOil refineries fully comply with the prescribed environmental standards and incorporate state-of-the-art effluent treatment technologies. Sustained efforts are being made to further improve the existing standards and facilities.

IndianOil gives due importance to the man behind the machine and considers his health and safety a valuable asset. Accordingly, Occupational Health of the employees is monitored across the Corporation. All Occupational Health centers are certified under Occupational Health and Safety Management System (OHSMS).

4.1.16 Control of Pollution and other Environmental and Safety initiatives

IndianOil while achieving excellence in business activities is consciously committed to achieve environmentally sustainable growth and has continued with this endeavour during the year 2003-2004 and in 2004-05 also.

4.1.17 Safety & Environment Protection Awards

Barauni Refinery

- ◆ Greentech Safety Gold Award (2003-04)
- ◆ TERI Environment Winner Award (Category-3) (2003-04)

- ◆ OISD Safety Award - 2nd Position (2002-03)

Panipat Refinery

- ◆ Greentech Safety Silver Award (2003-04)
- ◆ National Safety Award (Scheme I) Runners up (2003)
- ◆ National Safety Award (Scheme II) Runners up (2003)

Gujarat Refinery

- ◆ Greentech Safety Gold Award (2003-04)
- ◆ Suraksha Shreshta Puraskar (2003)

4.1.18 Conservation of Petroleum Products

4.1.18.1 Energy & loss minimization

Indian Oil Corporation continues to place emphasis on energy conservation and reduction of hydrocarbon loss at its Refineries.

4.1.18.2 Conservation of Petroleum Products

Indian Oil Corporation Ltd. (IOC) continuously maintains thrust on oil conservation at all its seven operating refineries. Through continuous in-house process monitoring and study on latest technological developments, various energy optimization and hydrocarbon loss minimizing schemes are implemented at IOC refineries.

4.1.19 Energy Conservation Awards

- ◆ IOC's three Refineries received National Energy Conservation Award 2003 in the Refining Sector, instituted by Ministry of Power on 14th Dec'03
- ◆ Gujarat : Special prize (second consecutive year)
- ◆ Panipat : First prize (Second consecutive year)
- ◆ Mathura : Certificate of Merit

4.2 HINDUSTAN PETROLEUM CORPORATION LIMITED (HPCL)

4.2.1.1 Hindustan Petroleum Corporation Limited (HPCL) is the second



largest integrated oil company in India. It has two refineries producing a wide variety of petroleum products - one in Mumbai (West Coast) having a capacity of 5.5 MMTPA and the other in Visakhapatnam (East Coast) with capacity of 7.5 MMTPA. The Corporation holds 16.95% equity in Mangalore Refinery and Petrochemicals Limited having a capacity of 9 MMTPA, and is progressing to set up a refinery in the state of Punjab. The Corporation owns and operates the largest Lube Refinery of 3,35,000 Tonnes capacity for Lube Base Oils. The authorised and paid up capital of the Corporation as on 31.12.2004 were Rs.350 crores and Rs.339.33 crores respectively. The Government of India holding in HPCL is 51.01%.



Commissioning of Hindustan Colas Bitumen Plant at Visakh

4.2.1.2 During 2003-04, the two refineries of the Corporation achieved a combined crude throughput of 13.70 MMT. The throughput expected to be achieved during 2004-05 is 13.70 MMT. The total sales of petroleum products during the period 2003-04 was 19.53 MMT. The total sales of petroleum products expected to be achieved during 2004-05 is 19.00 MMT. During the year 2003-04, the sales turnover was Rs. 56,712 Crore and net profit was Rs.1,904 crore. The sales turnover expected to be achieved during 2004-05 is Rs.58,552 crore and net profit expected to be achieved during 2004-05 is Rs.807 crore. The Board of Directors had recommended a dividend of Rs. 842 crore for

the year 2003-04 and estimated dividend during 2004-05 is Rs.242 crore.

4.2.1.3 During the period 2003-04, the Corporation commissioned 644 Retail Outlets and 95 LPG distributorships and released 21.15 lac new LPG connections. During the period 2004-05, new Retail Outlets and LPG distributorships expected to be commissioned is 1000 and 130 respectively. The new LPG connections expected to be released during 2004-05 is 19.20 lacs.

4.2.2 Major Projects Completed

- ◆ Resitment of Manglia LPG bottling plant (44 TMTA capacity) at a cost of Rs. 20.15 Crore has been completed and commissioned in July 04.
- ◆ Capacity augmentation of the existing Bottling Plants at Bahadurgarh and Visakh from 44 TMTA to 88 TMTA each has been completed at a cost of Rs. 6.27 crore.

4.2.3 Major Projects Approved

- ◆ Mumbai-Pune Pipeline (Derating and Extension) : The Project for derating Trombay - Vashi section and extension from Loni to Hazarwadi and from Hazarwadi to Pakni along with Optical Fibre Cable/telecom and augmentation of tankage at Hazarwadi & Pakni by 82,820 KL - has been approved at a total cost of Rs 335.17 Crore.
- ◆ Delhi-Mundra Pipeline : The project envisages laying approximately 1,037 Km long 18" / 16" dia. cross-country pipeline between Mundra Dispatch Station and Bahadurgarh Receipt Station, is intended for carrying 2 grades of Motor Spirit, 2 grades of HSD, SKO and any other feasible White Oil product. It has been approved at a cost of Rs. 1,624 crore.

4.2.4 On-Going Projects

- ◆ Additional Tankages : Total tankages amounting to 85,810 KL are currently under construction at six locations (Pedapally, Aonla, Haldia, Sewree -Wadala, Mughalsarai

Top and Roorkee) at a total cost of Rs 81.92 crore.

- ◆ **LPG Plants :** Revamping of Mahul BDU bottling plant (80 TMTA capacity) at a cost of Rs. 21.67 Crore is currently under implementation. Further, capacity augmentation of another 6 bottling Plants by 122 TMTA at a cost of Rs. 18.28 crores is currently under implementation.
- ◆ **Punjab Refinery Project :** The project envisages setting up a grassroot refinery at Phulokhari, Bathinda District, Punjab and accordingly the approval for the same has been obtained from Government of India. In view of the current as well as projected changes in the supply/demand scenario and also the process modifications that need to be incorporated in the design to accommodate new product specifications, the capacity, the configuration of the refinery and line pipe sizes were reviewed in detail. It is now envisaged to phase out the implementation of 9 MMTPA refinery by implementing the project initially as 6 MMTPA refinery. Accordingly, a revised Detailed Feasibility Report (DFR) for 6 MMTPA refinery was approved by HPCL Board in its meeting dated January 9, 2003. The project is currently being executed by a fully owned subsidiary of HPCL viz. Guru Gobind Singh Refineries Limited, with an option to induct a partner as and when required.
- ◆ **Green Fuels & Emission Control Project (Mumbai Refinery) :** The objectives of “Green Fuels and Emission Control Project” (GFECPP) is to (i) meet future specifications of Bharat Stage III (Euro III) for Motor Spirit (MS) with a capability to make Euro -IV MS and Euro -III Diesel in line with the Auto Fuel Policy recommended by Mashelkar Committee, (ii) reduce Sulphur emission, (iii) de-bottlenecking of existing CDU, VDU & FCCU, (iv) maximise product yield and returns and (v) achieve crude

processing capacity of 7.9 MMTPA. This project has been approved by the Board of Directors on October 16, 2002 at a capital outlay of Rs.1,152 crore. The anticipated project completion date is March, 2006.

- ◆ **Clean Fuels Project (Visakh Refinery) :** The objective of “Clean Fuels Project” is to (i) meet future specifications of Bharat Stage II/III (Euro II/ Euro III) for MS & HSD in line with the Auto Fuel Policy recommended by Mashelkar Committee, (ii) reduce Sulphur Emissions, (iii) maximise product yields and returns and (iv) achieve crude processing capacity at 8.3 MMTPA. This project has been approved on 30.04.03 at a capital outlay of Rs.1,635 crore. The anticipated project completion date is August, 2006.

4.2.5 Policy initiatives undertaken

HPCL is marching along a path of high growth in keeping with the national priorities. Its ambitious plans include furthering the synergies and participating in the oil industry's growth by vertically integrating in both the upstream and downstream sectors. The policy initiatives undertaken also include growth and diversification ventures in the following areas:

- ◆ **Enterprise Resources Planning (ERP) :** With a view to derive benefits such as on-line, timely & accurate information for improved decision making, improved integration across functions & processes, standardization of systems & processes etc. ERP was taken up for implementation across the Corporation. 194 locations have gone live with ERP software, as of November 2004.

HPCL has formed a joint venture Company with Gas Authority of India Limited (GAIL) viz. Bhagyanagar Gas Ltd., to distribute and market environment-friendly fuels such as natural gas, piped gas, Compressed Natural Gas (CNG), Auto LPG in and around the cities of Andhra Pradesh.

HP Gas: Rasoi Ghar (Community Kitchen): LPG Marketing in India has traditionally been confined to domestic & non-domestic consumers in urban/semi-urban markets and all efforts till date have been in meeting the demands of these markets. With the saturation of urban and semi-urban markets and adequate availability of LPG in India, there is a need to look for alternative markets. Rural India presents a big opportunity for growth of LPG in India. Accordingly, the idea of a community kitchen (HP GAS Rasoi Ghar) was mooted to the Panchayat of a village in Thane district and a pilot project was commissioned on 17.08.2002. HPCL carried forward this initiative and has commissioned 666 number of Community Kitchens as of November, 2004.

- ◆ HPCL had launched its new Retail Brand “Club HP” which assures high-quality personalized “Vehicle and Consumer Care” through a select set of outlets during 2002-03. The roll out of “Club HP” is being made in a phased manner providing a distinct set of basic and value added offerings which include “Fuel Quality and Quantity Assurance”, “Efficient & Expert Service”, “Quick Care Point”, “Digital Air Towers”, “Vehicle Finance and Insurance related services”, “Bill Payment facilities”, “HPCL- ICICI Credit Cards”, “Loyalty Programs” and a host of other consumer amenities, which continued in 2004-05 across the country. A total of 1,514 Outlets have been upgraded to “Club HP” status, as of November, 2004.
- ◆ Branded Fuel: Taking its retail branding initiative one step further, HPCL had launched branded petrol as well as diesel in select markets in the country during 2002-03. The new branded products are aimed at discerning customers in major cities across the country and carry the promise of enhanced performance and improved engine health. “POWER” is the brand name for the new generation petrol that contains specially imported additives. The new diesel brand, “TURBOJET” has been formulated with specially imported additives to offer a

solution for diesel engines. As of November ‘04, “Power” has been launched at 941 outlets and “Turbojet” at 838 outlets, across the country.

4.2.6 Joint Ventures

The status of the joint ventures companies (JVCs) promoted by HPCL is as follows:-

(a) Mangalore Refinery & Petrochemicals Ltd. (MRPL), with a capacity of 3 MMTPA was commissioned in March, 1996. The capacity of the refinery was enhanced to 9 MMTPA during 1999-2000. In March, 2003 ONGC acquired the entire equity stake of Indian Rayon Industries Limited in MRPL and also infused Rs. 600 crores into MRPL as additional equity. The Financial Institutions / lenders of MRPL also converted Rs.365 crores of debt into equity and Rs. 160 crores of debt into Zero Convertible Bonds. Consequent to the above, HPCL’s equity in MRPL stands at 16.95 %. A fresh Shareholder Agreement dated 03.03.2003 has been signed by HPCL with ONGC to take care of the interests of HPCL.

(b) Hindustan Colas Ltd. (HINCOL)

The performance of HINCOL, a JVC formed with Colas SA of France for producing and marketing Bitumen Emulsions continues to be encouraging. In addition to Bitumen Emulsions, HINCOL has been successfully marketing a wide range of value added bitumen products like Modified Bitumen, Cut Back Bitumen etc. HINCOL presently operates 6 manufacturing



Shri S.C. Tripathi, Secretary (P&NG) inaugurates the First-Ever Online Density Display Unit at HPCL’s e-fuel station in Mumbai

plants at Mumbai, Bahadurgarh, Chennai, Vadodara, Visakhapatnam and Mangalore.

(c) South Asia LPG Co. Pvt. Ltd. (SALPG)

This JVC with Total Fina Elf of France envisages the construction of LPG Underground Cavern storage of 60,000 MT capacity and associated receiving & dispatch facilities at Visakhapatnam. This project is the first of its kind in South Asia and would facilitate import of LPG in large vessels resulting in savings in freight costs. The project will meet the requirement of a large storage for imported LPG in order to meet the burgeoning demand in Andhra Pradesh and the neighboring states.

The cost of the project is estimated to be Rs. 333 crore and it is being financed through debt-equity of 2.33:1. The debt has been fully tied up with a consortium of banks led by State Bank of India. The financial closure of the project has already been achieved. The project is expected to be completed by July, 2006.

(d) Petronet India Ltd. (PIL) was formed in May, 1997 as a joint venture company with 50% equity by oil PSUs and balance 50% being taken by private companies/financial institutions. Special Purpose Vehicles (SPVs) were floated by PIL with oil companies for implementing individual pipeline projects, viz., Petronet MHB, Petronet CCK and Petronet VK which are the operating companies.

Consequent to Government's Notification of 20th November, 2002, oil companies are laying pipelines independently. In view of this, PIL is examining future course of action to be taken in the matter.

(e) Petronet MHB Ltd. (PMHBL)

HPCL, along with Petronet India Ltd. (PIL) had promoted Petronet MHB Ltd., for the construction and operation of Mangalore-Hassan-Bangalore pipeline. PIL and HPCL would each have 26% equity participation. ONGC has joined as a strategic partner in the company by taking 23% equity.

The product pipeline from Mangalore to Bangalore, with a tap off point at Hassan, has been executed at a cost of Rs. 639 crore. The

total length of the pipeline is 362.3 km. The pipeline is meeting the transportation needs between Mangalore, Hassan and Bangalore. The present demand of petroleum products of 2.3 MMTPA is being serviced through this pipeline.

(f) Prize Petroleum Co. Ltd.

HPCL, in partnership with ICICI and HDFC, has formed a Joint Venture E & P Company viz., Prize Petroleum Co. Ltd. for participating in exploration and production of hydrocarbons.

The consortium of Prize Petroleum with M/s GSPC, Jubilant Empro and Geoglobal Resources has been awarded the Block CB-ONN-2002/3 in the Cambay Area and the Production Sharing Contract for the same has been signed with the Government of India on February 6, 2004.

The consortium of Prize Petroleum has been awarded service contract for development of 3 marginal onshore fields of ONGC in Gujarat viz. Hirapur, Khambel and West Becharji.

(g) Bhagyanagar Gas Ltd. (BGL) has been formed as a JVC by GAIL and HPCL – for distribution and marketing of environmental friendly fuels (green fuels) viz., CNG and Auto LPG for use in the transportation, domestic, commercial and industrial sectors, in the State of Andhra Pradesh. BGL was incorporated on 22nd August, 2003. HPCL and GAIL shall hold 22.5 % each of the equity while 5% would be held by Govt. of Andhra Pradesh and 50% by Strategic / Financial Investors.

BGL has commenced Auto LPG marketing in Tirupati during the current year 2004-05. Marketing of Auto LPG in Hyderabad/ Secunderabad is expected to commence shortly.

4.3

BHARAT PETROLEUM CORPORATION LIMITED (BPCL)



4.3.1.1.

BPCL is an integrated Oil Company in the downstream sector engaged in refining of crude oil and

marketing of petroleum products. It has also diversified into the manufacture and marketing of petrochemical feedstock. The Corporation has an all India presence through its extensive marketing network. The Corporation holds 62.96% of the paid up equity in Numaligarh Refinery Limited and 54.81% of the paid up equity of Kochi Refineries Limited. The authorised and paid-up share capital of the Corporation as on 31.12.2004 is Rs. 300 crore. The Government of India holding in BPCL is 66.2%.

4.3.1.2 During the year 2003-04, BPCL's Mumbai refinery achieved a thruput of 8.76 MMT. The thruput expected to be achieved during 2004-05 is 9.10 MMT. The profit after tax during 2003-04 was Rs.1,694.6 crore. The expected profit after tax during 2004-05 is Rs.721.02 crore.

4.3.1.3 During the year 2003-04, the Corporation sold 20.37 MMT of petroleum product. The total sale of petroleum products expected to be achieved during 2004-05 is 21.68 MMT. During the period 2003-04, the Corporation commissioned 676 new Retail Outlets, 7 SKO-LDO dealership and 94 new LPG distributorships. During the period 2004-05, new retail outlets and LPG distributorships expected to be commissioned is 700 and 135 respectively. The Corporation released 26.84 lacs new LPG connections during the year 2003-04. The new LPG connections expected to be released during 2004-05 is 18.60 lacs.



Hon'ble Union Minister for Petroleum & Natural Gas and Panchayati Raj, Shri Mani Shankar Aiyar inaugurates BPCL's LPG Plant at Bangalore

4.3.2 Policy initiatives undertaken by BPCL

4.3.2.1 Product Security

BPCL has acquired the Government of India's shareholding in Kochi Refineries Ltd. (KRL) and IBP's stake in Numaligarh Refinery Ltd. (NRL). With these acquisitions, the two companies KRL & NRL have become subsidiaries of BPCL.

Consequent to the above acquisition, BPCL's product availability from its own sources has gone up from 45% to 90% of its sales. In addition, BPCL has tied up with other oil companies to cover its current deficit in the short term.

BPCL has also plans to set up grassroots refineries at Bina in Madhya Pradesh and at Lohagara in Uttar Pradesh for meeting its deficit in the Northern Region.

4.3.2.2 Entry in Exploration and Production of oil and gas

The entry into the upstream sector of Exploration and Production (E & P) business in oil & gas has become necessary for BPCL in order to have reasonable supply security with the benefits of an integrated supply chain and hedging of price risks in the volatile oil market. The Board of Directors of BPCL has given an 'in-principle' approval for venturing into this new business. In order to give a major thrust to Exploration and Production business, an allocation of Rs.1,000 to Rs.1,500 crore has been earmarked over the next five years, based on the opportunities available for it.

BPCL has entered into this business with successful bidding for blocks offered by the Government of India under NELP-IV. BPCL has been awarded three blocks which include two deep water blocks (in Krishna-Godavari and Mahanadi basins) in consortium with ONGC and OIL, wherein BPCL has 10% participating interest in each block and one on-land block (in Cauvery basin) along with ONGC, wherein BPCL has 40% participating interest. The exploration programme on these blocks has since commenced and the estimated expenditure for BPCL on these three blocks would be

approximately Rs.158 crore during the exploration period.

BPCL has also actively pursued some 'farming-in' opportunities to acquire assets or take over participating interest of the existing E&P companies.

BPCL is considering participation in bidding for blocks to be offered by the Government of India in the next round of NELP V. BPCL is also considering bidding for the offshore marginal fields being offered by ONGC for development.

