

ABOUT

1. BRIEF DESCRIPTION OF THE REFINERIES

1.1 Guwahati Refinery(Assam)-Indian Oil Corporation Limited (IOCL):

Guwahati Refinery, the first in public sector, was set up in collaboration with Romania at a cost of Rs. 17.29 crore and commissioned on 1st January, 1962 with design capacity of 0.75 MMTPA. The present capacity of the Refinery is 1.00 MMTPA. Hydrotreater Unit along with Hydrogen Generation unit for improving the quality of diesel has been installed and commissioned in 2002. The refinery has also installed Indmax Unit, a novel technology developed by IOCL R&D Centre for upgrading heavy ends to LPG, motor spirit and diesel oil in 2003. Under the Motor Spirit Quality Upgradation Project, Guwahati Refinery commissioned Naphtha Hydrotreater, Isomerization unit and allied facilities in December 2010 for meeting present Motor Spirit quality requirements.

1.2 Barauni Refinery (Bihar)-Indian Oil Corporation Limited (IOCL) :

Barauni Refinery in Eastern India was built in collaboration with the Soviet Union at a cost of Rs. 49.4 crore and was commissioned in July, 1964. By 1969, capacity was expanded to 3.3 MMTPA and further augmented to 4.2 MMTPA in 2000. A Catalytic Reformer Unit (CRU) was also added to the refinery in 1997 for production of unleaded motor spirit. The refining capacity was further increased to 6 MMTPA in 2002 with the implementation of Barauni Refinery Expansion project, which also included Residue Fluidized Catalytic Cracking Unit (RFCCU) and Diesel Hydrotreating Unit (DHDT) along with Hydrogen Generation unit. MS Quality Upgradation project consisting of Naphtha Hydrotreater, 2nd Hydrogen Generation unit, Isomerization, FCC gasoline Desulphurization units etc. were commissioned in December, 2010 for meeting present Motor Spirit quality requirements.

1.3 Koyali Refinery (Gujarat)- Indian Oil Corporation Limited (IOCL): :

The Koyali Refinery was built with Soviet assistance at a cost of Rs.26.00 crore and was commissioned in October, 1965. The Refinery had an initial capacity of 2 MMTPA and was designed to process crude from Ankleshwar, Kalol and Nawagam oilfields of Oil & Natural Gas Commission in Gujarat. In September, 1967, the capacity of the Refinery was expanded to 3 MMTPA. The capacity of the Refinery was further increased to 4.3 MMTPA through debottlenecking measures and to 7.3 MMTPA in October, 1978 by implementing an expansion project of

Rs.56.07 crores. With the implementation of additional processing facilities, the Refinery could achieve capacity of 9.5 MMTPA in 1989. To match secondary processing capacity in line with crude processing capacity, Hydrocracking unit (HCU) was commissioned in Dec' 1993 .The refining capacity was further expanded to 12.5 MMTPA with commissioning of 3.0 MMTPA CDU in September, 1999. For meeting diesel quality norms, DHDS unit was installed and commissioned in June' 1999. The present refining capacity of this refinery is 13.70 MMTPA. A Linear Alkyl Benzene (LAB) plant was commissioned in Aug' 2004 for conversion of Kerosene to high value products. In order to meet Motor Spirit quality requirements, CCRU plant was commissioned in Oct' 2006. With the implementation of Residue Upgradation project comprising of VGO Hydrotreater of 2.1 MMTPA capacity, Diesel Hydrotreater, Isomerisation Unit and Indian Oil's largest Delayed Coker unit of 3.7 MMTPA capacity and associated units, Koyali Refinery is now capable of upgrading heavy residue to fuel products and fully compliant to present BS-III / BS-IV Motor Spirit and Diesel quality requirements.

