

Skills Energised. Potential Maximised



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Training Capabilities in Indian Oil & Gas Sector



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Petroleum Federation of India

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More than oil and gas. More than technology and infrastructure. In fact, even more than wealth itself, by far, the most valuable asset in today's times, is knowledge. For, it is knowledge that fuels the vehicle of progress.

India's hydrocarbon sector, comprising experienced campaigners from the entire gamut of upstream and downstream business, is today not only an inexhaustible but a self-replenishing reservoir of talented intellectual capital in the field, for the world. Meticulously blending ideas with experience and inspiration with insights, the knowledge bank of India's oil & gas sector continues to grow its wealth of wisdom, by sharing.

It has developed this talent through sharing and training. Today Indian companies have developed expertise in training personnel in all aspects of the oil and gas industry. In upstream and downstream. In technology and technical skills. In operations and maintenance. In finance and management.

There are carefully structured training programs in every area. The duration and program content can be customised to meet specific needs of a particular group depending upon their background and experience and the end-objective of the training.

The following pages give a glimpse of some of the key areas to choose from.





Message

India has made rapid strides during the past three years with GDP growing at 9% or more. In 2006-07, the GDP growth was 9.4%.

Petroleum products are a key input in the growth process of the nation. To enable inclusive growth, the Government has been closely monitoring supply and prices of petroleum products. Efforts have been made to insulate, to the extent possible, the common man from the galloping international crude oil prices.

We import over 70% of our crude oil requirements and it accounts for almost one fourth the total import bill of the country. We, therefore, plan to develop India as a refining hub with refining capacity of 241 million tonnes per annum by the end of XI Plan in 2011-12. We expect to be able to export almost 93 million tonnes of petroleum products at that time – a three fold increase from the present levels.

The New Exploration & Licensing Policy (NELP) launched in 1997 has resulted in award of 162 exploration blocks with exploration investment in various three phases estimated at Rs. 450 billion. More importantly, 42 oil & gas discoveries have been made. This dynamic growth has been possible because of the talented and skilled human resources that the country has created and nurtured. National oil companies have developed world class training facilities to hone the talents of their workforce. The benefits of the facilities and faculty have been availed of by several companies and countries in the world.

I am happy that the Indian companies are offering their training facilities to companies worldwide in a vast range of programs in all spheres of the oil and gas industry.

(Murli Deora)



मंत्री
पेट्रोलियम एवं प्राकृतिक गैस
भारत सरकार
नई दिल्ली - 110 001

MINISTER
PETROLEUM & NATURAL GAS
GOVERNMENT OF INDIA
NEW DELHI - 110 001



राज्य मंत्री
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Message

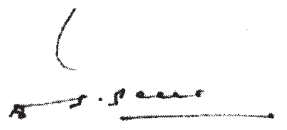
India is the 6th largest energy consumer in the world and consumes above 3.9% of the total world primary commercial energy. The primary energy requirements have been growing at above 4.8% per annum. The country is relatively favourably endowed by nature with coal resources but has to import most of its crude oil requirements. The share of Natural Gas in India's energy basket is only about 8% as compared to the world average of 24%. It has, however, emerged as the fastest growing fuel with a growth rate of 6.8%. Encouraging gas discoveries have been made in the country. This will have a positive impact on economic growth not only in terms of better availability of Natural Gas but also by expansion in infrastructure through pipelines etc.

The crude oil constraints are being addressed by expanding Exploration & Production activities and building strategic storage to safeguard against supply disruption and price volatility.

The Indian oil refineries have been steadily improving the quality of petroleum products supplied to the consumers. As part of the Auto Fuel Policy, Bharat Stage II Petrol has been introduced all over the country and the Bharat Stage II Diesel in most parts of the country. Euro III and Euro IV compliant fuels have also been selectively introduced for reduction in vehicular emission of pollutants.

These exercises have been carried out by Indian engineers who have been rigorously trained in the latest technologies. The training process in the oil and gas sector in Indian companies is of international standards. The facility is also available to companies from abroad and can be customised for individual needs.

I would like collaborating companies abroad to take advantage of this facility with Indian companies in training their personnel in virtually all aspects of the upstream and downstream hydrocarbon industry including financial and management skills.


(Dinsha Patel)



Message

India is among the fastest growing economies in the world today. According to a Goldman Sachs research paper, India's GDP in US \$ terms will surpass that of the United States before 2050 to make it the world's second largest economy.

High growth demands high energy inputs, particularly for a country like India where the per capita oil & gas consumption is almost one fifth the global average. Added to this is the fact that India imports over 70% of its crude oil requirements and prices of crude have been steadily travelling northwards.

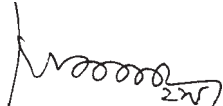
This puts a lot of strain on the Indian economy but at the same time enhances our resolve to strengthen energy security measures, develop alternatives and skills and techniques to meet our specific needs. We have accordingly been stepping up Exploration and Production activities within the country and seeking equity oil abroad. Refining capacity is being augmented to enable export of value added products. Alternative fuels are being promoted.

All this requires a committed, talented and skilled workforce. India has a vast resource of technical manpower. The Indian oil & gas companies are channelising human resources through rigorous training to meet industry needs.

Almost all national oil companies have training institutes which operate round the year conducting a variety of programs to sharpen skills in a vast array of upstream and downstream activities.