4.3.2.3 Refinery

Some of the Policy initiatives taken by the Refinery SBU are as under :

- Constant efforts to upgrade product quality in line with the trends worldwide
- Optimizing costs in the entire value chain, from sourcing and transportation of crude, processing and optimization of products mix, and eventually realizing better margins.

4.3.3. Retail

● Enhanced Fuel Preposition (EFP)

The Pure for Sure (PFS) programme is an intense effort towards ensuring delivery of pure fuel in the right quantity to the consumers, deliver courteous and professional service and increase speed and efficiency of fuelling. The programme involves delivering of products to retail outlets in modified tank lorries fitted with tamper proof locks, comprehensive sealing of dispensing units at the retail outlets, periodic and surprise checks by the company personnel, monthly testing of product samples, periodic audits and re-certification once in six months.

The PFS programme has been well received by the consumers and most of the certified outlets have registered high growth compared to other outlets in the neighboring area.

Presently, the company has 2,815 Retail outlets under PFS. Approximately 74% of MS volumes and 69% of HSD volumes were sold through these outlets. This Programme has been very successful in gaining customer confidence and enhancing sales from PFS Outlets.

● Petrocard

BPCL was the first to launch a comprehensive Customer Loyalty Programme which rewards the customer each time they buy any product from its retail outlets using the card. The programme is called PETROBONUS and is administered through a Petrocard which uses the state-of-art Smart Card Technology. The technology, in addition to facilitating easy operations for the customers helps in understanding customers fuelling behavior comprehensively. Petrocard was also voted as the 'Product of the Year' by the Smart Card Forum of India. Currently over 14.29 lakh customers have been enrolled, thus making the Petro Bonus programme as the largest customer loyalty programme in India.

● Smart fleet card

BPCL's Retail Highway Strategy has identified truck drivers as a large and valuable customer segment and to cater to their needs, two-tier Upgraded Highway Network has been developed. The first tier consists of One Stop Truckers Shops (which have been branded as *Ghars*), which are a network of strategically located sites, which are Company Owned and Company Operated (COCO).

The second tier consists of Fleet Card Retail Outlets (FCROs), a set of carefully selected Retail Outlets known for their high reputation in the market and having been certified as PFS. Smart Fleet Card, a unique programme for Fleet Owners and Corporates, has evoked enthusiastic response from Truck Fleet owners. More than 4.72 lakhs vehicles have been enrolled under this scheme.

● New generation petrol fuel : SPEED

Deregulation has opened avenues for marketing improved branded products. BPCL realised the opportunity by launching New Generation Petrol - SPEED.

SPEED has been produced with world class additives sourced from M/s Chevron Oronite Company, LLC, USA and offers advantages of maximum power, lower vehicle maintenance, increased mileage and reduced emission by effectively removing harmful carbon deposits.



A view of BPCL's Modern Retail Outlet

After introducing SPEED in Mumbai in July 2002, 'SPEED' has been successfully launched in 60 territories across the country and is strategically marketed from 1,171 'Pure for Sure' certified retail outlets. It is proposed to launch 'SPEED' in more cities in a phased manner, thus providing value added branded fuel to the customers.

4.3.4 LPG

With a view to achieving excellence in customer service, high standards of safety and operating practices, the following initiatives which have been taken are ensuring comfort, convenience and reliable service to the Bharatgas customers:

- i. Improved customer services at Territory offices and LPG distributorships for effective redressal of customer complaints and improved response at distributor's end.
- ii. BPCL has launched a 24-hours service through a unique telephone no. 1712 where the customer can order for Bharat Gas Cylinder or log a leakage call.
- iii. Improved inventory management at LPG distributorships.
- iv. Ensure customer safety and enhanced customer awareness.
- v. Training of LPG sales staff, distributors and their staff to improve their technical / behavioral skills.

- vi. Computerization of the LPG distributorship network for on-line accounting
- vii. Pioneered 24-Hour Bharat gas Helpline which has been implemented in all major markets.

● Introduction of 5 kg. cylinder in rural markets

Keeping in mind the lower income customers in rural, and hilly areas, and the need to penetrate extensively in rural markets, it was felt that there was a need to introduce a smaller size cylinder so as to reduce both initial deposit cost as well as the recurring refill cost.

BPCL, in August 2002 has launched 5 Kg. cylinders at 33 selected rural markets in the States of Andhra Pradesh, Karnataka, Tamil Nadu, Punjab, Rajasthan, Maharashtra, Gujarat, Madhya Pradesh, & West Bengal.

● Rural mobile vehicle

In order to reach the far-flung rural customers, BPCL has introduced the Rural Mobile Vehicle (RMV) way back in 1999 in the State of Punjab. Encouraged by this novel method of reaching rural customers, BPCL has introduced 24 RMVs during the year. RMV customer population has crossed 1 lac during November, 2004.

- **LPG as auto fuel**

LPG being a clean and an environmentally friendly fuel, BPCL was the first Oil Company to take up the initiative to set up an Auto LPG Dispensing station to run vehicles on LPG as a pilot project in Delhi in October, 1999. BPCL has commissioned 23 Auto LPG dispensing stations.

Following new products were developed :

- i) High Performance Diesel Engine Oil
- ii) New grades of rust preventive oil
- iii) High performance greases
- iv) Exclusive grades for Defence sector
- v) Exclusive bearing oils for steel plants
- vi) Alternate formulations for existing lubricants grades

4.3.5 Lubricants

A number of initiatives were taken up to retain and increase the market share. The sales network was expanded during the year by appointing additional Primary Lube Distributors and by adding a large number of multi-product counters to the existing network. Channel finance for retail outlet dealers was strengthened by implementing Co-Branded Cards with ICICI leading to online validity of creditworthiness and credit availability of the customers as well as faster flow of funds.

In an endeavour to expand export operations during the year, entry was made in U.A.E. in addition to Bangladesh and Nepal. An MOU has been signed with a major petroleum retailing company in Africa for entering into African countries.

A major thrust has been given to Research and Development to support the Lubricant business initiatives.

Investment in JVC : Indraprastha Gas Co. Ltd.

Indraprastha Gas Co. Limited, a joint venture between Gas Authority of India (GAIL), BPCL and the Government of National Capital Region of Delhi was incorporated on 23.12.1998 for implementing the Delhi City Gas Project with an authorised capital of Rs. 220 crore.

The equity of the company is Rs. 140 crore and BPCL's contribution towards equity works out to Rs. 31.50 crore @ 22.5% which has already been invested.

The JV has been formed for distribution of Natural Gas to the domestic consumers as well as commercial establishments through pipeline in the National Capital Region of Delhi and installation of CNG outlets to feed the automobile sector. The company is vigorously pursuing the gas distribution project in Delhi. As of December, 2004, IGL has commissioned over 124 CNG stations in Delhi. Number of CNG vehicles has crossed 91,260. Efforts are on to increase coverage of domestic customers.

CHAPTER V



5. OTHER UNDERTAKINGS/ ORGANISATIONS

5.1 ENGINEERS INDIA LIMITED (EIL)



5.1.1. Engineers India Limited is a leading engineering and consultancy company in India situated at New Delhi. Since the mid sixties, it has been serving the petroleum, petrochemicals and other process industries including the metallurgical industry. EIL provides a comprehensive range of project services spanning from process design, engineering, procurement, construction management, project



A view of BPCL - DHDS unit

management to supervisory assistance for commissioning and plant start-up. EIL also takes up projects on LSTK basis. It has played a very significant role in setting up a large number of process plants in India and abroad. EIL's quality management system conforms to ISO-9001: 2000 version.

The Company has regional engineering offices in Chennai and Vadodara, branch office in Mumbai, zonal office in Kolkata, inspection/procurement offices at various locations all over India and also in London and construction offices at different project sites in India and abroad. EIL has overseas offices in Abu Dhabi, Kuwait, Qatar and Australia.

EIL has a wholly owned subsidiary company in Malaysia named EIL Asia Pacific Sdn Bhd (EILAP)

for executing projects and also a subsidiary company in India - Certification Engineers International Ltd. for providing certification and inspection services. The total manpower strength of the Company as on 31.12.2004 was 2,764.

The authorised and paid-up share capital of the Company is Rs.100 crore and Rs.56.16 crore respectively.

5.1.2 Performance

(a) Physical performance – important assignments secured during 2004 - 2005 (UPTO DECEMBER 2004)

The Company continued to make extensive efforts to keep its order book position healthy and commensurate with the manpower availability in spite of the competitive situation.

During the year 2004-2005 (till December, 2004), EIL secured new business amounting to Rs.470 crore (approx). Important assignments/jobs in the fields of refineries, pipelines, onshore/offshore oil & gas and non-ferrous metallurgy were secured by EIL during the year.

The major domestic jobs secured include the following :

- EPCM services for Vizag Refinery Clean Fuel Project, HPCL.
- EPCM services for DHDS Revamp at Vizag Refinery, HPCL.
- EPCM services for CCRU Revamp Project at Panipat Refinery, IOCL.
- Process package and engineering services for RFCCU Revamp at Panipat Refinery, IOCL.
- Engineering consultancy services for hydrogen recovery from off-gases from CCRU at Gujarat Refinery, IOCL.
- Consultancy services for Sulphur Recovery Unit (SRU) Integration Project at Vizag, HPCL.
- Consultancy services for SDU Modification Ph-II at Digboi Refinery, IOCL.
- Configuration study and DFR for an Integrated Refinery-cum-Petrochemical Complex at Paradip, IOCL.
- DFR for processing Rajasthan crude at Panipat Refinery, IOCL.

- DFR for product quality improvement and value addition at Essar Refinery, Essar Oil Ltd.
 - Process package, hazop study and cost estimation for preheat optimization for maximizing preheat and fractionation improvement in AVU-I & II at Barauni Refinery, IOCL.
 - Basic engineering package and cost estimate for revamp of existing VGO HDS unit at Manali for LPG Process, CPCL.
 - Basic Design and Engineering Package (BDEP) for Isomerisation & FCC Gasoline Treating Units proposed to be installed under Clean Fuel Project at Vizag, HPCL in association with Axens, France.
 - PMC services for Naphtha Cracker Project at Panipat, IOCL.
 - Engineering consultancy services for Naphtha Cracker Plant Revamp at Vadodara Complex, IPCL (RIL).
 - DFR for expansion of petrochemical plant at Pata based on additional C2/C3 from Vijaipur, GAIL.
 - DFR for setting up a petrochemical complex in Assam, GAIL.
 - Consultancy services for modification of UG FW network at GPC Dahej, IPCL.
 - Consultancy services for revamping of GGS-I & II RDS, Assam, ONGC.
 - DFR, RRA, REIA including marine impact assessment study (Part-A) and selection of process licensor for conversion of naphtha into gasoline (Part-B) at Uran, ONGC.
 - DFR for LPG Plant at Yetagun Gas Field in Myanmar, GAIL.
 - Consultancy services for BPA Complex Reconstruction, ONGC.
 - Extension of running contracts for revamping of platform facilities at Mumbai High, ONGC.
 - EPCM services for Mumbai-Manmad-Mangalya Pipeline extension to Piyala – Bijwasan, BPCL.
 - EPCM services for Mundra-Delhi Product Pipeline Project, HPCL.
 - EPCM services for Pune-Solapur Product Pipeline Project, HPCL.
 - EPCM services for Dadri-Panipat Pipeline Project, GAIL.
 - EPCM services for Numaligarh-Siliguri Product Pipeline Project, Oil India Ltd.
 - EPCM services for Mora-Sachin Pipeline Project, Gujarat Gas Co. Ltd.
 - EPCM services for capacity augmentation of Mumbai-Manmad-Mangalya Pipeline, BPCL.
 - EPCM services for Muri Alumina Refinery Expansion Project, INDAL.
 - DFR for Alumina Plant Expansion to 350 KTPA at Muri Works, INDAL.
 - Pre-project activities for 2nd Phase expansion of NALCO's Integrated Complex at Angul, NALCO.
 - Third party inspection services for civil works of main Narmada and branch canals, Sardar Sarovar Narmada Nigam Ltd.
- In addition to above, EIL has won a number of assignments for specialised services in the areas of environment engineering, risk analysis, advance control and optimization, heat and mass transfer, information technology, specialist maintenance and also new infrastructural industries related areas such as intelligent buildings, highways & related works.
- Outside India, EIL has secured following major jobs :
- Managing contractors' services for 9th Olefin Complex to Pars Petrochemical Company, Iran.
 - Technical assistance for projects in Iran to Petropars Limited, Iran.
 - Extension of running technical services contract with OIEC/EIED, Iran.
 - Extension of running contract for managing contractors' services for Third Aromatics Project in Iran with Bou Ali Sina Petrochemical Co., Iran.
 - Engineering services contract for providing engineering services for various projects in Kuwait with Equate Petrochemical Company, Kuwait.
 - Hazop study for Shuaiba Refinery Units, KNPC, Kuwait
 - Consultancy services for construction of floating roof gasoline storage tankages at Doha Depot, Qatar Fuel Company, Qatar.
 - Design study of public address / general alarm , closed circuit TV and field telephones in Dukhan Fields for Qatar Petroleum, Qatar.

- Technical assistance to Ras Gas Company, Qatar.
- Extension of running contract with BAPCO, Bahrain.
- Technical assistance for construction management at Karratha, Australia to Paramount Co. Limited, Australia.
- Energy conservation opportunity assessment study for Saudi Aramco's Jeddah Refinery, Saudi Arabia.

(b) Business Forecast (Jan 2005-March 2005)

The major domestic jobs likely to be awarded to EIL include consultancy services for FCC Unit revamp at Gujarat Refinery of IOCL, re-start of Essar Refinery Project at Vadinar of Essar Oil Ltd., revamp of FCC Unit at Haldia of IOCL (feasibility study), setting up of a petrochemical complex at Dahej of ONGC (feasibility study) and in the overseas PMC Services for Skikda Refinery of Naftec, Algeria, FEED for integrity enhancement for firewater for Umm-Al-Nar Refinery of Takreer, Abu Dhabi, FEED for NGL 3&4 Process information system for Qatar Petroleum, Qatar and project management & engineering services for Apache Projects of Apache Energy, Australia.

(c) Financial Performance

Turnover of EIL during 2003-04 was Rs.1,069.32, registering an annual growth of 31% over previous year. Profit after tax was Rs.80.18 crore – an increase of 25% over that registered during the previous year. The Company declared a dividend of 65% of the paid-up capital as on 31.3.2004, which works out to be Rs. 36.5 crore.

Strategic Plan

A Strategic Plan for the period ending 2003-08 has been finalised. The strategic initiatives drawn up are targeted towards making EIL a market intensive and customer focused organisation.

Diversification

In order to access business opportunities in the infrastructure and related sectors in the domestic market, EIL diversified into selected infrastructure sector areas including roads & highways, intelligent buildings, urban development & water related projects. During the year (upto December 2004), business worth Rs.1,088 lakh was secured against the annual target of Rs.2,500 lakh.

Human Resource Development

For updating the functional and technical skills and enhance multi skilling capabilities of the employees, fifty training programmes have been identified in the MOU for completion during 2004-2005.

5.2

BALMER LAWRIE & COMPANY LIMITED (BL)



5.2.1

Balmer Lawrie & Co. Ltd. (BL) was established in 1867 as a Partnership Firm and was incorporated as Private Limited Company in 1924. It was subsequently converted into a Public Limited Company in the year 1936 with its Registered Office at 21, Netaji Subhas Road, Kolkata - 700 001. The

5.1.3 Policy Initiatives Undertaken

The salient policy initiatives taken by EIL include the following :

Organisational Development

To establish a stronger presence in the evolving competitive business environment, organizational studies relating to internal customer satisfaction and client satisfaction have been initiated during 2004-2005. These studies are slated to identify actions which would enable enhancing customer satisfaction and improve corporate performance comparable to globally operating consultancy organizations.



A view of Balmer Lawrie's Container Freight Station

authorised capital, paid-up capital and reserves & surplus of the company as on 31.3.2004 was Rs. 30 crore, Rs. 16.29 crore and Rs. 159.84 crore respectively.

5.2.2. The company is a diversified, medium sized company with operations spread throughout India and overseas. The main activities of the Company are classified into a number of Strategic Business Units (SBU) viz., (i) Industrial Packaging (ii) Greases & Lubes (iii) Performance Chemicals (iv) Travels & Tours (v) Cargo (vi) Tea Exports (vii) Project Engineering and Consultancy.

5.2.3 During the year 2004-05, the company is expected to manufacture 36 lakh barrels/drums against 34.32 lakh achieved in 2003-04. The company is expected to produce 31,000 MT of Greases/ Lubricants during 2004-05 as against 32,000 MT in the year 2003-04. Similarly, the production of leather chemicals is expected to be around 3,800 MT during the year 2004-05 as against 3,494 during 2003-04.

5.2.4 The total turnover of the company is anticipated to be Rs. 940 crore in the year 2004-05 as against Rs. 985.44 crore during the last year. The profit after tax of company was Rs. 18.58 crore during the year 2003-04, whereas the anticipated profit after tax during the year 2004-05 is Rs. 18 crore.

5.3 BIECCO LAWRIE LIMITED (BLL)



5.3.1 Biecco Lawrie Limited, a Government of India Enterprise, under the administrative control of the Ministry of Petroleum & Natural Gas (MOP&NG), was incorporated on 23rd December, 1919. This is a medium Sized Engineering Unit with diversified activities having two factories located at Kolkata. During the financial year under review, the company registered a total turnover of Rs. 25.67 crore and attained net profit of Rs. 0.66 crore upto the period 31.12.2004. Net Worth of the company as on 31.3.2004 was negative and stands at Rs. 23.09 crore.

5.3.2 The physical performance of the company for 2004-05 with regard to turnover of electrical operations inclusive of switchgears, electric repair jobs and electrical projects is expected to be Rs. 39.98 crore as against 28.43 crore achieved in the corresponding period of the preceding financial year, showing a positive trend in 2004-05.

5.3.3 In last two financial years the company incurred loss resulting in networth becoming negative by Rs. 23.09 crore. Government had approved financial assistance to the tune of Rs. 18.52 crore as an interest free advance from OIDB to overcome crisis of statutory payments. A request of company for the grant of Rs. 2 crore loan to implement VRS is also under consideration of the Government.

5.3.4 To accelerate the process, BLL is concentrating on product development/modification according to customer's needs, timely execution of orders, stress on quality and after sales service, strict debtor management, human resource development through redeployment and training and technology upgradation to cope up with future demand in power sector.

5.4 OIL INDUSTRY DEVELOPMENT BOARD (OIDB)

5.4.1 Objectives of Oil Industry (Development) Act, 1974

The Oil Industry (Development) Act, 1974 was enacted following successive and steep increase in the international prices of crude oil and petroleum products since early 1973, when the need of progressive self-reliance in petroleum and petroleum based industrial raw materials assumed great importance.

5.4.2 Functions of the Board

The Oil Industry Development Board (OIDB) was set up in January 1975 under the Oil Industry (Development) Act, 1974 to provide financial assistance for the development of Oil Industry. Its organisational set up consists of :
(a) Chairman (b) Members and (c) Secretariat.

