Petroleum &
Beyond...

15 years of P&BD Group
27th January, 2010

Indian Oil Corporation Ltd.
(Planning & Business Development Group)

The Energy Behind Every Golden Harvest.

The Energy to Light a Billion Smiles.

15 years of

Planning & Business Development Group

"Footprints of a Memorable Journey"

27th January, 2010

IndianOil

15 years of
Planning & Business Development Group
27th January, 2010

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Union Minister,
Petroleum & Natural Gas,
Government of India

Message

I have great pleasure in conveying my greetings and good wishes to the Planning & Business Development Group of IndianOil on the eve of its completion of 15 years.

The energy sector, petroleum in particular, is the key driver in the progress of a nation and it is important that energy companies like IndianOil grow and become stronger and spread its presence across the energy value chain. In today's difficult times of energy insecurities and commodity price volatilities for countries and corporates alike, the strides made by Planning & Business Development Group of IndianOil are important for de-risking of IndianOil's business profile through vertical and horizontal integration into areas like Exploration & Production, Petrochemicals, Gas, Renewable Energy, etc.

I wish Planning & Business Development Group a very bright future and I am confident that this group will provide a perfect platform for IndianOil's future growth story.

(Murli Deora)

Chief Minsiter,
Chhattisgarh

Message

Dear Shri Bansal,

I am extremely happy to note that Business Development group of Indian Oil Corporation is bringing out a Memoir on completion of fifteen years of successful operation. During this period Indian Oil Corporation has made significant progress in diverse fields like Exploration & Production, Gas marketing, Petrochemicals, Biofuels and other renewable energy options.

Chhattisgarh has been at the forefront in development of Biofuels in the country and has made significant progress in energy crop plantation & solar energy leading to improvement in the quality of life and empowerment of the rural community coupled with cleaner environment. The progress by IndianOil-CREDA Biofuels Ltd. (ICBL) in the short span of less than a year is noteworthy. I am sure that in the coming years the efforts of ICBL will help in contributing towards energy security, rural empowerment, lower carbon footprint & efficient wasteland utilization for Chhattisgarh & India.

I wish the very best to IndianOil's Business Development group on successful completion of 15 years and may they continue to scale greater heights.

With regards,

(Dr. Raman Singh)

Minister of State,
Petroleum & Natural Gas,
Government of India

सत्यमेव जयते

Message

I am pleased to learn that Planning & Business Development Group of IndianOil has completed 15 years of its formation. This group has been leading from the front in IndianOil's drive towards integration and diversification.

It is only befitting that on this occasion, Planning & Business Development Group is coming out with a Memoir, tracing its journey from a modest beginning 15 years back to the position of pre-eminence it has catapulted IndianOil in areas viz., Petrochemicals, Gas, Biofuels, Renewable Energy and many other energy-related activities.

My best wishes to Planning & Business Development Group for a bright future.

(Jitin Prasada)

Secretary,
Government of India,
Ministry of Petroleum & Natural Gas

सत्यमेव जयते

Message

I am happy to convey my heartiest congratulations to the members of the Planning & Business Development Group of IndianOil on the occasion of its completion of 15 years.

It is inspiring to note that P&BD group has successfully forayed into domains of Petrochemicals, E&P, Gas, Biofuels and Renewable Energy to diversify the portfolio of IndianOil through vertical and horizontal integration and turnover of P&BD has reached to a level of Rs. 4000 crore in a short span of time.

I would like to convey my best wishes to every member of the P&BD group in reaching new landmarks to achieve the vision of IndianOil and I am confident that this group will be instrumental in future endeavours of IndianOil.

(RS Pandey)

Special Secretary,
Government of India,
Ministry of Petroleum & Natural Gas

सत्यमेव जयते

Message

I am indeed delighted to convey my compliments to the members of Planning & Business Development (P&BD) Group of IndianOil on the occasion of the successful completion of 15 years.

It is heartening to take note of the progress made by the P&BD group of IndianOil in the domain of Green Energy like Gas, Biofuels coupled with Petrochemicals, E&P and Renewable Energy/Alternate energy like nuclear for diversification and for enlarging its global presence.

I convey my best wishes to the members of P&BD group in achieving greater heights in its focused goals of becoming an Energy Major and wish the occasion every success.

(S Sundareshan)

Chairman,
IndianOil Corporation Ltd.

Message

IndianOil's dream to emerge as 'The Energy of India' encompasses straddling the entire hydrocarbon value chain. Armed with a mandate to identify and pursue new business initiatives, the Business Development group was created 15 years ago with a strategic objective of spreading corporate risk and maximizing value. Since then, the IndianOilPeople have gone about passionately building a sizeable corporate presence by adding new links in the hydrocarbon value chain to our business.

In the last one and half decade, we have added Petrochemicals, Gas, Exploration and now green fuels to our portfolio. In this, the contribution of IOCians in the Business Development group has been tremendous and is highly appreciable. In an environment of fierce competition, growing environmental concerns and above all, the need to tighten our belt to squeeze the last oil drop; the depth and width of IndianOil's business portfolio equips us to combat future challenges with confidence.

The new verticals, especially petrochemicals, have brought strength to IndianOil and positively impacted its growth trajectory. With the Naptha Cracker set to be commissioned soon, IndianOil would be catapulted into the league of major players in the petrochemicals arena in the country. It is quite encouraging that our petrochemicals and gas businesses have already started adding to our bottom-lines and have contributed over 6% for the fiscal 2009-10. We envisage these contributions to swell in future and we move up the value chain into specialty petrochemical products.

I wish the Business Development Group success in extending this essay of excellence.

(Sarthak Behuria)

Director (Planning & Business Development)
IndianOil Corporation Ltd.

Message

Dear Colleagues,

My heartiest congratulations to everybody in the Planning & Business Development Group on completion of glorious 15 years of functioning. It has been a journey full of challenges and opportunities. With the efforts and true dedication of associated people, P&BD group has garnered several achievements in the success story of IndianOil.

Looking back at these fifteen years, I realize they were full of learning experiences that laid a strong foundation for our future endeavors. Road ahead would pose more hurdles and test our commitment and dedication for pursuing our objectives and realizing our Vision. The coming decades will create a drastic shift in the energy portfolio of India in terms of demand and the nature of energy source. Formulation of proactive policies for all facets of energy would provide contemporary paradigms for synergistic integration & diversification of core business and for clean environmental goals.

The vision of a fully integrated energy company not only demands formulation of proactive policies; it also requires efficient and optimal implementation of the same. Forays of IndianOil into domains of E&P, Petrochemicals, Gas and Green energy options like Biofuels, Wind, Solar, Nuclear energy, etc. are outcomes of a successful mix of proactive policy, careful implementation, sheer hard-work and an eye for the future.

Planning and Business Development group, ever since its inception, has always been a frontrunner in creating new business avenues for IndianOil and has well achieved the very purpose behind its creation. I have been associated with this department since its inception and seen different phases of P&BD from a sapling to a mature tree. I have found that the driving forces behind all endeavors of P&BD are perseverance, dedication and out-of-box thinking of employees.

Completion of 15 years of P&BD group gives us a great opportunity to celebrate our successes, learn from failures and lay down well strategized plans for future. I am sure that P&BD group will set high standards in all its domains and continue the good work of adding value to IndianOil and contribute positively towards a sustainable society.

My best wishes to all my colleagues of P&BD.

(BM Bansal)

Sh MA Pathan, Former Chairman IOC (2nd from right), being interviewed by Sh S K Sarangi (GM, CP&ES) (at left) and Sh B Barpujari (GM, CP&ES) (2nd from left) in presence of Sh SN Jha, Former Director (Pipelines), IOC (at right)

Excerpts of Interview with Shri MA Pathan, Former Chairman, IOC

SK Sarangi (SKS)/ B Barpujari (BB): What were your thoughts and plans when, for the first time, the concept of forming a group like P&BD crossed your mind? Did you have in mind which areas to focus on or confine to?

MA Pathan (MAP): I shall take you back to the time when I took over as Chairman of IOC. In those days, 4 Directors [Marketing, Refineries & Pipelines, Finance and Personnel] were handling areas other than their core responsibilities. It was essential for us to create unique identity for each broader area under a Director. We successfully sought and created Board level positions for Director (R&D) and Director (Pipelines), bifurcating the function from Director (Refineries & Pipelines).

Over these years, since BD group was growing fast, it was clear that a DGM-level official (the highest position in BD then) would find it very difficult to take decisions independently. IOC was making its forays into Gas, E&P and Petrochemicals. That was the time when we revisited our Vision and Mission, since we wanted to be a totally "integrated" organization, right from drilling to dispensing with forward integration into petrochemicals. Secondly, we wanted to expand our activities beyond the shores of India. Under these circumstances, the need to create a separate Business Development group was felt, and foundation of Planning and Business Development group was laid. One of the objectives was to go beyond the core business operations through formation of JVs with MNCs. Very soon, we started operations in Mauritius & Sri Lanka, marketing of lubricants in Bangladesh, etc.

SKS/BB: Please share with us your interesting experiences about P&BD group, which you have come across during your tenure.

MAP: Mr. Bansal's role in IOC's BD Group has been remarkable. He has succeeded against multinational bidders to render advice and guidance to Trinidad & Tobago Refinery. When I used to quote this in international forums, people were surprised as to how IOC, which is so far away from Trinidad & Tobago, could come out with such support, which could have been very conveniently rendered by any European MNC.

I still remember when Shri S N Jha (Former Director, Pipelines) said in his speech while laying down his office - "Everyone is talking about retaining market share; why we are not thinking of expanding our market share? It should go up by 5% to 55-60%!" That's when we started to look for right type of acquisitions. Since IOC had no difficulty in garnering funds, we geared up to acquire IBP, which was critical for maintaining IOC's marketing strength. We decided to quote the highest to acquire IBP. I have mentioned it several times very clearly that we have quoted the right price, whereas others have under-valued and under-quoted. When I laid down my office, I said "I have fulfilled Mr. Jha's wish of attaining 55-60% market share among public sector companies".

In our diversification initiatives, I feel sad that we missed out on two key opportunities. First is Haldia Petrochemicals Ltd. (HPL). HPL was very crucial to strengthen our petrochemicals portfolio. Our giant competitors were afraid of our capabilities. One of the competitors made a presentation to our Directors on "why IOC should not go for HPL". It was obvious that nobody would like to face a giant like IOC. I concluded the deal with HPL towards the end of my tenure and also got this cleared by HPL Board. Unfortunately, thereafter, the deal was in doubt for various reasons. This is one opportunity, which I felt we should not have lost. Second opportunity, which we missed out, was acquisition of IPCL. I initiated the proposal for getting IPCL on nomination basis from Government of India. But Government was not convinced with the price. Before the bidding was announced, I mentioned to my colleagues that we should not consider bidding less than Rs.250. Unfortunately, our organization felt otherwise and RIL bagged IPCL at Rs 241.

One achievement, I wish to share, is acquisition of BRPL and CPCL. Government of India was keen to hand over only BRPL to IOC (as per Nitish Sengupta Committee Report). However, our perseverance and continued endeavors to get CPCL & BRPL together borne fruit. It was a very tough fight with the Government and the industry. The rest is history. We have seen the commendable turnaround of BRPL & CPCL in terms of throughput and efficiency.

SKS/BB: Do you think your vision of P&BD group has become a reality today? If not, which specific areas in your opinion, should P&BD work or focus on?

MAP: You have done extremely well. P&BD group is aggressively bidding in the international market. However, being a PSU, you have to live with some constraints. You have done a tremendous job of foraying into upstream and independent operatorship and simultaneously looking for acquisitions at other places.

As a member of the International Advisory Board with Kuwait Petroleum Corporation (KPC), I have been saying that giants like KPC and IOC should become complete "Energy" companies. Your efforts in diversification into renewable energy, petrochemicals and upstream are steps in the right direction. IOC has done the right thing by getting into solar, as it can take advantage of its vast marketing set up. Today, not only KPC but the Government of Kuwait is also working towards converting Kuwait Petroleum Corporation into an "Energy" company.

SKS/BB: Today, P&BD have enlarged its portfolio to include Renewable Energy viz. Biofuel, Nuclear, Wind and Solar. What is your view on this diversification?

MAP: Your renewable energy initiatives would pave a path for IOC to achieve its vision of becoming the "Energy of India". However, hydrocarbon will continue to live in the main street and renewable portfolio will reduce pressure on fossil fuel to some extent. Today, efforts have to be directed towards sustainability and green energy. If you do not take this initiative today, it would be difficult for you to sustain over a period of time. Therefore solar, wind & nuclear energy forays of IOC are steps in the right direction. You are on right track!

Message from Former Chairman, IOC

While the Business Development Group was formed 15 years ago, Planning got attached only when the post of Director P&BD was created in 2000, and I became the first incumbent. When I took over, the LAB and PX/PTA project proposals were kept on hold by the management pending further scrutiny, since the investments were substantial. The concerns were justified, since earlier investments in Petrochemicals were comparatively smaller in intermediates like Benzene, Toluene and Propylene. We also had formidable competitors in both LAB and PTA, who were also end users. We did a thorough appraisal and submitted it to the Board in 2001, which approved the proposals without any reservations. We had two choices for the location of Naphtha Cracker Complex - Koyali or Panipat. Both State governments were keen that we set up the plant in their State and were ready to offer incentives. The clincher came at the time of inauguration of Panipat expansion project by the then Hon'ble Prime Minister Shri Vajpayee. The then Chief Minister of Haryana, Shri Chautala, made a public declaration from the stage that he will sign at the bottom of the blank paper and I can fill in my incentive list as per my choice! The Haryana Government did keep their promise and agreed to most of our requirements and therefore, we chose Panipat as the site for Naphtha Cracker Complex.

Our decision to go to Sri Lanka came as a result of a breakfast meeting I had with the then Sri Lanka Minister of Economic Reforms, Science & Technology, Mr. Milinda Moragoda. The Minister told me that Sri Lanka, which till then had only one government Oil Company, wanted another foreign oil company to come in to provide competition and also improve retail standards prevailing there. I thought that it was a great opportunity to establish our presence in Sri Lanka and the rest is history.

While we played a pivotal role in securing the exploration rights for Farsi block in Iran with a share of 40%, we did not get our due share in Sudan despite the fact that the initiative to purchase the shares of the Canadian company came from IOC and the Committee of Secretaries had decided that the split between OVL and IOC should be 60:40. You win some and lose some!

After a couple of years, the BD Group not only identified and developed new projects but also took a fresh look at the projects under consideration and redefined them. I had asked the BD Group to examine whether we could increase the size of the proposed Paradip Refinery from 9 MMTPA and add petrochemicals and sure enough the BD Group drew up a proposal with enough financial justification for a 15 MMTPA refinery with petrochemicals.

Since marketing was already over burdened, we decided to entrust BD Group with petrochemicals, which it continues to do till today. The Planning and Business Development Group should continue to find new business opportunities for helping the Corporation to grow and prosper.

M. S. Ramachandran

(MS Ramachandran)
Independent Director, ICICI Bank Ltd.
Former Chairman, IOC and the First Director (P&BD), IOC

Message from Former Director (P&BD)

Dear Mr. Bansal,

I am pleased to note that Planning and business development group of IndianOil will complete its 15 years on 27th Jan 2010.

It was indeed a pleasure for me to have been associated with Planning and Business Development group. My tenure of little more than three years (2002-2005) with the group out of three decades I spent with IndianOil was full of diverse challenges, which the team met with all the possible enthusiasm, care and passion. Concept to Delivery was the mantra being chased day in day out by the team.

Given the constraints of operation in a PSU, we all dreamt for achieving an enhanced portfolio in Upstream, Petrochemicals, Gas in addition to spreading our wings outside India. In essence, growth plan was built on formation of few Joint Ventures (PLL, LIOC, IOML), forward integration into Petrochemicals, backward integration in E&P, Diversification in LNG etc. Each segment was diverse, with its own established leading players from Private and Public sector and therefore competition was robust. Business Development in Oil & Gas sector is always time consuming and capital intensive.

I am immensely pleased with the progress IndianOil has since made in enhancing the portfolio, away from the Liquid fuel business in Gas, Petrochemicals, E&P and operations outside India. All this has been achieved by team work and excellent talent residing within IndianOil.

I have no doubts that Planning and Business Development group would continue to scale greater heights in times to come.

My good wishes to all of you.