It is my belief that other companies elsewhere in the world, particularly in developing countries, can take advantage of these facilities. Several have already done so and benefitted in the process.

I am sure more companies will come forward to make use of the facilities available in India in training and development in the hydrocarbon sector.


(M.S. Srinivasan)



सचिव
भारत सरकार
पेट्रोलियम एवं प्राकृतिक गैस मंत्रालय
शास्त्री भवन,
नई दिल्ली - 110 001

SECRETARY
GOVERNMENT OF INDIA
MINISTRY OF PETROLEUM & NATURAL GAS
SHASTRI BHAWAN,
NEW DELHI - 110 001

UPSTREAM KNOWLEDGE STREAMS

Oil and Natural Gas Corporation Ltd.

The Oil and Natural Gas Corporation Ltd. (ONGC), a Fortune-Global 500 Company, is recognised as the numero uno E&P Company in the world and 20th among the leading Global Energy Majors as per 'Platts Top 250' Global Energy Company Ranking 2006.

It is fully integrated across the entire hydrocarbons value chain. With production of over 1 million barrels of Oil Equivalent per day, the company contributes around 80% of domestic oil and gas production. It has established over 6.4 of the 8.5 billion metric tonnes of In-place hydrocarbon reserves discovered so far in India.

Training Facilities

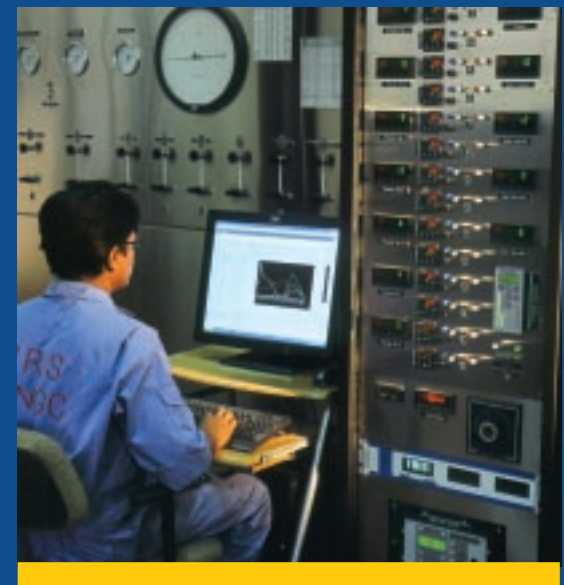
ONGC owns and operates five premier training facilities across India. These include ONGC Academy, Dehradun; Institute of Petroleum Safety Health and Environment Management (IPSHEM), Goa; School of Maintenance Practices (SMP), Vadodra; Institute of Drilling Technology (IDT), Dehradun and Institute of Oil and Gas Production Technology (IOGPT), Mumbai.

ONGC Academy, the nodal training agency, provides trainings on functional areas of

Engineering, Exploration, Finance and Production, Management Development and also offers International Accreditation programs in key areas. IPSHEM, Goa takes care of training programs on Health, Safety and Environment. IDT, Dehradun provides trainings on Drilling and related technology. SMP, Vadodra conducts training on maintenance of equipment through OEM. IOGPT, Panvel provides advance training on Production technology.

To provide best-in-class training, ONGC partners with global experts, globally

acclaimed academic Institutes, training agencies and OEM industry experts. The training programs offered cut across the multi-disciplines engaged in the different facets of Petroleum industry.



- Graduate training program – Focus on multidisciplinary theoretical and practical training to new entrants.
- Refresher professional courses - For middle level executives from different disciplines viz. Engineering, Geology, Geophysics, Well Logging, Reservoir, Geo-Chemistry, Production, Finance, Information Technology and Human Resource.
- Several management programs with overseas learning component catering to the different management hierarchical levels.

Oil India Limited

Oil India Limited (OIL) is a premier National oil company, engaged in the business of Exploration, Production and Transportation of Crude Oil and Natural Gas.

expertise and services in E & P sector and signed a contract with Premier Oil, a company registered in Netherlands, for drilling of a well in their Jaipur block in Assam. OIL has also carried out Work-Over jobs for Great Eastern Energy Corporation Limited's Coal Bed Methane wells.

ISP's academic partners are the "University of Petroleum & Energy Studies" (UPES), with its main campus located at Dehradun in Uttaranchal. UPES offers 30 undergraduate, postgraduate & doctoral programs with over 2,600 students spread across its three campuses in India. UPES also has a campus



OIL is having over 1 lakh Sq. Km. of PEL/ML areas for its exploration & production activities. Majority of OIL 's activities are being taken up in the North East from where its entire crude oil production and majority of gas production is coming. Rajasthan is the other producing area of OIL from where it is producing 10% of its total gas production. The Company's exploration activities are spread over onshore areas of Ganga Valley & Mahanadi in addition to its onshore areas in North East and Rajasthan. OIL also has participation interest in NELP exploration blocks in Mahanadi Offshore, Mumbai deep water, Krishna Godavari deep water etc.

Indian School of Petroleum

Indian School of Petroleum (ISP), a unit of M-Power Energy India Pvt Ltd, offers invaluable expertise in the fields of hydrocarbons & power and has been recognized for its training, consulting experience and advisory and project services in enabling enterprises to achieve technical and business excellence. ISP has delivered a wide range of training on different topics in the hydrocarbon value chain- upstream, midstream & downstream & has conducted numerous customized training & Management Development Programs and Conferences with over 10,000 senior petroleum professionals being trained.

in Delhi, Rajahmundry & an upcoming centre at Dubai.