The functions of the Board, as defined in section 6 of the Act, involve rendering financial assistance to the promotion of all such activities as are, in its opinion, conducive to the development of the Oil Industry. The financial assistance is extended by way of loans and grants for activities such as prospecting, refining, processing, transportation, storage, handling and marketing of mineral oil, production and marketing of oil products and production of fertilizers and chemicals.

5.4.3 Resources of the Board

The funds required for various activities, envisaged under the Act, are made available by the Central Government after due appropriation by Parliament from the proceeds of cess levied and collected on indigenous crude oil excepting on blocks in joint ventures under New Exploration Licensing Policy (NELP) and on Natural Gas. The proceeds of this duty are credited to the Consolidated Fund of India and sums of monies, as the Central Government think fit are made available to the OIDB after appropriation by the Parliament. The current rate of cess on crude oil produced in the country is Rs.1,800/- per tonne (w.e.f. 1 March, 2002). OIDB has, so far, received an amount of Rs.902.40 crore from the cess collection. No amount has been allocated to OIDB out of cess since 1992-93.

The internal resources generated by way of interest receipts on loans and short-term investments supplement the OIDB Fund. As on 31st December 2004 an amount of Rs.7,850 crore (approx.) has accrued to the Oil Industry Development Fund. During 2003-04, internal resources contributed Rs.247 crore approx (previous year Rs.355 crore) to the total resource availability. The Board was earlier exempted from liability to pay tax on its income upto 31 March 2002 but Income Tax has been levied from financial year 2002-03. An amount of Rs. 147.92 crore. (Previous year Rs.163.53 crore) has been paid by OIDB during 2003-04 by way of Income Tax.

5.4.4 Assistance to oil industry

The OIDB has been entrusted with the responsibility to render, in such manner, to such an extent and on such terms and conditions, financial and other assistance, as it may deem fit, for the promotion of all such measures as are, in its opinion, conducive to the development of Oil Industry. The Board renders assistance by way of grant of loans for Projects, disbursements of grants for Research & Development programmes, refinancing of loans and funding expenditure of scientific advisory committees, study groups, task forces, etc. The OI Board determines the terms and conditions including interest rates for term projects from time to time and these are subject to review periodically and, at least, every three months, depending on the interest rates prevailing in the market. The present interest rates on General Project Loans of various tenor given to Navratna Oil Companies during 2004-05 (**upto December 2004**) range from 5 to 5.82 percent.

As regards OIDB loans to non-Navratna Oil Companies and Joint Ventures Companies, interest rates are decided by OI Board after taking into consideration the additional spread on case to case basis with the appraisal by financial institute etc.

5.4.5 Deployment of Funds

The OIDB has accorded highest priority to programmes connected with exploration, production, refining and storage of crude oil/natural gas. So far, OIDB has upto **31st December 2004** extended following financial assistance to the Oil industry.

Financial assistance since 1975

(Rs. in crore)

	Cumulative upto March, 2004	Cumulative upto December 2004
Loans	16,182	18,194
Grants	679	726
Total	16,861	18,920

A major portion of the loan assistance has been utilized for meeting capital outlay on Plan Projects of the Oil Companies. The loan outstanding from oil companies to OADB, as on 31st December 2004, is Rs.5,791 crore approximately. Loans and grants given during 2004-05

upto 31 December 2004 are Rs.2,012 crore and Rs. 47 crore, approximately, respectively. Besides, an amount of Rs.2.97 crore, approximately, has been paid by OADB to various State Governments towards royalty.

Details of financial assistance given in last few years

(Rs. in crore)

Year	Loans	Grants	Total
1995-96	822.38	27.29	849.67
1996-97	1,428.21	44.24	1,472.45
1997-98	1,423.65	37.80	1,461.45
1998-99	1,107.15	51.24	1,158.39
1999-00	980.32	45.41	1,025.73
2000-01	1,144.83	57.15	1,201.98
2001-02	1,504.25	96.51	1,600.76
2002-03	1,790.50	123.07	1,913.57
2003-04	520.00	77.21	597.21
2004-05 upto December 2004	2,011.83	46.89	2,058.72

Disbursement of Loans/Grants during the year 2004-05 (upto 31 December 2004)

(Rs. in crore)

Sl. No.	Name of the Organization (Plan Project Loans)	Allocation of Funds (2004-05) RE*	Funds disbursed Upto 31 Dec. 04
1.	NRL	63.83	63.83
2.	IOCL	1,948.00	1,948.00
	Total	2,011.83	2,011.83

*In addition Loan applications of various Oil PSUs amounting to Rs. 936 are under process for consideration/approval by OADB.

Grant in aid (Regular Grantee Institutions) during 2004-05 (upto December, 2004)

(Rs. in crore)

Sl. No.	Name of the Organization (Plan Project Loans)	Allocation	Disbursement
1.	CHT	13.30	4.60
2.	PCRA	22.52	11.70
3.	DGH	52.95	12.00
4.	OISD	3.42	1.60
5.	PPAC	7.55	1.32
	Total	99.74	31.22

Financial assistance disbursed for other R&D Projects (as approved by OID Board/Central Government) during 2004-05 (upto December 2004)

(Rs. in crore)

Sl. No.	R&D Project/Agencies	Approved Grant	Disbursed
1.	Coal Bed Methane		1.45
2.	IIT Delhi		0.15
3.	NGHP		0.68
4.	ONGC		1.76
5.	Oil India Limited		0.78
6.	TERI		0.05
7.	NGRI		0.80
8.	Others		
9.	Contribution towards Hydrogen Corpus Fund		10.00
Total			15.67

5.4.6 Major Projects being funded by OIDB during 2004-05.

5.4.6.1 Loan to Indian Oil Corporation Limited (IOCL)

Indian Oil Corporation Limited (a fortune global 500 list company) is the largest downstream oil company in India and engaged in the business of refining, marketing and transportation of petroleum products. During the year **2004-05**, OI DB has given a loan assistance of **Rs.1,948 crore** (Rs.1000 crore at an interest rate of **5% p.a.** for a period of 1 year and Rs.948 crore for a period of 10 years at an interest rate of **5.82% p.a.**) to enable the company to implement its various projects.

5.4.6.2 Hydrogen Corpus fund (HCF)

In the wake of interest across the world on the use of hydrogen as an auto fuel, the Government of India decided that the Indian Oil Industry should also work synergistically to make headway in this frontier area.

With the above objective, a Hydrogen Corpus Fund of Rs.100 crore has been set up with individuals shares as under :

IOC, ONGC, GAIL (Rs.16 crore each)	Rs. 48 crore
BPCL, HPCL Rs.6 crore each)	Rs.12 crore
OI DB (balance of Rs. 100 crore)	Rs. 40 crore

The Director, IOC will act as a nodal agency and coordinate with all other Oil PSUs. The accounts for the funds are required to be kept separately and handled by OI DB on behalf of HCF. The funds will be released by OI DB after approval by the Steering Committee on Hydrogen as per parameters as may be feasible, depending on nature and complexities of individual sanctioned project(s).

In accordance with the directives of the Ministry, OI DB has already contributed Rs.10 crore to the corpus for the year 2004-05.

5.4.6.3 Grant in aid for R&D Activities

Keeping in view the paramount need for attaining self-sufficiency in the production of crude oil, the OI DB has been according highest priority to the programmes connected with exploration & production of crude oil and other alternative

sources of energy. The OI DB has taken initiatives to fund various seismic surveys and R&D projects in upstream technology. The OI DB is also funding national gas hydrate programmes, exploration of coal bed methane in Rajasthan, oil & gas production technology from deepwater and development of advanced geo-chemical techniques for petroleum exploration and exploitation of alternate energy sources.

The Board has set up a Sub-Committee to recommend the projects of interest in upstream sector. These projects are, in the first instance, examined by the Sub-Committee and if recommended, are placed before the Board for taking appropriate decisions.

Since 1999, OI DB has funded a large number of projects relating to upstream sector out of which 30 projects, approximately, have since been completed. During the year 2004-05, an amount of **Rs.5 crore** has already been released by OI DB for various projects of ONGC, NGRI, OIL and Govt. of Rajasthan.

5.4.7 Dividend from NRL

OI DB has taken a stake of 10% in NRL's equity amounting to Rs.90.80 cr. NRL has paid a dividend of **Rs.7.99 crore** to OI DB towards its share of profit for the year **2003-04**.

5.5 DIRECTORATE GENERAL OF HYDROCARBONS (DGH)



- 5.5.1** Directorate General of Hydrocarbons (DGH) was established under the administrative control of Ministry of Petroleum & Natural Gas by a Government of India Resolution in 1993. Objectives of DGH are to promote sound management of the Indian oil and natural gas resources having a balanced regard for environment, safety, and technological and economic aspects of the petroleum activity. DGH has been entrusted with certain responsibilities concerning the Production Sharing Contracts for

Discovered fields and Exploration blocks, promotion of investment and monitoring of E&P activities including review of reservoir performance of major fields. In addition, DGH is also engaged in opening up of new /unexplored areas for future exploration and development of non-conventional hydrocarbon energy sources. Details of the main activities undertaken by DGH during 2004-05 are as under :

5.5.2 Opening Up of New Areas For Future Exploration

To open up new areas for exploration, DGH has carried out recommissioned surveys in poorly explored/ unexplored basins with the aim to upgrade geological information of the areas and carve out new blocks for offer under future rounds of New Exploration Licensing Policy (NELP). Following activities were conducted/planned during 2004-05.

5.5.3 Seismic survey in Kutch-Saurashtra offshore region

It was planned to acquire, process and interpret up to 7500 Line Kilometer (LKMs) of 2D seismic data in Kutch-Saurashtra region including northern part of Mumbai deepwater.

5.5.4 Seismic Survey in Vindhyan Basin, Rajasthan and Kutch On land Basins

About 500 GLK of 2D seismic data in a poorly explored block falling in Rajasthan, about 900 GLK of 2D seismic survey in challenging Rann of Kutch area and about 400 GLK of 2D seismic data in the unexplored volcanic covered areas of Vindhyan basin falling in Madhya Pradesh was planned to be acquired, processed and interpreted.

5.5.5 Seismic Surveys in Arunachal Pradesh & Mizoram

2D seismic surveys are planned in parts of Arunachal Pradesh and Mizoram areas of northeastern region. A total of about 450-500 GLK of seismic data acquisition spread over 2 years period is planned to be acquired in these areas.

5.5.6 Aeromagnetic Surveys in Punjab, Himachal Pradesh, Uttaranchal, Uttar Pradesh & Bihar states by Government Agencies

DGH has initiated High Resolution Aeromagnetic Survey, for the first time in India, in the areas of Punjab, Himachal Pradesh, Uttaranchal, Uttar Pradesh & Bihar through National Remote Sensing Agency (NRSA), Hyderabad. It is planned to cover an area of about 200,000 Sq.Km over at 3 years period. NRSA covered about 11,800 LKMs out of 30,000 LKMs planned in the first block falling in Punjab, Haryana and adjoining Himachal Pradesh.

5.5.7 Geochemical Survey in Chattisgarh Basin

Geochemical surveys for hydrocarbons in Chattisgarh basin were initiated in February 2004. About 350 soil samples were collected over an area of about 35,000 Sq.Km. The samples were analyzed by gas chromatograph for identifying hydrocarbon micro seeps.

5.5.8 Implementation of NELP

NELP V : Under fifth round of NELP, the Government of India has put on offer 20 exploration blocks (6 deep water, 2 shallow offshore and 12 onland) on 4th January 2005 for international bidding with the bid closing date of 31st May 2005. Basin Information Dockets and block data packages were prepared in digital form. Data viewing centers were opened at 5 places viz. New Delhi (India), London (UK), Houston (USA), Calgary (Canada) and Dubai (UAE). Data rooms were equipped with PC based workstations and online data could be viewed by the companies on the web. An exclusive NELP-V website was operational w.e.f. 4th January 2005 in which salient technical data pertaining to each of the offered blocks was available along with general fiscal and other contractual terms. As a part of promotional campaigning, road shows were held at New Delhi,

London, Houston, Calgary, Dubai, Moscow, Amsterdam, Sydney and Kuala Lumpur during January– March, 2005.

5.5.9 Monitoring of Production Sharing Contracts

Government of India signed contracts for 29 discovered fields, 16 CBM blocks and 118 exploration blocks for exploration and development with Private / JVs & NOCs. At present, contracts for 100 exploration blocks, 16 CBM blocks & 28 discovered fields are under operation. DGH monitors the execution and management of these Production Sharing Contracts on behalf of Government of India (GOI) through Management Committees set up for each block / field. This involves in-depth review of annual work programme, project monitoring (especially with regard to time & cost over run), calculation of reserves and production profile, making simulation model of the field, review and approval of development plan, budget and safety management system.

About US\$ 3.14 Billion (Rs.14,250 crore) investment has already been made by companies on Exploration & Production till March, 2004 and provisional investment during April to September, 04 was of the order of US \$ 358 Million (Rs. 1649 crore). During 2004-05, Pvt./JV companies are likely to produce about 3.969 MMT of crude oil and 6.703 BCM of Natural Gas.

5.5.10 Monitoring of the Petroleum Exploration Licenses held by NOCs – on Nomination Basis

DGH reviewed the progress of exploration activities in respect of 135 Petroleum Exploration Licenses held by NOCs (ONGC and OIL) on nomination basis on a half-yearly basis vis-à-vis minimum committed work programme.

5.5.11 Investment by DGH on Exploration Activities

During the year 2003-04, an amount of Rs. 6.54 crore was spent by DGH on various activities such

as surveys, reserve studies, geological modeling etc. During April, 2004 to November, 2004, DGH has incurred Rs. 0.57 crore on exploration activities out of the estimated expenditure of Rs. 4.5 crore in 2004-05.

5.5.12 Field Development, Reservoir and Production Monitoring

DGH is monitoring the development activities of various fields under the Production Sharing Contracts such as Panna-Mukta, Ravva, Tapti, Hazira, Laksmi, Gauri, Kharsang, PY-3, Asjol, Bakrol, Indrora, Lohar, Baola, Dholka, and NS-A.

5.5.13 The Redevelopment Plans of Mumbai High North and South

The Redevelopment Plan of Mumbai High North and South is under implementation by ONGC. DGH is continuously monitoring the field performance based on Redevelopment Plans, progress of EOR pilots, Geo-physical & Geological (G&G) and other studies on regular basis. To analyze the field performance, voluminous data of more than 700 wells of Mumbai High field is being updated on a regular basis in DGH.

Periodic meetings were held with ONGC to review the overall progress of the redevelopment Plan and various suggestions were offered.

5.5.14 Safety & Environment

Safety and Environment (S&E) related aspects of private/JV companies are being regularly monitored by DGH through periodic safety audits and inspections. Safety and Environment audit/inspections of 6 fields (2 Offshore + 4 Onshore) namely, Panna-Mukta, Lakshmi and Gauri (Offshore) and Dholka, Wavel, Sangapur and North Balol (Onshore) fields were carried out till November, 2004. S&E audit of another 3 Offshore and 3 Onshore installations has been planned to be carried out by March 2005.

5.5.15 Computerised Interpretation System For E&P Activities

The interactive interpretation and processing system for Oil Exploration and Production

activities comprising Sun Workstations and peripherals and latest software were used. Important technical jobs attended in 2004-05 on workstations in networked environment based on client server architecture :

- Seismic data processing, copying of seismic data for DGH Library as well as for various operators of NELP blocks etc.
- Review of seismic & log data for commerciality in the block RJ-ON-90/1 and development plan in the block KG-DWN-98/3 etc.
- Quality check of logs re-construction, interpretation of logs for petrophysical parameters, production analysis for fluid contract and reservoir simulation.

5.5.16 Establishment of National E&P Data Base and Archive System

In line with the strategy for improving archival practices for data management, detailed Implementation Strategy report for National E&P Data Base and Archive System has been prepared by DGH. The project consists of 3 phases. Phase-I of the project has been approved by the Government for implementation. The project will be implemented as an operational arm of DGH through an internationally reputed service provider for E&P database. Implementation of this Project will help online loading, access and management of E&P data of the entire country.

5.5.17 Coal Bed Methane (CBM)

Government of India has awarded 16 CBM blocks for exploration and production of Coal Bed Methane in different coalfields of India. The commercial production of CBM from a few of these awarded blocks may start by 2006-07. These blocks may yield a peak production of about 23 MMSCMD of CBM in the country.

5.5.18 National Gas Hydrate Programme (NGHP)

National Gas Hydrate Programme was initiated in 1997 and subsequently, on the

recommendations of DGH, it was decided by the Government to reconstitute the implementing mechanism. As a result, Steering and Technical Committees of NGHP were constituted. Road Map has been prepared. Based on the review of seismic data by the Technical Committee, two areas in Indian waters, one along East Coast & another on West Coast have been identified as “Model Laboratory Areas” for further R&D work.

5.5.19 Work By Advisory Council

The Advisory Council of DGH advises on the technical matters /scientific projects to be implemented by DGH. Council also examines major technical studies and progress of work carried out by DGH. During the year 2004-05, following technical works of DGH were deliberated during Advisory Council Meetings :

- i. Protection & conservation of Olive Ridley Turtles during E&P activities along the East Coast.
- ii. Intensifying E&P efforts in East Coast - Challenges ahead.
- iii. Status report on initiatives for study for probable land subsidence in production of shallow gas (up to 200 m depth) from NSA field discovered in block CB-ONN-2000/2, Gujarat.
- iv. Strings of new discoveries in Rajasthan - A status review.
- v. Hazira field - Technical review.

5.6 OIL INDUSTRY SAFETY DIRECTORATE (OISD)

The Oil Industry Safety Directorate (OISD) assists the Safety Council under Ministry of Petroleum & Natural Gas (MOP&NG). The council is headed by Secretary, P&NG as Chairman and includes Additional / Joint Secretaries, Advisors in MOP&NG, Chief Executives of all Public Sector Undertakings (PSUs) under the Ministry, Chief Controller of Explosives (CCE), Advisor (Fire) of the Govt. of India, DG, DGMS and the Director

General of Factory Advice Service & Labour Institute etc. as members.

5.6.1 Standardisation

OISD Standards are generally reviewed periodically to incorporate the latest technological developments, and experience gained in their implementation so as to update them in line with the current international practices. Two new standards and amendment to three existing standards were approved by Safety Council in 2004-05. As on date, OISD has issued 104 safety standards. It is planned to develop 3 new standards & complete revision of 3 existing standards during 2004-05.

5.6.2 External Safety Audits (ESA)

During the period, External Safety Audits (ESA) of 4 refineries, 2 LPG recovery plants, 6 marketing locations i.e. POL terminal/ Depot, LPG plants, 23 Exploration and Production (E&P) installations and 801 kms of cross country pipelines were carried out. Additionally, pre-commissioning inspection of four new projects each in refineries and marketing locations each carried out in line with approved methodology.