(Naresh Nayyar)
Managing Director & CEO, Essar Oil Ltd.
Former Director (P&BD), IOC

Board of Directors (IndianOil)

Sarthak Behuria
Chairman

7 Whole-time Functional Directors

BM Bansal
Director (P&BD)

SV Narasimhan
Director (Finance)

VC Agrawal
Director (HR)

GC Daga
Director (Marketing)

BN Bankapur
Director (Refineries)

Anand Kumar
Director (R&D)

KK Jha
Director (Pipelines)

2 Part-time Non-Executive Nominee Directors from MOP&NG

S Sundareshan
Special Secretary,
Ministry of Petroleum & Natural Gas

PK Sinha
Addl. Secretary & Financial Advisor,
Ministry of Petroleum & Natural Gas

6 Part-time Non-Executive Directors

Prof. (Mrs.) Indira J Parikh
Former Prof., IIM Ahmedabad &
President, FLAME, Pune

Anees Noorani
Managing Director,
Zodiac Clothing Company Ltd.

Michael Bastian
Former Chairman & MD,
Syndicate Bank

Dr. (Mrs.) Indu Shahani
Principal, HR College of Comm. & Eco.,
Mumbai and Sheriff of Mumbai

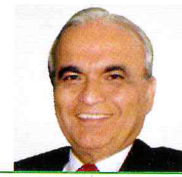
Prof. Gautam Barua
Director, Indian Institute of
Technology, Guwahati

NK Poddar
Senior Advocate, Kolkata

The Pioneers, Who Charted the Remarkable Growth of Planning & Business Development Group...

JL Zutshi
Chairman
(1.8.1994 – 31.1.1995)

RK Narang
Chairman
(1.2.1995 – 31.1.1997)



MA Pathan
Chairman
(1.2.1997 – 31.3.2002)

MS Ramachandran
Chairman
(1.4.2002 – 28.2.2005)

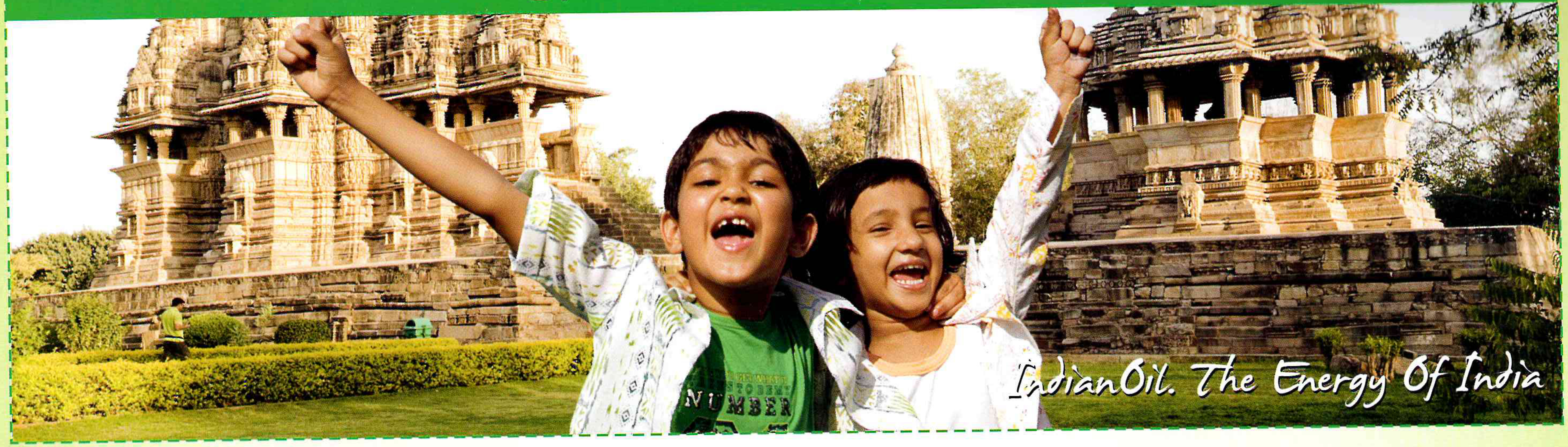
Sarthak Behuria
Chairman
(since 1.3.2005)

MS Ramachandran
Director (P&BD)
(13.9.2000 – 31.3.2002)

NK Nayyar
Director (P&BD)
(10.10.2002 – 28.10.2005)

BM Bansal
Director (P&BD)
(since 22.11.2005)

The Energy to make History come Alive.



The Energy to Fly to Newer Horizons.

Our world has enough for each person's need, but not for his greed.

– Mahatma Gandhi

Planning & Business Development

15 Years in Few Words

Milestones

1985
- Corporate Planning group formed

1994
- Business Development and Consulting Services (BD&CS) group formed in Refineries (To consider non-core business opportunities; Mr. BM Bansal, the then Chief Manager (T) was advised to be in-charge and report to Mr. AP Choudhary, Director (Refineries & Pipelines))

1995
- 27th January: Formation of BD&CS group formalized with appointment of Mr. BM Bansal as DGM, reporting to Mr AK Arora, Director (Refineries & Pipelines)
- BD–Exploration and Production (E&P) group formed
- Board approved investment for MTBE unit at Gujarat Refinery

1996
- Memorandum of Collaboration (MoC) with Petronas, Malaysia and Marubeni Corporation, Japan
- MoC with Petronas Penapisan (Melaka) for cooperation in upstream/downstream sector

1997
- Navaratna Status for IndianOil announced
- BD&CS group attached to Mr Subodh Mittal, Director (HR)
- Technical Services Agreement with Emirates National Oil Company (ENOC), Dubai
- MoC with Trinidad & Tobago National Petroleum Marketing Co. Ltd. for training and consultancy services

1998
- BD-Marketing (BD-M) group formed
- Manpower Secondment Agreement with ENOC, Dubai
- Regional offices opened in Kuwait, Malaysia & Dubai

1999
- BD-Petrochemical group formed
- BD–Refining & Pipelines (R&P) group formed
- First "Strategy Meet (Board Retreat)" at IIPM, Gurgaon

2000
- BD&CS name changed to "Planning and Business Development"; Mr. MS Ramachandran appointed 1st Director (P&BD) under the Chairmanship of Mr. MA Pathan
- IndianOil (with ONGC as operator) awarded 2 blocks under New Exploration Licensing Policy-I (NELP-I)
- Contribution to Hydrocarbon Vision-2025 document of Govt. of India
- Regional Office opened in Mauritius

2001
- IndianOil acquired equity in Chennai Petroleum Corporation Ltd. (CPCL), Bongaingaon Refinery & Petrochemical Ltd. (BRPL) and IBP Co. Ltd. (IBP)
- ONGIO – JV formed with ONGC for Training, Consultancy & Other Services
- Contribution to X Plan document of Planning Commission
- IndianOil Mauritius Ltd. incorporated on 24th October

2002
- Export of HSD (0.5 MMT) to Sri Lanka and Bulk Bitumen to Bangladesh/China
- IndianOil enters Sri Lanka's downstream petroleum sector; Lanka IOC Ltd. incorporated on 29th August

2003
- BD-Gas group formed
- Farmed into an exploration block in Assam and Arunachal Pradesh with Premier Oil, UK (Operator). Later, Hindustan Oil Exploration Company (HOEC) took over the operatorship
- Master plan on Petrochemicals prepared
- Gas Sale Purchase Agreement (GSPA) with Petronet LNG Limited (PLL) for purchase of RLNG for 25 years,

2004
- MoU with Edo State of Nigeria for setting up a Refinery in Edo
- LAB unit commissioned at Gujarat Refinery
- 1st Gas Sale Agreement with M/s Hindustan National Glass & Industries Ltd.

2005
- Green Gas Ltd. – JV between IndianOil and GAIL incorporated
- Growth Plan-Vision 2030 presented at Shimla Strategy Meet
- BD-LNG group formed

2006
- Amendment side Letter "C" to Gas Sale & Purchase Agreement signed with Petronet LNG Ltd.
- BD-Biofuels concept formalized during i2i (Intent-to-Implementation) workshop at IIPM
- PX/PTA project commissioned at Panipat
- Marketing of PX/PTA commenced
- Export of Group II LOBS to Pakistan (Pakistan State Oil)

2007
- IBP Co. Ltd. merged with IndianOil
- Oil & gas discovered in Iran with OVL (Operator) and OIL
- "LNG at Doorstep" – supply commenced to Schott Glass India Ltd. , Gujarat

2008
- Awarded 2 onshore exploration blocks in Cambay basin as Sole Operator, under NELP-VII
- 2 Solar Charging Stations commissioned in UP
- First GRI-III compliant Sustainability Report of IndianOil published

2009
- Bongaingaon Refinery & Petrochemical Ltd. (BRPL) merged with IndianOil
- IndianOil-Adani consortium won City Gas Distribution (CGD) bids for Chandigarh, Ghaziabad and Allahabad
- Board approval accorded for 50:50 JV with Adani Energy Limited for CGD Projects
- The largest captive energy-crop plantation of 850 hectares launched in Chhattisgarh.
- The first Wind Power project (21 MW) of IndianOil commissioned in Kucchh, Gujarat
- Quarterly corporate journal "Energy Digest" launched
- MoU signed with Nuclear Power Corporation India Ltd. for entering into nuclear power
- First commercial Solar Charging Station commissioned at Puri

Photo Essay (P&BD)

Sh BM Bansal with Sh SC Tripathi, Ex-Secretary, MoP&NG and others (as part of Indian Govt. Delegation) in Calgary, 2005

Sh BM Bansal in a meeting with BP for collaboration of LNG import at Kakinada in presence of Sh SC Mathur, 2000

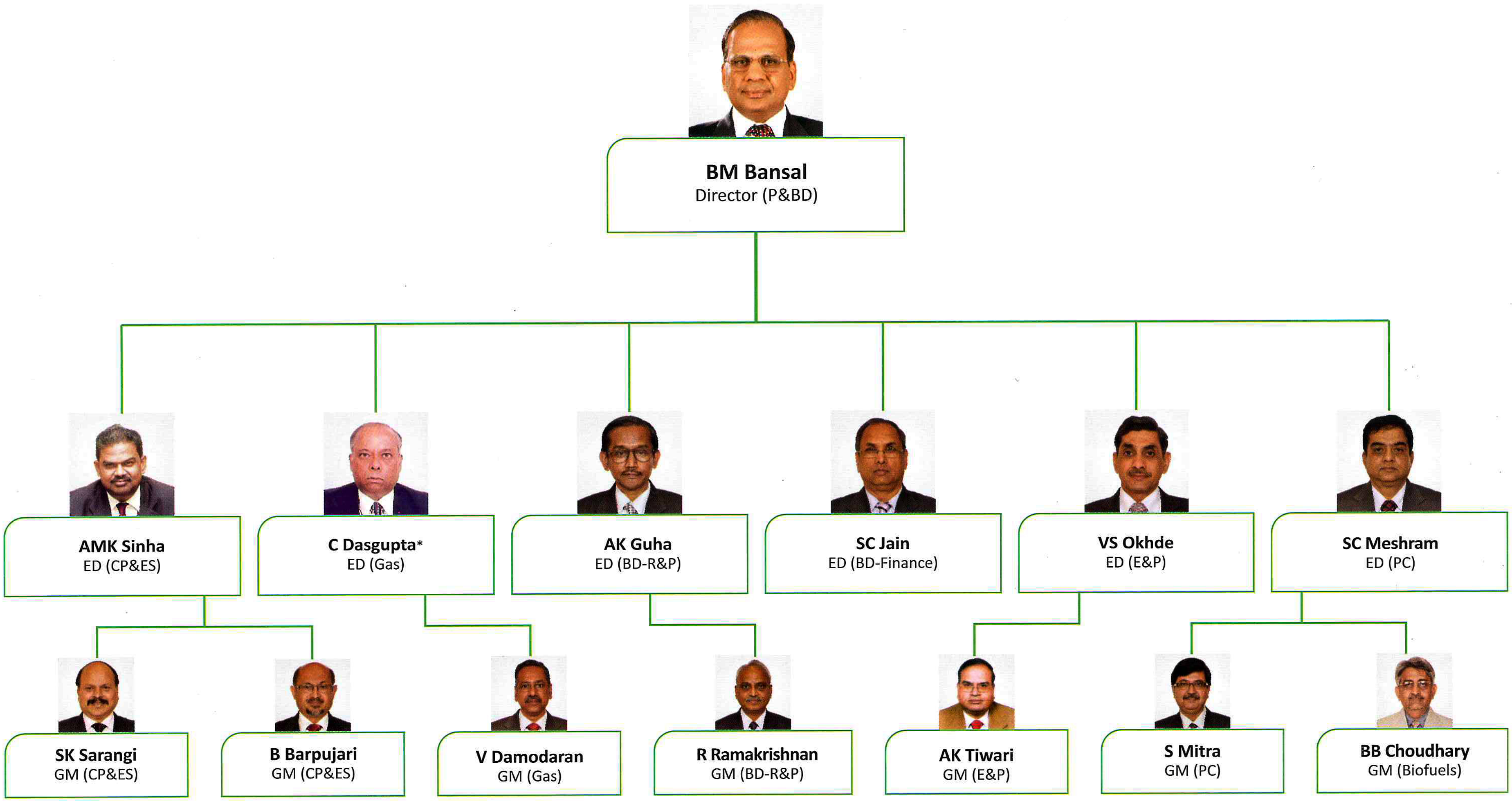
Sh BM Bansal with Sh SC Tripathi during their visit to Calgary, 2005

Sh BM Bansal as a part of Joint Commission during a visit to South Africa with Sh CR Prasad, the then Chairman, GAIL and MoP&NG delegation

Sh BM Bansal with Sh Mani Shankar Aiyar, Hon. Minister, MoP&NG and Panchayti Raj and Sh Narendra Modi, Hon. CM, Gujarat at Inauguration of first Bio-diesel run bus service of India on 12th March 2005 at Ahmedabad

Sh BM Bansal, the then GM (BD&CS) with a high level delegation from Petronas, Malaysia at IOC's R&D Centre, Faridabad (with Dr. AK Bhatanagar, Ex-Director (R&D) and Sh AK Arora, Ex-Director (R)

Head of Departments
Leading the Way...



*Superannuated on 31st December, 2009

Photo Essay (P&BD)

Sh BM Bansal, Director (P&BD) in his Office
at IndianOil Bhavan, Yusuf Sarai, New Delhi

Core Group Meeting of P&BD in Progress at IndianOil Bhavan, Yusuf Sarai, New Delhi
From L-R: Sh BB Choudhary, GM (Biofuels), Sh B Barpujari, GM (CP&ES), Sh SK Sarangi, GM (CP&ES),
Sh S Mitra, GM (PC), Sh AMK Sinha, ED (CP&ES), Sh AK Guha, ED (BD-R&P), Sh BM Bansal, Director (P&BD),
Sh SC Jain, ED (BD-F), Sh SC Meshram, ED (PC), Sh VS Okhde, ED (E&P),
Sh V Damodaran, GM (Gas), Sh R Ramakrishnan, GM (BD-R&P) and Sh S Gupta, CM (BD)

Sh BM Bansal, Director (P&BD) in his Office
& Sh Sanjeev Gupta, Chief Manager (BD) (at right)

Planning & Business Development (P&BD) Core Group
Seated (From L-R): Sh VS Okhde, ED (E&P), Sh AMK Sinha, ED (CP&ES), Sh SC Jain, ED (BD-Finance), Sh BM Bansal, Director (P&BD), Sh AK Guha, ED (BD-R&P), Sh B Barpujari, GM (CP&ES), Sh SC Meshram, ED (PC) and Sh SK Sarangi, GM (CP&ES). Standing (From L-R): Sh BB Choudhary, GM (Biofuels), Sh R Ramakrishnan, GM (BD-R&P), Sh V Damodaran, GM (Gas), Sh S Mitra, GM (PC) and Sh Sanjeev Gupta, CM (BD)

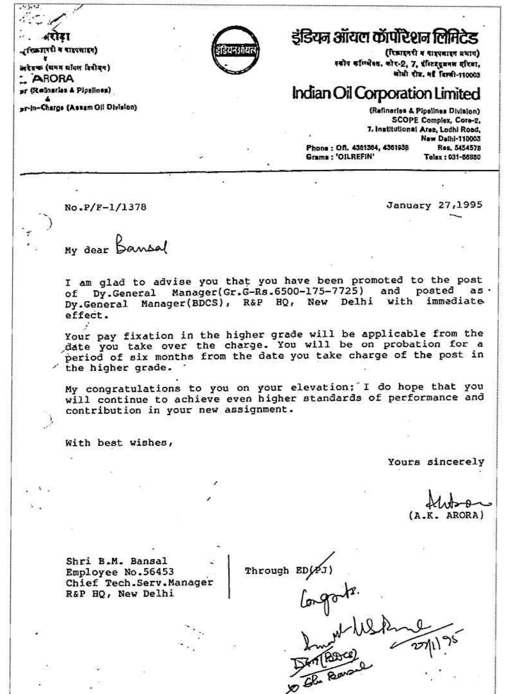
Planning & Business Development – The Early Days

Siddharth Mitra
General Manager
(Petrochemicals)

At the onset of liberalization and deregulation, it was envisaged to integrate vertically with the core business operation of refining and marketing, besides diversification into associated sectors like gas, power generation, etc. To provide impetus to and achieve growth in such non-explored business areas, IndianOil management decided to create a dedicated group to identify potential opportunities in each of the segments.