ISP's Certified Learning Programs are designed to offer an opportunity to professionals from oil, gas & energy companies to become an integrated learning resource with six months to a year. These Certified Learning Programs are a variation on distance learning programs combining self study through specially-developed study material and personal contact programs at client locations every trimester. These are offered to groups of between 30-35 professionals from an organization. Companies like ONGC, OIL, IndianOil have subscribed to these programs.



The Company is also having participating interests in various overseas projects, such as, in Libya, Gabon, Iran, Nigeria and Sudan. After restructuring into Strategic Business Units, OIL has also ventured into offering rig package,

ISP also has well-developed competencies in technical consulting & advisory services in various facets of the hydrocarbon value chain including Oil Exploration & Production, Oil Refining, Petrochemical Operations, Petroleum Products Distribution & Marketing, Support and Auxiliary Services.

ISP works to direct its extensive Oil and Gas industry knowledge to support their clients and contribute to the growth in their business. It works on projects for clients and assists with shaping the vision of the oil & gas market, identifying market propositions and creating new vision and strategy.



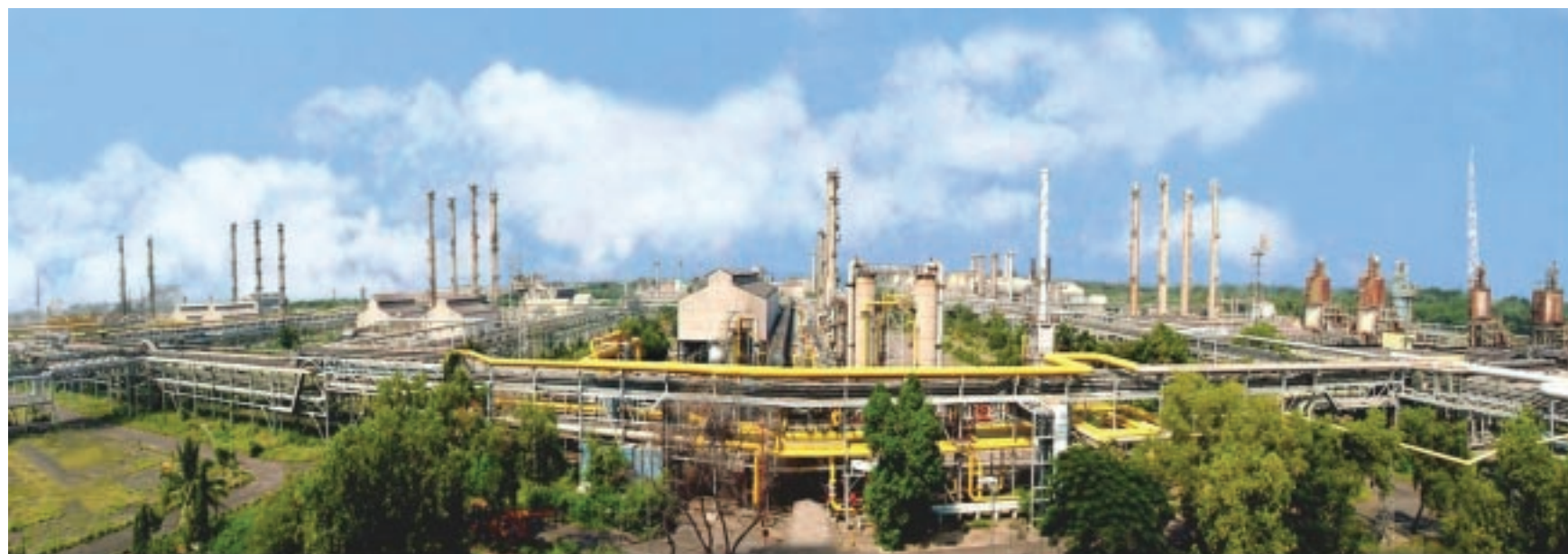
Training Courses in Upstream Oil and Gas Sectors