Shri Mani Shankar Aiyar, Minister of Petroleum & Natural Gas & Panchayati Raj, addressing 4th Oil Industry Safety Workshop & Presentation of Oil Industry Safety Awards (Year 2002-03)

5.6.3 Training Programs / Workshops

Technical workshops covering entire oil industry are organised to discuss latest developments, sharing of experiences etc. It is planned to organise five workshops covering Exploration & Production, Refineries, environment and Marketing activities in 2004-05.

5.7 CENTRE FOR HIGH TECHNOLOGY (CHT)



Centre for High Technology (CHT) was established in 1987 is an advisory body to implement scientific and technological programmes for the oil sector. It acts as a forum for sharing of technical information amongst the refineries. During the year 2003-2004, CHT has funded the following projects for research work, based on recommendations of the

- “Natural Gas conversion to hydrocarbon liquids through Fischer Tropsch synthesis Route” by EIL.
- “Assessing the impact of regulations on ambient air and on health in Delhi”.

CHT organized various seminars and workshops including :

- International level XII Refinery Technology Meet (RTM) jointly organized by CHT and HPCL during 23-25th September, 2004 at Goa.
- Workshop on “Hydrogen Production and Management” held on 22nd June, 2004 at New Delhi.

In order to encourage energy conservation in refineries, CHT recommended awards for best performance in energy consumption, energy conservation over past performance, oil conservation awards in the area of furnace/boiler thermal efficiency etc.

In order to disseminate information about latest developments/trends in petroleum refining, CHT has published technical journals viz. quarterly “Hydrocarbon Technology” and “Technology Scan” and Monthly CHT bulletin.



Shri S.C. Tripathi, Secretary to the Govt. of India, Ministry of Petroleum & Natural Gas releasing the “Book of Proceedings”, a compendium of papers presented during the XII Refinery Technology Meet (RTM) at Goa

Scientific Advisory Committee (SAC) on hydrocarbons.

- “Development of Process for Oxidative desulfurisation of diesel” by IIP, Dehradun.
- “Acute / Sub-acute Toxicological Profile of Particulate Emissions from CNG and Diesel Fuelled Engine Exhaust-in vivo and in vitro Experimental Study” by IRTC, Lucknow and IOC (R&D) Centre.

5.8 PETROLEUM INDIA INTERNATIONAL (PII)



5.8.1 Petroleum India International (PII) is a consortium of public sector companies in the petroleum,

Petrochemicals and engineering sector. PII was established in 1986 with the common objectives of mobilizing the individual capabilities of its member companies into a joint endeavour for providing technical, managerial and other human resources on a global basis.

5.8.2 PII has provided technical back up services, management consultancy, HRD and training services, turnaround maintenance of refineries, information technology and procurement services to the oil and gas sector in Madagascar, Bahrain, Nigeria, Kuwait, Abu Dhabi, Qatar, Yemen, Male and Ghana.

5.9 PETROLEUM PLANNING & ANALYSIS CELL (PPAC)

Subsequent to the dismantling of the Administered Pricing Mechanism (APM) in the petroleum sector with effect from 1st April 2002, Oil Coordination Committee was abolished and a new cell, Petroleum Planning & Analysis Cell (PPAC) was created effective 1st April 2002 under the Ministry of Petroleum & Natural Gas with its head Quarters in New Delhi.

PPAC assists the Government in discharge of some of the functions earlier being performed by the erstwhile Oil coordination Committee.

The Oil Industry Development Board is funding the expenditure of PPAC.

The functions of the PPAC are mainly as follows :

- Administration of subsidy on PDS Kerosene and domestic LPG.
- Administration of Freight subsidy for far flung areas.
- Maintenance of Information data bank and communication system to deal with emergencies and unforeseen circumstances.
- Analyzing the trends in the international oil market and domestic prices.
- Forecasting and evaluation of petroleum import and export trends.
- Operationalising the sector specific surcharge schemes, if any.
- The services of PPAC are being utilized to wind up the Oil Pool Account.

CHAPTER VI



6. CONSERVATION OF PETROLEUM PRODUCTS

6.1 The demand of petroleum products would increase in our country in the times to come. For faster development, role of energy sector is of paramount importance. Oil and Natural Gas constitute about 45% of total commercial energy consumption of the country and its demand would obviously go up with the growth of economy, without domestic crude oil production keeping pace with the increased demand. The spiraling prices of crude oil in the recent past have made all the developing economies to adopt a cautious approach for judicious utilization of the already strained resources. The shock of 1973 had forced the Government of India to think in the direction of conservation through efficient utilization of petroleum products. To create awareness on the importance and need for conservation, Petroleum Conservation Research Association (PCRA) was set up as a registered society under the Ministry of Petroleum and Natural Gas in 1978 with a mandate to promote conservation of petroleum products in the major sectors of economy like transport, industry, households and agriculture through direct technical assistance, R&D, educational and training programmes, and mass awareness campaigns. Efficient utilization not only reduces demand for energy but also brings down the level of pollution, which has been a matter of grave concern in recent years.

PCRA activities and achievements for the year 2004-05 (upto December 2004) and projections for remaining three months, i.e. January 05 to March 05 are summarized below :

6.1.1 Transport Sector

Driver Training Programmes

- Approx. 640 'Driver Training Programmes (DTPs)' (for the organized and unorganized sector) involving training of above 6,500 drivers (which includes approx. 2,300 drivers in the private sector) were conducted. During January-March, 2005, it is planned to conduct 225 Driver Training Programs covering around 2,200 drivers.

- Requirement has been shown by Municipal Corporation of Delhi for training their 750 drivers.
- 45 DTP and workshops were organized to train 600 drivers and technical staff of M/s. Eicher Motors Ltd. all over India.

Model Depot Studies

- 143 'Model Depot project (MDP) studies' were conducted for various State Transport Undertakings, which led to modernization resulting in improvement of maintenance practices and improvement in KMPL. During January -March, 2005, it is planned to conduct 60 Model Depot Studies.

Follow-up Programme with trained drivers

- Follow-up programmes with previously trained drivers were organized by all the four regions of PCRA through get-togethers to obtain feedback on the effectiveness of their training by PCRA.

Other Activities

- PCRA in association with Delhi Police sponsored the installation of reverse digital counters on 72 traffic signals in Delhi.

Emission Awareness Programmes

- Emission checks and awareness programmes were conducted at 15 locations as on 31st December, 2004.

In view of enactment of laws relating to pollution by several State Governments, the emissions checks and awareness programmes are being undertaken only in those States where Pollution Control Laws are yet to be enacted. During January -March, 2005, it is planned to conduct around 3 Emission Awareness Programmes.

6.1.2 Industrial Sector

Energy Efficiency studies

- PCRA conducted 185 energy audits, 108 fuel oil diagnostic studies and 160 SSI studies during April-December, 2004 to identify possible areas of improvement in energy utilization and to promote fuel-efficient practices, equipment and technology in industries. During January -March, 2005, it is planned to carry out 200 energy efficiency studies.

Institutional Training Programmes

- 163 Institutional Training Programmes were organized at the premises of various industries in different parts of the country during April-December, 2004. Each of these programmes covered 20-30 executives, supervisors and technicians. During January-March, 2005, it is planned to conduct 60 Institutional Training Programmes.

Empanelment of Energy Auditors

- PCRA is the national level agency for energy audit and needs to empanel energy auditors for increasing its reach beyond the existing boundaries. Over the years, it has been playing an important role of developing quality energy auditors. Today, a strong force of 83 PCRA empanelled energy auditors is providing service to the Indian industry throughout the country.

Seminar/ Technical & Consumer Meets

- These programmes are organized at various places to provide a common platform for industrial consumers of petroleum products to share their ideas, experience and problems related to energy use. PCRA organized 20 such technical meets/ seminars as of December, 2004. In addition, 4 consumer meets were also organized at different places. During January-March, 2005, it is planned to organize/ participate in 10 Seminar/Technical/ Consumer meets.

6.1.3 Agriculture Sector

Rectification of Lift Irrigation Pumpsets

- Rectification of Lift Irrigation Pumpsets by using BIS marked equipment is undertaken to demonstrate diesel savings methods to the farmers. 246 pumps were rectified during the last year.

Demonstration Centres

- Demonstration centers are set up in large farmer communities to demonstrate the energy saving potential of standard ISI lift irrigation pumpsets over non-standard equipment. One pump in each category is installed and operated over a period to prove this to the farmers. PCRA set up 8 demonstration centers during last year.



Chief Guest, Hon'ble Minister for I&B and Culture, along with Secy. P&NG and Executive Director of PCRA releasing a Poster on Conservation tips

A) New Scheme in Agriculture Sector

Innovative scheme to involve rural school children for energy efficiency surveys in and around their villages was launched. This scheme was termed "Learn While You Enjoy". It was designed to motivate rural school children to participate in the energy efficiency movement through a survey in agriculture sector in the vicinity of their area. The scheme aimed to:

- Help develop their knowledge on various aspects of energy being used in agriculture sector.
- Help develop their communication skills, analyzing skills and their self-confidence, while surveying the farmers.
- Help develop them as young ambassadors

In addition

- The survey format and methodology adopted gives knowledge on saving opportunities and fuel saving tips to students conducting survey as well as being surveyed.
- Post survey deliberations in the school premises are held with the help of audio visual aids to discuss benefits available through proper selection of pumpsets and good driving habits.

Kisan Melas

- Kisan Melas (agricultural fairs) provide an ideal forum to educate farmers on the need and benefits of oil conservation. PCRA participated

in 16 Melas upto December, 2004 this year. During January -March, 2005, it is planned to participate in 8 Kisan Melas.

6.1.4 Household Sector

Special Programme for Industry-Residential Complex

- This is a five-day intensive Programme on oil conservation conducted at large Industrial-residential colonies to sensitize the residents on the need and importance of oil conservation. Besides having a lasting impact, the program also helps in bringing about the necessary attitudinal changes in a big way. Two such programmes were organized during the year upto December, 2004 at selected complexes in different states. During January -March, 2005, it is planned to conduct two more such training programmes.

Youth Programmes

- PCRA organizes a variety of programs for youth by approaching schools. These constitute quiz, essay, debate and painting competitions on topics related to energy conservation. PCRA aims to make young minds understand the issue of energy conservation and motivate them to apply and promote the cause of oil conservation into their widening spheres of domestic and professional lives. During this year, a total of 695 programmes were organized as of December, 2004 across all regions. Around 200 more Youth Programmes are planned to be conducted during January-March, 2005.

6.2 ACTION GROUP MEETINGS

- These meetings are organized in different states with the State Level coordinator of the oil industry as the convener. These are aimed at facilitating interaction between oil users and the State Government on the issues related to oil conservation in industrial, transport and agriculture sectors within the State. The forum is effectively used to draw out action plans and monitor progress on different conservation activities. Total nine Action Group meetings were held during the last year. During

January-March, 2005, it is planned to convene two more action group meetings.

6.3 EXHIBITIONS

- PCRA organized/ participated in 43 exhibitions at various locations and conducted 354 van publicity campaigns to create and spread conservation awareness amongst all sectors of people. During January -March, 2005, it is planned to organize /participate in 20 exhibitions.

6.4 NEW INITIATIVES/ THRUST AREAS

Promotion of Bio-Fuels

- Efforts of PCRA in this area were:
 - a) Opening of a National Information Centre on Bio-fuels.
 - b) Production of 5 films on Jatropha plantation and bio-diesel production.
 - c) Developed 2 brochures on bio-diesel.
 - d) Presentations in different forums on bio-diesel i.e. at CII Seminars etc.
 - e) Training to Orissa Self Help Group Women on bio-diesel production.
 - f) R&D Project sponsored on production of bio-gas from Jatropha oil cakes.
 - g) Institutional linkages with Delhi College of Engineering to help Self Help Groups and small farmers for bio-diesel production.
 - h) Promotion and dissemination of information through mass awareness campaign.

Urban energy management

- Urban areas by their very nature are energy intensive because they are hubs of governmental, industrial and economic activities. With an increase in urbanization which is estimated to go upto 50% by 2025 need for more energy input cannot be ruled out. Attached to it are the problems like environmental pollution, groundwater pollution and greenhouse gas emissions leading to climate change, destruction of bio diversity, deforestation and public health hazards. These issues need to be addressed through a sustainable energy management approach, which will involve taking a serious look at planning and management of

energy systems that will facilitate efficient use of energy.

- PCRA identified certain core issues connected with Urban Energy Management in the metropolis and made a modest beginning in 2003-04.
- Efforts made during the current half-year on some issues are outlined below:

a) Traffic Management

- A Webpage in PCRA's site has been opened for people's participation on traffic issues of cities. Readers are posting the traffic issues on this Webpage and these are being taken up with appropriate city authorities.
- PCRA in association with Delhi Police sponsored the installation of Reverse Timers at different Traffic Intersections in Delhi. The message of switching off at traffic signals is being addressed in all Education Campaigns.

b) Solid waste management

- Developed 3 external agencies to train Resident Welfare Associations (RWAs) on waste management within household and community level.
- Developed two pamphlets on vermi and bio-catalyst composting 4 films produced on Waste Management are being shown in various programmes.
- Conducted 12 workshops for different RWAs in Delhi for MCD under Delhi Govt.'s Bhagidari scheme.
- Extended this activity to South Central Railways in Hyderabad, initially in a colony of 80 houses to be taken up in other larger colonies.
- Public is also being educated through our radio programme "Boond Boond Ki Baat", TV programme "Khel Khel Mein Badlo Duniya" and monthly newsletter "Sanrakshan Chetna", on this issue.
- The above concept has been adopted in our own building.

c) Energy audits of commercial buildings (hotels, hospitals etc.) were taken up.

Lecture Series :

- PCRA is a nodal agency for forging linkages with other organizations directly engaged in energy conservation activities. Five lecture series have been organized by PCRA since June, 2004 for sharing and documenting energy conservation efforts made in last 10 years by various organizations directly engaged in energy conservation activities. PCRA as a nodal agency will also compile the information shared by these organizations and have it put up on the web.

The topics covered during the above lecture series were:

S.N.	Topics Presented	Presentor
1	Electricity Distribution Network Planning & Control	NPC
2	Benefits of application of TRIBOLOGY	TISCO
3	Energy conservation initiatives by FICCI	FICCI
4	Integrated approach to energy conservation and efficiency in Industries	PCRA
5	Application of Biomass gassification for energy conservation & power generation	TERI

6.5 EDUCATION AND MASS AWARENESS CAMPAIGNS

PCRA reaches out to millions of consumers of petroleum products in the major consuming sectors and the masses with its messages on conservation through various media and involving women and youth wherever feasible. Given below are some of the major campaigns undertaken during the year.

- An innovative radio programme under the title 'Boond Boond Ki Baat', launched during 2002-03, is being aired on AIR's FM Gold channel every Monday at 9.00 AM. This 'infotainment' programme of 1 hr duration has already completed over 100 episodes and likely to complete over 125 episodes by March 2005.
- 'Khel Khel Mein Badlo Duniya' is an infotainment TV programme developed by PCRA for the youth, which is very popular. The programme broadcast on national network every Sunday at

11 am and repeated every Wednesday at 9 am has already completed 74 episodes and is likely to complete 99 episodes during the current financial year. It aims at educating young people about various methods of conservation of energy, water, environment etc. and providing vocational guidance in vermiculture, integrated farming, solar lanterns, 'Parishad' choke etc.

- PCRA has been mobilizing Women and Children through various efforts and the successful completion of Women's Rally in the past covering a large segment of the women' population. Rally is being organized every year during the OGCF and has received tremendous support from this section of the society.
- A number of short films, radio jingles, TV spots and fillers have been developed and aired on different channels throughout the year to retain and sustain listeners' interest in conservation of petroleum and other energy forums.
- Apart from the electronic media, well-timed newspaper advertisements, press campaigns, hoardings, bus panels, passenger shelters, kiosks, road safety barriers, electronic display boards etc. were extensively used to spread the message of energy conservation.
- Printed literature including posters, pamphlets, folders and low-cost handbills containing technical and general information on efficient utilization of petroleum products, tips on

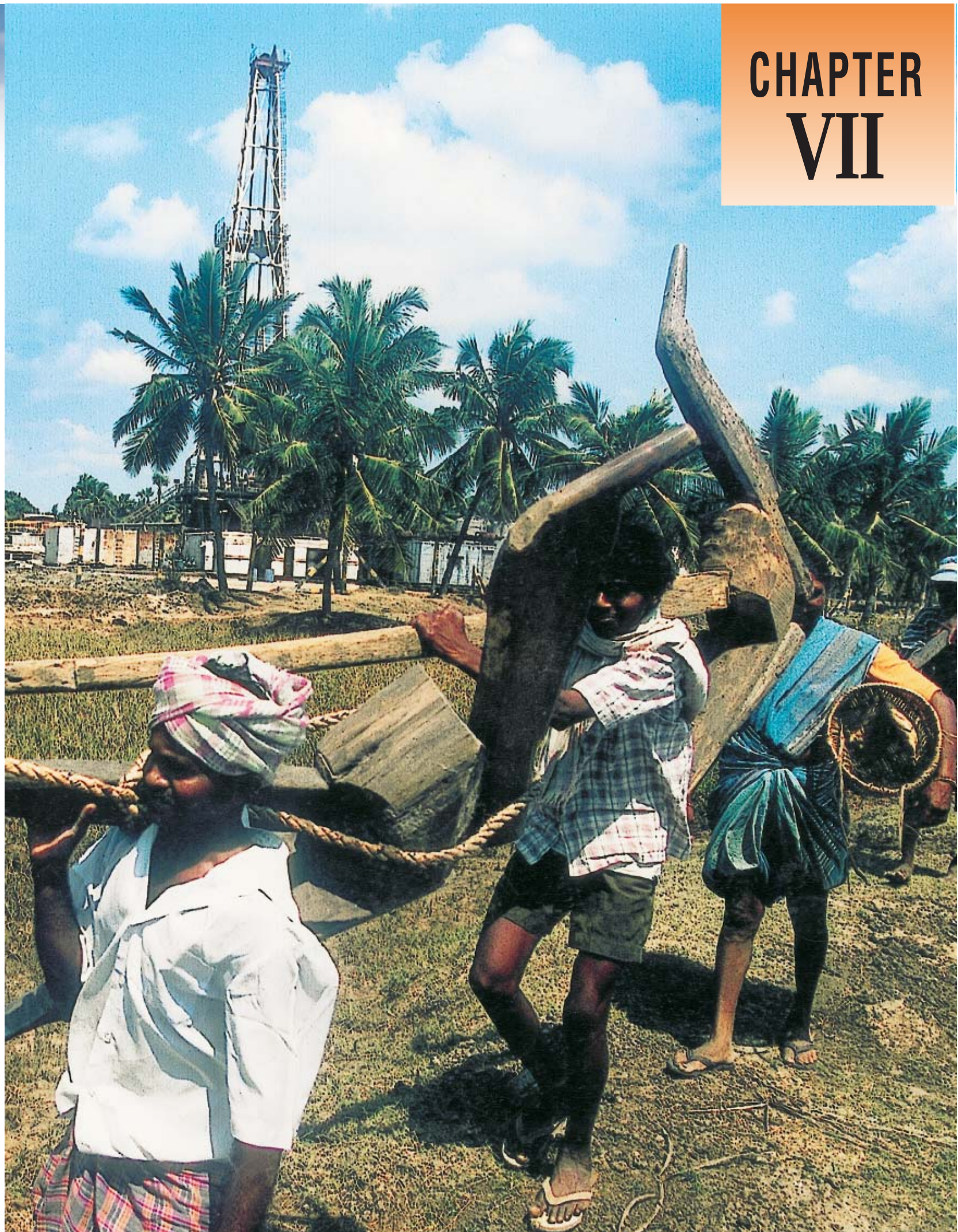
conservation and other information were distributed throughout the country.