In October 1994, a group was carved out from Technical Department, Refineries HQ, which comprised of Shri B.M. Bansal, the then Chief Manager (Technical Services) and Shri Sukanta Bhattacherjee, Dy. Manager (Technical Services). A separate group led by Shri R.P. Mandal, the then DGM (with Shri S.P. Chatterjee, Sr. Manager) was looking into consultancy services including foreign/deputational assignments and reporting to Shri U.S. Prasad, the then Executive Director (Projects). Both these groups were merged and a new group under name and style of "Business Development and Consultancy Services" (BDCS) was created in December 1994. This group was then headed by Shri R.P. Mandal, reporting to ED (Projects), as above and was assigned to be under Director (Refineries). On 27th January 1995, BDCS was officially formalized with Shri B.M. Bansal taking charge of the group in the capacity of DGM (BDCS). The group was expanded during that time with induction of some more officers, including myself.

In 1997, BDCS group was assigned to the Directorate of HR, when Shri Subodh Mittal was heading the HR group. This continued till such time Shri Subir Raha was holding the portfolio as Director (HR). Shri Raha went on to assume the post of CMD, ONGC in May 2000. During the intervening period till the Directorate of Planning & Business Development (P&BD) was created, BDCS group was reporting for a short time to Director (Pipelines), when Shri A.M. Uplenchwar was heading the Pipelines Division.



इंडियन ऑयल कॉर्पोरेशन लिमिटेड

ARORA
(Refineries & Pipelines)
&
-in-Charge (Assam Oil Division)

Indian Oil Corporation Limited
(Refineries & Pipelines Division)
SCOPE Complex, Core-2,
7, Institutional Area, Lodhi Road,
New Delhi-110003
Phone : Off. 4361364, 4361938 Res. 5454578
Grams : 'OILREFIN' Telex : 031-66880

No.P/F-1/1378

January 27,1995

My dear Bansal

I am glad to advise you that you have been promoted to the post of Dy.General Manager(Gr.G-Rs.6500-175-7725) and posted as Dy.General Manager(BDCS), R&P HQ, New Delhi with immediate effect.

Your pay fixation in the higher grade will be applicable from the date you take over the charge. You will be on probation for a period of six months from the date you take charge of the post in the higher grade.

My congratulations to you on your elevation; I do hope that you will continue to achieve even higher standards of performance and contribution in your new assignment.

With best wishes,

Yours sincerely

(A.K. ARORA)

Shri B.M. Bansal
Employee No.56453
Chief Tech.Serv.Manager
R&P HQ, New Delhi

Through ED(PJ)

Congrats.

DGM(BDCS)
to Sh Bansal
27/1/95

Appointment order of Sh BM Bansal
as DGM (BDCS) dated 27th January 1995, signed by
Shri AK Arora, Director (Refineries & Pipelines)

In September 2000, the post of Director (P&BD) was created and Shri M.S. Ramachandran took over as the first Director, wherein Corporate Planning, then under Director (Finance), was taken under the ambit of Director (P&BD). With the creation of the portfolio of P&BD, the name BDCS became extinct and since significant progress had taken place in various segments, creation of individual areas was effected viz. Exploration & Production, Gas & Petrochemicals, Power, Refineries & Pipelines (including Consultancy Services) and Marketing. Progressively thereafter, various shifts have taken place within P&BD and at present, various groups under P&BD stand as Corporate Planning & Economic Studies (CP&ES), Petrochemicals, Gas, Marketing, Refineries & Pipelines (R&P) and Exploration & Production (E&P). With the advent of various projects and allied activities under each of the segments, to facilitate smooth functioning, a separate Finance group was set up under P&BD during 2003-04.

Opportunities of the Unknown...

Sanjeev Gupta
Chief Manager (BD)

Business Development (BD) function in any organization typically faces three types of challenges - 1) to accurately hypothesize the tenets of the unknown future; 2) to strategize to adequately flank the core and 3) to leverage the potential opportunities of the de-facto unknown.

Since its inception, the sole mission of IndianOil's BD Group has been to successfully harness these challenges to the Corporation's advantage. Each of the new business strategy, conceptualized, commissioned & continued by BD Group, has been in response to fulfill this mission... be it forward integration to Petrochemicals to create further value from each barrel of crude distillated, backward integration to E&P to protect the margins from volatilities of crude oil prices, diversification to gas to protect loss of liquid fuel volumes, globalization/export-thrust to find new markets for products, diversification to bio-fuels or forays into renewables to charter a new green beginning.

The process to succeed in these missions has been far from easy. The zeal to cross new frontiers have made BD Group overcome its fear of many unknowns - new business areas, no past experience, no available benchmarks, risk of high investments in new technologies, dealing with new products, new segment of customers, new business paradigms, need to break the set rules to take on the well-entrenched behemoths and formidable incumbents, etc. These were high stake games - one wrong move and you end up with irreversible loss of precious resources, be it money, time, opportunity or reputation.

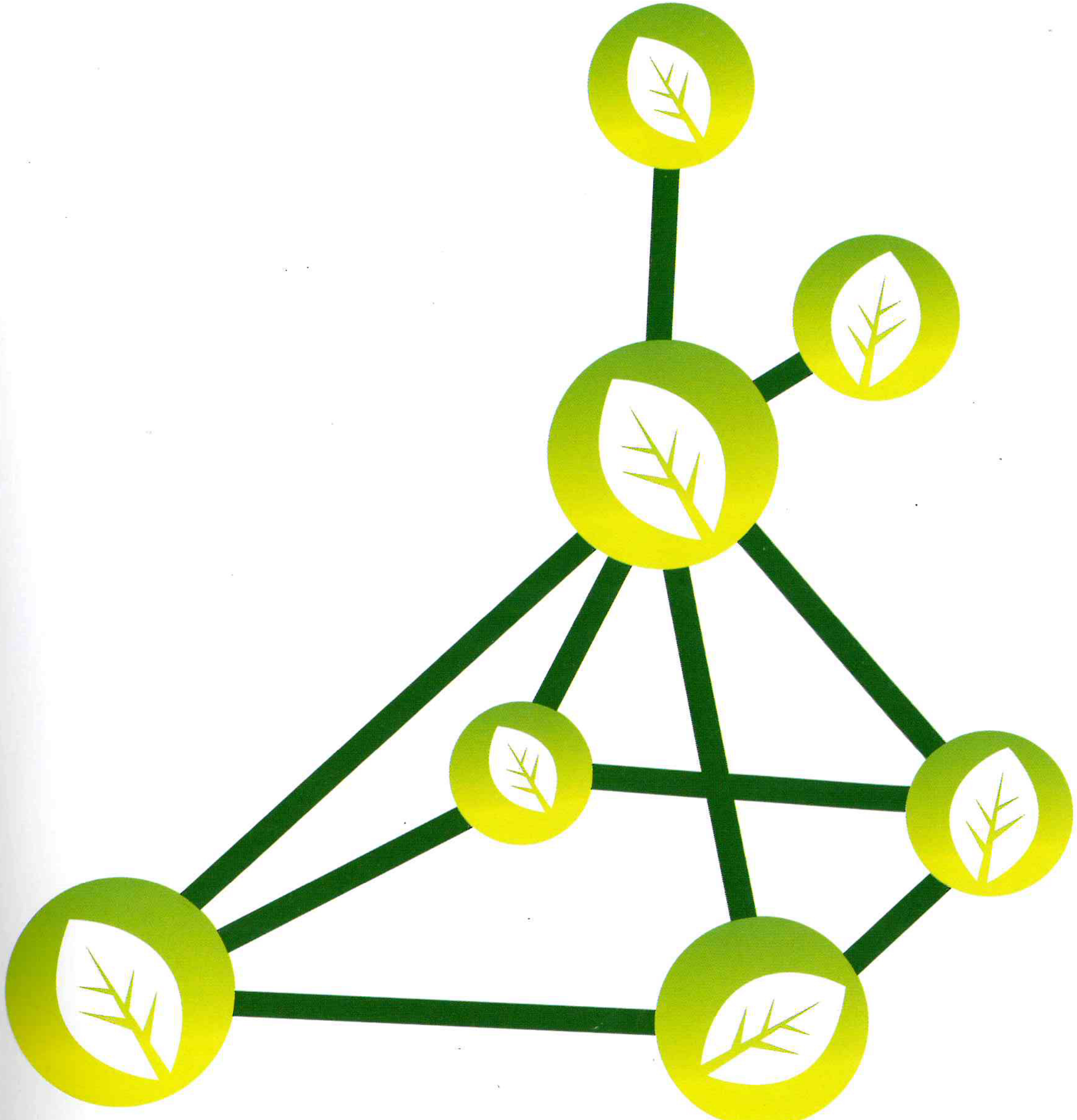
All the while, BD Group repeatedly stoked itself to think out of the box, acquire new skill sets, do a lot of unlearning and learning and never to flinch a moment to take the proverbial bull by its horns! Long sessions of contemplations, conceptualizations, deliberations, healthy disagreements, questioning the existing paradigms, extensive environment scanning, candid introspection of strengths, weaknesses, threats and opportunities offered by the fast changing environment, etc. have been the order of the day.

Be it learning the intricacies of voluminous and complex Greek and Latin sounding commercial terms of the Gas Agreements, dealing initially with scarcity and later surpluses of gas, dealing with new industry structure of petrochemicals trade, new set of customers, new products and new cues for playing the games, establishing IndianOil's brands on foreign soil in presence of formidable MNCs, learning foreign languages, dealing with crops/seeds/agro-practices for bio-fuel or imbibing new knowledge in solar, wind or nuclear power – we have EXPERIENCED them all! I can vouch that 'EXPERIENCE' is an understatement here.

BD Group's situation was akin to an iceberg..... What was visible and conspicuous is only 10%, balance consisting of a plethora of creative ideas or prospects, from which a select few finally would see the light of the day after going through a process of careful crystallization, adequate intra-company marketing, rigorous scrutiny to reach the top management – and then the luckiest and the strongest few would get out of the drawing board to face the rigors of external environment – on Indian or foreign soil, on which we have very little control.

Despite these rigorous and well-planned strategies, every step of BD Group was cautious but FIRM - be it participating in multi billion dollar open bids for Tupras & Petkim (a first time for IndianOil), conceptualizing Ennore terminal/ integrated LNG terminal in Iran while LNG was still a fledgling concept in India, overseas E&P forays, proposal to set-up indigenous production facilities for niche petrochemicals (so far only imported), renewable, nuclear forays, etc. Some of these could not be concretized due to various internal or external constraints.

Journey of 15 years of BD - though fraught with challenges - has been a rewarding one. From just a subjective idea conjured up by our visionary seniors, today BD Group has evolved into a pulsating and value creating force; both within and outside the Corporation. The day is not far, when BD Group would be a significant force, energizing the Corporation's growth engines.



You can never have an impact on society if you have not changed yourself.
– *Nelson Mandela*

Petrochemicals

Milestones

1995

- Board approval obtained for Propylene production at Panipat
- Board approval obtained for investment in MTBE unit at Gujarat Refinery
- Feasibility Report (FR) prepared for stage-I of PX production at Panipat; Board approval obtained

1996

- Board approval obtained for setting up Butene-1 unit at Gujarat Refinery

1997

- FR prepared for stage-I of LAB project; Board approval obtained

1998

- Joint Collaboration Agreement (JCA) among IOC/GAIL/IIP/Amoco India Development Co. for Di-Methyl Ether (DME) project
- Memorandum of Collaboration (MoC) with PTT, Thailand in areas of Refining & Petrochemicals, R&D, Training & Consultancy, Lubes & Projects

1999

- BD-Petrochemical group formed
- MOU with IPCL to participate in Refinery, Petrochemicals and Power projects
- MOU with Petronas, Malaysia to explore opportunities in Petrochemicals
- Board approval obtained for integrated PX, PTA at Panipat Refinery
- Technology selection for PX plant completed; Board approval obtained

2000

- Technology selection for LAB and PTA finalized

2001

- Board approval obtained for Detailed Feasibility Report (DFR) of LAB project
- Lump Sum Turn Key (LSTK) contract for LAB Project implementation given to Samsung

2002

- Board approval obtained for Final DFR/Investment for PX/PTA at Panipat

2003

- Petrochemicals Master Plan prepared with McKinsey

2004

- Board's in-principle approval obtained for Naptha Cracker Project
- LAB unit commissioned in Gujarat Refinery on 13th August
- Marketing of LAB commenced on 2nd September
- Technology selection for Naphtha Cracker, PP, Swing & Dedicated HDE unit completed

2005

- Technology selection for Mono-Ethylene Glycol (MEG) completed

2006

- PX/PTA Project commissioned at Panipat
- Marketing of PTA commenced
- Investment Approval obtained for Panipat Naphtha Cracker and Downstream Polymer units Project

2007

- Board approval obtained for PX (stage-I) in Gujarat Refinery

2008

- Board approval obtained for stage-I for setting up an Styrene Butadiene Rubber (SBR) unit at Panipat based on Butadiene

2009

- Board approval obtained for setting up a SBR unit at Panipat
- Board approval obtained for JV Agreement for production of SBR
- Selection of channel partners for polymers completed
- Project Management Consultant (Deloitte) & System Integrator (Satyam Mahindra) with back up support of Microsoft taken on board for IT e-commerce portal
- Supply chain network for polymers completed

Photo Essay (Petrochemicals)

Inauguration of PTA Plant: Shri Sarthak Behuria, Chairman (at left) inaugurating PTA plant in Panipat Refinery Complex on 20th June, 2006; On his right are Sh Jaspal Singh, Director (Refineries), Sh C Manoharan, ED (Panipat Refinery), Sh BM Bansal, Director (P&BD) and Sh BN Bankapur, ED (Operations)

First PTA consignment: Sh K Govindrajan ED (PC) flagging off the first PTA consignment for M/s Indorama (Nagpur) on 7th September 2006 in presence of Sh C Manoharan, ED (Panipat Refinery)

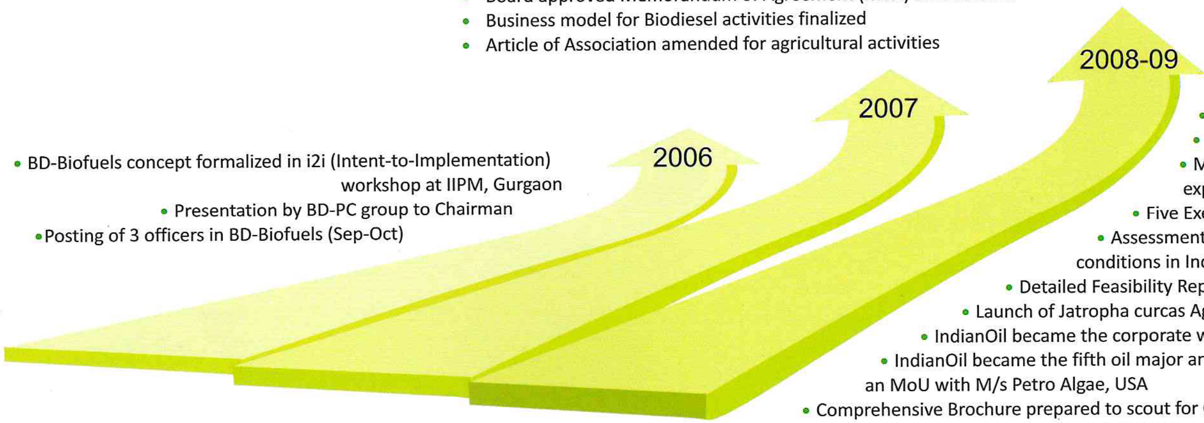
Sh BM Bansal, Director (P&BD) inaugurating Panipat Petrochemicals Marketing Complex on 21st February 2009

1st LAB tank truck being flagged off by Sh BN Bankapur, ED (Gujarat Refinery) for Hindustan Lever Ltd. on 1st September 2004

Milestones

- BD-Biofuels concept formalized in i2i (Intent-to-Implementation) workshop at IIPM, Gurgaon
- Presentation by BD-PC group to Chairman
- Posting of 3 officers in BD-Biofuels (Sep-Oct)