Sl. No.	Training course	Offered by	Duration (days)
1.	Basic Principles of Petroleum Geology	ONGC	5
2.	Basic Reservoir Engineering	ONGC	5
3.	Completion Technology for Slim/Drain Hole/Horizontal/Lateral/Sidetrack/Deepsea Wells	ONGC	5
4.	Ocean Technology & Offshore Structures	ONGC	5
5.	Team Building and Conflict Resolution	ONGC	6
6.	Financing Oil and Gas Sector	ONGC	5
7.	Train-the-trainer Course	ONGC	4
8.	Petroleum Risk and Decision Analysis	ONGC	5
9.	Latest Trends and Developments in Estimation of Oil and Gas Reserves	ONGC	5
10.	Advances in Principles, Practices and Applications of Sequence Stratigraphy	ONGC	5
11.	Recent Exploration Concepts in Compressional Tectonic Set Up	ONGC	5
12.	Modern Deltas – a Field Seminar	ONGC	6
13.	Modern Exploration Concepts in Carbonates	ONGC	5
14.	Exploration for Subtle Traps	ONGC	3
15.	Application of Structural Geology in Seismic Interpretation	ONGC	5
16.	Hydrocarbon Resource Assessment Techniques	ONGC	3
17.	Trends in 3D-Seismic Interpretation	ONGC	5
18.	Pre & Post Stack Time and Depth Domain Migration	ONGC	5
19.	Innovative Techniques of Reservoir Characterisation Using Seismic Data	ONGC	5
20.	Land 3D Seismic Data Acquisition with Specific Reference to 3D Survey Design	ONGC	5
21.	Seismic Inversion (Pre & Post Stack)	ONGC	5
22.	Offshore Geophysical Survey & Operational Management	ONGC	5
23.	Shely Sand Petrophysics	ONGC	5
24.	Production Logging Interpretation	ONGC	5
25.	Advances in Well Log Applications	ONGC	5
26.	Application of Dipmeter & Bore Hole Imagery Techniques	ONGC	5
27.	Advanced Concepts in Well Log Techniques and Interpretation	ONGC	5
28.	Trends in Enhanced Oil Recovery Techniques	ONGC	5
29.	Surface Geochemical Prospecting Techniques	ONGC	5
30.	Petroleum System Analysis – Tools and Techniques	ONGC	5
31.	Trends in Artificial Lift - Production Monitoring & Maintenance	ONGC	5
32.	Developments in Stimulation Techniques & Candidate Well Selection	ONGC	5
33.	Advances in Natural Gas Engineering	ONGC	6
34.	Hydraulic Fracture Diagnostics	ONGC	5
35.	Reservoir Engineering for Production Operations	ONGC	5
36.	Workshop on Gas Lift Design & Troubleshooting	ONGC	5

Sl. No.	Training course	Offered by	Duration (days)
37.	Industrial Gas Flow Management/Gas Transfer as per AGA	ONGC	5
38.	Standard Liquid Hydrocarbon Flow Management and Custody Transfer	ONGC	5
39.	Processing Physical & Chemical Testing of Rubber Products	ONGC	4
40.	Paint Coating Inspection and Quality Control	ONGC	5
41.	Flow Measurement & Instrumentation Practice	ONGC	5
42.	Oil Accounting and Final Accounts Preparation	ONGC	4
43.	Project Management PMP	ONGC	4
44.	Survival at Sea	ONGC	5
45.	Safety in Logging Operation	ONGC	5
46.	Safety in Siesmic Operation	ONGC	5
47.	Safety in Offshore Seismic Operation	ONGC	5
48.	HSE Management	ONGC	5
49.	Safety in Drilling Operation	ONGC	5
50.	Environment Management	ONGC	3
51.	Advanced HSE Management	ONGC	5
52.	Process Plant Safety	ONGC	5
53.	Process Hazards, Risk & Loss Assessment	ONGC	5
54.	Injury Prevention Training Program	ONGC	5
55.	Advanced Fire Fighting Course	ONGC	5
56.	Major Emergency Management and Control	ONGC	5
57.	Modern Safety and Risk Management (MSRM) – Senior Executive Orientation	ONGC	2
58.	Quantitative Risk Assessment	ONGC	5
59.	Tactical Fire Fighting Course	ONGC	5
60.	Disaster & Fire Safety Management	ONGC	5
61.	Crisis Management	ONGC	5
62.	HAZOP Analysis	ONGC	3
63.	QHSE Internal Auditor Course	ONGC	5
64.	Coastal Oceanography and Meteorology	ONGC	5
65.	Certificate Course on Diesel Engine-D399	ONGC	13
66.	Certificate Course on Basics of Vibrations and Condition Monitoring	ONGC	5
67.	Certificate Course on Bearings	ONGC	2
68.	Certificate Course on Pumps	ONGC	5
69.	Certificate Course on Compressors	ONGC	5
70.	Certificate Course on Hydraulic & Pneumatic Systems	ONGC	12
71.	Certificate Course on Oil Field Equipment	ONGC	2
72.	Certificate Course on Solar Gas Turbines O&M	ONGC	5
73.	Certificate Course on Gas Turbines & Process Gas Compressor	ONGC	5
74.	Certificate Course on Gas Marine Engines & Propulsion System	ONGC	5

Sl. No.	Training course	Offered by	Duration (days)
75.	Certificate Course on Master Drives	ONGC	8
76.	Certificate Course on HV Equipment	ONGC	6
77.	Certificate Course on L&T Switch Gear	ONGC	6
78.	Certificate Course Control Valves	ONGC	5
79.	Certificate Course on Digital Control System (DCS) CS-3000 (Fundamentals & Maintenance)	ONGC	5
80.	Certificate Course on DCS AC 450 Maintenance (Configuration & Programming course)	ONGC	5
81.	Certificate Course on DCS-Experion	ONGC	6
82.	Certificate Course on Flame Proof Equipment	ONGC	5
83.	Certificate Course on Electrical Design and Analysis	ONGC	5
84.	Certificate Course on Basics of Dynamic Positioning system & FMEA	ONGC	5
85.	Seismic Instrumentation	ONGC	2
86.	Tool-Pushers/Rig Supdt. Course	ONGC	5
87.	Drilling Complications	ONGC	5
88.	Engineering Trends in Drilling Fluid Technology	ONGC	5
89.	Advance Cementing Technology	ONGC	5
90.	Stuck Pipe Prevention	ONGC	3
91.	IWCF/IAWC Well Control Course	ONGC	5
92.	IADC Well Cap Well Control Course	ONGC	5
93.	Supervisory Level Training on Workover Well Control Operations – (Simulator based IADC Accredited course)	ONGC	6
94.	Fundamental Level Training on Workover Well Control Operations – (Simulator based IADC Accredited course)	ONGC	5
95.	Introductory Level Training on Workover Well Control Operations – (Simulator based IADC Accredited course)	ONGC	5
96.	Stimulation Techniques, Sand Control & Water Control Technology and their applications	ONGC	5
97.	2D/3D Designing, Modeling, Acquisition	OIL	14
98.	Processing & Advance processing with Processing Center	OIL	7
99.	Interpretation with Team Center	OIL	7
100.	Well Site Geology	OIL	7
101.	Petrophysics	OIL	7
102.	Seismic Interpretation	OIL	7
103.	Drilling and Work over Well Planning	OIL	7
104.	Well logging operation	OIL	14
105.	Production Operations (Oil)	OIL	14
106.	Production Operations (Gas)	OIL	7
107.	Petroleum Exploration in Desert	OIL	7
108.	Operations and Maintenance of cross-country pipelines	OIL	21
109.	Communication System	OIL	14
110.	SCADA System	OIL	14