1.4 Haldia Refinery(West Bengal)- Indian Oil Corporation Limited (IOCL):

The Haldia Refinery for processing 2.5 MMTPA of Middle East crude was commissioned in January, 1975 with two sectors- one for producing fuel products and other for Lube oil base stocks. The fuel sector was built with French collaboration and the Lube sector with Romanian collaboration. The fuel sector includes Catalytic Reforming unit and Kero Hydro-desulphurisation units which were commissioned in January, 1975. The refining capacity of the Refinery was increased to 3.16 MMTPA in May' 1988 and further to 3.4 MMTPA in May' 1996 through debottlenecking measures. The refining capacity was further expanded to 4.4 MMTPA with the commissioning of new crude distillation unit of 1.0 MMTPA in March, 1997. The capacity of the second crude distillation unit was augmented to 2.4 MMTPA in June 1999 and further to 4.1 MMTPA in Jan 2010. The present refining capacity of this refinery is 7.5 MMTPA. Hydrogen Generation unit and Diesel Hydro-desulphurization (DHDS) unit were commissioned for meeting diesel quality in Aug'1999 & Sep' 1999 respectively. Catalytic De-waxing unit was commissioned in March 2003 which can produce API Group-II Lube base stock and first of its kind in India. Residue Fluidized Catalytic Cracker Unit (RFCCU) was commissioned in Sept' 2001 as additional secondary processing unit. MS Quality Upgradation project was commissioned in Oct' 2005 for meeting quality requirement for Motor Spirit. New Hydrogen Generation unit was commissioned in Jan'10 and Once through Hydrocracker (OHCU) project was implemented in February 2010 for improving Distillate yield and producing BS-III / BS-IV compliant High Speed diesel (HSD).

1.5 Mathura Refinery (Uttar Pradesh)- Indian Oil Corporation Limited (IOCL) :

The Mathura Refinery with a capacity of 6.00 MMTPA was set up at a cost of Rs 253.92 crore. The Refinery was commissioned in January, 1982 excluding Fluidised Catalytic cracking unit (FCCU) and Sulphur Recovery Units (SRUs) which were commissioned in Jan, 1983. The major secondary processing units provided were Fluidised Catalytic cracking unit (FCCU), Visbreaker unit (VBU) and Bitumen Blowing unit (BBU). While CDU, VDU and BBU units were designed by USSR, the technology for FCCU and VBU were obtained from UOP, USA. For production of unleaded gasoline, Continuous Catalytic Reforming unit (CCRU) was commissioned in 1998 with Technology from IFP, France. The refining capacity of this refinery was expanded to 7.5 MMTPA in 1989 by debottlenecking and revamping. A DHDS Unit was commissioned in 1999 for production of HSD with low sulphur content of 0.25% wt. (max.). Once through Hydrocracker (OHCU) project was commissioned in July' 2000 as additional secondary processing unit. For meeting diesel and Motor Spirit quality, Diesel Hydro-Treater (DHDT) and Penex units were commissioned in May'2005 and June'2005 respectively. MS quality upgradation project for treatment of FCCU gasoline was implemented in February' 2010 for meeting the quality requirement of BS-III and BS-IV Motor Spirit. The current refining capacity of this Refinery is 8.00 MMTPA.

1.6 Digboi Refinery (Assam)- Indian Oil Corporation Limited (IOCL):

The Refinery was set up at Digboi in 1901 by Assam Oil Company Limited. The Indian Oil Corporation Ltd. took over the Refinery and marketing management of Assam Oil Company Ltd. with effect from 14.10.1981 and created a separate division. This division had both Refinery and Marketing operations. The Refinery at Digboi had an installed capacity 0.50 MMTPA. The refining capacity of the Refinery was increased to 0.65 MMTPA by modernization of refinery in July, 1996. A new Delayed Coking Unit of 1,70,000 TPA capacity was commissioned in 1999. A new Solvent De-waxing Unit for maximizing production of micro-crystalline was installed and commissioned in 2003. The refinery has also installed Hydrotreater and Hydrogen plant in 2003 to improve the quality of diesel. Naphtha Hydrotreater and Isomerization units were commissioned in December' 2010 under the Motor Spirit Quality Upgradation Project aimed at meeting the current Motor Spirit quality requirement.