- Executive Committee (EC) approval obtained for future directions/resources
- KPMG engaged for identifying major risks and optimum business model
- Board approved Memorandum of Agreement (MoA) amendment
- Business model for Biodiesel activities finalized
- Article of Association amended for agricultural activities



- Four Executives and Ten Agri Business Management graduates joined
- Ethanol Business Plan prepared by M/s BCG
- Memorandum of Understanding (MoU) with M/s Ruchi Soya Industries Ltd. to explore and avail Biofuel business opportunities in Uttar Pradesh
- Five Executives and three Agri Business Management graduates joined
- Assessment of Jatropha yield in different landscapes under different Agro-climatic conditions in India started
- Detailed Feasibility Report (DFR) prepared by E&Y for the UP project
- Launch of Jatropha curcas Agro-Techniques Manual by Chairman, IndianOil
- IndianOil became the corporate with the largest captive energy-crop plantation (850 hectare)
- IndianOil became the fifth oil major and first National Oil Company to decisively enter the algal fuel race by signing an MoU with M/s Petro Algae, USA
- Comprehensive Brochure prepared to scout for Consultancy Jobs
- Energy Plantation Documentation Module(EPDM) prepared and implemented

Chhattisgarh Project

2008

- JV Agreement with Chhattisgarh Government

2009

- 'IndianOil CREDA Biofuels Ltd.' incorporated on 6th Feb
- Filed application for 3000 hectare Land in Sarguja & Bilaspur with CREDA (Apr)
- Commencement of Plantation at Bilaspur Completed in 700 hectare of plantation in Chhattisgarh (Aug)

Madhya Pradesh (Jhabua) Project

2008

- Obtained land allotment letter for 2000 hectare in Jhabua (May)
- Application filed for 600 Hectare short listed plots (Sep)

2009

- Work order placed for plantation on 426 hectare land on Society for Promotion of Eco-friendly Sustainable Development (SPESD) (Jun)
- Started transplanting of Jatropha saplings on the field (July)
- Completed 250 hectare of plantation in Jhabua, MP (Aug)

IndianOil's Petrochemicals Growth Story

Siddharth Mitra
General Manager
(Petrochemicals)

The opening up of economy/Indian market as well as the Government policy on economic reforms and globalization has given ample opportunities to oil PSUs to integrate and diversify into related areas. The liberalization policy of the early 90s and de-regulation of oil sector in the mid-90s provided great opportunity for IndianOil to explore prospects of downward integration into Petrochemicals. In 1994, IndianOil set up a new Business Development group named "Business Development & Consultancy Services" (BDCS) and later on in 1999, based on subsequent developments and progress made, Petrochemicals Group was carved out under the BD group.

Considering the quality and quantity of various feedstocks available in IndianOil's refineries and the possibility of putting up an internationally competitive size plant, integration into petrochemicals was a clear choice. Basic feedstocks earmarked for conversion to petrochemicals were LPG streams (C3, C4 olefins in the cracked LPG stream from FCC), high aromatic as well as paraffinic naphtha components, kerosene fractions (having potential paraffinic components) & heavier ends like vacuum gasoil. Additionally, it was envisaged to create a robust supply chain network for facilitating smooth marketing of petrochemical products, given the fact that the competitors are well established in this business. The Petrochemical business plan included implementation of greenfield projects as well as brown field opportunities through acquisition/ equity participation.

Greenfield projects implemented

37,000 MTPA MTBE plant was set up (1999) at Gujarat refinery (Capex: Rs. 40 crore) to generate high octane components for blending in gasoline.

15,000 MTPA Butene-1 plant was commissioned (2001) at Gujarat refinery (Capex: Rs. 45 crore) mainly to cater to the polymer manufacturers. [In future, naphtha cracker would be utilized on captive basis for production of polyethylene].

LAB Plant, Gujarat Refinery

The LAB (Linear Alkyl Benzene) unit at Gujarat Refinery was IndianOil's first mega-size petrochemicals project (Capex: Rs. 1200 crore), commissioned (2004) within an aggressive schedule of 24 months. The unit is designed to produce 120,000 TPA of LAB using captive kerosene feedstock, which is the single largest grassroot unit globally. Marketing of LAB from this unit commenced in Sep-04. Amidst stiff competition from the existing players, IndianOil could secure a sizeable domestic market share of 35%. IndianOil has also exported LAB to 12 different countries.

The LAB unit, so designed, has been able to produce superior quality product at a competitive cost and our customers have voiced extreme satisfaction on the product quality, clearly emphasizing that such quality product is currently not available in Indian market. All major detergent manufacturers viz. Unilever, P&G, Colgate Palmolive, etc. are IndianOil's customers. Stabilization of the unit in shortest possible time, garnering sizeable market share domestically, continuous improvement efforts and positive customer feedback speaks volumes about the success of IndianOil's first mega petrochemical project.

Endorsement from Unilever Asia

Message from **Shri Umesh Shah,** Vice President, Supply Chain Management, Unilever Asia

"IOC was able to visualize growing demand for LAB well in advance. They set up a world class integrated manufacturing facility with environment friendly Technology. Though they were new to Petrochemicals marketing, they were able to establish systems to manage highly complicated supply chain from the start. Within a short time, they were able to meet the stringent quality standards of various operating companies of Unilever across the world which has made IOC a supplier of choice for Unilever. With very high focus on customer needs, superlative service and flexible approach to solve issues, it is delight to deal with the marketing team of Petrochemicals".

Integrated PX/PTA project at Panipat was the next mega project (Capex: Rs.4600 crore) which utilised 0.5 MMTPA of high aromatic/naphthenic Naphtha from Mathura and Panipat refineries. The project is designed to generate intermediate feedstock of 364,000 MTPA of PX and final product of 553,000 MTPA of PTA. The project was commissioned in Aug-06 and marketing of products commenced in Sep-06. All the major domestic consumers of PTA viz. Indo Rama, JBF, Garden, Bombay Dyeing, Jindal, Ester, Uflex, etc., are our customers.

INDORAMA innovation everywhere

Endorsement from Indorama

Message from
Mr OP Lohia, Chairman, Indorama

We are delighted to be associated with Indian Oil Corporation for supply of PTA from Panipat Complex. With the setting up and sourcing of PTA from Panipat Refinery our long and fruitful association with IOCL has been strengthened further.

As a proactive step, we have signed an MOU with Indian Oil Corporation Ltd on 16th Sep, whereby Indo Rama shall source minimum quantity of 135000 MT of PTA per annum from IOCL after commissioning of its PTA Plant . Supply of PTA to Indo Rama has started in the month of September 2006 and gradually the lifting of PTA is increasing every month.

We expect Indian Oil to continue to supply PTA as well as Furnace Oil on competitive prices in line with the best in Industry.

We earnestly await commissioning of the MEG production facility at Panipat Refinery and hope to secure our MEG supplies from this facility as well.

Indo Rama is looking forward to a long lasting and mutually beneficial association with Indian Oil.

Projects under implementation

At present, a mega petrochemical complex (including Naphtha Cracker and downstream Polymer Units) is under implementation at Panipat in the vicinity of the operating refinery. This project is targeted to generate 900,000 MTPA of ethylene and 650,000 MTPA of Propylene, based on utilization of captive Naphtha. The downstream polymer units comprising of Swing unit, dedicated HDPE unit and two lines of PP unit, are designed to produce 1.25 MMTPA of polymers (LLDPE, HDPE, PP) and 325,000 MTPA of specialty chemical (i.e. MEG). The project is expected to be commissioned by end of FY 2009-10.

At present, preparation for Polymer Marketing is in full swing. IndianOil has already carried out extensive work on customer mapping and market segmentation. Mapping of around 85% of polymer market/ customers, covering more than 3.4 MMTPA of polymer volumes have been completed. An internet portal for Polymers is also being developed, 'Go Live' of which is expected by Feb-10.

Other activities viz. manpower positioning, development of policies and systems for channel selection, establishment of a Polymer Application Development Center (PADC), supply chain, etc. are in full swing. Multiple task forces have been constituted for various activities. The process of appointment of DCA-cum-CS (Del Credere Agent-cum-Consignment Stockist)/DCAs for Polymer marketing has been initiated. More than 700 applications have been received against the advertisement for appointment of 43 DCA-cum-CS / DCAs for 26 locations. The scrutiny of the applications is in progress.

ALBRIGHT & WILSON

Endorsement from Albright & Wilson

Letter from ***Albright & Wilson***

IOC was given vendor rating of 98.5% for LAB supplies during Aug 2004 to Jan 2005. The vendor rating assessment criteria is on quality and timely deliveries. (Extract from letter sent by A & W dated 8/2/05).

[Vendor rating above 90%: We appreciate the Performance of the Vendor and consider the Vendor as Preferred Vendor]

In addition to the implementation of the Greenfield projects, IndianOil has also explored the possibility of participation in many brown field projects & at present holds 9.6% of the current paid-up equity capital of Haldia Petrochemicals Ltd. So far, IndianOil has committed capex of more than Rs. 20,000 crore. Investment of additional Rs. 30,000 to 40,000 crore is envisaged for the planned including the ones under study.

Paraguaná Refinery Complex of Petróleos de Venezuela (PDVSA)

Largest Refinery Complex in the World

Paraguaná Refinery Complex of Petróleos de Venezuela (PDVSA) (in Falcón State of Venezuela) is currently considered as the largest oil refinery complex in the world with capacity of 940,000 barrels per day (bpd). It serves 71% refining capacity of Venezuela and is a result of fusion of Amunay Refinery, Bajo Grande Refinery and Cardón Refinery. Ulsan Refinery (of SK Energy, 840,000 bpd) and Yeosu Refinery (GS Caltex, 700,000 bpd), both in South Korea, are the second and third largest refinery complexes in the world, respectively.

Jamnagar Refinery of Reliance Industries Ltd., with an installed oil refining capacity of 661,000 barrels per day, is the largest Greenfield refinery in the world. After merger of Reliance Petroleum Limited (RPL) with Jamnagar Refinery, Jamnagar has emerged as the 'Refining Hub of the World' with an aggregate oil refining capacity of 1.24 million barrels per day.

Source: Wikipedia quoting Oil & Gas Journal

Setting up PTA Marketing

Avinash Verma
Dy. General Manager
(Petrochemicals Marketing)

It was end 2004 when I came out of LAB business line to set upon the task of setting up PTA marketing for IndianOil's upcoming 553 KTA PTA plant at Panipat, at that time expected to be on stream by August 2005.

We began literally from scratch with nothing but a DFR's (Detailed Feasibility Report) outdated data in hand. Our first task was to get some idea of the industry, the players involved, the market dynamics etc. We approached Crisil to take up a broad-based market study on fiber intermediates in general and PTA in particular. Simultaneously, we began interacting with customers. I was the lone officer for PTA business in PC–Marketing group, then headed by Mr. R. Ramakrishnan and later by Mr. Pradeep Chhabra. Soon Mr. Sudhish Agarwal, a textiles engineer with some DMT and PSF marketing experience (during his BRPL days) joined me. Mr. Sudhish also has been active in various collectives in the industry such as textile manufactures associations, IOOA, etc. and had wide contacts, which proved very handy. He also understood the terminologies of textile industry well and brought us comfort on unfamiliar terms such as "denier", "filament", "fiber", "POY/ PFY", etc.

> ***We began literally from the scratch with nothing but a DFR report's outdated data in hand.***

We believed that customer is the best teacher and set about meeting them at a brisk pace. Within a period of about 8-10 weeks, we had one-to-one meetings with almost all customers. All officers in the regional setup, Satyen (Satyendra Sahaya), D Khastagir, Raghu (A V Raghunathan) and Gopal (TSR Gopal Rao) were roped in to expedite these interactions. Satyen came out with a detailed "Customer Contact Report (CCR)", which was institutionalized on all India basis and is being followed till date. All relevant and comprehensive details of discussions conducted during every visit made by all IndianOil officers were meticulously recorded in this report. Soon I had a big box file filled with CCRs!

The Market

The market interactions brought up the enormity of task in hand very clearly as well as filled us with excitement and a sense of pride in what we were doing. Over 84% of PTA was consumed in textile industry for yarn and fiber production and only about 15% went into PET for making bottles/containers and film production for packaging. We were to cater to the largest players in the textile industry, which is also the largest employer in the country with over 5 million direct/indirect employees. We estimated that our own PTA capacity will generate additional employment for about 1.4 lakh persons. This industry was also in sharp focus of Government policies. The aim was to spur high economic growth as well as to generate more employment. The market was dominated by Reliance in upstream and downstream, as RIL was the largest PTA supplier as well as the largest Polyester producer. The polyester industry had seen major consolidation a short while ago, when Reliance acquired several players and only a few major players viz Indorama, Garden Silk, JBF Industries were able to survive on their own. Others such as Sanghi Polyester, Modern Syntex, Nova etc. were already struggling. Rumours were rife that soon these players will also be gobbled up by RIL (though nothing like that actually happened and all these companies are doing well). The industry also faced stiff internal competition from Reliance and from China in the international market. Margins were wafer thin and competition was cut-throat. The players were large, needed substantial capital and market fluctuated widely. The industry as such has a very long chain with several stages to cross before the end product reaches the final consumer and the entire value chain gets clogged quite often. Moreover, we had no exemption on sales tax, whereas both our competitors (RIL and MCC-PTA India Ltd. (MCPI)) enjoyed sales tax exemption. This meant a lower netback for us unless we find ways to avoid CST absorption.

> ***IndianOil had no exemption on sales tax, whereas both our competitors (RIL and MCPI) enjoyed sales tax exemption. This meant a lower netback for us unless we find ways to avoid CST absorption.***

When we were to enter the market, the supply-demand equation was broadly balanced with approx. 2 million ton of PTA production by RIL (1.5 mMT) and Mitsubishi (0.47 mMT) and very little imports. The supply was set to go up by 60% in one year as IndianOil (0.553 mMT) and RIL (0.700 mMT) were to commission new plants almost simultaneously. It seemed that we would land in a surplus situation and will have to export large part of our production at low netbacks.

Soon we realized that polyester industry looked upto IndianOil with a lot of hope and expectation as a reliable and regular supplier of PTA. We also felt that industry is starved of material and may expand rapidly once regular and reliable supply of raw material is ensured. Many major players including Indorama, JBF, Garden Silk, etc. had already announced capacity expansions. We sensed more are on the way.

We felt that it would be best to keep the customer fully apprised of all developments (the delay in commissioning). This proved correct. We offered site visits to all our buyers. We would accompany them from Delhi, show them the site and arrange for briefing by our project team on status of construction. This was very effective and reassuring.

Initial Preparations

We worked hard on our pricing strategy. We commissioned a study by M/S PCI Xylene on international and domestic pricing. Soon Mathew and Jaski (Jaskinder Shingwekar) put up a pricing policy. We offered transparent pricing to every customer. This was received very well. The interactions with customers were very intense, incisive, detailed and prolonged. Often, top management or promoters themselves joined for resolving major issues. At the same time, the discussions were quite transparent from both sides, which helped us fine-tune our offerings. Most of the major buyers committed their purchases to us far ahead of planned commissioning of the plant.

Meanwhile, our plant commissioning was painfully shifting backward. It became clear that some large contractors are way behind their schedule and will not be able to complete their work as planned. We were very worried. Plant commissioning picture was not very clear to us. The buyers had committed their sourcing and also synchronized their capacity expansion with our plant. Now, if our plant is delayed, how to face them?

Despite nearly 50 years of existence, IndianOil had hardly any in-house knowledge on handling solids!

We felt that it would be best to keep the customer fully apprised of all developments. This proved correct. We offered site visits to all our buyers who were engaged in discussions for business. We would accompany them from Delhi, show them the site and arrange for briefing by our project team on status of construction. This was very effective and reassuring.

While the customers sensed that the project is delayed, yet they saw that the situation is better than the rumors floating in the market. Many of the customers visited more than once before the plant was finally commissioned (in June 2006).

Operations

Meanwhile, our preparations for starting bagging, storage and delivery operations at Panipat were taking final shape. Sudhish had moved to Panipat and later on a team of 7 other officers also joined him. A core team was in place to take up the critical responsibility. The team itself was a unique assortment of officers with varying backgrounds. We had officers from Refineries, Marketing, Pipelines & BRPL making up the whole PC-M team. Later, one officer from IBP also joined.

The warehouse was still under construction and there was no place for anybody even to sit-down. We approached GM, NRPL to allocate some space for our team in their office in Panipat. This was readily agreed to and we made our seating arrangements in NRPL office. By now, a focused group comprising of Kapil Goyal, Sudhish, RK Bhardwaj, Supalpa, Shivani, Eva, KS Laha and Robin started working on detailing operations, transportation, quality assurance, maintenance, safety, documentation and accounting.