Sl. No.	Training course	Offered by	Duration (days)
111.	Cathodic Protection of cross-country pipeline	OIL	14
112.	Operation of LPG Plant	OIL	8
113.	Understanding the Indian Oil & Gas Industry	ISP	7
114.	Petroleum Exploration Methods	ISP	4
115.	Seismic methods and Interpretation	ISP	4
116.	Paleo Analysis	ISP	3
117.	Basin Acreage Analysis	ISP	3
118.	Lab studies (Core analysis / PVT analysis)	ISP	3
119.	Production Logging and Field Engineering	ISP	4
120.	Well Complications & Pressure Regimes Evaluation	ISP	3
121.	Fundamentals of Reservoir Engineering	ISP	4
122.	Reserves estimates	ISP	3
123.	Secondary & Tertiary Methods of Production	ISP	3
124.	Reservoir Simulation	ISP	3
125.	Reservoir Development & Management	ISP	4
126.	Well Completion and Production Engineering	ISP	4
127.	Surface Production and Facilities Design	ISP	4
128.	Well Control	ISP	3
129.	Maintenance Planning and Work Control	ISP	4
130.	Testing of Oil & Gas wells	ISP	3
131.	Fluid dynamics & well performance	ISP	3
132.	E&P Contracts	ISP	3
133.	International Oil Trading & Price Risk Management	ISP	7



DOWNSTREAM KNOWLEDGE STREAMS

GAIL (India) Limited

GAIL (India) Limited, is India's flagship Natural Gas company, integrating all aspects of the Natural Gas value chain (including Exploration & Production, Processing, Transmission, Distribution and Marketing) and its related services. In an increasingly environment conscious world, GAIL has been spearheading the move to a new era of clean fuel industrialisation, creating a quadrilateral of green energy corridors that connect major consumption centres in India with major gas fields, LNG terminals and other cross border gas sourcing points. GAIL is also expanding its business to become a player in the International Market.



Training Facilities:

GAIL Training Institute (GTI) is today a leading learning centre offering various programs related to the hydrocarbons spectrum and professional development of human resources.

Located on Delhi's fringe in Film City Noida, and in Jaipur, Rajasthan, the two arms of this ISO 9001 – 2000 certified institute share role responsibilities deftly, to bring holistic development to life. While the flagship Noida facility shapes industry Leadership Qualities/ Management, GTI Jaipur is more focused on technical development.

Courses for developing countries

Several short term courses, typically up to one week, are offered to industry professionals of developing countries. These can be customized for longer duration requirements and supplemented with on-the-job-training, on a case to case basis.

Indian Oil Corporation Limited

The glittering jewel in the crown among India's *Navratnas*, IndianOil is not only India's petroleum refining and marketing leader, it is the country's largest company by sales. IndianOil is also the highest ranked Indian company in the prestigious Fortune 'Global 500' listing, steadily moving up to its current 135th position. IndianOil continues to make significant progress in the field of petrochemicals.

IIPM - India's premier hydrocarbons learning centre

The IndianOil Institute of Petroleum Management (IIPM), IndianOil's apex centre for learning and development at Gurgaon near Delhi, has been delivering cutting-edge, globally relevant and future ready knowledge and skills

upgradation to the industry for over a decade. Driven by the belief that the real source of energy security is talented and trained human capital, this lighthouse of knowledge has a comprehensive mix of short and long term courses, specially designed to cater to different professional needs, at different levels.

facility to participants for undivided learning atmosphere.

Pipelines

IndianOil owns and operates the largest network of crude oil and product pipelines in India. The total network of pipelines is 9273 km with a

Offices, 67 Divisional Offices and 35 Indane Area Offices.

IndianOil has a market share of 63% in aviation fuel, backed by 101 Aviation Fuel Stations (about 1,500 aircraft refuelled per day), 57% of XtraMile Diesel (branded diesel), 44% of XtraPremium Petrol (branded petrol).



Refinery Technology and Management

IndianOil owns 10 of India's 19 refineries, with a combined share of 40.4% of India's refining capacity. Each refinery has a dedicated training center for providing specific functional and developmental training as per constantly changing needs. Additionally, there are several skill development centers within the refinery operational areas which cater to the needs of shop floor training and enhancement of individual skills.