1.7 Panipat Refinery (Haryana)- Indian Oil Corporation Limited (IOCL) :

The refinery was set up in 1998 at Baholi Village in Distt. Panipat, Haryana at a cost of Rs.3868 crore with a refining capacity of 6.0 MMTPA. Refining capacity was expanded from 6 MMTPA to 12 MMTPA in Aug' 2006. Major secondary units in the extended facilities include Hydro-cracking Unit, Delayed Coking unit, Diesel Hydro-treating Unit etc. Country's largest Purified Terephthalic Acid (PTA) plant was commissioned in June' 2006. MS Quality Upgradation project for treatment of FCCU gasoline was implemented in January' 2010 for meeting the quality requirement of BS-III and BS-IV Motor Spirit. The refining capacity of Panipat Refinery was enhanced from 12.0 MMTPA to 15.0 MMTPA after the revamp of its Crude Distillation Unit in November' 2010. Capacity augmentation of Delayed Coking unit and Once through Hydro-cracking unit were also carried out in 2010. Heralding Indian Oil's entry into Plastics Industry, Panipat Naphtha Cracker Unit, Mono ethylene Glycol (MEG) unit, Poly propylene (PP) unit, Linear Low density Poly Ethylene (LLDPE) and High density Poly ethylene (HDPE) units etc. were commissioned progressively between March 2010 to May 2010.

1.8 Bongaigaon Refinery (Assam)- Indian Oil Corporation Limited (IOCL) :

Bongaigaon Refinery & Petrochemicals Ltd. (BRPL) was incorporated on 20th February 1974 as a Govt. Company fully owned by the Central Government with the objective of installation of the Refinery having a crude processing capacity of 1.0 MMTPA and a Petrochemical Complex consisting of Xylene, Di-Methyl Terephthalate (DMT) and Polyester Staple Fibre (PSF) Units. The initial authorized capital of the Company was Rs.50 crores. The complex was built and commissioned in phases. The capacity of Crude Distillation Unit-I which was commissioned in 1979, was increased to 1.35 MMTPA from April, 1987 by de-bottlenecking. Delayed coking unit-I and coke calcination units were commissioned in 1981. Catalytic Reforming unit was commissioned in 1984. The Crude processing capacity of the Refinery has been increased to 2.35 MMTPA in June, 1995 by installing Crude distillation unit -II of 1 MMTPA capacity. Delayed coking unit-II was commissioned in 1996. The authorized capital (equity) of the company was increased to Rs. 200 crores by December' 1983 and the paid-up capital was increased to Rs. 199.82 crores. The Government of India was holding the entire paid-up capital of the Company till 1990-91. Government disinvested 25.54% of its share holding in BRPL to UTI and other Financial Institutions and employees of the Company during 1991-92 to 1993-94. The last disinvestment of 74.46% was made in favour of Indian Oil Corporation Ltd on 29th March, 2001. As a result, BRPL became a subsidiary of Indian Oil Corporation Ltd. Bongaigaon Refinery &

Petrochemicals Limited has been amalgamated with the holding company, Indian Oil Corporation Limited effective from March 25, 2009. Diesel Hydrotreater and Light Naphtha isomerisation & Hydrogen Generation unit have been commissioned in 2011 for meeting Diesel and motor spirit quality.