6.6 RESEARCH & DEVELOPMENT

For the last few years, the expenditure on outsourced R&D projects was quite low. PCRA's R&D efforts during the last one year are listed below :

- PCRA contacted 30 Research Institutes all over India to formulate and submit project proposals relating to research work for conservation of petroleum & environment protection & obtained about 35 project proposals.
- Meetings of Screening Committee were held to examine the project proposals.
- Contacted about 60 entrepreneurs to promote adoption of promotion of energy efficient technology & equipments.
- Wrote to 40 re-rolling mills to adopt retro fitments to make their furnaces more energy efficient by utilizing research promoted by PCRA.
- Individual entrepreneurs and scientists were encouraged to develop and promote energy efficient equipments by getting their devices scientifically tested.
- Interacted with BIS to upgrade standards in line with latest research work.
- Took initiatives for production of Jatropha based diesel in rural sector.

CHAPTER VII



7. WELFARE OF SCHEDULED CASTES/ SCHEDULED TRIBES, OTHER BACKWARD CLASSES AND PHYSICALLY HANDICAPPED

7.1 The orders relating to the reservation for the Scheduled Castes/Scheduled Tribes, Other Backward Classes and Physically Handicapped persons issued from time to time by the Department of Personnel & Training, the Department of Public Enterprises, the Ministry of Social Justice and Empowerment and Ministry of Tribal Affairs are being implemented in the Ministry of Petroleum & Natural Gas and the Public Sector Undertakings under its administrative control. The SCT Cell of this Ministry monitors the implementation of reservation policies in PSUs as well as in the Ministry. The PSUs have also constituted SC/ST Cells under the supervision of their Liaison Officers to safeguard the interests of SCs/STs, OBCs and Physically Handicapped (P/H) employees and to redress their grievances. The Liaison Officers of the PSUs are responsible for ensuring implementation of the Presidential Directives as well as the various orders of the Government. Remedial action on the grievances of the SCs/STs, OBCs and P/H employees of PSUs received through Members of Parliament, National Commission for SCs, National Commission for Scheduled Areas & Schedule Tribes are taken, wherever necessary.

The status of appointment of SCs/STs/OBCs/ Physically Handicapped persons is monitored by the Ministry through Annual reports furnished by PSUs separately.

7.2 SPECIAL COMPONENT PLAN (SCP) AND TRIBAL SUB PLAN (TSP)

In accordance with the Government policy, all Public Sector Undertakings under the administrative control of the Ministry have made allocation in their Annual

Plan for the year 2004 – 2005 for various activities related to the welfare and socio-economic development of Scheduled Castes, Scheduled Tribes and people of weaker sections residing in the neighbourhood of project locations through Special Component Plan and Tribal Sub-Plan which are as follows :

- (i) Construction of community latrines on the lines of Sulabh Shouchalaya etc., in villages inhabited mainly by SCs/STs and weaker sections of the society.
- (ii) Construction of school/college buildings, scholarships, adult education, distribution of teaching materials, establishing libraries and other aid to SC/ST students.
- (iii) Financial assistance to SC/ST women through co-operative societies for providing facilities of handlooms, weaving, etc., so as to enable them to have self employment.
- (iv) Provision of drinking water facility to nearby villages through ring wells/tube wells etc.
- (v) Provision of community health facilities, free medical services, medicines through medical camp and family planning camps etc.
- (vi) Financial assistance to Physically Handicapped persons for their rehabilitation.
- (vii) Economic development /self employment by organizing entrepreneurship development training programmes.
- (viii) Vocational training/guidance to enable the SC/ ST persons to become self-reliant under the scheme "Earn While You Learn". Training programmes are arranged in various trades, like basket making, weaving, coir rope making, sewing, poultry training, fishing, tailoring, typing, motor driving as well as supply of necessary tools, machines, etc.
- (ix) Welfare programmes such as distribution of seeds and fertilizers free of cost to SC/ST farmers, distribution of smoke-less chulhas and solar cookers to SC/ST women and construction of approach roads and adoption of villages.
- (x) Social forestry schemes like distribution of seeds of fruit bearing trees, saplings and other plants etc.

7.3 RECRUITMENT BACKLOG POSITION OF SC/ST/OBC AS ON 31.12.2004

S.No.	Name of PSU	SC		ST		OBC	
		Excess	Shortfall	Excess	Shortfall	Excess	Shortfall
1.	ONGC	Nil	Nil	Nil	19	Nil	119
2.	IOCL	Nil	14	Nil	30	Nil	149
3.	HPCL	367	Nil	62	Nil	Nil	127
4.	BPCL	334	7	3	37	Nil	1,043
5.	GAIL (India) Ltd.	26	10	Nil	25	75	41
6.	EIL	Nil	1	Nil	Nil	Nil	3
7.	OIL	45	27	45	13	180	Nil
8.	CPCL	Nil	Nil	Nil	Nil	Nil	2*
9.	KRL	Nil	Nil	Nil	Nil	Nil	Nil
10.	IBP	123	18	36	13	2	15
11.	BRPL	1	Nil	1	Nil	Nil	3
12.	Biecco Lawrie	Nil	14	Nil	27	Nil	19
13.	NRL	2	19	14	Nil	9	7
14.	Balmer Lawrie	1	57	Nil	43	Nil	34

*Offers sent to two OBC candidates. However, one OBC candidate has not reported for duty and the other OBC candidate was found medically unfit.

The Expenditure incurred by Public Sector Undertakings on the activities under Special Component Plan (SCP) and Tribal Sub-plan (TSP) upto 31.12.2004 is as under :

S.No.	Name of PSU	Expenditure incurred (Rs. in Lakhs)		Total (Rs. in Lakh)
		SCP	TSP	
1.	ONGC	62.70	37.30	100.00
2.	IOCL	68.53	28.18	96.71
3.	HPCL	357.00	combined	357.00
4.	BPCL	81.78	combined	81.78
5.	GAIL(India) Ltd.	354.00	combined	354.00
6.	EIL	Nil	Nil	Nil
7.	OIL	139.05	combined	139.05
8.	CPCL	2.75	combined	2.75
9.	KRL	20.50	combined	20.50
10.	IBP	20.00	combined	20.00
11.	BRPL	25.80	32.50	58.30
12.	Biecco Lawrie	Nil*	Nil*	Nil*
13.	NRL	46.36	combined	46.36
14.	Balmer Lawrie	3.00	combined	3.00

*In last four financial years, the Company has incurred a huge accumulative loss of Rs. 31.72 crores and the net worth of the company became negative. Due to the above reason the Company is not able to spend any money on Special Component Plan (SCP) and Tribal Sub-plan (TSP) in last three years as well as in this year.

CHAPTER VIII



8. WELFARE, DEVELOPMENT AND EMPOWERMENT OF WOMEN

8.1 The Ministry of Petroleum & Natural Gas and Public Sector Undertakings/Organisations under its administrative control have been taking full initiatives towards welfare and development as also to empower the women employees. With a view to deal with gender sensitization and to promote the cause of women empowerment, special programmes are organised focusing on their professional development and welfare activities. These include external and in-house training, programmes on women's health, sponsoring them to attend the National meet of the Forum of Women in Public Sector, etc.

8.2 Women Forums have been formed in the PSUs to look after the interest of the women employees. List of Do's and Don'ts prepared by the National Commission for Women has been circulated for attention of all employees. Committees have been set up to attend to redressal of complaints on 'Sexual harassment at work place'.

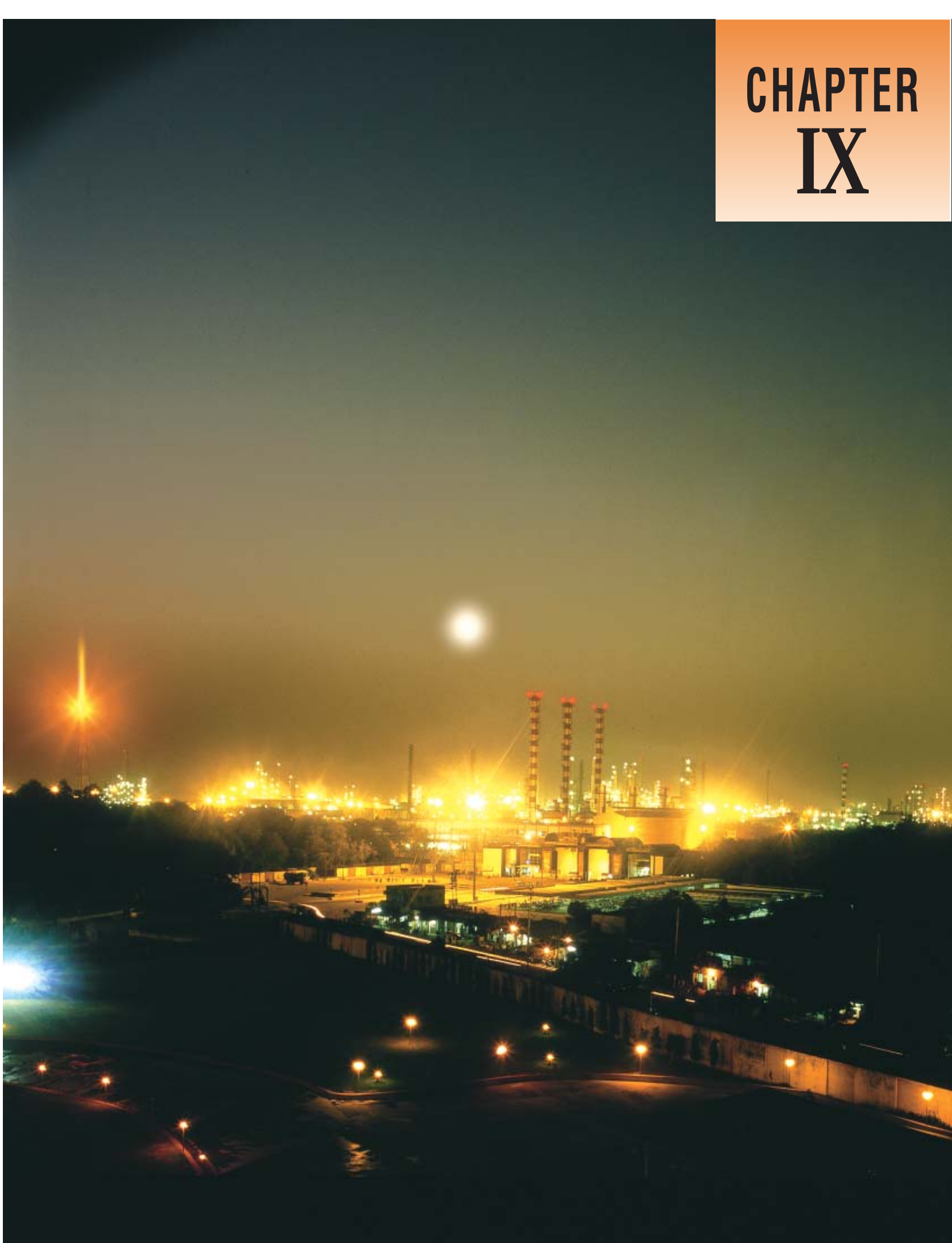
8.3 In the Ministry of Petroleum & Natural Gas, a Women Cell has been constituted since January 1998 to cater to women's issues/grievances and to look into complaints of sexual harassment, if any. The guidelines of the Supreme Court, the Ministry of Human Resources Development and Ministry of Labour are implemented in this regard. This cell is headed by a senior lady officer.

8.4 As on 31.12.2004, against the total strength of 254 employees in the Ministry (proper), 44 women were in position.

8.5 The number of women employees vis-à-vis total number of employees as on 31.12.2004 in the oil PSUs is tabulated as below :

S.No	Name of PSU	Total No. of Employees	Total No. of Women Employees
1.	ONGC	38,002	1,992
2.	IOCL	30,455	2,367
3.	HPCL	11,114	701
4.	BPCL	12,442	1,035
5.	GAIL (India) Limited	3,357	155
6.	EIL	2,855	289
7.	OIL	8,702	324
8.	CPCL	1,704	69
9.	KRL	1,947	83
10.	IBP	2,198	187
11.	BRPL	1,750	77
12.	Biecco Lawrie	524	5
13.	NRL	685	23
14.	Balmer Lawrie	1,458	80

CHAPTER IX



9. POLLUTION CONTROL

9.1 The Refining industry has been classified as one of the major pollutant industries in the country. The compliance with prescribed standards in respect of liquid effluents and gaseous emissions is, therefore, a statutory requirement. All the refineries in the country are fully equipped with adequate pollution control facilities to meet the prescribed environmental standards. Pollution abatement measures are accorded the top most priority by the refinery managements.

9.2 Effluents generated in the Refineries can be classified under 3 categories i) liquid effluents ii) gaseous emissions and iii) Solid Waste.

9.2.1 Liquid Effluents

The water used in the refining process gets contaminated with oil and other pollutants and has to be treated before discharging from the refineries. The Government has prescribed Minimal National Standards (MINAS) for discharge of effluents from refineries with respect to critical parameters, viz., oil and grease, phenols, sulphides, Biochemical Oxygen Demand (BOD), total suspended solids (TSS). The standards also specify the quantum limits for discharge of these pollutants in terms of crude throughput. All the Refineries in the country are equipped with full – fledged Effluent Treatment Plants, comprising physical, chemical and biological treatment facilities for removal / control of pollutants from waste water. The treated water fully meets the prescribed stringent MINAS standards in all the Refineries.

9.2.2 Effluent Reuse

Keeping in view the growing shortage of fresh water, all refineries have accorded importance for maximizing the reuse of treated effluents within their plants and thereby conserving fresh water. With this objective, refineries have implemented various schemes to reuse part of treated effluents within their plants in cooling towers, fire water network, coke cutting operations, service water, development of green belts etc. IOCL, Panipat & CPCL, Manali are recycling / reusing entire quantity of liquid effluents generated in their refineries.

Further, treated effluents from Mathura Refinery and treated domestic effluents from Gujarat Refinery Township are being gainfully used by local farmers.

9.2.3 Gaseous Emissions

Controlling of gaseous emissions, particularly with respect to Sulphur dioxide (SO_2), is one of the major tasks of the refineries. The Government has prescribed limit for SO_2 emissions from three major processing units in the Refineries – in terms of SO_2 emission per tonne of feed stock processed – as well as for the boilers in the Captive Power Plants. The stipulation for boilers is in terms of minimum stack height requirements, so as to minimize ground level concentration of SO_2 . Further an overall limit for SO_2 emission from Refineries is also stipulated by the State Pollution Control Boards / MOE&F.

Mathura Refinery, located in the Taj Trapezium area, has considerably reduced the SO_2 emissions over the years including by putting up a Once-through Hydrocracker unit.

9.2.4 Solid Waste Management

Oily sludge is the main hazardous solid waste generated in the refineries. Treatment / disposal of oily sludge generated during the refining operations is of major concern to the refineries. Refineries have adopted various methods like installation of improved mixers for reducing formation of sludge in the crude storage tanks and use of hot gas oil circulation / use of chemicals for recovery of oil from tank bottom sludge. The refineries use melting pits to further extract oil from the sludge before its disposal. The treated sludge, after gas oil treatment/ melting pit, is either stored in lined pits or disposed of through land-fill in low-lying areas inside the Refineries. Some of the refineries viz. Mathura, Barauni and BPCL etc. have successfully tried Bio-remediation Method developed by TERI for disposal of oily sludge using “Oilzapper”, which is a consortium of microbes suitable for degradation of oily sludge. This was further improved by IOCL, R&D jointly with TERI to develop “Oilivorous – S”.

The oily sludge is sometimes sold to micro-crystalline wax manufacturers, approved by the Technical Evaluation Committee of MOP&NG, by BPCL, HPCL & KRL.



A CNG filling Station : a step towards pollution control

9.3 MONITORING FACILITIES

All the refineries have full-fledged environmental cells to monitor quality of effluents and emissions. Continuous ambient air monitoring stations/High Volume Samplers have been provided in and around Refineries to monitor SO₂ level and it has been observed that the emissions are well within the stipulated limits.

9.4 CERTIFICATION WITH ISO-14001 ENVIRONMENTAL MANAGEMENT SYSTEM

All Public Sector Undertaking Refineries, except the mini-refinery of Oil & Natural Gas Corporation at Tatipaka which was commissioned only in 2001, have been certified with 14001 Environmental Management System.

9.5 FUEL QUALITY IMPROVEMENTS

Refineries have implemented major programmes for up-gradation of petrol and diesel quality in the past few years. Major improvements have been

made in the refineries to supply petrol and diesel in the Metros meeting Bharat Stage-III specification and BS-II specification in the other parts of the country.

The Expert Committee on Auto Fuel Policy set up by the Government under the Chairmanship of Dr. R.A.Mashelkar, Director General, Council of Scientific & Industrial Research has submitted their final report in September 2002. The highlight of recommendations in respect of fuel quality for meeting emission norms and road map for implementation are:

- *Bharat Stage II* emission norms to be implemented in the rest of the country in 2005.
- *Euro III* equivalent emission norms to be implemented in Delhi, Mumbai, Kolkata, Chennai, Bangalore, Hyderabad, Ahmedabad, Pune, Surat, Kanpur & Agra from 1.4.2005.
- *Euro III* equivalent emission norms to be implemented in the rest of the country from 1.04.2010 subject to review in 2006.

- *Euro IV* equivalent emission norms to be implemented in Delhi, Mumbai, Kolkata, Chennai, Bangalore, Hyderabad, Ahmedabad, Pune, Surat, Kanpur & Agra from 1.4.2010 subject to review in 2006.

In addition, Government has notified introduction of 5% volume ethanol blending in petrol to be supplied in 9 states from January 2003. However, since late 2003 and in 2004, the availability of ethanol has been scarce and erratic in the States of Maharashtra, Goa, Gujarat, Karnataka and Andhra Pradesh. The price of ethanol also rose significantly at all locations. After discussions with State Governments, the Government has notified

vide GSR 705 (E) dated 27.10.2004 that five percent ethanol-blended petrol, as per BIS specification, shall be sold in notified States and Union Territories if the price of sourcing indigenous ethanol for supply of ethanol-blended petrol is comparable to the price of indigenous ethanol for alternative uses and the delivery price of ethanol at the location is comparable to the import parity price of petrol at that location and the indigenous ethanol industry is able to maintain the availability of ethanol for ethanol blended petrol at such prices. The oil companies have invited tenders for procuring ethanol and, at present, the tenders are under evaluation.