Bagging operation also offered us a unique challenge. Despite nearly 50 years of existence, IndianOil had hardly any in-house knowledge on handling solids. The operation of bagging machines was entirely new. However, this was no rocket science and the determined team at Panipat soon unraveled the mystery and readied themselves for the forthcoming task.

We engaged Project Development India Ltd. (PDIL) to assist us in developing detailed guidelines and procedures and develop full fledged manuals. PDIL and our team started working together at fast pace and we had all the manuals ready much before the start- up of the plant.

Our interactions with customers had both deepened and widened. By the middle of 2005, we had very good detailing on their requirement in terms of deliveries, quality parameters, documentation, MIS, etc. We developed detailed check-lists for starting deliveries.

Logistics

Lining up transportation was a major challenge. We were located at Panipat, in northern part of India, whereas our major buyers were at Nagpur, Silvasa, Haldia and Chennai, each one of them at least 1500 KMs away. The quantities involved were quite high and therefore regularity of supplies was of utmost concern to buyers. We had sensed this quite early in our interactions and put this learning to good use to not only alleviate their doubts, but also to turn this into one of our strengths.

Lining up transportation was a major challenge. We were located at Panipat, in northern part of India, whereas our major buyers were at Nagpur, Silvasa, Haldia and Chennai, each one of them at least 1500 KMs away!

We planned a combination of road and rail deliveries to lend reliability and strength to our logistics arrangements. Road supplies would go by normal open trucks, whereas rail supplies would go by containers. Our competitor, MCPI, was already using containers for PTA supplies but at a lower scale. We planned to go for higher participation of rail transport, mainly because it made tremendous economic sense! Deliveries to all our buyers, situated beyond a radius of 1200 KM from Panipat, were economical by rail and we saw that more than 70% of our sales would be to such buyers. We had a rail siding right at our warehouse, which was being used for rail transportation of bitumen barrels to various locations. This siding was converted for container use. A huge yard with high quality surface preparation was developed as a container yard. All this was done with active consultation with CONCOR, which had been associated with us for PTA deliveries right from start of plant construction. Kumud Sharma and S Jaikumar pursued these discussions relentlessly till conclusion. We entered into a contract with CONCOR for rail deliveries of PTA to all customers in all corners of the country. This arrangement is ongoing till date and has proved to be the mainstay of our delivery capabilities and is appreciated by our customers and competitors alike.

Transportation was supported by setting up upcountry warehouses called Regional Sales Centres (RSCs). We set up the first RSC with another PSU, Central Warehousing Corporation (CWC), at Nagpur and then with yet another PSU, National Small Industries Corporation (NSIC), at Silvasa. My colleagues at CO, Saroj Roy and Mahesh Gupta, concluded the elaborate contracts with both the agencies and set up warehouses at a very fast clip. Later on, we also set up one RSC at Hoshiarpur. These RSCs have served us immensely well by saving crores of rupees on CST absorption and providing tremendous reliability to our logistics. Interactions with all these three PSUs, i.e. CONCOR, CWC and NSIC, were very heartening as each of them has very professional and dynamic set of officers led by very progressive management teams, and their deliverance was comparable to any private sector company.

Start of Business

In June 2006, the plant was commissioned and we got to see IOC-PTA for the first time. But just. The plant went for a long shutdown due to process air compressor breakdown and restarted only in end August. We did first bagging operation in end of August and bagged all of 12 bags on the first day. Despite lower numbers, this was quite reassuring, and a major relief to all of us. WE CAN BAG!

Almost entire improvement in our operations and deliveries has come about primarily because of customer responses. This listing has over 100 responses and is now a valuable chronicle of our learning.

The bagging improved day by day at a brisk pace and is still improving even now. In essence, we have always been able to match bagging to production and have never fallen short. This has been a matter of pride & satisfaction for all of us.

It was 7th September 2006, when we flagged off our first PTA supplies to Indorama, Ester Ind and Jindal Polyfilms with a small pooja/function at Panipat. Is it not credible that these three customers continue to source their major requirements from us till date? Many more customers started soon and we never fell short of customers. Though, initially we had grave doubts about market turning surplus, it has never actually happened.

Gaining Maturity

Our competitors, RIL and MCPI, used to organize an annual all expense paid foreign trip for their customers to exotic destinations such as Phuket, Bali, Tokyo, etc. Customers often used to ask us "Aap kya karoge? Panipat le jaoge?"....... We took a challenge that our conventions should be so elegant and stylish that even the top management/ promoters should feel like attending

The story after commencing business has been one of continuous learning and improvement. We had, painstakingly and meticulously, created listing of all complaints/ feedbacks, which we termed as "Customer Responses" as a monthly report. Further, every complaint on product quality was investigated by a joint team comprising of members from PC-M, Refinery and R&D. Each and every complaint was responded to in writing. This procedure also served us immensely well. I can sum up by stating that almost entire improvement in our operations and deliveries has come about primarily because of customer responses. This listing has over 100 responses and is now a valuable chronicle of our learning.

No story on our PTA business would not be complete without a mention of "PTA Convention". It is a trend-setting event designed entirely in-house to thwart a perceived advantage to competitors by coming out with a unique and immensely successful counter move. Our competitors, RIL and MCPI, used to organize an annual all expense paid foreign trip for their customers to exotic destinations such as Phuket, Bali, Tokyo, etc. Customers often used to ask us *"Aap kya karoge? Panipat le jaoge?"* We mulled over this and thought that holding a convention at an Indian destination of international fame reminiscing of country's rich cultural heritage and a strong one-to-one interaction with personal bonding will be equally attractive to such erudite and learned guests. We took a challenge that our conventions should be so elegant and stylish that even the top management/ promoters should feel like attending (which was not the case with the so-called joyous trips organized by the competitors). Accordingly, the first convention was organized at Khajuraho in 2007 and second one at Jodhpur in 2008. In 2009, we organised Customers Meets at 4 metros, culminating with a grand musical evening "Tarang" in New Delhi. All these events have been smash hits. The second one at Jodhpur saw several promoters themselves attending the convention. I can say that, right now, customers eagerly wait for our "PTA Conventions". And same is true for our officers also!!

The most gratifying aspect of our entry into PTA business is that it unlocked entrepreneurship in the polyester industry and polyester capacity grew to completely absorb the domestic availability. Till date, we have not been required to export a single kilo of PTA! It is evident that investors were waiting for IndianOil to enter the market so that they can expand capacity. What an emphatic endorsement of the reputation of this great organization built over five decades!

Thank You, IndianOil! Thank You, India!

Water - The new oil!

Mr. Boone Pickens, Texan businessman, well known oil baron and chairman of the hedge funds BP Capital Management, believes that water is the new oil. He has bought large tracts of land with a vast aquifer, which came into existence millions of years ago in a remote Texan county that spreads over 924 square miles. Pickens believes that in the next 20 years, water will become more precious than oil or grid. This belief set him on the path to acquire water resources and today he owns more water than any other individual in the US, according to Business Week.

IndianOil's Biofuel Story

Bharat Bhushan Choudhary
General Manager
(Biofuels)

Two percent of world's transport fuel requirement is presently met by biofuels. International Energy Agency (IEA) projects that world's biofuel output will grow @ 7% to meet 4% of road transport fuel demand by 2030. Though it is less than 0.5 % in India at present, considering the serious energy security and environmental concerns, there is a great opportunity to leapfrog production as well as commercial use of biofuels during next few years. The enviable no. 1 position that IndianOil holds amongst all commercial organizations in India, puts the responsibility of pioneering biofuels initiatives with this leader in the petroleum industry.

With this background, the concept of formation of a new Biofuels group was discussed in the i2i (Intent-to-Implementation) workshop at IIPM, Gurgaon in July 2006. A presentation was made by BD-PC group to Chairman in August 2006, which led to creation of an independent BD-Biofuels group in October 2006 with posting of three officers. The group approached the task by undertaking analysis of mapping of macro level resources and opportunities with the help of BD Finance group. Later in March 2007, M/s KPMG were engaged to assist in preparation of a suitable business model for launch of Biodiesel initiatives. The recommendations led to amendment of Memorandum of Association (MoA) of IndianOil to include agriculture and related activities in the business ambit of the Corporation. IndianOil's Corporate Affairs and Company Secretary groups extended prompt support in bringing about this change.

During the process of firming up biodiesel business plan, the need to organize a team with appropriate education, experience, motivation and attitude was strongly felt. Corporate HR group charted the path for induction of executives with agriculture, contract farming, rural and agri-business management backgrounds at entry as well as mid level. Premier institutes like IIMA, IRMA, IIFM, MANAGE and XIMB were shortlisted for recruiting officers, starting 2007.

Whereas conversion process for Biodiesel from all kinds of vegetable oils and usage trials have been finalized for Biodiesel, non-availability of economically viable feedstock has been holding back commercial use of this green fuel. IndianOil, therefore, decided to take the lead and initiate large scale plantation of Jatropha on wasteland. Chhattisgarh Government supported our plan and agreed to allocate 30,000 hectares of revenue wasteland, which was the most significant development for the State as well as for IndianOil in biofuel initiatives so far. IndianOil team comprising of Biofuels, BD Finance and Corporate Affairs officials worked round the clock to prepare the background for signing of JV Agreement amongst IndianOil, Chhattisgarh Renewable Energy Development Agency (CREDA) and Govt. of Chhattisgarh in October 2008. This led to the incorporation of the JV Company - 'IndianOil CREDA Biofuels Ltd' at Raipur, Chhattisgarh. In a short period of one year, this JV has created its own milestones in energy crop plantation and is set to scale it up to commercial levels.

As part of the plan for overall value chain, Jatropha plantation has also been started departmentally in Jhabua district of Madhya Pradesh, where revenue wasteland has been allotted for the purpose. Systems and structures for carrying out large scale plantations have been manualised for replication.

At present, the demand of Biodiesel is over a million ton for blending in Diesel sold by IndianOil alone. Therefore, feedstock generation requires multiple partners. A MoU was accordingly signed with M/s Ruchi Soya Industries Ltd. on 10th December 2008 to carry out commercial plantations in Uttar Pradesh with funding support from Government through NREGA. To diversify the feedstock source, species like algae and lemna are also being explored by the scientific community world over. IndianOil R&D and Biofuels group are working in tandem to maintain lead in these areas. A MOU has been signed with M/s Petro Algae LLC of USA on 16th October 2009 to set up pilots under Indian conditions to maintain commercial lead in these and other developing areas. On ethanol front also, IndianOil R&D and Biofuels group are working together to develop concrete plans and partnerships in new area of sweet sorghum based value chain.

Biofuels vision of IndianOil spans from feedstock generation to harnessing all future technologies for maximizing Biofuels use, which will have multiple benefits of energy security, environment protection and rural employment generation.

IOC's Jatropha Plantation (3-months old) in Jhabua, Madhya Pradesh (IOC's total area under plantation in Jhabua is 241 hectares)

Movement of PTA by Rail through CONCOR – A Success Story

Kumud Kumar Sharma
Chief Manager
(Petrochemicals Marketing Operations)
Panipat Petrochemicals
Marketing Complex

IndianOil's integrated PX/PTA (Paraxylene/Purified Terephthalic Acid) project was commissioned at Panipat Refinery during August 2006. Panipat is a land locked location and IndianOil's PTA customers are located mainly in western, eastern, southern and central parts. Large volumes of PTA are required to be moved and inventories are to be built up. Besides movement by open truck, PTA is also moved by rail/road containers. Today, Container Corporation of India (CONCOR) is the only entity having vast infrastructure on all India basis and rail connectivity with almost all PTA customers.

Agreement with CONCOR

IndianOil entered into an agreement with CONCOR during October 2006 for movement of PTA in container by Rail. The agreement provides for end-to-end logistics solution for movement of PTA in Flexible Intermediate Bulk Container (FIBC) bags and bulk liners from IndianOil's PTA warehouse directly to customers' storage point. The containers are sealed within IndianOil's premises and are handed over to the customers in sealed condition in their premises through CONCOR. No coordination is required with any other agency (E.g. Railways, road transporters, terminal handling agencies, etc.).

PTA powder in FIBC bag

Initial Developments at Panipat Refinery

IndianOil already had railway siding at Panipat Refinery for POL products and one of the spur (earlier Bitumen loading platform) has been converted to container siding for PTA loading. IndianOil, in consultation with CONCOR, has set up a container yard with cement concrete block pavement, providing adequate paved space between PTA warehouse and container siding, suitable for handling and storage of empty and stuffed containers. CONCOR has set up exclusive arrangements at PTA terminal for positioning, receipt, storage, handling and dispatch of PTA containers. Besides, lift-on/lift-off from/to rail flats placed at container siding are organized through Reach Stacker, Sling Crane and Dedicated Trailers provided by CONCOR for IndianOil. CONCOR has also provided Domestic Terminal Management System (DTMS) through VSAT at PTA terminal for generation of Inland Way Bill (IWB) and for real time monitoring.

A forklift truck loading FIBC bags into a truck

Operation by CONCOR

CONCOR operations for movement of PTA started during end-September 2006 through CONCOR's Sonepat ICD (Inland Container Depot, 75 kms from Panipat Refinery), pending finalization of agreement and resource mobilization at site by CONCOR. About 400 TEUs (Twenty-feet Equivalent Unit – about 20 tons) of PTA has been moved by CONCOR under this ad-hoc arrangement. Operations commenced at Panipat on 22nd November 2006, when a BLC (Boggy Low Container unit) rake with 90 numbers of 20' containers were placed at our siding.

During last 3 years, IndianOil has moved PTA containers ex-Panipat to PTA customers at Nagpur, Sarigram (Gujarat), Chennai and Haldia. Average movement is in the range of 800-1000 TEUs per month. PTA is also moved by rail to IndianOil's Regional Sales Centre (RSC), Nagpur, which caters to various PTA customers in Maharashtra. Our arrangement with CONCOR will come very handy when PTA exports commence, as most of the Shipping Liners are arranging inland movement of containers upto ports through CONCOR. Regular meetings are held with CONCOR, both at operating and senior level, for ensuring smooth operations and to remove roadblocks, if any. In addition, there is also daily reporting by CONCOR, providing details about position/ placement of rakes.

Path Forward

The agreement with CONCOR has provision for setting up of warehouses at CONCOR's ICD. Discussions are on with CONCOR for setting up PTA-RSCs at Ankleshwar for catering to Gujarat market. Preliminary discussions have also been held with CONCOR for movement of PTA to Pakistan via Wagah border; however, final progress will depend on inclusion of container movement in the protocol between Indian Railways and Pakistan Railways. Possibilities are also being explored to route polymer traffic, on commissioning of Naphtha Cracker Project in 2010, through PTA container siding (by exclusive arrangements) for door-door movements to consumption centers in India and/or ports for exports.

IndianOil's Initiatives in Downstream Polymer Marketing

Ramdas V Prabhu
Chief Manager
(Pectrochemicals Marketing)

IndianOil's Naphtha Cracker and the downstream polymer projects are expected to be commissioned by March 2010, after which marketing of 1.25 MMTPA Polymers would commence, pitting IndianOil directly with big players like RIL, HPL, GAIL, etc.

The polymer business brings in high degree of complexity and challenges due to large no of grades and multifarious applications. An examination of the polymer market clearly reveals extensive use of IT systems to carry out "Order to Cash" process. Issues like establishing market and systemic controls, Customer Relationship Management (CRM), warehouse management, channel management, payment management, field officer management, general information assimilation & dissemination and many other business processes are conducted and controlled online via web enabled systems.

IndianOil plans to have around 60-70 Consignment Stockists, whose transactions would be captured in our ERP system, for which state-of-the-art automation needs to be in place to have a competitive edge. BD-Petrochemicals group along with Corporate Information Systems (CO-IS) group are conceptualizing a web based solution, operating on the backbone of SAP, which would cater to the process requirements of all stakeholders in the value chain and enable them to obtain on-line visibility and carry out online transactions as per the requirement of each individual stakeholder.

Product Application & Development Center (PADC)

Polymer marketing involves a complex structure with multiplicity of grades used for multiple end use applications. With a growing domestic market and increasing substitution of traditional materials with plastics, manufacturers have to strive for development of newer grades. This calls for very high degree of interaction with the processing industry to ensure that grades produced are suitable for processing for various end use applications.

To create this interface, IndianOil is developing a Product Application & Development Center (PADC) at Panipat, which would collaborate with end-user-customers and facilitate use of IndianOil's product in their processing plants. PADC will act as an interface between Polymer Plant, Marketing & Customers and form an integral part of IndianOil's Polymer Group. One of the key functions of PADC would be to offer technical services in the field of Polyolefin product & application development.