Its Refineries Division has a dedicated center of learning, namely, Indian Oil Management Academy (IMA), at Haldia (near Kolkata), that caters to specialized managerial and advanced technological programs. The academy is a residential facility that provides stay and catering



capacity of 61.72 million metric tonnes per annum.

Marketing Division

As the flagship national oil company in the downstream sector, IndianOil, reaches precious petroleum products to millions of people everyday through a countrywide network: 16,607 petrol/diesel stations (Retail Outlets), including 1,422 *Kisan Seva Kendra* outlets for rural customers, 6,873 bulk consumer outlets, 3,955 kerosene dealers, 475 lakh* *Indane* (LPG) customers, 2,671 markets with Indane, 4,990 LPG distributors.

The countrywide network is backed by 170 bulk storage Terminals & Depots with tannage of 55.82 lakh kilolitres, 89 Indane Bottling Plants with bottling capacity of 40.28 lakh tonnes per annum (12.3 lakh cylinders per day), 16 State

Hindustan Petroleum Corporation Limited

HPCL is a listed public sector company under the control of the Government of India. It is one of the *Navratnas* identified by the Government of India as having potential to grow into a global giant. HPCL is India's second largest petroleum corporation and is a truly integrated downstream company having resources that span refining crude oils to the various retail and commercial businesses that sell Motor and Aviation Fuels, Lubes, LPG, and Kerosene.

The Company was first incorporated as Standard Vacuum Refining Company of India Limited on July 5, 1952, and later named ESSO India Limited, on March 31, 1962. On July 12, 1974, when ESSO and Lube India were nationalised, the Company was renamed Hindustan Petroleum Corporation Ltd. with effect from July 15, 1974. The undertakings after nationalisation were then vested in HPCL. The Government of India also nationalised the Caltex undertakings in the year 1976, which were subsequently merged with HPCL in 1978. In the following year, the undertakings of Kosan Gas Company Limited, the concessionaires of HPCL in the domestic LPG market, were merged with HPCL. Thus, the various amalgamations, at different points in time, have

* 1 million = 10 lakh

given rise to HPCL that has ever since growing from strength to strength.

HPCL had a humble beginning in 1974 with one refinery at Mumbai that had a refining capacity of 3.5 million metric tonnes per annum. The lube oil refinery at Mumbai stood around 165000 tonnes per annum. The sales turnover in that year was only Rs. 3.67 billion, and the net profit Rs. 58 million. But over the years, the Corporation has made judicious use of its assets to achieve tremendous growth. Dedicated and well-experienced manpower, strategically located refineries at Mumbai and Visakh and a widespread marketing network have enabled



the Company carve a niche in the Indian oil industry today.

In the year 2006-07, HPCL has achieved a combined refinery thruput of 16.66 MMT, a sales volume of 21.69 MMT, a sales turnover of Rs. 96,918 crore* and a net profit of Rs. 1571.17 crore.

H.P Management Development Institute, Pune

HPCL has a full-fledged, ISO 9002 certified training Institute at Nigdi, Pune. HP-MDI (HP Management Development Institute) is a full fledged residential training center. It is testimony to the value that the Corporation places on training.



Bharat Petroleum Corporation Limited

Bharat Petroleum Corporation Limited (BPCL), a Fortune Global 500 & Forbes 2000 company has two costal Refineries, one in Mumbai and the other in Kochi with a combined Refining Capacity of 19.5 MMTPA. A pioneer in marketing initiatives employing “Best in Class” practices, core strength of Bharat Petroleum Corporation Limited has always been the ardent pursuit of qualitative excellence for maximization of customer satisfaction. A fountainhead of knowledge in the sector, BPC continues to be amongst the companies featured in the latest rankings of Platts Top 250 Global Energy Companies.

BPCL has three acclaimed Learning Centers offering diverse courses to different levels of professionals. These include Bharat Petroleum Learning Centre (BPLC), Mumbai; Mumbai Refinery Learning Center and Kochi Refinery Learning Center.



Bharat Petroleum Learning Centre, Mumbai

Bharat Petroleum Learning Centre, located at Juhu in Mumbai is a full fledged residential training center. The Center facilitates learning and development for attaining better on the job results and improved business performance by analyzing the critical needs of Business and Entities, Competency profiles of staff, leadership transition needs of the staff, imparting training on new initiatives and Corporate Initiatives. The Refinery Training Centers are used for skill upgradation of employees.

Mumbai Refinery Learning Centre, Mumbai

The genesis of this Learning Centre, located within the Mumbai Refinery premises, can be

traced back to January, 1960 when the first batch of the much reputed ‘Shell Apprentices Scheme’ commenced. From its modest beginning the Mumbai Refinery Learning Centre has progressed to the State-of-Art Learning Center capable of delivering technical and developmental training in the field of petroleum refining technology and refinery maintenance.

Kochi Refinery Learning Centre

Kochi Refinery Learning Centre is located within the refinery campus in Kerala, a southern state of India. The Centre has state-of-the-art training



infrastructure and other facilities in a serene environment, conducive for learning. Both Learning Centers are equipped to meet the training needs of managerial, engineering and technical staff from oil, petrochemical and chemical industries.