CHAPTER X



10. DEVELOPMENT OF NORTH-EASTERN REGION

10.1 The Ministry of Petroleum & Natural Gas has no budget allocation for implementation of Centrally sponsored schemes and programmes in any States including North-Eastern States in the Petroleum Sector. However, the oil PSUs, under the administrative control of this Ministry, on their own and through their own resources have been implementing schemes and projects on commercial considerations as also some socio-economic programmes for the development of North-Eastern Region. Following are the contributions of the oil PSUs in the social and economic spheres.

10.1.1 ONGC

ONGC has taken several steps as part of its Socio-Economic Development Programme (SEDP), henceforth called the Corporate Citizen Policy (CCP). The endeavour is to upgrade/elevate the overall industrial and socio-economic level of the area. The amount spent during 2003-04 on education assistance, health care, community development, arts and culture in the North-East was of the order of Rs. 1.67 crore

10.1.2 OIL

An idea of a collective initiative for rural development work was first mooted by OIL in 1962 to promote good practices in corporate citizenship and sustainable development. It has today an established rural development network in its operational areas whose main objective is self-sufficiency. In Assam and Arunachal Pradesh alone, the company caters to the developmental needs of more than 1200 villages, connecting them to the mainland and providing realistic opportunities to strive for a fulfilling future.

OIL has evolved strategies to enhance the value of education, health care and sanitation, potable drinking water, agriculture extension and irrigation facilities, socio-economic programmes and vocational training programmes and also social

awareness programmes which cover sensitive areas like environmental protection, oil conservation and safety awareness.

Agro-based industries are being prompted through the creation of Self Help Groups (SHGs) under Swarnajayanti Gram Swarozgar Yojana (SGSY) in the Company's operational areas with the support of the State Institute of Rural development (SIRD), Assam.

In order to tackle the problem of growing unemployment, OIL has taken an initiative to invest in projects, which can help the unemployed youths to find alternate employment. OIL has undertaken a new initiative to develop agro-based industries like bamboo cultivation, floriculture, fishery, sericulture, organic farming etc. In this context, OIL has signed a MOU on 8th September'2003 with the State Institute of Rural Development, Assam (apex centre for research and training in rural development) which has successfully implemented similar projects in various areas in lower Assam.

10.1.3 Bongaigaon Refinery & Petrochemicals Ltd. (BRPL)

Bongaigaon Refinery & Petrochemicals Limited has made a gross investment of Rs. 924 crores up to 31st March 2004 in putting up various plants and associated manufacturing facilities at Dhaligaon. During the year 2004-05, a further capital investment of Rs. 27 crores is envisaged against various projects.

The Refinery business of BRPL has been in operation since 1979. The Petrochemicals and Polyester Staple Fibre plants were added later, phase-wise. These units, particularly the Petrochemicals & PSF plants, have a vital role in providing business to a few ancillary units of the North Eastern region, both in the Govt. sector and the private sector, which supply packing materials, raw material, etc. to BRPL. Similarly, some of the products from BRPL like Petroleum Coke, DMT, PSF, etc. constitute the raw materials for some of the down-stream industries in the region. Thus, BRPL has been contributing a lot to the industrial and economic development of the region.

Further, BRPL has been taking up various social upliftment schemes from time to time in its neighborhood under the Special Component Plan and the Tribal Sub-Plan. The outlay for these activities is gradually being increased over the years and the various schemes under the aforesaid Plans are given due importance. For the year 2004-05, the company has earmarked Rs. 1.15 crore for socio-economic upliftment under the Special Component Plan and Tribal Sub-Plan in the region.

BRPL has been giving priority to persons from the North East regarding employment in BRPL. Out of a total of about 1750 employees, over 90% belong to this region.

10.1.4 Numaligarh Refinery Limited (NRL)

Numaligarh Refinery Limited was incorporated on 22nd April, 1993 as a Public Limited Company under the Companies Act, 1956. Presently, the Company is a subsidiary of Bharat Petroleum Corporation Limited.

The proposal for setting up a 3 MMTPA Refinery was included in the "Assam Accord" signed on 15th August 1985 as part of Government of India's economic package offered for providing required thrust towards speedy economic development of Assam. The Numaligarh Refinery and its adjacent Marketing Terminal have been completed at the approved cost of Rs. 2,724 crores and commercial operations commenced from October, 2000.

10.1.5 GAIL (India) Limited

GAIL has accorded highest priority to development of the North-East Region in line with the special thrust of Govt. of India to accelerate the development process in this region.

GAIL started its activities in Assam in 1992 and is currently supplying about 0.59 MMSCMD gas to 46 customers. The supply of gas is made to Assam State Electricity Board (ASEB) as a fuel for their Power Plants at Maibella and Geleki in the district of Sibsagar, Hindustan Fertilizers Corporation Ltd. (HFCL) as a feedstock for their Fertilizer plants at Namrup in the district of Dibrugarh, and as a fuel to a large number of tea

estates for tea leaf processing. GAIL contributes significantly to the state economy by way of Sales Tax on Natural Gas supplies.

In addition to Supply, Distribution and Marketing of Natural Gas, GAIL has constructed and has been operating a LPG Plant at Lakwa in the district of Sibsagar, with an investment of around Rs.240 Crores. The LPG plant has a capacity to produce 85,000 Tonnes of LPG per annum for meeting the requirement of about 6 lakhs domestic LPG consumers. LPG produced from this plant is presently being supplied to IOCL, AOD's bottling plants at North Guwahati & Silchar and, in future, would be supplied to a host of other small new bottling plants coming up in the states of Nagaland, Manipur, Arunachal Pradesh, Meghalaya and Mizoram. The LPG Plant provides direct and indirect employment to a large number of people in the area, apart from contributing to the state economy by way of Sales Tax on LPG supplies.

In Tripura, GAIL (India) Limited has created pipeline network to connect different gas fields of ONGC to the consumers. GAIL has laid around 60 kms. of pipeline connecting ONGC gas fields at Agartala Dome, Rokhia and Konaban, and is supplying around 1.39 MMSCMD Natural Gas to Power Plants of Deptt. of Power, Govt. of Tripura and NEEPCO with installed capacity of about 150 MW.

GAIL has recently acquired a stake of 29% in TNGCL under a Joint Venture route, in alliance with Tripura Industrial Development Corporation (TIDC) and Assam Gas Company Limited (AGCL). GAIL has also integrated backwards by way of securing one E&P Block in Tripura under NELP – IV bidding, and initiated actions for the early development of the field. GAIL holds 80% of the equity in the block.

GAIL has also been associated with the people of North-East Region and has significantly contributed towards Society & Community Development in and around the areas adjoining its installations. GAIL has undertaken several projects under its Social Responsibility Programmes with special thrust on Community

Development, Education, Environment Protection, Healthcare, Infrastructure etc. in the region.

10.2 PLANS FOR DEVELOPMENT AND GROWTH

10.2.1 Retail Marketing Activities

For improving viability, NRL has received authorization from Government of India to set up 510 MS/HSD Retail Outlets in Eastern Region and parts of Northern and Southern Region. Market survey has been carried out for major part of the proposed area of marketing and branding exercise has been completed. First four Retail Outlets were commissioned in North East in the year 2003-2004 and one more in the month of September 2004. Total 50 Retail Outlets are being planned to be set up during 2004-05.

10.3 ONGOING PROJECTS

10.3.1 Motor Spirit (MS) Project

The MS project for production of Motor Spirit conforming to Euro-III specifications was approved in the year 2002-03. This project has been put up to overcome the evacuation problems of surplus Naphtha and for its value addition. The project is scheduled for completion by end of financial year 2005-06. The overall physical progress as on 30-11-2004 was 50.09% against a schedule of 55.73%. Out of 75 milestones, 47 milestones have been achieved, which is as per schedule.

10.3.2 Wax Plant

Market Survey and final MVGO analysis for ascertaining the wax potential completed. EIL's offer for preparation of Detail Feasibility Report for paraffin wax is being obtained.

10.4 UPGRADATION PROJECT

Revamp studies completed by EIL. Licensor selection for Hydro treater & Hydrogen plant is completed. DFR received from EIL and is under review.

10.5 PRODUCT PIPELINE PROJECT

The MOU between NRL and OIL for implementation of the Numaligarh-Siliguri Pipeline Project was signed on 3-3-2004. OIL will develop,

install, operate and maintain the pipeline from Numaligarh Refinery to the Siliguri receipt terminal including the despatch pumping station at Numaligarh Refinery. NRL will construct the despatch facility at Numaligarh excluding the pumping station and also the receipt terminal at Siliguri for further Rail/Road evacuation ex-Siliguri. DFR has been completed for the Marketing Terminal at Siliguri.

10.6 NORTH EAST REFINERIES

10.6.1 There are four refineries in Assam viz. Guwahati, Digboi, Bongaigaon Refineries and Petrochemicals Limited (BRPL) and Numaligarh Refineries Limited (NRL). Guwahati and Digboi refineries are fully owned by Indian Oil Corporation (IOC), BRPL is subsidiary of IOC and NRL is a subsidiary of Bharat Petroleum Corporation Limited (BPCL). These refineries mostly refine crude produced by ONGC and OIL. As these refineries are of sub-economic size and suffer from locational disadvantages, they need Government's intervention for ensuring their viability after the dismantling of the APM. Even though these refineries are unviable, it is necessary to keep them operational and viable in view of the need to stimulate industrial development and to provide for socio-economic development in the north east region.

The year of commissioning and the capacity of NE refineries are given in the following table :

Refinery	Year of Commissioning	Capacity (MMT)*
Digboi	1901	0.65
Guwahati	1962	1.00
BRPL	1979	2.35
NRL	2000	3.00
Total		7.00

*Million Metric Tonne.

The following benefits have been extended to the North East refineries so as to improve their economic viability Post APM :

- The products of all four North East refineries have an excise duty exemption of 50% effective 01.03.2002.
- As per the post APM crude oil supply agreement between these refineries and OIL/ONGC, the domestic crude available to these refineries is priced

on FOB basis instead of import parity basis, thereby benefiting them.

- (iii) 1.5 MMTPA of Ravva crude has been made available to BRPL effective 01.04.2003. This increases the availability of total domestic crude to North East refineries and the benefit of increase in overall availability of crude oil is shared by all the four North East refineries thereby improving their capacity Utilization.

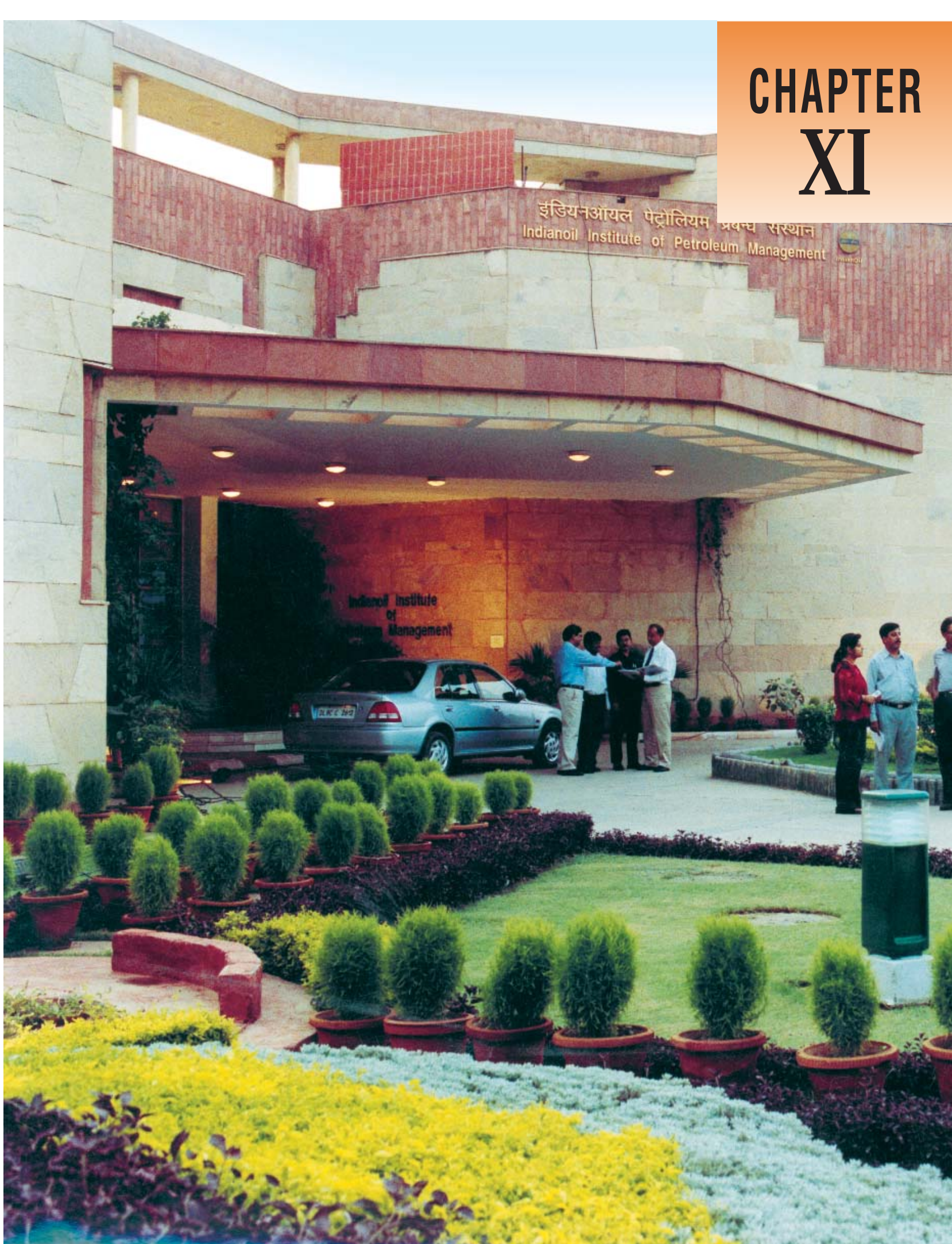
A comparison of profit after tax of NRL and BRPL for the years 2001-02, 2002-03, 2003-04 & 2004-05

(April – December, 2004) is given below. As can be seen, these refineries have progressively performed better as compared to 2001-02.

(Rs. in crore)

Name of the Refinery	Profit after Tax			
	2001-02	2002-03	2003-04	2004-05 (April- Dec., 04)
NRL	123.00	174.60	214.95	326.46
BRPL	(-)199.00	178.50	303.74	426.75

CHAPTER XI



11. GENERAL

11.1 PROGRESSIVE USE OF HINDI

11.1.1 The Ministry of Petroleum & Natural Gas is implementing provisions of the Official Language Act, 1963 and Rules framed thereunder. It is also responsible for the implementation of Official Language Policy in various Offices of Public Sector Undertakings under its administrative control.

11.1.2 This Ministry has been notified under Rule 10(4) of the Official Language (Use for Official Purpose of the Union) Rules, 1976. Three sections of the Ministry viz. Administration Section, Library and SC/ST Cell have been identified under Rule 8(4) for doing their entire work in Hindi. The Establishment Section is also required to do entire work in Hindi in respect of group 'C' and 'D' employees. Eleven type of works have been identified under the aforesaid Rule for execution in Hindi only. Further, instructions have been issued, under the said Rules to all Officers/employees of the Ministry who are proficient in Hindi, to prepare and submit drafts etc. of following categories of communications in Hindi language only :

- a) All communications to State Government & Union Territory Administration in Region 'A' and Region 'B' and all offices, Undertakings, etc. of Central Government situated in these Regions or to any person in these Regions.
- b) Replies to all incoming communication written in Hindi.
- c) Reply to application, appeal or representation written or signed by an employee in Hindi.

11.1.3 The Ministry has prepared a time-bound programme to impart in-service training to all its employees who do not possess working knowledge of Hindi. Under this programme, 3 employees were nominated for Probodh class under Hindi Teaching Scheme during 2004-05. A time – bound programme for imparting Hindi Stenography / Hindi typing training to

Stenographers and Lower Division Clerks (LDCs) of the Ministry has also been prepared, under which 2 Stenographers and 3 LDCs were nominated for training.

11.1.4 The first working day of every month is observed as Hindi Divas in the Ministry. All the Officers/employees are expected to undertake official work only in Hindi on that day. Similarly, the PSUs under the Ministry have also been advised to observe Hindi Divas every month in their offices.

11.1.5 The 'Hindi Fortnight' was celebrated in the Ministry during 14 – 28 September, 2004 and a number of competitions viz., Hindi essay writing competition, Hindi noting/drafting competition etc. were organised. 11 participants were given cash awards.

11.1.6 On the occasion of Hindi Divas/Week/Fortnight/Month, the message from Hon'ble Cabinet Secretary was circulated among all the Officers of the Ministry.

11.1.7 The Parliamentary Committee on Official Language inspected 21 offices of PSUs under the administrative control of the Ministry scattered throughout the country. 10 PSU offices were entrusted with the coordination work. The location in-charge and offices of official language actively participated in the inspections. All the PSUs were made aware of findings of the Committee and orders were issued for removing short comings.

11.1.8 Most of the computers were provided with Hindi software during the year.

11.1.9 In order to undertake the Official Language implementation work effectively, an Official Language implementation Committee (OLIC) is functioning in the Ministry under the chairmanship of Joint Secretary (Admn.). All the Public Sector Undertakings under the Ministry are members of the Committee. This Committee reviews the overall progress of implementation of the Official Language Policy in the Ministry and the Public Sector Undertakings, as also the progress of

implementation of the Annual Programme circulated by Department of Official Language.

- 11.1.10** Quarterly progress reports on progressive use of Hindi are sent to Department of Official Language, and Quarterly progress reports received from Public Sector Undertakings are reviewed in the Ministry.
- 11.1.11** So far, 303 offices of the Public Sector Undertakings, in which 80 percent staff acquired working knowledge of Hindi, have been notified in pursuance of Rule 10 (4) of the Official Language (Use for Official Purposes of the Union) Rules, 1976. The Public Sector Undertakings have been advised to conduct survey of their offices with a view to ascertain the number and percentage of employees who have acquired working knowledge of Hindi.
- 11.1.12** The Annual Programme for the financial year 2004-05 received from the Department of Official Language was circulated to all officers of the Ministry and Chief Executives of PSUs/Offices. Various Sections in the Ministry and all PSUs were instructed to ensure its proper implementation.
- 11.1.13** Books, magazines and newspapers published in Hindi are available in Ministry's library. Help books, such as Administrative and Technical Terminology in Hindi, English-Hindi Dictionaries etc. have been provided to various Sections and Desks.
- 11.1.14** With a view to assess position of compliance of Official Language Rules and use of Hindi in the various offices of PSUs in different parts of the country, an inspection Team has been constituted under the Chairmanship of a Joint Secretary who is also the Chairman of OLIC of the Ministry. 5 offices in region "A" have been inspected in 2004-05.