1.9 Mumbai Refinery (Maharashtra)- Hindustan Petroleum Corporation Limited (HPCL)

Mumbai Refinery was first incorporated in 1952 as Standard Vacuum Refining Company of India (StanVac) which was commissioned in 1954 with an installed capacity of 1.25 MMTPA. In 1962 StanVac was named ESSO India Limited. In 1969, the installed capacity was augmented to 2.5 MMTPA. Simultaneously Lube India Ltd came into existence for manufacturing Lube Oil Base Stock (LOBS), with a capacity of 165 TMTA. On 15th July, 1974 the undertakings of ESSO and Lube India Ltd were nationalized and merged to form Hindustan Petroleum Corporation Limited (HPCL). In 1983, the refinery was debottlenecked to increase the capacity to 3.5 MMTPA. During 1985, a major augmentation was carried out by adding a new crude distillation unit with a capacity of 2.0 MMTPA taking the refining capacity to 5.5 MMTPA. In 2009, further expansion was carried out with augmentation of units and the Refinery capacity enhanced to 6.5 MMTPA. The Lube refinery unit had its first expansion in 1983. The capacity increased to 225 TMTA from 165 TMTA. In 1995, the refinery was further expanded by augmenting the capacity of the Propane Dewaxing Unit (PDU) and adding a Propane De Asphaltting Unit (PDA). The capacity was thus increased to 335 TMTA of LOBS which is the largest in India even today. In 2011, the refinery has set up Lube Oil Base Stock (LOBS) project in an effort to upgrade and enhance the existing grade of Lubes oils. With this project, the capacity will increase to 400 TMTA which includes superior quality group II and III grades of LOBS. To attain self-sufficiency in the energy requirements, the refinery has installed Captive Power Plant (CPP) with a capacity of 21 MW in the year 1989 which was later enhanced phase wise in 1995 and 2000 to reach power generation capacity of 48 MW. To align with the Auto Fuel Policy, Mumbai Refinery embarked on various projects like the Diesel Hydro Desulphurization (DHDS) project which was commissioned in the year 2000 with a capacity of 1.8 MMTPA for producing diesel of Euro II/III quality. Further, the Green Fuel Emission Project (GFEC) was commissioned in the year 2009 for producing MS of Euro-III & Euro-IV quality. Recently the "Diesel Hydro Treater (DHT)" with capacity of 2.2 MMTPA project is under commissioning for enhancing production of BS-IV compliant diesel. In 2010 a new Fluidized Catalytic Cracking Unit (FCCU-II) of capacity 1.45 MMTPA was commissioned. This has increased the production of value added products like LPG and MS. This would add to the refinery margins of the Refinery significantly. The refinery also produces special

products like Food Grade Hexane, Rubber Processing (RPO), Diana Processing oil etc. thus covering a wide spectrum of products. Mumbai Refinery processes 72% of High Sulphur crude oil sourced from the Persian Gulf region and 28 % of Low Sulphur crude predominantly from Mumbai High. The refinery gives paramount importance to the environment. In this regard, the refinery has set up a state-of-the art Integrated Effluent Treatment Plant (IETP), which is one of its kind in the country. IETP meets the norms laid down by the Central Pollution Control Board (CPCB) and also cater to further stringent standards. It was commissioned in the year 2010.