Engineers India Limited

Engineers India Limited was established in 1965 to provide engineering and related technical services for petroleum refineries and other industrial projects.

In addition to petroleum refineries, with which EIL started initially, it has diversified into execution of projects on EPC/LSTK basis and excelled in other fields such as pipelines, petrochemicals, oil and gas processing, offshore structures and platforms, fertilizers, metallurgy and power. EIL now provides a complete range of project services in these fields and has emerged as Asia’s leading design and engineering company.

Engineers India Limited is diversifying into several new areas including Highways & Bridges, IT, Airports, Mass Rapid Transport Systems, Ports & Terminals, Power Projects, Non-conventional/Renewable Energy Sources, Specialist Materials and Maintenance Services, Intelligent Buildings, Water and Urban Development projects.

Training courses in National Oil companies (GAIL, IOCL, BPCL, HPCL, EIL, ISP) for offering suitable slots in downstream Oil and Gas sector to prospective countries

Sl. No.	Training course	Offered by	Duration (weeks)
PIPELINES			
GAS PIPELINES			
1.	Operation and Maintenance of Natural Gas Pipelines and Terminals	GAIL	1
2.	Cathodic Protection System (including CCVT & TEG etc.)	GAIL	1
3.	Pipeline Construction and Project execution	GAIL	1
4.	Fundamentals of Gas Turbines & Compressors; Design & Layout aspects of Compressor Stations	GAIL	1
5.	Operation and Maintenance of Compressor Stations	GAIL	1
6.	Safety Management in Operation & Maintenance of Compressor Stations, Pipelines and Terminals	GAIL	1
7.	Instrumentation of Compressor Stations, Pipelines and Terminals	GAIL	1
8.	Electrical Installations in Hazardous and Non-Hazardous Areas and Safety aspects	GAIL	1
9.	City Gas/CNG: Commercial and Operational Aspects	GAIL	1
10.	Natural Gas Scenario & Indian Context	ISP	3 days
11.	Gas Exploration	ISP	4 days
12.	Gas Pricing	ISP	3 days
13.	Regulatory Issues	ISP	3 days
14.	LNG/CNG/PNG	ISP	5 days
15.	Gas Transmission, Distribution & Storage	ISP	4 days
16.	City Gas Distribution	ISP	3 days
CRUDE OIL / PETROLEUM PRODUCT PIPELINES			
1.	Petroleum Pipelines operation	IOCL	2
2.	Maintenance of Station Equipments	IOCL	2
3.	Pipeline Integrity Management	IOCL	2
4.	Mainline Maintenance and Cathodic Protection	IOCL	2
5.	Pipeline Construction Management	IOCL	2
6.	Electrical & Instrumentation System and their Maintenance in Petroleum Pipelines	IOCL	2
7.	Operation and Maintenance of cross country pipelines	IOCL	2
8.	Elements of Pipeline Design and Construction	ISP	1
9.	Pipeline Transport System, Operations & Maintenance	ISP	5 days
REFINERIES			
1.	Basic of Petroleum Refinery and Petrochemical Processes	IOCL	1
2.	Pollution & Environmental Protection in The Oil Industry	IOCL	1

Sl. No.	Training course	Offered by	Duration (weeks)
3.	Centrifugal Compressor Maintenance	IOCL	1
4.	Cost Planning & Budgeting	IOCL	1
5.	FCC Operation Principles	IOCL	1
6.	Hydrocracking Operation Principles	IOCL	1
7.	Electric Generator Maintenance	IOCL	1
8.	Computer-Aided Maintenance Scheduling	IOCL	1
9.	Methods for Solving Problems of Cathodic Protection System	IOCL	1
10.	Screw & Reciprocating Compressor Maintenance	IOCL	1
11.	Modern Communication Systems	IOCL	1
12.	Welding Technology	IOCL	1
13.	Additives & Blending Technology	IOCL	1
14.	Maintenance of Process Units	IOCL	1
15.	Water Treatment in Oil Industry	IOCL	1
16.	New Technologies for Crude Oil Analysis	IOCL	1
17.	Engineering Inspection Technology	IOCI	1
18.	Operation of Isomerization Units	IOCL	1
19.	Steam Turbine Maintenance	IOCL	1
20.	Lube Base Oil Plant Operation	IOCL	3
21.	Introduction to crude oil distillation	BPCL	2
22.	Fluid Catalytic cracking of Vacuum gas oils	BPCL	2
23.	Naphtha reforming and extraction of Aromatics	BPCL	2
24.	Hydrogen production and Hydroprocessing	BPCL	2
25.	Operation of Sulphur Recovery Units	BPCL	2
26.	Petroleum product qualities and measurement	BPCL	2
27.	Operation and Maintenance of Process Heaters	BPCL	2
28.	Maintenance in Petroleum refineries	BPCL	3
29.	Operation of Boilers and Power Generators	BPCL	2
30.	Fundamental of Inspection in Refineries	BPCL	2
31.	Tank farm and Product Despatch Operations	BPCL	2
32.	Enterprise Resource Planning and SAP	BPCL	2
33.	Introduction to Refinery Processes	BPCL	4
34.	Basics of Instrumentation control in Refineries	BPCL	2
35.	Turnaround management in Refineries	BPCL	2
36.	Revamp of oil Refineries	BPCL	1
37.	DHDS and Hydrocracking	BPCL	2