PADC would be housed in a 15,000 sq ft floor area building, which would house state-of-the-art processing & testing equipments. The processing equipments would simulate conditions similar to actual processes in the industry. PADC's building architecture has been finalized & formalities to start construction are in full swing. PADC officers have already commenced customer interface to track the latest developments in downstream sector & to understand in detail the product technical requirements. PADC, in conjunction with the marketing team, have already zeroed down on the grade slate for the first six months of operations as well as for the long term, based on technological capabilities & expected market demand in each segment. Provisional technical datasheets, MSDS (Material Safety Data Sheet) are under preparation. PADC is closely working with the project team to assist in finalizing the quality release parameters for the products in line with customers' requirements.

Technical Services

A technical team is already in place and officials have been posted at various key polymer market clusters. They would assist customers to select the right grades, provide technical services, troubleshoot, get inputs from market for development of new grades, assist new entrepreneurs in the industry and interact with process equipment manufacturers. They would act as the first point of contact for resolving technical issues and also would act as an interface between them and PADC.

Paraxylene (Px)/Purified Terepthalic Acid (PTA)

Paraxylene (Px) is produced by reforming and isomerisation of heart cut of Naphtha and is a raw material for production of Purified Terepthalic Acid (PTA). PTA is manufactured at Panipat Refinery by Catalytic Oxidation of Px.

IndianOil had successfully launched PTA in the domestic market in September 2006. Since the middle of 2008, global economic recession & gradual reduction in crude oil prices had its impact on prices of Naphtha, other raw materials & many PTA consuming industries (e.g. Polyester, Films and PET). However, current indications point towards revival, and sales are expected to pick up.

During 14th to 16th Nov 2008, Petrochemical Group organized the 2nd annual PTA customer convention at Jodhpur, Rajasthan. Such conventions provide a common platform for interaction among buyers, sellers, logistics providers & refinery representatives.

Linear Alkyl Benzene (LAB)

LAB is the first petrochemical product marketed by IndianOil (Sep 2004). IndianOil's LAB plant (Koyali, Gujarat) caters to the detergent Industry – major customers are HUL, P&G, Colgate, Henkel, etc. LAB industry has seen extreme volatility in input (Kerosene & Benzene) prices. The market is currently in a state of flux with scaled-down capacities.

Logistics

IndianOil has an ongoing multi-modal logistics contract with CONCOR for movement of PTA from Panipat to different locations. We have bagged the second prize in domestic container movement (~8000 TEUs) from Panipat for 2007-08. Mr. R Mehrotra, CMD, CONCOR awarded the prize on the occasion of CONCOR Consumer Day held at Delhi on 21st November 2008.

Ship Chartering for Petrochemical Exports

Mathew C George
Senior Manager
(Petrochemicals Marketing)

When IndianOil's LAB plant (capacity 12 KTPA) was commissioned in August 2004, India was surplus to the extent of 200 KTPA, necessitating lookout for export markets. LAB marketing was expected to be a nightmare due to a surplus international market too. It was a complete buyer's market, who dictated terms & were used to receiving material at their doorstep. This meant that we had to give CFR supplies (Cost and Freight, where seller arranges vessel and pays freight but insurance is borne by the buyer) in parcel sizes ranging from 1000 to 3000 tons. However, delivered supplies to our buyers in a foreign country was something we were not used to. Though IndianOil had long experience of chartering huge vessels including VLCCs, funnily enough, we had no experience of dispatching a 1000 ton parcel as a part load in a chemical parcel tanker.

There were complexities all round – A ship would have multiple Charterers; Vessel time and cost needed to be allocated between various Charterers; Rules for lay time & demurrage at delivery port needed to be finalized; There were no Indian ships available in this class and therefore foreign flag vessels needed to be chartered after due permissions from the Director General of Shipping; And last but not the least, our loading port was Kandla, which was an extremely busy port with very high chance of incurring demurrage – we needed luck and God's blessings too.

Hurdle number one was to evolve a Chartering Procedure suitable to these type of vessels, including a standard list of Charter Party Clauses, which would protect our interests. The typical Charter Party agreement was heavily biased in favour of the vessel owners and we needed overriding clauses to protect our interests. We studied the market and evolved a suitable Charter Party Agreement, which was concurred by Refinery HQ Shipping group and subsequently approved by the Executive Committee (EC) of the IndianOil Board.

Hurdle number two was empanelling a suitable group of ship brokers, for which we floated an Expression of Interest (EOI). Though the market response to this EOI was quite muted, we managed to empanel 4 brokers, one of whom was Clarksons, the venerable Ship Brokers from UK, who were the largest Ship Broking concern in the world!

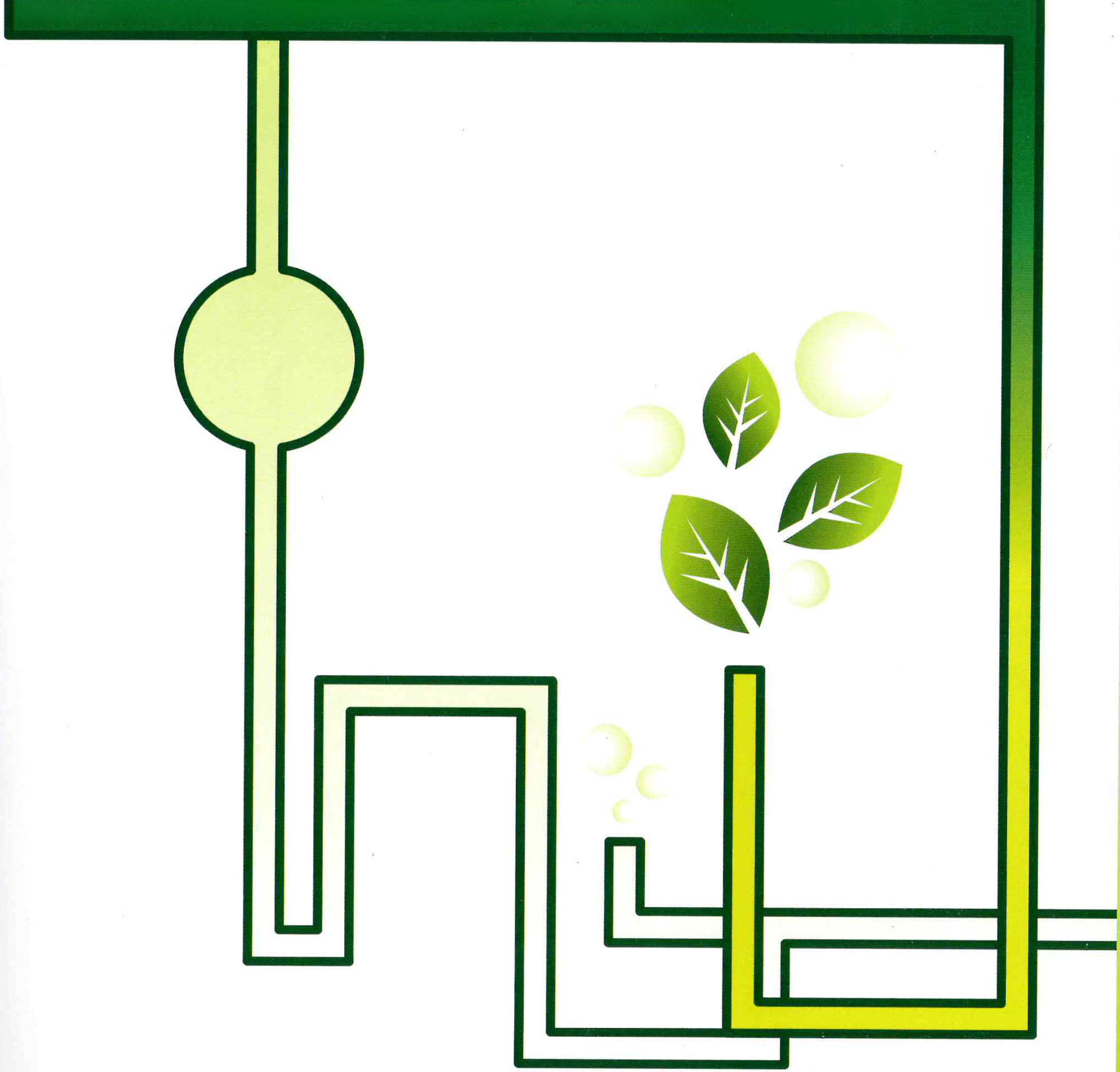
Meanwhile, our marketing team had visited Paris and fixed a deal with Unilever to deliver 1000 MT of LAB to Jakarta, Indonesia during January – March 2005. However, we were not ready with the Vessel Chartering procedures and we ended up dispatching the product in 50 containers of 20 MT each, that too by June instead of the target date of March. Our customer was very understanding and they supported us wholeheartedly to evolve a charter procedure and to charter our first parcel tanker.

We succeeded in getting further orders from Unilever for deliveries during July to September quarter, by which time we were ready with our chartering procedure and Brokers' panel. We finally fixed our first Vessel, MT Southern Imperial, on 20th July 2005 and the whole department watched with bated breath as the vessel was loaded with 1000 MT LAB from Kandla without a hitch and duly discharged its cargo at the port of Tanjung Priok, Jakarta, Indonesia – it was a perfect finale!

Today, LAB exports have become a matter of routine and hardly attract any attention within IndianOil. But those first days were a heady mix of challenges and anxieties, which are difficult to forget. Unforgettable lessons in shipping and commercials were learnt, which today form the backbone of a very successful LAB export market of IndianOil. IndianOil's LAB is today being exported to 13 countries and is a global product in every sense of the word. Needless to say, our LAB plant continues to run at over 100% capacity in a surplus market and our global reputation as a quality & reliable supplier remains impeccable and continues to grow.

Climate Change – Ask the Dinosaurs!

Climate change can be difficult - you could ask the dinosaurs, if they weren't extinct. The prevailing theory is that they didn't survive when a giant asteroid struck the earth 65 million years ago, spewing so much dust into the air that sunlight was greatly reduced, temperatures plummeted, many plants didn't grow and the food chain collapsed. What happened to the dinosaurs is a rare example of climate change more rapid than humans are now inflicting on themselves. . . but not the only one. Research on ice cores and lake sediments shows that the climate system has suffered other abrupt fluctuations in the distant past. The climate appears to have "tipping points", that can send it into sharp lurches and rebounds. Although scientists are still analyzing what happened during those earlier events, it's clear that an overstressed world with 6.3 billion people is a risky place to be carrying out uncontrolled experiments with the climate.



We share the earth not only with our fellow human beings, but with all the other creatures.

– The Dalai Lama

Gas

Milestones

2009

- Formula based pricing for supplies from Ras Gas became effective
- GSA with all customers renewed
- LNG Sale & Purchase Agreement (SPA) signed with Mobil Australia Resources Company, Australia
- Master Re-gasification Agreement Signed with PLL
- Won bid for CGD in Chandigarh, Allahabad & Ghaziabad with Adani Energy Ltd
- Board approval accorded for 50:50 JV with Adani Energy Limited for CGD Projects
- Executed GSA with NTPC for supply of 0.40 MMTPA of R-LNG from Kochi Terminal
- Executed GSA with Gujarat State Petroleum Limited (GSPC) for supply of 2.00 MMSCMD of R-LNG from PLL Terminal

2008

- "LNG At Doorstep" inaugurated by Chairman at H & R Johnson
- MoU with Reliance Gas Corporation Ltd., Oil India Limited & Adani Energy Limited for CGD

2007

- Purchased Design & Engineering package for Re-gasification facility from Chart Industries Inc.
- Ministry of Industries approved formation of Joint Working Group with Petroleum & Explosive Safety Organization (PESO) for study of safe practices in developed countries and for developing guidelines for statutory approvals of "LNG at Doorstep"
- Procurement, erection & commissioning of LNG Truck Loading System & Re-gasification equipments
- LNG Transportation through tankers approved by Chief Controller of Explosive (CCoE)
- GSA with Ratnagiri Gas and Power Private Ltd (RGPPL) for RLNG supply on medium term basis
- GSPA with PLL for purchase of RLNG on medium term basis for 0.50 MMTPA.
- Pooled Price mechanism for sale of RLNG on term basis introduced
- MoU with GAIL for development of CGD jointly in West Bengal

2006

- IndianOil's forays into business of R-LNG from SPOT market against short term contract
- IndianOil Customer base doubled to 20
- Signing of Amendment Side Letter "C" to GSPA between IndianOil & PLL
- Agreement with two Customers for "LNG at Doorstep" facility
- LNG Transportation Contract with Cargo Carriers (India) Limited, Mumbai

2005

- Chart Industries Inc, USA submitted Feasibility Report for LNG tanker loading facilities at PLL
- IndianOil Gas business increased to 1.50 MMTPA
- Green Gas Ltd. – JV between IndianOil and GAIL (India) Limited incorporated for CGD in Lucknow & Agra
- Gas Transmission Agreement (GTA) with GAIL (India) Limited
- Import of LNG storage and transportation tanks from Czech Republic

2004

- PLL's terminal commissioned with 2.50 MMTPA Capacity out of which 0.75 MMTPA of R-LNG marketed by IndianOil
- 1st Gas Sale Agreement (GSA) with Hindustan National Glass & Industries Ltd. (HNGIL)
- IndianOil forays into Gas business on 23rd March by supplying 1st molecule of Gas to HNGIL
- Pilot Project on "LNG at Doorstep" approved
- Agreement with Chart Industries Inc, USA for "LNG at Doorstep" Pilot Project
- MoU executed with GAIL for development of City Gas Distribution (CGD) Projects in Lucknow, Agra & Bareilly

2003

- BD-Gas group formed
- Gas Sale Purchase Agreement (GSPA) with Petronet LNG Limited (PLL) for purchase of RLNG for 25 years, IndianOil has marketing right for 30 % of R-LNG from Dahej Terminal
- Presentation made on 'LNG at Doorstep' to Secretary, MoP&NG

Photo Essay (Gas)

Signing of MoU with Adani Energy Ltd. (AEL) on 8th December 2008 at Mumbai. From L-R: Sh B Dholakia, GM, AEL, Sh R Sharma, CEO, AEL, Sh G Adani, Chairman, AEL, Sh S Behuria, Chairman, IOC, Sh C Dasgupta, ED I/C (Gas), IOC, Sh BM Bansal, Director (P&BD), IOC, Sh VC Aggarwal, Director (HR), IOC and Sh GC Daga, Director (Mktg), IOC

Signing of MOU with GAIL for City Gas Projects in West Bengal on 18th July 2007 at New Delhi. From L-R: Dr. UD Choubey, CMD, GAIL, Sh AK Purwaha, Director (BD), GAIL, Sh BM Bansal, Director (P&BD), IOC and Sh Sarthak Behuria, Chairman, IOC

Signing of MoU with Reliance Gas Corporation Limited (RGCL) on 16th September 2008 at New Delhi. Sh BM Bansal, Director (P&BD), IOC exchanging MoU document with Sh PMS Prasad, Director, RGCL in presence of Sh Sarthak Behuria, Chairman, IOC and Sh VC Aggarwal, Director (HR), IOC

Inauguration of IOC's 'LNG at Doorstep' facilities at H&R Johnson (India) Ltd, Pen near Mumbai on 12th April 2008. From R-L: Sh S Behuria, Chairman, IOC, Sh C Dasgupta, ED I/C (Gas), IOC, Sh GC Daga, Director (M), IOC, Sh V Aggarwal, MD, H&R Johnson, Sh BM Bansal, Director (P&BD), IOC, Sh SS Thomas, Chairman & CEO, Chart Ind. & Sh AP Verghese, ED(LNG), IOC

Signing of Gas Sales Agreement for supply of RLNG to TATA Chemicals Limited (TCL), Babrala, UP on 7th March 2005 at New Delhi; From L-R: Sh K Govindrajan, GM(PC), IOC, Sh GK Ram, SM (Gas-M), IOC, Sh NK Nayyar, Director (P&BD), IOC, Sh PR Menon, MD, TCL, Sh M Grover, Mgr (Gas-M), IOC and Sh K Mehan, COO, TCL

Signing of MoU with Oil India Ltd. (OIL) for Cooperation in North East and other selected States on 16th September 2008 at New Delhi. Sh BM Bansal, Director (P&BD), IOC (at right) exchanging MoU with Sh Ashok Anand, Director (HR &BD), OIL in presence of Sh Sarthak Behuria, Chairman, IOC & others.