2.0 Visakh Refinery (Andhra Pradesh)- Hindustan Petroleum Corporation Limited (HPCL)

HPCL's Visakh Refinery was commissioned in 1957 by Caltex Oil Refining (India) Ltd. with an installed capacity of 0.675 MMTPA .This was one of the first major industries of Visakhapatnam and also the first oil Refinery on the East Coast. The Refinery was taken over by the Government of India in 1976 and was consequently amalgamated with HPCL in 1978. Over the years, the refining capacity was increased to 1.5 MMTPA by debottlenecking the units. In 1985, the first major refinery capacity augmentation was taken up under "Visakh Refinery Expansion Project-I" (VREP-I) by commissioning separate stream of 3.0 MMTPA Crude Distillation Unit (CDU-II), Fluidized Catalytic Cracking Unit (FCCU-II), Crude Oil receiving facilities at high seas (Off Shore Tanker Terminal) and associated tankage and product dispatch facilities. Thus the installed capacity was increased to 4.5 MMTPA. The second major expansion "Visakh Refinery Expansion Project-II" (VREP-II) took place in the year 1999 and the refining capacity was increased from 4.5 MMTPA to 7.5 MMTPA. Further augmentation of Refinery units was carried out and Refining capacity enhanced to 8.3 MMTPA in 2009-10. The refinery had two FCCU that were debottlenecked over the period of time, the latest of which was in 2010 increasing the secondary unit capacity to 2 MMTPA. These capacity additions have made the secondary processing capacity commensurate with the increased crude distillation capacity. The refinery also has Propylene Recovery Unit (PRU) with a capacity of 0.023 MMTPA that caters to the requirement of neighbouring industries. To align with the Auto Fuel Policy, Visakh Refinery also took up various projects like the Diesel Hydro Desulphurization (DHDS) project of 2.4 MMTPA which was commissioned in the year 2000 to produce diesel meeting the BS II/III specifications. Further, to upgrade MS quality from BS-II to BS-III &BS-IV, Clean Fuel Project (CFP) was commissioned in the year 2009. Recently the "Diesel Hydro Treater (DHT)" project has been taken up for enhancing production of BS-IV compliant diesel. The project is in advanced stage of completion and is expected to be commissioned shortly. To attain self-sufficiency in the energy requirements, the refinery installed Captive Power Plant (CPP) with a capacity of 15 MW in the year 1992. This was later

enhanced in phases by 40 MW each along with the VREP-II and VRCFP projects to a total generation capacity of 94 MW. Visakh Refinery processes 60% of High Sulphur crude oil sourced from the Persian Gulf region and 40% of Low Sulphur crude sourced from West Africa and Far East regions including Domestic crudes like Ravva and RIL KG-D6. Commissioning of the Single Point Mooring (SPM) facility at Visakh in the year 2010 adds another feather to the cap. Very Large Crude Carriers (VLCC), which carry up to 2 million barrels of oil, can now be received at Visakh Refinery and, in future, for the Indian Strategic Petroleum Reserves Ltd. (ISPRL) coming up nearby. VLCCs provide economies of scale and will reduce crude oil freight costs.

2.1 Mumbai Refinery (Maharashtra) – Bharat Petroleum Corporation Limited (BPCL).

The refinery in Mumbai was commissioned in January 1955 under the ownership of Burmah Shell Refineries Ltd with an original design capacity to process 2.2 MMPTA of crude oil. Following the Government acquisition of the Burmah Shell, Bharat Petroleum Corporation Ltd came into existence on 24th January 1976 as a result of the Government of India acquiring Burmah Shell Refinery. Since then, the crude throughput of the refinery has been consistently enhanced by de-bottlenecking the existing facilities and the installed capacity increased to 6 MMPTA in 1985. With the successful commissioning of "Refinery Modernization Project" (RMP) in 2005, the current refinery capacity stands at 12 MMPTA. The Mumbai refinery has pioneered the processing of indigenous crude oil and currently can handle processing of 72 types of crude oil. Along with the capacity enhancement, the Refinery commissioned a Lube Base Oil Unit for production of environment friendly Group II base oil. The refinery has embarked on a project to install a state of the art distillation unit with associated facilities by dismantling the vintage CDU for enhancing capacity and achieving improved energy efficiency. BPCL Mumbai refinery is an ISO 9001, 14001 & OHSAS 18001 refinery. The refinery has also been accredited with the unique distinction of a quality certification from National Accreditation Board for Testing and Calibration of Laboratories (NABL) for Quality Assurance Laboratory.