11.2 PUBLIC GRIEVANCE CELL

The Public Grievance Cell is working in the Ministry for attending to grievances of members of public in respect of services rendered by the Ministry or Public Sector Oil Companies under its control. In order to give proper attention to public grievances, Grievance Officers have been

nominated in all the Public Sector Oil Companies, who attend to public grievances in an efficient manner. Disposal of public grievances is monitored regularly. A separate Grievance Cell for redressal of the grievances of members of staff of the Ministry is also functioning under the charge of Director (Administration). The jurisdiction of Directorate of the Public Grievances set up in the Cabinet Secretariat has already been extended to Ministry of Petroleum and Natural Gas.

During the year 2004-2005 (upto 31st December, 2004), the Public Grievance Cell of this Ministry received a total of 109 grievances and the pendency of the grievances as on 31st March, 2004 was 77 grievances. During the year 2004-2005 (upto 31st December, 2004), 119 grievances have been settled/disposed off.

The Director of Public Grievances in the Ministry is empowered to call for files/papers of the documents connected with grievances pending for more than 3 months and to take a decision thereon with approval of the Secretary, Ministry of Petroleum and Natural Gas or Head of the Organization empowered to communicate final decision to aggrieved parties.

11.3

INFORMATION FACILITATION COUNTER

The Ministry of Petroleum & natural Gas set up the Information Facilitation Counter on 30th June, 1997. Information Facilitation Counter has been engaged in projecting transparency in the working of the Government of India in the Ministry of Petroleum & natural Gas and providing information on all aspects of Oil Industry. The Citizens' Charter drafted by Experts of the Oil Industry under the aegis of this Ministry is the guiding force which aims at educating the common man about the consumers' entitlements to public services, including the standards of performance, quality of products, mode of access to information etc.

The type of information provided to the public has been ranging from the supply of Basic Petroleum Statistics to the provision of

information on various locations in the country rostered under various Marketing Plans for Retail Outlets, LPG Distributorships, Kerosene Agencies. Dealer Selection Guidelines (both in Hindi and English) are provided to the members of the Public to enlighten them about the eligibility criteria. Material published by the Petroleum Conservation Research Association to SAVE OIL is prominently displayed at the Counter and supplied to the visitors on demand.

During the year 2004-05, 3200 members of the public have benefitted from the Information Facilitation Counter.

11.4 INFORMATION TECHNOLOGY INITIATIVES

National Informatics Center (NIC) is actively involved in developing IT based infrastructure and implementation of e-governance applications as well as customized applications in the ministry. Around 110 PCs have been put on LAN till date and another 50 PCs will be connected shortly. Proposal for laying of the high speed Optical Fiber backbone with the connectivity of the existing infrastructure has already been submitted. A project proposal for establishment of NIC center along with the necessary IT infrastructure has been submitted.

As an e-governance initiative, a comprehensive user-friendly menu driven package "Office Procedure Automation (OPA)" has been implemented. OR-1 section of the ministry is utilizing all the functionalities of the system by diarising all receipts/files related to their section on daily basis. A web enabled "Incumbency Monitoring of Board Level Officers" module has been developed and implemented successfully. Another module "Telephone Payment Monitoring System" is under development and will be implemented shortly. Efforts have been made for the implementation of the "Composite Payroll System (CPS)" developed by NIC's Accounting Informatics Division. The ministry's web site viz. <http://petroleum.nic.in> has been hosted on NIC server and is being updated as and when required. Necessary training on the implemented softwares has been provided by

NIC, as and when required, to the concerned officers and staff.

An intra web portal of the ministry has already been launched and payslips of all the employees have been made available on this site in an authorized manner.

Computerization and digitization of old records lying in the Record Room has been taken up and the system will be developed after finalization of the requirements. System Study for some of the modules is underway.

11.5 OUTSTANDING AUDIT OBJECTIONS

CAG Audit party has concluded the Audit of the Accounts of the Ministry for the year 2003-04 in February-March 2005 and their Inspection Report is awaited.

11.6 C & AG'S REPORT

Paras of C&AG's Report No. 3 of 2004 (Commercial) are at Appendix-VIII.

11.7 PRICING OF PETROL, DIESEL, PDS KEROSENE AND DOMESTIC LPG AFTER THE ANNOUNCEMENT OF DISMANTLING OF APM EFFECTIVE 01.04.2002

11.7.1 Petrol and Diesel

(i) Post APM, Oil Marketing Companies (OMCs) have been determining the selling prices of petrol and diesel after prior consultations with Ministry of Petroleum & Natural Gas. The price build-up of these products consists inter alia of the following elements:

- (a) Basic Price at refinery level on import parity basis
- (b) Freight upto depots
- (c) Marketing cost and margin
- (d) State specific irrecoverable levies
- (e) Excise duty
- (f) Delivery charges from depot to Retail Pump Outlet
- (g) Sales Tax and other local levies
- (h) Dealers commission

(ii) The year 2004-05 witnessed unprecedented high oil prices in the international markets. As compared to the average Indian basket crude price of US \$ 27.98/barrel during 2003-04, the average price during 2004-05 (April 2004 – January 2005) was US \$ 37.87/barrel. With a view to containing the impact of increase in international prices of petroleum products on domestic prices, the Government reduced excise duty on petrol from 30% to 26% and on diesel from 14% to 11% effective 16.06.2004. The duty was further reduced on petrol from 26% to 23% and on diesel from 11% to 8% with effect from 19.08.2004. The Government has also reduced customs duty on petrol and diesel from 20% to 15% with effect from 19.08.2004. In addition to these fiscal measures, with a view to modulating the impact of high international prices on the domestic consumer prices of petrol and diesel and bringing about transparency in pricing by allowing autonomous adjustments by OMCs in retail selling prices (RSPs) of these products within a reasonable price band, the CCEA in its meeting on 26.07.2004, took inter-alia the following decisions regarding pricing of petrol and diesel :

- (a) OMCs would themselves decide the RSPs of petrol and diesel based on the previous fortnight's average international price, provided that the exchange rate adjusted C&F (Cost & Freight) product price was within the band of $\pm 10\%$ around the mean of (a) last three months' rolling average prices; and (b) last one year's rolling average prices.
- (b) In case the C&F prices breached the ceiling due to high volatility, OMCs would keep the prices in the band and approach the Government. The Government may then consider modulating excise duty rates of petrol and diesel as appropriate, in the interest of consumers.
- (c) Prices in far-flung areas would not exceed prices at the nearest supply points as at present.

(iii) The OMCs continued to fix the selling prices of Petrol and Diesel during 2004-05 in consultation with Ministry of Petroleum & Natural Gas.

11.7.2 PDS Kerosene and Domestic LPG

- (i) As per the decision taken at the time of announcement of APM dismantling, Post APM, the Government subsidies on PDS Kerosene and Domestic LPG were to be on flat rate basis and after providing for this subsidy, the retail prices were to vary as per changes in the international prices. These subsidies were to be phased out in three to five years, effective 01.04.2002.
- (ii) Despite increase in international prices, Oil companies did not revise the basic selling prices of PDS Kerosene and Domestic LPG during 2002-03 and suffered under-recoveries.
- (iii) The issue of post APM pricing of PDS Kerosene and Domestic LPG was re-examined by the Government in 2003-04 and it was decided that OMCs would not increase the selling prices of these products during 2003-04 and that the resultant under-recoveries of OMCs would be shared/absorbed by the oil companies. Accordingly, an appropriate mechanism for sharing the under recoveries of OMCs during 2003-04, on account of PDS kerosene and domestic LPG, amongst the Oil PSUs was put in operation by Ministry of Petroleum & Natural Gas. The sharing mechanism is continuing during 2004-05.
- (iv) Despite a sizeable increase in the international prices, Post APM, the RSP of domestic LPG has been increased by OMCs only twice, viz., by Rs. 20/cylinder effective 16th June, 2004 and further by Rs.20/cylinder effective 05.11.2004. However, no increase has been effected in RSP of PDS kerosene post APM.
- (v) Excise duty on domestic LPG has been reduced from 16% to 8% w.e.f. 16.06.2004 and on PDS Kerosene from 16% to 12%

w.e.f. 19.08.2004. Customs duty on both products has been reduced from 10% to 5% w.e.f 19.08.2004. These duty reductions were effected with a view to contain the under recoveries of oil companies in view of the sizeable gap between the cost price and the selling price of domestic LPG and PDS kerosene after accounting for the flat rate of Government subsidy.

- (vi) Thus, as of now, in addition to the Government subsidy, oil PSUs are sharing the burden of subsidizing domestic LPG

and PDS kerosene. Also, Government has decided that the Government subsidy on these products would be phased out over a period of five years effective 01.04.2002 i.e. by 31.03.2007.

- (vii) In addition to the normal subsidy scheme for PDS kerosene and Domestic LPG, there is also a freight subsidy scheme for these products with a view to mitigating the impact of high transportation cost in the selling prices of these products in the far-flung areas.

11.7.3 Budgetary allocation under subsidy schemes and expenditure during 2004-05 (April-December 2004)

(Rs. in crore)

Name of the scheme	B.E. 2004-05	Expenditure (April-December, 2004)
"The PDS Kerosene and Domestic LPG Subsidy Scheme, 2002"	3,500	2, 500.16
"The Freight Subsidy (For Far-Flung Areas) Scheme, 2002"	59	22.34

11.7.4 Statement Showing Existing Tariffs (2003-04)

(in percentage unless otherwise specified)

	Current Duty Rates	
	Customs	Excise
Crude	10	Cess @ Rs. 1800/- MT plus
	Plus Rs. 50/MT National Calamity	* Rs.50/MT National Calamity
	Contingent Duty	Contingency Duty
HSD	15	8
		Plus Rs. 1.50/litre addl.duty
LDO	20	16
		Plus Rs.1.50/litre
MS	20	30#
		Plus Rs.6/- per litre Special
		Additional Excise Duty +
		Rs.1.50/- Litre additional duty
ATF	20	8
LPG	5	8
FO/LSHS		
-For Fertilizer Use	0	0
-Others	20	16
Naphtha		
-For Fertilizer Use	0	0
-Others	10	16
SKO		
-PDS for import by Indian Oil	5	12
-Kerosene for Parallel Marketing	20	16
-Kerosene for use in manufacture of LAB/N paraffin	5	16
Bitumen	20	16
Others	20	16

Notes : *Crude oil produced in the PSC fields and blocks covered by NELP shall be exempt from this levy.

Petroleum Products produced by refineries in North East –NRL, BRPL, Guwahati and Digboi attract 50% of effective Excise Duty Rates.

An additional levy of Education Cess @ 2% has been imposed on the aggregate of all excise and customs duties w.e.f 09.07.2004.

The customs duty on naphtha for the manufacture of polymer reduced to 5% w.e.f 01.10.2004.

11.8 Contribution of Oil PSUs for the relief work caused by Tsunami

Sl. No.	Name of the oil PSU	Rs. in crore
1.	Indian Oil Corporation	15
2.	Oil & Natural Gas Corporation	15
3.	Bharat Petroleum Corporation Limited	7.5
4.	Hindustan Petroleum Corporation Limited	7.5
5.	GAIL (India) Limited	5.0
6.	Chennai Petroleum Corporation Limited	2.5
7.	Kochi Refinery Limited	2.5

APPENDICES

WORK ALLOCATED TO MINISTRY OF PETROLEUM AND NATURAL GAS

1. Exploration for, and exploitation of petroleum resources, including natural gas and Coal Bed Methane.
2. Production, supply, distribution, marketing and pricing of petroleum, including natural gas, Coal Bed Methane and petroleum products.
3. Oil refineries including Lube Plants.
4. Additives for petroleum and petroleum products.
5. Lube Blending and greases.
6. Planning, development and control, of and assistance to all industries dealt with by the Ministry.
7. All attached or subordinate offices or other organizations concerned with any of the subjects specified in the list.
8. Planning, development and regulation of oilfield services.
9. Public sector projects falling under the subject included in this list. Engineers India Limited and IBP Company, together with its subsidiaries, except such projects as are specifically allotted to any other Ministry/Department.
10. The Oil Fields (Regulation and Development) Act, 1948 (53 of 1948).
11. The Oil and Natural Gas Commission Act, 1959 (43 of 1959).
12. The Petroleum & Minerals Pipelines (Acquisition of right of User in Land) Act, 1962 (50 of 1962).
13. The Esso (Acquisition of Undertakings in India) Act, 1974 (4 of 1974).
14. The Oil Industry (Development) Act, 1974 (47 of 1974)
15. The Burmah-Shell (Acquisition of Undertakings in India) Act, 1976 (2 of 1976).
16. The Caltex (Acquisition of Shares of Caltex Oil Refining (India) Limited and of the Undertakings in India of Caltex (India) Limited Act, 1977.
17. Administration of the Petroleum Act, 1934 (30 of 1934) and the rules made thereunder.

LIST OF PUBLIC SECTOR UNDERTAKINGS AND OTHER ORGANISATIONS UNDER THE ADMINISTRATIVE CONTROL OF THE MINISTRY OF PETROLEUM & NATURAL GAS

I. Oil Companies in which Government of India has a shareholding (31.03.2005)

1. Oil & Natural Gas Corporation Ltd.	74.15%
2. Indian Oil Corporation Ltd.	82.03%
3. Hindustan Petroleum Corporation Ltd.	51.01%
4. Bharat Petroleum Corporation Ltd.	66.20%
5. GAIL (India) Ltd.	57.35%
6. Engineers India Ltd.	90.39%
7. Oil India Ltd.	98.13%
8. Biecco Lawrie & Co. Ltd.	57.00%
9. Balmer Lawrie & Co. Ltd.	61.80%

II. Subsidiaries and Other Companies

1. ONGC Videsh Limited	– wholly owned by ONGC
2. Mangalore Refinery & Petrochemicals Limited	– subsidiary of ONGC
3. Indian Oil Blending Limited	– wholly owned by IOC
4. Bongaigaon Refinery & Petrochemicals Limited	– subsidiary of IOC
5. IBP Co. Ltd.	– subsidiary of IOC
6. Chennai Petroleum Corporation Limited	– subsidiary of IOC
7. Indian Oil Mauritius Ltd	– subsidiary of IOC
8. Numaligarh Refineries Limited	– subsidiary of BPCL
9. Kochi Refineries Limited	– subsidiary of BPCL
10. Certification Engineers International Limited	– wholly owned by EIL
11. EIL Asia Pacific Sdn BHD	– wholly owned by EIL

III. Other Organisations

Oil Industry Development Board
 Petroleum Conservation Research Association
 Oil Industry Safety Directorate
 Centre for High Technology
 Petroleum India International
 Directorate General of Hydrocarbons

PRODUCTION OF CRUDE OIL AND NATURAL GAS

ITEM	1990-91	1995-96	2000-01	2001-02	2002-03	2003-04	2004-05* (Apr.-Dec.)
1	2	3	4	5	6	7	8
1. CRUDE OIL PRODUCTION ++ ('000' Tonnes)							
(a) Onshore :							
Gujarat	6398	6385	5815	6001	6043	6131	4655
Assam/Nagaland	5076	5044	5199	5096	4660	4592	3526
Arunachal Pradesh	43	31	78	69	74	77	63
Tamil Nadu	302	374	436	440	395	375	286
Andhra Pradesh	11	44	263	283	300	281	170
Total (a)	11830	11878	11791	11889	11472	11456	8700
of which							
OIL	2649	2882	3286	3183	2952	3002	2379
ONGC	9181	8970	8428	8635	8445	8384	6266
JVC/Private	0	26	77	71	75	74	55
(b) Offshore :							
ONGC	21191	22665	16629	16073	17559	17677	13678
JVC/Private	0	624	4006	4070	4013	4240	3178
Total (b)	21191	23289	20635	20143	21572	21917	16856
Grand Total (a+b)	33021	35167	32426	32032	33044	33373	25556
2. NATURAL GAS PRODUCTION							
(Million Cubic Metres)							
(a) Onshore:							
Gujarat	1696	2887	3149	3171	3531	3517	2652
Assam/Nagaland	2011	1880	2204	1992	2047	2247	1680
Arunachal Pradesh	29	32	33	34	36	\$	29
Tripura	70	131	376	416	446	508	362
Tamil Nadu	64	117	200	348	466	605	489
Andhra Pradesh	46	679	1604	1797	2038	1927	1283
Rajasthan	Nil	12	159	100	162	168	149
Total (a)	3916	5738	7725	7858	8726	8972	6644
of which							
OIL	1518	1433	1861	1619	1744	1886	1478
ONGC	2398	4296	5555	5615	5871	5779	4139
JVC/Private	0	9	309	624	1111	1307	1027
(b) Offshore :							
ONGC	14082	16579	18465	18426	18373	17806	13351
JVC/Private	0	322	3287	3430	4290	5184	3864
Total (b)	14082	16901	21752	21856	22663	22990	17215
Grand Total (a+b)	17998	22639	29477	29714	31389	31962	23859

* : Provisional

Source : ONGC, OIL and DGH.

++ : Includes condensates

\$: Included in Assam.

REFINERY CRUDE THROUGHPUT

('000 Tonnes)

REFINERY	Refinery Crude Throughput						
	1990-91	1995-96	2000-01	2001-02	2002-03	2003-04	2004-05* (Apr.-Dec.)
1	2	3	4	5	6	7	8
(a) PUBLIC SECTOR	51772	58741	77411	77620	82015	89495	69232
IOC, Guwahati	783	839	707	656	458	891	742
IOC, Barauni	2416	2322	3122	2876	2994	4304	3813
IOC, Gujarat	9334	10167	12006	11697	12434	12758	9344
IOC, Haldia	2835	3416	3873	4026	4513	4518	4181
IOC, Mathura	7808	8332	7133	8031	8207	8248	4218
IOC, Digboi	566	559	678	653	581	602	488
IOC, Panipat @@	0	0	5707	5822	6101	6338	4821
Total IOC	23742	25635	33226	33761	35288	37659	27607
BPCL, Mumbai	6957	7460	8683	8744	8711	8757	6739
HPCL, Mumbai	5766	5965	5575	5641	6078	6108	4976
HPCL, Visakh	3464	5037	6405	6706	6851	7591	5777
Total HPCL	9230	11002	11980	12347	12929	13699	10753
KRL, Kerala	5006	7421	7520	6797	7580	7854	5956
CPCL, Manali	5698	5599	6046	6123	6176	6387	5767
CPCL, Narimanam	0	370	579	566	643	653	542
Total CPCL	5698	5969	6625	6689	6819	7040	6309
BRPL, Assam	1139	1215	1488	1475	1463	2126	1730
NRL, Numaligarh #	0	0	1451	2307	1879	2200	1400
ONGC, Tatipaka \$	0	0	0	13	93	91	70
MRPL, Mangalore @	0	39	6438	5487	7253	10069	8668
(b) PRIVATE SECTOR	0	0	26033	29654	30544	32345	25718
RPL, Jamnagar ##	0	0	26033	29654	30544	32345	25718
Total (a+b)	51772	58746	103444	107274	112559	121840	94950

* : Provisional Source: Public Sector Undertakings / Private Company.