My Journey with Business Development Group

Pradeep Chhabra
Former Dy. General Manager I/C (Petrochemicals Marketing)

I spent more than three decades with IndianOil. The decade-old journey with Business Development (BD) group was really wonderful. My association with BD group commenced in 1998, when we were a team, whose size was perhaps less than a basket ball team and when I left in the middle of 2008, it was 150+ and still growing.

My journey was full of excitement, fear and anxiety and of course immense professional and personal satisfaction. Excitement of contributing more to the liquid fuel business, gas and then chemicals and thereafter solids (fine free flowing powder). Fear of competition, which was well established, was pretty formidable and robust, both in Gas and Petrochemicals. It was something like Bangladesh Vs Australia in cricketing parlance. But of course we all together turned the tables and came out winners. In retrospect, we underestimated ourselves because of anxiety arising out of our own internal concerns and the way external stakeholders were raising doubts on our abilities. I remember, during a meeting in the Board room, a very senior bureaucrat taking potshots at us! But the team did it with all the passion and care. We learnt all tricks 'hands on' and from the prospective buyers.

Freedom and space available from the leadership during the journey was unbelievable. What a joy it was, when first Gas Sales Purchase Agreement (SPA) was signed with Hindustan National Glass and a major breakthrough followed when Tata Chemicals & Chambal Fertilizer agreed to source a major quantity. Gas market at that time was a buyers' market and selling gas without any infrastructure of our own was not only a challenge but unbelievable. Travelling to Babrala (Uttar Pradesh) by road, which was almost nonexistent, was backbreaking. I remember vividly, when we were making our first few customer calls, a very senior Board Level executive said "look.....lets discuss something else but gas", as it was difficult for him to fathom/visualize IndianOil in gas business. I was eased out in no time.

Finally the first molecule of regassified LNG was delivered in March 2003. Believe me, it took at least 50-60 meetings (including quite a few late nights) to crack the first agreement. What a wonderful business it has turned out to be!

Moving further, our LAB plant got commissioned dot on time and the quality produced was of world class. (Remember to have been told by a major player in early days that IndianOil should just forget this venture as competition would not let this see the light of the day. Notwithstanding an anonymous fax sent to PMO that IndianOil is wasting public money in getting into chemicals business and they should be asked to stop all the work midway).

Rich compliments were received from more than one buyer. Supply demand balance at that time showed that our entire capacity was surplus and it was perceived that we may not be able to operate our plant to full capacity. Given the trust and transparency, the team was able to establish in the market, rather quickly. Plant was operated to the full capacity from the word go and we never looked back. Securing business of Hindustan Lever, Fena, Ghadi, ahead of time turned out to be the right strategy. First load of LAB was delivered to HUL during September 2004 and the rest is history, when we spread our wings in South East Asia, Middle east and Europe. Exporting a 1000 MT parcel is a different ball game altogether as our brains were wired for bulk business. In a short time of six to eight months, all my colleagues were in driver's seat and competition was learning the tricks of trade from us. Entire value chain of contracting, operations, shipping, logistics and commercial function were handled by a small but an aggressive and talented team. My rich compliments to all of them.

As the business was growing, we realized that we need independent Delegation of Authority (DoA) as Petrochemicals and Oil business are distinctly different. The team developed its very own DoA and Management was too ready to provide whatever was needed.

Let me confess that, thereafter, we discovered that our team was much better equipped and empowered than the competition to conceive and deliver whatever was needed to get the business going. Imagine confirming the deals for exports (worth few million USD) over SMSs. Business model was built on cost, quality, service and logistics and we copied it in next wave.

In September 2006, the first load of PTA was delivered from Panipat in one ton bags to INDORAMA, a major player. Again the supply demand balance was against us, and the competition gave us very little chance of success. No one had handled or even seen the product before. We began with a premise that we may have to export substantial quantity of PTA. Imagine moving one tonne bags from Panipat to various ports. Thanks to the response from the market and our ability to read the customer's mindset, not a bag was exported.

You must read the reactions we received in the first PTA customer meet at Khajuraho. No one believed that public sector can do as much. A colleague, who had joined us from a competitor, was amazed to see what customer care is all about. Allow me to emphasize that talent residing within IndianOil has no match. I can say now with more clarity & authority having seen the world outside.

We did have very low moments of product contamination, strikes by transporters, low realization, etc. In hind sight and in my personal view, not pursuing the LNG terminal at Kakinada was possibly a missed opportunity in building our Gas portfolio. We came so close. Loss of time and effort in not completing India DME project for reasons not attributable to us is another painful memory. Perhaps that is part of business. But each low was an opportunity to enhance the performance to next level, which we all did.

Let me summarize few takeaways from my innings. Customer is the real Boss. Only team can achieve. Bring market to the office and do not take office to the market. Never ape competition, they might be heading for disaster.

Must place on record the excellent support provided by the senior leadership in managing the environment, external stakeholders, competition and of course the team's belligerence.

My good wishes to Mr. B. M. Bansal, who is undoubtedly the founder and creator of Gas & Petrochemicals portfolio of Indian Oil & the entire Petrochemicals and business development team for the challenge ahead in 2010, which is enormous. There is no doubt in my mind that, as always, P&BD group will emerge as winners. I do miss all of you, notwithstanding the painful separation.

Mr. Pradeep Chhabra is currently Head of Petrochemicals and CBM Marketing with Essar Energy.

The First Leap Forward...

Planning & Business Development Group

Room No. 511, Core-2, SCOPE Complex, from where the journey of P&BD began under the stewardship of Shri BM Bansal, the then DGM (BDCS) on 27th January 1995

Lanka IOC Ltd.

Hotel Taj Samudra, Colombo, 'Garden View' room, First office of Lanka IOC (Private) Ltd. (June 2002 – March 2003)

Indian Oil Mauritius Ltd

St. James Court Hotel, Port Louis, First office of Indian Oil Mauritius Ltd., (March 2000 – December 2003)

IOC Middle East Fze

Office of IOC – Representative office on 2nd floor, Al Mossa Tower-1, Dubai (In picture: Mr. Biswajit Roy, Regional Manager, Middle East) IOC Middle East Fze has its roots at this office (June 1998 to June 2007)

Lifetime Achievement

Suresh Chander Gupta
CEO
IndianOil-CREDA Biofuels Ltd.

During a very hot and sultry day of Delhi summer in July 2002, when I was on deputation to Petronet LNG Ltd (PLL) & posted as Chief Manager (LNG), I got a very cool and refreshing email from Lloyd's Register London (LR). Relevant Extracts are given in the box below.

I could not believe that this was true. Further reading of the draft report confirmed that indeed a reputed consultant like Lloyd's Register (LR) had not only endorsed the Logistic Study prepared by me, but also attached my entire report "Logistic Study" including my disclaimer as part of its report. I read the relevant portions of the draft report three times to ensure that I was not dreaming in the hot summer weather. Finally, I was convinced that my late evening works all these days have been fully validated by LR.

Quote: "It must be noted that whilst the Logistic Study is titled 'Preliminary', for all practical purposes the study may be considered as "Final" as all relevant aspects of the project based at Dahej are covered. For the remainder of this report, the term "Logistic Study" refers to the Preliminary Logistic Study prepared by PLL.

This review has involved a detailed examination of the methodology contained within the document, and the calculations applied. LR have also carried out a limited external evaluation using it's own in-house developed and owned marine trade simulation computer program. This program has been used to provide a sensibility check on the results.

Results show that the Logistic Study is broadly accurate and that all recommendations including those relating to overall NG losses are justified. It is found that where assumptions have been made, these have been given a conservative emphasis resulting in conclusions which likewise slightly underestimate the capabilities of the proposed trade system." Unquote

I promptly barged into the room of Mr. Chandan Dasgupta, my immediate boss, and head of Finance in PLL. I told him about the draft report received from LR and their comments. He said "No one was looking at your report, now all consultants will read your complete report. Forward it to ABN AMRO." M/s ABN AMRO was our financial advisor for the project and was helping us to achieve financial closure of the Project.

That night the words 'Logistic Study - final and broadly accurate' and 'all recommendations including on complicated issues relating to overall NG losses are justified' were dancing in front of my eyes. These were perhaps the happiest moments of my life! After minor modifications, the draft report was converted into Final report, which was issued by LR on 28th August 2002.

The beginning of this story can be traced back to January, 1997, when I was asked to report to DGM (Business Development), Gas Authority of India Limited (GAIL). GAIL was working to set up a new and challenging project to import Natural Gas in liquid form to meet the growing energy needs of the country. On 2nd April 1998, a new Joint Venture Company, Petronet LNG Limited (PLL), promoted by IndianOil, ONGC, BPCL and GAIL, was incorporated. The main objective of PLL was to import LNG, setup LNG re-gasification terminal and supply re-gasified LNG (RLNG) to major consumers in the country.

Like any other player in LNG business, PLL was in the process of setting-up 5 MMTPA LNG terminals at Dahej, Gujarat and had signed a number of long term agreements. PLL signed many 25-year agreements – LNG Sale Purchase Agreement to purchase LNG from Ras Gas-Qatar; Time charter agreement with Mitsui O.S.K. Lines Ltd. led consortium to transport LNG from Qatar to India; Gas Sale Purchase agreement with IndianOil, GAIL and BPCL. PLL signed various other contracts with foreign and indigenous parties for setting up LNG terminal at Dahej. Earlier in India, signing of such long term contracts without exit clause with "Take or Pay" liability was never heard of. Due to the long term nature of these contracts and huge capital involvements, the lenders wanted a logistic study by an internationally reputed consultant to satisfy themselves that PLL would be able to perform its obligations properly and effectively. ABN AMRO told us that Logistic Study covering all aspects is a must for financial closure.

In those days, I was involved in the process of finalizing the Gas Sale Purchase Agreements between PLL and it's off takers (i.e. IndianOil, GAIL and BPCL), during which, I had already carried out a logistic study to rule out the possibility of any mismatch between various agreements.

I approached Mr. Chandan Dasgupta "Sir I can prepare the Logistic Study as desired by ABN AMRO? This study is similar to 'Material and Energy Balance', where each part of Material and Energy is accounted for in any process. In the same way, we need to account for each part of LNG. Material and Energy balance was my favorite subject at IIT Delhi and I was a topper in this subject." He said "Who will believe your study? We are talking of international lenders like ADB!" I said "We can complete the study & get it vetted by an internationally reputed consultant." He supported me fully and I completed my logistic study, where each aspect of the project for purchase of LNG, transportation from Qatar to India, re-gasification, arrangement of ship owners, etc. were studied.

This task was difficult because LNG by its nature is highly volatile and it keeps on boiling right from the time of its loading (and also during its laden and ballast voyages). LNG boil off vapor is also used in the re-gasification terminal and also by the LNG ships during its voyage as fuel. A very detailed simulation model was prepared in MS-Excel. Date-wise detailed calculations showing Daily Contract Quantity, Minimum and Maximum Gas Quantity, which could be delivered as per contracts, Properly Nominated Daily Contract Quantity, LNG stocks in LNG ships, in LNG terminal storage tanks, losses incurred or gas consumed and Gas Delivered quantity were made for three years from 1.1.2004 to 31.12.2006. Loading of first LNG ship was assumed on 1.1.2004.

Three year period was considered to take care of dry docking impact on LNG ship. LNG Ships were designed for dry docking after every 30 months for inspection and major repairs. Detailed sensitivity analyses to take care of higher or lower gas off-take and maintenance activities etc. were also covered. Optimisation study for reducing LNG losses, as per my simulation model, suggested the need for higher ship speed during laden voyage (Ship journey with full LNG cargo) and lower ship speed during Ballast voyage (Ship journey with heel quantity of LNG during return journey). LNG cargo is usually not unloaded fully and some LNG quantity called 'heel quantity' is intentionally kept in ship's LNG storage tanks to keep LNG ship in cold condition. Otherwise, cooling process before loading of very cold LNG can take up to 3 days. It was a pleasant surprise for me to find out that LNG industry actually follows the same practice of higher ship speed during laden voyage and lower ship speed during ballast voyage.

After completing my logistic study, it was given to Marspec (Risk Management Marine Division of Lloyd's Registrar of Shipping, London). They were also advisors to EXXON-MOBIL and Ras Gas for their LNG projects. Their experts came to India and perused all our contract documents. I also visited London and had detailed discussions with their team members. During all these deliberations, they never gave any indication about their acceptance or disagreement with my logistic study and views expressed by me. However, I was fully confident about my calculations, for all areas except ship related areas. I was less certain for Ship related assumptions, as I had taken lot of information from various consultants and Gaz De France, the major Oil and Gas PSU of France and our Technical Advisor. In order to protect myself from some blunder, I also added a Disclaimer and also titled the study as "Preliminary Logistic Study". However, the final report dated 28.08.2002 from LR proved that my study was complete and broadly accurate. It was a great shot in my arm and is like a lifetime achievement award for me. The process of preparing in house logistic study and getting it vetted also resulted in saving of more than one Crore rupees for PLL!

Relationship Marketing – Success Mantra in Gas Business

Sanjay Manchanda
Dy. General Manager
(Gas Management)

"Customer relationship is the key to any marketing strategy", and IndianOil has implemented it in true word and spirit in its Natural Gas (NG) business. IndianOil forayed into NG on 23rd March 2004. IndianOil has 12.5 % equity in Petronet LNG Limited (PLL) and it started marketing 30% of LNG procured by PLL from Ras Gas under a long-term agreement. Due to capital intensive nature of Gas business, it is normal international practice to sign long term contracts with stakeholders with strict provisions of "Take or Pay" (TOP), "Ship or Pay" and "Liquidated Damages". Excellent customer relationships of IndianOil ensured "NIL" penalties during last 65 months of NG business despite the fact that many customers fall under 'TOP' category.

Marketing NG without one's own pipeline network (IndianOil does not own any pipeline network) was a big Challenge. However, goodwill enjoyed by IndianOil with all its NG stakeholders (i.e. PLL, GAIL & Customers) has helped itself to market not only the contracted quantity, but also the spot gas procured from PLL. Further, IndianOil has been able to increase its customer base by more than four times as compared to 2004 resulting in increase in sales to 2 MMTPA. Revenue from NG sale have reached Rs 3101 crore for FY 2009-10 from Rs 676 crore in 2004-05. Excellent achievements for any business!

Jay Prakash Misra
Senior Manager (LNG)
(BD-Gas)

'LNG at Doorstep' – A New Beginning

The concept 'LNG Virtual Pipeline' – since called "LNG at Doorstep" – essentially means delivery of large quantity of natural gas to any location without any pipeline connectivity. The concept first took shape in the year 2002, under the aegis of the then Managing Director of erstwhile IBP Co., Shri. Arun Jyoti. The concept was formalised by the Cryogenic Division of IBP and began to take shape in the same year, when detailed workings of the project were commenced. The project was then discussed with the Management of Petronet LNG Ltd (PLL). Senior officials of PLL also visited the Cryogenics Division at Nasik to obtain first hand knowledge of the group's capability in handling the project and available infrastructure facilities. Presentations were also made to Secretary, MoP&NG and other officials, who found the concept attractive and granted approvals, as it would ensure availability of Natural Gas to consumers located far away from the main pipeline.

Site facilities at H&R Johnson Ltd, Raigarh, Maharashtra – Superior design of the system with the latest gadgets provide trouble free re-gasification

In the year 2004, the Board of erstwhile IBP Co. Limited approved the proposal by granting budgetory sanctions of about Rs. 11 crore for industrial and captive power applications and Rs. 4 crore for LNG project for automobile applications. The major stumbling block was to convince potential customers (about the new concept of delivering LNG at doorstep), who had to invest about Rs. 1.5 crore for developing on site re-gasification facilities. This hurdle was soon overcome with dedicated efforts of the LNG group. Being the first project of its kind in the country, there were no laid-down guidelines for safety, handling and road transportation of LNG. These issues were again sorted out with close coordination with the Department of Explosives. On-site re-gasification facilities were developed using in-house experience as well as the expertise of M/s Chart Industries, USA.

LNG Loading in progress: Concealed operation eliminates pilferage & adulteration

During August 2007, PLL commissioned tanker filling tap-off facility, following which supply of LNG by road commenced on 9th August 2007 to M/s Schott Glass India Ltd, Jambusar, Gujarat and to M/s H & R Johnson Ltd. Raigarh, Maharashtra. It was like a "Dream Come True" for the entire BD-Gas team.