2.2 Kochi Refinery (Kerala) – Bharat Petroleum Corporation Limited (BPCL)

The Kochi Refinery Ltd (KRL), a public sector undertaking was set up in pursuance of formation agreement dated 27th April, 1963 between Govt. of India, Philips Petroleum Co. of USA and Duncan Brothers of Calcutta with an initial capacity of 2.5 MMPTA. The capacity was increased to 3.3 MMPTA by September 1973 and to 4.5 MMPTA in November 1994. The crude processing capacity of the refinery was further increased to 7.5 MMTPA in the year 1994 with the addition of a new 3.0 MMTPA Crude Distillation unit (CDU-2). The FCC unit capacity was also increased to 1.4 MMTPA along with this, to match

the crude capacity. As part of capacity expansion & to meet environmental regulations of fuels, BPCL-Kochi Refinery has implemented the project CEMP Phase II in 2009-10. The project included expansion of CDU-2 capacity from 3.0 to 5.0 MMTPA, new CCR unit and new VGO HDS unit, as a result of which capacity of Kochi Refinery stands at 9.5 MMPTA. Kochi refinery has undertaken an ambitious expansion plan to enhance refining capacity to 15.5 MMTPA and also to diversify into petrochemical manufacturing for value addition. Bharat Petroleum Corporation Ltd acquired the shares of Govt. of India in KRL in March' 2001. Pursuant to order dated 18th August 2006 issued by Ministry of Company Affairs, the refinery has been amalgamated with Bharat Petroleum Corporation Ltd to form BPCL Kochi Refinery. Implementation of a Business Management System (SAP) was another milestone in the history of KR's advancement towards a modern refinery. SAP was implemented in July' 2003, integrating the activities of the various functional areas of the company. The refinery has implemented world class technology for operations and enterprise resource planning. It is an ISO 14001 Environment Management System (EMS) and ISO 9000:2000 Quality Management System (QMS) accredited refinery and has also obtained the ISO 17025 (Testing methods in quality Control) certification by NABL (National Accreditation Board for Testing and Calibration of Laboratories). With the prestigious crude oil receipt facilities of the Single Point Mooring (SPM) and associated shore tank farm in place since December 2007, the refinery is equipped to receive crude oil in Very Large Crude Carriers (VLCC).

2.3 Manali Refinery (Tamil Nadu) -Chennai Petroleum Corporation Ltd. (CPCL)

Chennai Petroleum Corporation Limited (CPCL), formerly known as Madras Refineries Limited (MRL) was formed as a joint venture in 1965 between the Government of India (GOI), AMOCO and National Iranian Oil Company (NIOC) having a share holding in the ratio 74%: 13%: 13% respectively. From the grassroots stage CPCL Refinery was set up with an installed capacity of 2.5 Million Tonnes Per Annum (MMTPA) in a record time of 27 months at a cost of Rs. 43 crore without any time or cost overrun. In 1985, AMOCO disinvested in favour of GOI and the shareholding percentage of GOI and NIOC stood revised at 84.62% and 15.38% respectively. Later GOI disinvested 16.92% of the paid up capital in favour of Unit Trust of India, Mutual Funds, Insurance Companies and Banks on 19th May 1992, thereby reducing its holding to 67.7 %. As a part of the restructuring steps taken up by the Government of India, Indian Oil Corporation Limited (IOCL) acquired equity from GOI in 2000-01. Currently IOC holds 51.88% while NIOC continued its holding at 15.40%. Therefore, the CPCL became a subsidiary of IOCL in 2001. The Manali Refinery has a capacity of 10.5 MMTPA and is one of the most complex refineries in India with Fuel, Lube, Wax and Petrochemical

feedstocks production facilities. CPCL has also implemented the following "First of its kind" Project in the Oil industry:

- 5.8 MGD Sea Water Desalination Project to augment the water requirements of its Refinery at a cost of Rs.231 Crores.
- Under its Renewable Energy Initiative, a Wind Energy Farm with a capacity of 17.6 MW was commissioned at Pushpathur, Tamil Nadu in 2007 at a cost of Rs.90 Crores.

CPCL has commissioned a Wind Mill farm having 22 windmills with an installed capacity of 17.6 MW at Pushpathur, Tamil Nadu in September, 2007. The power generated is being used by the Company's captive Sea water Desalination Plant through a wheeling arrangement with Tamil Nadu Electricity Board (TNEB).