Sl. No.	Training course	Offered by	Duration (weeks)
38.	Catalytic reforming process technologies, Naphtha hydrotreating & Isomerisation of Light naphtha	BPCL	2
39.	Catalytic cracking technologies for Refineries	BPCL	2
40.	Rotary equipment – Design, Selection & maintenance – Pumps, Turbines and Compressors	BPCL	3
41.	State equipment – Design, Selection & maintenance – Pressure vessels, heat exchangers & storage tanks	BPCL	2
42.	Construction safety in Refineries	BPCL	2
43.	Certification Program for Erection, testing, commissioning, Operation and Maintenance of HT LT electrical equipment	BPCL	3
44.	Protection of Lt HT electrical equipment including testing of protective relays	BPCL	2
45.	Condition monitoring of Generators, Motors, Transformers, HT/LT switche boards and HT LT cables	BPCL	2
46.	Preventive and Predictive Maintenance of Instrumentation	BPCL	2
47.	Control Valves – Design, selection and maintenance	BPCL	3
48.	PLC interlocks and DCS maintenance	BPCL	2
49.	Basics of Fuel Refinery Operations	HPCL	2
50.	Basics of Lube Refinery Operations	HPCL	1
51.	Captive Power Plant Operations	HPCL	1
52.	Elements of Refinery Economics	HPCL	1
53.	Refinery Fire and Safety	HPCL	1
54.	Process Design Fundamentals	HPCL	1
55.	Vibration Analysis and Condition Monitoring	HPCL	1
56.	Refinery Instrumentation and Automation	HPCL	2
57.	Refinery Maintenance	HPCL	2
58.	Rotary Equipment and Maintenance	HPCL	1
59.	Project Management – Planning and Costing	EIL	3
60.	Overview of Process and Engineering Design Practice for Hydrocarbon Plants	EIL	3
61.	Induction Program for Graduate Engineer Trainees for Refineries (Process Engineers)	ISP	4 months
62.	Basics of Crude Oil, Refining Processes & Operations	ISP	1
63.	Advance Program in Refinery Operation & Management	ISP	2
64.	Design Aspects of Refining Processes	ISP	5 days
65.	Control of Process Corrosion in Refinery Operations	ISP	3 days
66.	Basics of Equipment Maintenance, Processes & Systems, Electrical & Instrumentation Maintenance	ISP	4 days
67.	Modern Concepts In Maintenance	ISP	3 days
68.	HSE in Refineries	ISP	5 days
69.	Health Assessment and Life Extension Program	ISP	3 days

Sl. No.	Training course	Offered by	Duration (weeks)
70.	Statutory regulations and applicable laws	ISP	4 days
71.	Petroleum laws & Contracts	ISP	3 days
72.	Energy Conservation, Pinch Technology	ISP	4 days
MARKETING			
1.	Developing Customer Focus	IOCL	1
2.	Retail Business Management	IOCL	1
3.	LPG Bottling Plant Operations	HPCL	2
4.	POL Operations	HPCL	2
5.	Aviation Operations	HPCL	1
6.	Product Knowledge – Lubes and Greases	HPCL	1
7.	Marketing Quality Control	HPCL	1
8.	Manufacturing and Technology of Bitumen	HPCL	1
9.	Retail Training for Sales Officers, Dealers & Driveway Salesmen	ISP	5 days
10.	Advanced Training on Supply Chain Management	ISP	1
POWER			
1.	Regulatory Issues in the Power Sector	ISP	3 days
2.	Power Industry Accounting	ISP	3 days
3.	Power Generation (Fundamentals of Fuel linkages)	ISP	3 days
4.	Power Transmission	ISP	3 days
5.	Automation & Information Technology in the Power Sector	ISP	3 days
6.	Power Sector Economics & Planning	ISP	4 days
7.	Energy Conversion & Energy Auditing	ISP	3 days
8.	Energy Law & Policy	ISP	3 days
9.	Power Trading	ISP	3 days
10.	Financing Energy Sector Projects	ISP	3 days
11.	Project Management in the Power Sector	ISP	4 days
CERTIFIED LEARNING PROGRAMS			
1.	Certified Petroleum Manager (CPM)	ISP	12 months
2.	Certified Petroleum Manager (Upstream) (CPM-US) version	ISP	12 months
3.	One Year Diploma In Exploration & Production (In Academic Partnership with UPES)	ISP	12 months
4.	Certificate Program in Refining Operations & Business	ISP	6 months
5.	Certificate Program in Petroleum Retail Business	ISP	6 months
6.	Certified Pipeline Manager (CPLM)	ISP	12 months
7.	Certified Gas Manager (CGM)	ISP	12 months
8.	Certified Power Manager (CPoM)	ISP	12 months

The Petroleum Federation of India (PetroFed) is a Registered Society of Indian and International Companies/Associations in the Hydrocarbon Sector to promote the interests of members in line with Public/National Policies through a self regulatory environment with consumer interest in mind.

It acts as an oil industry interface with the Government, regulatory authorities, public and representative bodies of traders. It helps in resolution of issues and facilitates evolution of hydrocarbons related policies and regulations and their implementation. It represents the industry on Government bodies, committees & task forces.

It functions through committees from member organisations and other experts, covering all aspects of oil and gas industry, which submit recommendations on ongoing basis.

For more details, log on to www.petrofed.org

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