@ : Commenced production from 25.3.1996

@ @ : Commenced production from May 1998

: Commenced production from April 1999

: Commenced production from July 1999.

\$: Commenced production from January 2002.

PRODUCTION OF PETROLEUM PRODUCTS

('000 Tonnes)

PRODUCTS	1990-91	1995-96	2000-01	2001-02	2002-03	2003-04	2004-05* (Apr.-Dec.)
1	2	3	4	5	6	7	8
(a) From Crude Oil							
1. Light Distillates	10023	12433	25048	26539	28619	31971	24161
of which							
LPG	1221	1539	4088	4778	4903	5348	4088
Mogas	3552	4462	8070	9699	10361	10999	8201
Naphtha	4859	5975	9908	9180	9650	11317	10509
Others ^{LD}	391	457	2982	2882	3705	4307	1363
2. Middle Distillates	26344	29941	52445	54409	55937	60018	46702
of which							
Kerosene	5471	5267	8714	9681	10028	10187	7172
ATF/RTF/Jet A-1	1801	2127	2513	2595	3053	4289	3774
HSD	17185	20661	39052	39899	40207	43316	34193
LDO	1509	1351	1481	1703	2079	1659	1159
Others ^{MD}	378	535	685	531	570	567	404
3. Heavy Ends	12195	12707	18121	19056	19584	21474	17071
of which							
Furnace Oil	4879	5351	6479	7488	7529	8737	7924
LSHS/HHS/RFO	4550	4228	4913	4739	4638	4635	3104
Lube Oils	561	633	684	651	684	666	475
Bitumen	1603	2032	2721	2561	2941	3397	2361
Petroleum Coke	229	256	2473	2784	2659	2743	2359
Paraffin Wax	49	43	51	45	42	53	50
Others Waxes	46	63	61	37	3	Neg.	5
Others ^{HE}	278	101	739	751	1088	1243	793
Total (1+2+3)	48562	55081	95614	100004	104140	113463	87934
(b) From Natural Gas							
LPG	929	1715	2045	2205	2370	2320	1701

* : Provisional Source: Public Sector Undertakings / Private Company.

LD : Includes Propylene, C-3, Propane, Hexane, Special Boiling Point Spirit, Benzene, Toluene, Petroleum Hydro Carbon Solvent, Natural Heptane, Methyl Tertiary Butyl Ether, Poly Isobutene, Poly Butadine Feed Stock and Methyl Ethyl Keetone Feed Stock.

MD : Includes Mineral Turpentine Oil, JP-5, Linear Alkyl Benzene Feed Stock, Aromex, Jute Batching Oil, Solvent 1425, Low Sulphur Heavy Fuel HSD, Desulphurisation Hydrocracker Bottom and Special Kerosene.

HE : Includes Carbon Black Feed Stock, Sulphur, Solar Oil, Light Aluminium Rolling Oil and Extracts.

SALES/CONSUMPTION OF PETROLEUM PRODUCTS

('000 Tonnes)

PRODUCTS		1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05* (Apr.-Dec.)
A. PUBLIC SECTOR								
1	Light Distillates	17958	20473	21770	22916	23567	24948	19722
	LPG	5041	6029	6613	7310	8143	9089	7334
	Mogas	5507	5909	6613	7011	7570	7895	6120
	Naphtha	6652	7970	8059	8128	7284	7329	4855
	NGL	330	91	6	27	32	0	0
	Others	428	474	479	440	538	635	1413
2	Middle Distillates	51686	54259	52854	50661	50555	50549	38974
	SKO	10599	10731	10714	10114	9707	9426	6923
	ATF	2112	2197	2249	2256	2269	2481	2056
	HSDO	37217	39287	37938	36515	36534	36875	28727
	LDO	1278	1512	1399	1202	1413	1181	832
	Others	480	532	554	574	632	586	436
3	Heavy Ends	15122	15919	15362	15515	16002	16633	12495
	Furnace Oil	6767	6816	6371	7085	6941	7207	5913
	LSHS/HHS	4537	4763	4989	4531	4711	4633	3171
	Lubes/Greases	885	915	797	819	938	815	576
	Bitumen	2412	2879	2618	2428	2847	3367	2253
	Petroleum Coke	315	328	414	367	335	308	327
	Paraffin Wax	36	53	43	45	41	42	51
	Other Waxes	76	89	62	51	13	20	2
	Others	94	76	68	189	176	241	202
	Total (A) (Excl. RBF)	84766	90651	89986	89092	90124	92130	71190
B. PRIVATE SECTOR								
1	Light Distillates	2573	4058	7544	6702	8188	9151	6486
	LPG	311	392	403	418	208	216	165
	MS	0	0	0	0	0	0	226
	Naphtha / NGL	2239	2831	3614	3600	4645	4539	5504
	Benzene	23	33	8	0	0	0	0
	Others	0	802	3519 \$	2684 \$	3335 \$	4396 \$	591
2	Middle Distillates	1644	1175	613	778	1510	1475	1401
	SKO	1644	1167	593	318	698	804	0
	HSDO	0	8	20	31	110	199	1077
	LDO	0	0	0	390	650	438	324
	Others	0	0	0	39	52	34	0
3	Heavy Ends	1579	1202	1931	3860	4304	4995	4756
	Furnace Oil / LSHS	1206	874	1293	1366	1086	1105	816
	Lubes/Greases	212	328	246	318	312	611	379
	Bitumen	0	0	96	156	139	6	12
	Petroleum Coke	78	0	34	1431	2228	2569	1984
	CBFS	83	0	230	75	74	177	NA
	Others	0	0	32	514	465	527	1565
	Total (B)	5796	6435	10088	11340	14002	15621	12643
	TOTAL (A+B)	90562	97086	100074	100432	104126	107751	83833

* : Provisional

Source : Petroleum Planning & Analysis Cell.

\$: Includes reformat also.

IMPORTS / EXPORTS OF CRUDE OIL AND PETROLEUM PRODUCTS

(Qty : '000 Tonne, Value : Rs.Crore)

ITEM	2001-02		2002-03		2003-04		2004-05 (Apr.-Dec.)*	
	Qty.	Value	Qty.	Value	Qty.	Value	Qty.	Value
1	2	3	4	5	6	7	8	9
GROSS IMPORTS								
A. Crude Oil	78706	60397	81989	76195	90434	83528	71818	85695
B. Petroleum Products								
I. Light Distillates	3967	4287	3366	4777	4529	6034	3791	6964
1. LPG	659	810	1073	1867	1708	2558	1799	3452
2. Naphtha	3308	3477	2293	2910	2371	2884	1558	2780
3. Propane	0	0	0	0	450	592	434	732
II. Middle Distillates	424	425	806	934	906	1015	148	240
1. ATF	2	9	2	7	2	9	2	10
2. SKO	391	388	698	808	804	890	0	0
3. HSD	31	28	106	119	100	116	146	230
4. Others	0	0	0	0	0	0	0	0
III. Heavy Ends	2618	2537	2565	2495	2566	2674	1671	1960
1. FO / LSHS	1425	1030	1256	1084	953	810	557	509
2. Lubes / Others ^{HEI}	1193	1507	1309	1411	1613	1864	1114	1451
Total(B)	7009	7249	6737	8206	8001	9723	5610	9164
Grand Total(A+B)	85715	67646	88726	84401	98435	93251	77428	94859
EXPORTS								
Petroleum Products								
I. Light Distillates	5008	4927	4493	5475	5448	7100	4531	8142
1. Naphtha	2515	2234	2067	2325	2176	2653	2135	3615
2. MS	2406	2570	2336	3011	2979	4021	2116	4055
3. TAME	87	123	90	139	83	117	0	0
4. Reformate	0	0	0	0	210	309	280	472
II. Middle Distillates	3084	2747	3875	4337	7841	8713	7088	11295
1. HSD/LDO	2890	2571	3178	3547	6181	6763	5237	8135
2. ATF	194	176	697	790	1660	1950	1840	3138
3. SKO	0	0	0	0	0	0	11	22
III. Heavy Ends	1973	545	1921	1056	1331	968	1406	1268
1. FO/LSHS	482	255	1120	902	1310	928	1266	1084
2. VGO/Lubes/White Oil/Paraffin Wax	272	211	101	109	17	36	107	162
3. Coke/Bitumen	1219	79	700	45	4	4	33	22
Total	10065	8219	10289	10868	14620	16781	13025	20705
NET IMPORTS								
A. Crude Oil	78706	60397	81989	76195	90434	83528	71818	85695
B. Pol. Products	-3056	-970	-3552	-2662	-6619	-7058	-7415	-11541
Grand Total	75650	59427	78437	73533	83815	76470	64403	74154

TAME : Tertiary Amyl Methyl Ether. * : Provisional.

HEI : Includes Bitumen, Lube Oil Base Stock, Low Sulphur Waxy Residue, Carbon Black Feed Stock, Rubber Processing Oil, Coke and Paraffin Wax.

Source : Petroleum Planning & Analysis Cell, New Delhi.

C&AG'S REPORT

1. Bongaigaon Refinery and Petrochemicals Limited (BRPL) sustained a loss of Rs. 41.21 crore in the processing of imported crude during the period from February 2001 to December 2001 without assessing its economics.

(Para 14.1.1 of Report No. 3 of 2004)

Commercial

Due to non lifting of the entire ordered quantity of Mono-Ethylene-Glycol BRPL incurred avoidable expenditure of Rs. 1.01 crore in July 1999 by procuring the remaining quantity at higher rate.

(Para 14.1.2 of Report No. 3 of 2004)

Commercial

2. Gas Authority of India Limited incurred an infructuous expenditure of Rs. 187 crore during December 1999 to January 2001 for dispatch terminal and connected pipelines to transport gas from a refinery which was not coming up due to damage by a cyclone.

(Para 14.3.1 of Report No. 3 of 2004)

Commercial

3. Hindustan Petroleum Corporation Limited (HPCL) incurred infructuous expenditure of Rs. 6.52 crore in acquiring 34.10 acres of land in coastal regulation zone at Haldia and subsequent delay of about eight years ending July 2001 in surrendering it.

(Para 14.4.1 of Report No. 3 of 2004)

Commercial

4. HPCL incurred an avoidable payment of surcharge of Rs. 3.45 crore on account of low power factor due to delay in installation of capacitors during April 1997 to December 2000.

(Para 14.4.2 of Report No. 3 of 2004)

Commercial

Allowing of unsecured credit to a customer during December 2000 to June 2001 resulted in non-realisation of sale proceeds amounting to Rs. 2.27 crore by HPCL.

(Para 14.4.3 of Report No. 3 of 2004)

Commercial

5. Indian Oil Corporation Limited (IOCL) extended interest-free credit without any financial security to a private company in relaxation of terms of agreement, its credit policy and Ministry's instructions leading to non-recovery of sale proceeds of Rs. 77.19 crore as of March 2003.

(Para 14.5.1 of Report No. 3 of 2004)

Commercial

Upgrading of a virtual jetty into a permanent jetty at Kandla Port, during the year 2000-01 has resulted in infructuous expenditure of Rs. 35.77 crore due to IOCL Management's defective planning and lack of foresight.

(Para 14.5.2 of Report No. 3 of 2004)

Commercial

Introduction of Voluntary Separation Scheme by IOCL in May 2000 in contravention of the Government of India orders led to an extra liability of Rs. 30.78 crore in its eastern region.

(Para 14.5.3 of Report No. 3 of 2004)
Commercial

Failure of IOCL to synchronise its purpose and area of land required therefore during last ten years ending March 2003 resulted into blockage of funds of Rs. 13.33 crore.

(Para 14.5.4 of Report No. 3 of 2004)
Commercial

IOCL could not test and operate an equipment within the validity period of its performance bank guarantee. The equipment when subsequently tested was found damaged. A new equipment was imported at a landed cost of Rs. 7.73 crore with scheduled delivery of July 2003 for replacement of damaged one.

(Para 14.5.5 of Report No. 3 of 2004)
Commercial

IOCL decided to surrender (April 2001) 107 acre surplus land procured in 1996 and suffered a loss of Rs. 5.75 crore besides blocking up of funds to the tune of Rs. 3.28 crore for more than seven years.

(Para 14.5.6 of Report No. 3 of 2004)
Commercial

IOCL availed excise duty exemption on the Rubber Spray Oil sold during the period from March 1990 to June 1994 and incurred avoidable loss of Rs. 2.18 crore on account of irrecoverable excise duty.

(Para 14.5.7 of Report No. 3 of 2004)
Commercial

6. During 1999-2000, Oil and Natural Gas Corporation Limited (ONGC) created excess gas lift compression facility in Ankleshwar project, rendering the investment of Rs. 25.09 crore infructuous.

(Para 14.6.1 of Report No. 3 of 2004)
Commercial

Despite specific recommendations of an expert agency, ONGC undertook re-drilling of a previously declared non-commercial exploratory well, which derived the similar conclusions in December 1998, thus, resulting in infructuous expenditure of Rs. 24.71 crore.

(Para 14.6.2 of Report No. 3 of 2004)
Commercial

ONGC hired higher capacity rig for Extended Reach Drilling of wells but utilized same for drilling of other directional wells between August 1998 and July 2000. This resulted in extra avoidable expenditure of Rs. 15.52 crore.

(Para 14.6.3 of Report No. 3 of 2004)
Commercial

ONGC incurred an avoidable expenditure of Rs. 5.06 crore up to November 2000 in hiring a production logging unit for an extended period because of delay in procuring the stack tools of lesser value for making a departmental production logging unit operational.

(Para 14.6.4 of Report No. 3 of 2004)
Commercial

Due to the inordinate delay in finalizing the 2 Short hole-drilling contracts during 2001-02 field season, ONGC had to incur unfruitful expenditure of Rs. 3.50 crore.

(Para 14.6.5 of Report No. 3 of 2004)

Commercial

Failure of ONGC to avail exemptions available under customs Act, 1962 on import of spares during 1997-98 for one of its foreign going vessel resulted in avoidable expenditure of Rs. 2.26 crore.

(Para 14.6.6 of Report No. 3 of 2004)

Commercial

7. Oil India Limited (OIL) booked an office space in the Scope, Minar Complex in March 1991 and subsequently, purchased (January 1992) a plot at NOIDA for construction of an office premise with a view to surrender or sell office space booked with the Scope. However, the Company could neither surrender nor occupy the space resulting in blocking of funds of Rs. 5.43 crore besides annual maintenance and rent charges amounting to Rs. 2.07 crore from January 2002.

(Para 14.7.1 of Report No. 3 of 2004)

Commercial

OIL received reports from Surveyor/Drilling department (September/December 1999) for Non-Destructive test and necessary treatment on rusted casing pipes to make them usable. However, the test was completed in May 2002 and the part portion of casing could only be used in December 2002 and March 2003. This resulted in blocking of funds worth Rs. 2.75 crore.

(Para 14.7.2 of Report No. 3 of 2004)

Commercial

Review on Purchase, Transportation, Marketing of Natural Gas and Extraction of Liquid Hydrocarbons from Natural Gas by GAIL (India) Limited.

- The specification of quality of gas to be supplied by the Ravva Joint Venture through satellite field was reduced. This resulted in an extra benefit of Rs. 3.75 crore to the Joint Venture.
- The gas was purchased from Panna-Mukta and Tapti Fields operated by Private Sector Joint Venture, at 119 per cent of the International Price by fixing formula advantageous to the Joint Venture, while other Joint Venture was being paid the International price. This resulted in an additional payment of Rs. 212.86 crore to the Joint Venture.
- Gas from the Tapti Field having Calorific Value (CV) of less than 9,000 K Cal. was being accepted at the normal price (without discount) as the Gas purchase and Sale Agreement was yet to be executed (September 2003). The loss suffered on this account was Rs. 43.68 crore.
- Gas was purchased from JVs at a price higher than the sale price and the difference was adjusted from the price paid to ONGC. Higher cost of gas purchase from JVs amounting to Rs. 3,477 crore up to March 2003 was thus subsidized at the cost of ONGC and was not disclosed in the budget of the respective years.
- Defective metering of supply from HBJ pipeline resulted in short billed quantity of 1,848.173 billion K/cal valuing Rs. 66.23 crore from April 1999 to March 2003.
- Despite shortage of actual availability of gas, allotment and supply of gas to Reliance Industries was increased without recovering transportation charges and by making cuts in the supply to priority sectors like Power generation and Fertilizer. This has resulted in loss of Rs. 20.74 crore to the Company.
- The LPG Plant at Usar was set up based on estimated gas availability of 5 MMSCMD. The Company went ahead in implementing the plant at a cost of Rs. 297.80 crore without a mid term appraisal even when the actual availability of gas in terms of quality and quantity was not adequate to meet the Plant's requirement. The capacity utilization of the Plant approximating 16.09 per cent was not adequate even to recover the operating cost. The investment had, thus, become infructuous.
- The Lakwa Plant was based on incorrect estimate of quality and quantity of gas availability. The Plant was commissioned at a cost of Rs. 247.93 crore in October 1998 and it could achieve only 29.93 per cent capacity utilization in 2002-03. This resulted in under utilization of its capacity.
- The price of Natural Gas, raw material for LPG production was highly subsidized. During the period from October 1997 to March 2003 price of gas increased by 33 per cent only while LPG price was increased up to 259.17 per cent. This resulted in gain of Rs. 1,346.67 crore in respect of two Plants.
- Due to defect in the tender evaluation system, M/s. GEI Engineering, the supplier of Air Cooled Heat Exchanges in other Plants of the Company, was technically disqualified. This resulted in extra expenditure of Rs. 91 lakh.

(Report No. 4 of 2004)
Commercial

Review on Saurashtra Exploration Project of Oil India Limited

- Oil India Limited awarded the drilling contract to a contractor having past record of unsatisfactory performances. Non-execution of drilling work as per the contractual obligation by the contractor defeated the very purpose of drilling the wells and the desired benefit could not be achieved. This resulted in infructuous expenditure of Rs. 74.03 crore apart from involving the Company in an arbitration case, the final award of which was awaited (September 2003).

(Report No. 4 of 2004)
Commercial



Hon'ble Union Minister of Defence, Shri Pranab Mukherjee presenting the Good Corporate Citizen Award to HPCL



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Ministry of Petroleum & Natural Gas

Shastri Bhavan, Dr. Rajendra Prasad Road, New Delhi-110001

Website : www.petroleum.nic.in

Ph.: 91- 011- 23383692, Fax : 91- 011- 23383585

Facilitation Counter : 91- 011- 23388624