2.4 Basin Refinery (Nagapattinam-Tamil Nadu) – Chennai Petroleum Cauvery Corporation Limited (CPCL)

CPCL's second refinery is located at Cauvery Basin at Nagapattinam. The initial unit was set up in Nagapattinam with a capacity of 0.5 MMTPA in 1993 and later on its capacity was enhanced to 1.0 MMTPA. An Oil Jetty was commissioned in 2003 in Nagapattinam area for handling crude and products for Cauvery Basin Refinery.

2.5 Numaligarh Refinery (ASSAM) - Numaligarh Refinery Limited (NRL)

Numaligarh Refinery, popularly known as " Assam Accord Refinery" has been set up as a grass -root refinery at Numaligarh in the district of Golaghat (Assam) in fulfilment of the commitment made by Government of India in the historic " Assam Accord" , signed on 15-8-1985 for providing thrust towards industrial and economic development of Assam. Numaligarh Refinery Limited (NRL) was incorporated as a Company on 22-4-1993. Commercial production at Numaligarh Refinery commenced from 1.10.2000. Current shareholding pattern of NRL is: Bharat Petroleum Corporation Limited (61.65%), Oil India Limited (26%) and Government of Assam (12.35%). The refining capacity of this refinery is 3.0 MMTPA. NRL has Hydrocracker with capacity 1.45 MMTPA and Delayed Coker with 0.306 MMTPA Capacity. In order to meet BS III/IV specification of High Speed Diesel (HSD) as per National Auto Fuel Policy, NRL implemented the Diesel Quality Upgradation Project (DQUP) in June 2010. The implementation of DQUP has enabled NRL to produce BS III/ IV grades of HSD at 100% capacity utilization of the refinery.

2.6 Mangalore Refinery (KARNATAKA) - Mangalore Refinery and Petrochemicals Ltd. (MRPL)

Mangalore Refinery and Petrochemicals Limited (MRPL) operates a grass root refinery with a capacity of 15 MMTPA, at Mangalore, on the West Coast in

the ever green Dakshina Kannada District, about 350 kms, from Bangaluru. The refinery's first phase of 3.69 MMTPA was commissioned in March 1996. In second phase, the capacity was increased to 11.82 MMTPA and in the third phase, the company has increased its refining capacity to 15 MMTPA in 2012. MRPL was originally set up as a Joint Venture refinery, promoted by Hindustan Petroleum Corporation Ltd. (HPCL) and the Aditya Birla Group of Companies, pursuant to an MOU entered into amongst Govt. of India, HPCL and Indian Rayon (Aditya Birla Group of Companies). On 28th March, 2003 ONGC acquired the total shareholding of A.V. Birla Group and further infused equity capital of Rs.600 crores thus making MRPL a majority held subsidiary of ONGC. The lenders also agreed to the Debt Restructuring Package (DRP) proposed by ONGC, which included, inter-alia, conversion upto 365 crore of their loans into equity. Subsequently, ONGC has acquired equity allotted to the lenders pursuant to DRP raising ONGC's holding in MRPL to 71.62 percent. The Refinery has got a versatile design with high flexibility to process Crudes with 24 to 46 API gravity and has high degree of Automation. MRPL is the only Refinery in India to have 2 Hydrocrackers producing Premium Diesel (High Cetane). It is also the only Refinery in India to have 2 CCRs producing Unleaded Petrol of High Octane. MRPL has high standards in refining and environment protection matched by its commitments to society. MRPL has also developed a Green Belt around the entire Refinery with plant species specially selected to blend with the local flora.

2.7 Tatipaka Refinery (Andhra Pradesh) – Oil & Natural Gas Corporation Limited (ONGC)

A mini refinery (Phase-I) of ONGC with capacity of 0.066 MMTPA with an approved cost of Rs.27.00 crore was commissioned in September, 2001 at Tatipaka in East Godavari District of Andhra Pradesh. Under Phase-II, an additional refinery of same capacity of 0.066 MMTPA is under construction with an approved cost of Rs.43.85 crore.

2.8 Reliance Industries Limited (Domestic Tariff Area)(RIL-DTA) (Private Sector), JAMNAGAR (GUJARAT)

Reliance Industries Limited (RIL) has two refineries. The present capacity of the first refinery (RIL-DTA) is 33 MMTPA. RIL-DTA is the World's biggest grassroots Refinery having a petrochemical plant for the production of 1,550 KTPA Paraxylene, a polymer plant for the production of 1,000 KTPA Polypropylene and a Captive Power Plant with an installed capacity of 450 MW power through Gas Turbines & Steam Turbines.

2.9 Reliance Industries Limited-SEZ (RIL-SEZ) (Private Sector), JAMNAGAR (GUJARAT)

Post amalgamation of Reliance Petroleum Limited with RIL, RPL refinery (a unit in Jamnagar SEZ) has become the second refinery of RIL. The Scheme of amalgamation is effective from 11th September, 2009 with an appointed

date being 1st April, 2008. The capacity of the second refinery (RIL-SEZ) is 27 MMTPA. The SEZ refinery has a unique design and path breaking configuration with 'Clean Fuels' process plant. It is designed with high level of flexibility to change grades based on economy and to capture margins based on market dynamics. The new SEZ refinery is the first refinery in India to produce Euro-IV grades of gasoline and diesel.

2.10 Essar Oil Limited (EOL) (Private Sector), VADINAR (GUJARAT)

The private sector refinery was commissioned in November 2006 with an installed capacity of 10.50 MMTPA at Vadinar, Gujarat. The grass root refinery was designed to process 10.5 MMTPA (210,000 BPSD) of Crude along with secondary processing units like Fluidized catalytic cracking, Naphtha & Diesel Hydrotreater, Continuous Catalytic Reformer, Vis Breaker, Sulphur Recovery and Product treating units. Capacity of the refinery was revamped to 14 MMTPA during the April' 09 and further to 20 MMTPA w.e.f. 5th June 2012.

2.11 Bina Refinery - Bharat Oman Refineries Limited (BORL) (Madhya Pradesh)

A 6 MMTPA grassroots refinery set up by Bharat Oman Refineries Limited (BORL), a joint venture of Bharat Petroleum Corporation Limited (BPCL) and Oman Oil Corporation Limited (OOCL) at Bina, District Sagar, Madhya Pradesh, at an approved cost of about Rs.12,200 crore was dedicated to the nation by Hon'ble Prime Minister of India, Dr Manmohan Singh on 20.5.2011. This refinery would augment the availability of petroleum products including BS III/IV compliant fuels in central and northern India. Beside refinery, project facilities include crude supply system consisting of a Single Point Mooring facility (SPM), Crude Oil Storage Terminal (COT) at Vadinar in Gujarat, 935 km long cross country crude pipeline from Vadinar to Bina (VBPL).

2.12 Guru Gobind Singh Refinery – HPCL-Mittal Energy Limited (HMEL), Bathinda (Punjab)

Guru Gobind Singh Refinery (GGSR) is a refinery owned by Hindustan Mittal Energy Limited (HMEL) a joint venture between HPCL and Mittal Energy Limited, a company owned by Sh L. N. Mittal. It is located in village Phulokheri, Bathinda, Punjab, India. The 9.0 MMTPA refinery was dedicated to the Nation on April 28, 2012 by Hon'ble Prime Minister of India, Dr. Manmohan Singh. The refinery is a testimony to a successful Public Private Partnership in the oil and gas sector. The refinery is built to help fulfil India's energy security needs. Given the strategic location of Bathinda, the refinery will serve fuel requirements of the northern States of India. HMEL has also incorporated a wholly owned subsidiary HPCL-Mittal Pipelines Limited (HMPL) to set up and operate an SPM for crude oil receipt, storage and cross country transportation of crude oil.