City Gas Activities in India

Sl.	Cities	Company	Company incorporated in
1.	Delhi	Indraprastha Gas Limited (JV of GAIL and BPCL)	Dec 1998
2.	Mumbai	Mahanagar Gas Limited (JV of GAIL and British Gas)	May 1995
3.	Lucknow & Agra	Green Gas Limited (JV of GAIL and IOC)	Oct 2005
4.	Kanpur	Central UP Gas Limited (JV of GAIL and BPCL)	Feb 2005
5	Hyderabad, Vijaywada	Bhagyanagar Gas Limited (JV of GAIL & HPCL)	Aug 2003
6	Ahmedabad	Adani Energy Limited	Jan 2004
7	Surat, Ankleshwar, Bahruch	Gujarat Gas Company Limited (A Company controlled by British Gas, UK)	1988
8	Tripura	Tripura Natural Gas Company Limited (JV of GAIL, Govt. of Assam and Govt. of Tripura)	July 1990 /restructured and inducted GAIL in Feb 2005

Contd....

Key Challenges in Gas Sourcing

Sudershan K Satija
Dy. General Manager
(BD-Gas)

The concept of Gas Sourcing, which precedes Gas Marketing activity, was born in IndianOil in 1996, when IndianOil imported Liquefied Natural Gas (LNG) to bridge the demand supply gap of natural gas in India. Since then, a number of initiatives have been under taken by Government of India and various organizations to put India on the world LNG map. These efforts got a major boost in the year 1999 with the execution of a LNG Sale and Purchase Agreement (SPA) for purchase of 5 Million Metric Tonnes per Annum (MMTPA) from Qatar. However, it took another 5 years for the first LNG parcel to arrive in India and in January 2004, the first LNG cargo was unloaded at Dahej LNG Terminal. Import process of LNG is a long drawn procedure and is beset with manifold challenges. Some of the challenges faced by India in general and IndianOil in particular during the last decade are worth mentioning.

LNG Sourcing Process – A paradigm shift: IndianOil has succeeded in securing 2.7 MMTPA of LNG through its Joint Venture Company, i.e. Petronet LNG Limited (PLL). PLL followed a transparent International Competitive Bidding (ICB) process and selected RasGas in 1999 for supply of 5 MMTPA LNG at Dahej. Thereafter, the concept of ICB was thought of as an ideal process and IndianOil also initiated the ICB process for sourcing LNG for its proposed LNG Terminal and also for utilising the spare capacity of Dahej Terminal of PLL. Unfortunately, there was no response and the process had to be discontinued. However, there had been a paradigm shift from the process of ICB to one-to-one negotiation process. In the year 2005, IndianOil, GAIL and BPCL negotiated and executed LNG SPA with Iran for supply of 5 MMTPA LNG. Recently, ExxonMobil and PLL have entered into 20-year LNG SPA for supplies from Gorgon Project in Australia. The process started as a one-to-one negotiation but changed to a form of 'Auctioning', i.e. PLL was required to quote 'price' and 'quantity' and ExxonMobil evaluated PLL's quote vis-à-vis quotes received from other potential buyers. The deal that would bring maximum value to ExxonMobil was finalized and executed. The challenge is to adapt to the contemporary models considering global scenario and future domestic supply (availability) and demand projections.

Discovery of Domestic Gas - Review of Demand-Supply Gap: Discovery of large natural gas reservoir in deep offshore waters of Krishna Godavari Basin near Kakinada in Andhra Pradesh on 31st October 2002 by Reliance Industries Limited has shifted the entire demand-supply equation onto a different plane. The Report of the Working Group on Petroleum and Natural Gas for the XI Plan (2007-2012) indicates the requirement of LNG import to the extent of 23.75 MMTPA by 2011-12. The future demand projections and accordingly the sourcing strategies have to consider enhanced availability of gas from domestic sources. The challenge is right projection of supply/demand scenario prior to sourcing LNG to avoid unbalanced situation, which could have severe financial implications.

Price Structure for import of LNG: LNG has to compete with its alternate options viz. domestically available gas and other fuels, on the basis of price. Demand of LNG in future would, therefore, depend on the competitive price of LNG and its alternate options. The challenge is to forecast prices of the alternate fuels that would compete with natural gas.

City Gas Activities in India (Contd...)

Sl.	Cities	Company	Company incorporated in
9	Duliajan, Digboi, Dibrugarh, Moran, Naharkatiya, Sivasagar, Nazira, Simaluguri and Tinsukia Town	Assam Gas Company Limited	March 1962
9	Pune	Maharashtra Natural Gas Limited (JV of GAIL and BPCL)	Jan 2006
10	Indore / Madhya Pradesh	Aavantika Gas Limited (JV of GAIL and HPCL)	June 2006
11	Gandhinagar, Mehsana & Sabarkantha (in Gujarat)	Sabarmati Gas Limited (JV of Gujarat State Petroleum Corporation Limited and BPCL)	June 2006
12	Rajkot, GandhiNagar, National Highways in Gujarat	Gujarat State Petroleum Corporation Limited	2006
13	Ahmedabad	HPCL	2006
14	Vadodra	GAIL	1969-70

IndianOil's Entry into Gas Sector

GK Ram
Chief Manager
(Gas Marketing)

India is a net importer of almost all forms of commercial energy. This fact, coupled with the growing energy needs, has intensified discussions on energy security for the country. The Government is actively seeking private participation in the energy chain and is also promoting acquisition of oil & gas acreages overseas. Private interest in captive coal mining, oil & gas exploration and power sector has increased manifold and is also envisaged in the nuclear sector, after the Indo-US nuclear deal. There is also a shift towards market mechanisms with regulatory oversight in energy sector, especially in power, oil & gas. It is important that this transition is gradual till the supply position improves.

Natural Gas Sources, Marketing & Utilization

Source: Most of the gas comes from the western offshore areas. The on-shore fields in Assam, Andhra Pradesh and Gujarat are other major sources. Smaller quantities of gas are also produced in Tripura, Tamil Nadu and Rajasthan.

Marketing: Gas produced by ONGC and a part of gas produced by the ONGC JV consortia are marketed by GAIL. OIL markets its own Gas except in Rajasthan, where GAIL does it. Cairn Energy (Lakshmi fields), Gujarat State Petroleum Corporation Ltd. (GSPCL) (Hazira fields) & Reliance Industries (K-G basin) market their own gas.

Utilization: Gas produced in the western offshore fields is brought to Uran (Maharashtra) and partly to Gujarat. At Uran, it is utilized in and around Mumbai. At Hazira, the (sour) gas, after sulphur removal, is partly utilized at Hazira and the rest is fed into the Hazira-Bijaipur-Jagdhishpur(HBJ) pipeline, which passes through Gujarat, Madhya Pradesh, Rajasthan, UP, Delhi and Haryana. Gas produced in Gujarat, Assam, etc. is utilized within the respective states.

On a parallel level, Government is making efforts to diversify the energy basket by increasing share of Natural Gas (NG). Gas discoveries of around 700 billion cubic meters (bcm) in the last decade point towards its tremendous potential. While in the near term, potential for Liquefied Natural Gas (LNG) may be limited due to inability of key sectors (such as power) to absorb high international prices, in the long term, NG would be a pre-eminent energy source due to its multifarious advantages viz. environment friendliness (vs. traditional liquid fossil fuels), greater efficiency, cost effectiveness, etc. That's why it is being termed as the fuel of the 21st Century!.

Import of Natural Gas through Trans-national Gas pipelines

Iran-Pakistan-India (IPI) Pipeline project, which envisaged supply of gas from Iran to Pakistan and India through a transnational pipeline, would go a long way in meeting the energy security needs of the two countries.

Turkmenistan-Afghanistan-Pakistan (TAP) Pipeline Project: Daulatabad area of Turkmenistan has reported to have sufficient gas reserves. The Governments of Turkmenistan, Afghanistan and Pakistan proposed the transnational gas pipeline to exploit the available gas reserves in Turkmenistan.

On the demand side, an emerging area is auto-CNG and piped gas, which together accounted for 7% of total gas demand in the last five years. At least 30 cities have been identified for city-wide gas coverage by private and public sector players. Gas pipeline policy also supports development of a national gas grid, meant to create a common gas market across the country.

IndianOil's forays into Gas Business

IndianOil has marketing rights for 30% Re-gasified LNG (RLNG) from Dahej terminal of Petronet LNG Ltd (PLL). The run up to 23rd March 2004, when the first gas molecule was delivered to our customer, has been full of excitement. All of us were new and had no background/training and we were given the job to tie up with customers! It was a great challenge. We attended most of the negotiations in finalization of agreements with PLL, which was a great learning for all of us.

On one side, we had to convince the customers about the advantages of supporting IndianOil in gas business and on the other side, we had to handle tough stand of the competitors (competitors then used threaten customers that they will stop gas, if they go with IndianOil, as they controlled the pipeline). At some point of time, even customers expressed that they cannot go with IndianOil, as GAIL would stop supplies. Initially, we targeted those customers with large requirement (e.g. Chambal Fertilisers, Hindusthan National Glass, Essar Steel, etc.). It was ensured that IndianOil, as a gas supplier, should have presence along the pipeline in the States of Gujarat, Madhya Pradesh, Rajasthan, UP and Haryana.

The long drawn battle continued, as we had no customer on board till December 2003. By the 1st week of March 2004, the entire allocated quantity was sold out before others could do so. Here it is pertinent to mention that IndianOil's Divisional Offices and Marketing Division, HO have extended whole hearted support at every point, whenever discussions were held with customers.

What made the difference? Perhaps IndianOil's brand and organizational image in the market, the ease with which IndianOil could be approached, ability of IndianOil to deliver at the crunch time, IndianOil's portfolio, which includes gas and liquid fuels, etc. In addition, due to our flexibility in approach and the comfort provided in the agreements, customers have started showing inclination come to IndianOil.

The first Gas Sale Agreement (GSA) was signed on 14th January 2004 with Haryana Sheet Glass. It was 10.30 AM. All of us reached the customer's plant in Sonepat (Haryana) and the agreements were placed on the table for signatures. Suddenly, the customer receives a fax from a competitor with a message that their delivered price is lower than IndianOil's. In spite of this, determined efforts by IndianOil Officers to convince the customer fructified and finally the agreement was signed at about 1300 hrs, a delay of about 3 hours! Such incidents have happened at every stage in our efforts to tie up with customers.

Liquefied Natural Gas (LNG)

Natural Gas, at (-) 1610C, transforms into liquid & volume shrinks by a factor of 600, enabling easy storage and transportation. LNG is transported in specially built ships with cryogenic tanks. It is received at LNG receiving terminals and re-gasified for supply as Natural Gas. LNG projects are highly capital intensive & the whole process consists of five parts.

- Dedicated gas field development and production
- Liquefaction plant
- Transportation in special vessels
- Re-gasification Plant
- Transportation & distribution

LNG supply contracts are generally 'long term' and prices are linked to international crude oil prices. However, LNG importing countries, in recent times, have started asking for medium/short term contracts with varying linkages. Petronet LNG Ltd. (PLL, a JV of GAIL, IOCL, BPCL and ONGC) commissioned a 5 MMTPA LNG terminal at Dahej (Gujarat) in February 2004 (now expanded to 10 MMTPA) & commercial supplies commenced in March 2004. Price of LNG ex-Dahej is linked to the JCC (Japanese Crude Cocktail – the basket of crude oils used as a basis for gas-pricing) crude oil price. It has a fixed price for the first five years, i.e. upto December 2008 and a floating floor and ceiling price thereafter.

The second most interesting signing of GSA was with Gujarat State Petroleum Corporation Ltd. (GSPC). It was signed at 2345 hrs on 12th February 2004 - the next day being FRIDAY the 13th!

Customers' reactions, when we entered the Gas market for the first time:

Negative:

- You people made our life miserable in the liquid fuel business.
- You are primarily liquid fuel marketer, what do you know about gas business?

Positive:

- Good to see IOCL in Gas Business.
- At least the existing gas players will start giving respect to the customers.
- We will support you whole heartedly.

Then came the D-DAY, the commencement of RLNG supplies. We had intimated the gas transporter about the list of customers well in advance. However, they commenced supplies to other customers and not to our customers on the same day. The issue could be resolved only after intervention by the Ministry, and the first gas molecule was delivered to Hindustan National Glass, Bahadurgarh, Haryana in the evening on 23rd March 2004. The rest is history.

The next major issue was Spot Gas, additional gas brought by PLL. Here also IndianOil stood apart from the competitors in its marketing efforts, which enabled us to sell our quantity much before our competitors.

IndianOil has the potential to establish itself as one of the major gas marketers in the industry in view of the faith reposed by the customers because of our continued efforts to satisfy their needs. Now, we are into 5th year of operations, the business has grown from Rs 676 crore (2004-05) to Rs 3101 crore (2009-10). This is still 'Just the Beginning'.

Interesting Energy Facts

- *Antarctica holds enough fresh water to raise sea levels by 57 feet. Even a limited glacier melt could be disastrous.*
- *Using a wind-up alarm clock instead of an electric one can save 48 grams of CO2 a day.*
- *Using one CFL (compact fluorescent light) instead of a regular light bulb can reduce 225 kg of CO2 emissions per year.*
- *As per The UN, it is possible to save 2 million tonnes of CO2 emission, if every airlines passenger keeps the baggage weight to less than 20 kg.*
- *Jog in the park instead of the treadmill to cut CO2 emissions.*
- *Nuclear power produces 78% of all of France's electricity- more than in any other country.*
- *Solar water heaters can save up to 1,500 units of electricity a year.*
- *Keeping enough space around refrigerators for air circulation saves energy.*
- *Setting computer monitors to sleep mode, when not in use, cuts energy costs by 40%.*

IndianOil's Foray into City Gas Projects

Md. Aquil Ahmad
Dy. General Manager
(BD-Gas)

Over the years, Natural Gas (NG) has emerged as a 'fuel of choice' across the world. Natural Gas has replaced traditional fossil fuels due to its characteristics of 'environment friendliness' (as against liquid fossil fuels) and 'economy'. While NG is widely used as a fuel for city energy needs worldwide, in India, use of NG has been traditionally restricted to power and fertilizer sectors due to its limited availability and lack of clarity on regulatory issues with regard to local distribution.

Growing environmental concerns due to emission resulting from use of liquid fossil fuels and Hon. Supreme Court's intervention resulted in accelerated use of Compressed Natural Gas (CNG) for City Gas Distribution (CGD) and as auto-fuel. Mahanagar Gas Limited (MGL) and Indraprastha Gas Limited (IGL) were incorporated for taking up CGD projects in Mumbai (1995) and Delhi (1998) respectively.

On 5th April 2002, Hon. Supreme Court directed Government of India to take measures to reduce pollution in identified cities viz. Lucknow, Agra, Kanpur, Pune, Faridabad, Patna, Varanasi, Jodhpur and Jharia. On 19th August 2003, Supreme Court once again directed the Government of India and the concerned State Governments to draw up action plans for introduction of alternative transport fuels in Ahmedabad, Kanpur, Sholapur, Lucknow, Bangalore, Chennai, Hyderabad, Mumbai and Kolkata. Consequently, MoP&NG envisaged setting up of separate Joint Venture (JV) companies for CGD in each State / city with GAIL as a common partner and one of the Oil Marketing Companies (OMCs-IOC/BPC/HPC) as the other partner.

IndianOil began its foray into CGD business in October 2005 with incorporation of a JV named 'Green Gas Limited' (GGL) with GAIL for CGD projects in Lucknow and Agra. However, MoP&NG modality of a JV between GAIL & one OMC was discontinued with setting up of Petroleum & Natural Gas Regulatory Board (PNGRB) in October 2007, which had the mandate to regulate development of CGD projects, besides regulating other areas of Petroleum & Natural Gas activities. Accordingly, to speed up various CGD projects across India, during 2008-09, IndianOil signed MoUs with GAIL India Ltd, Reliance Gas Corporation Limited (RGCL), OIL, Adani Energy Limited (AEnL) and ONGC.

The first round of bidding for developing CGD projects in Meerut, Sonepat, Kota, Devas, Kakinada and Mathura was held by PNGRB during November 2008. IndianOil, along with AEnL, jointly submitted bids for Meerut, Sonepat, Kota and Devas, but failed to win any. For the second round, IndianOil-Adani consortium submitted aggressive bids for Chandigarh, Allahabad, Ghaziabad & Rajahmundry and won bids for 3 cities viz. Allahabad, Ghaziabad and Chandigarh. On 30th November 2009, IndianOil Board approved formation of JV with AEnL (50:50 basis) for developing CGD projects in these three cities. The Board also approved an equity contribution on behalf of IndianOil to the extent of Rs. 220 crore. The total project cost is estimated to be Rs.1320 crore over a period of ten years. Owing to certain legal cases pending before the Hon. High Court of Delhi, a formal authorization is yet to be issued to the consortium by PNGRB. Once this authorization is granted, IOC-AEnL JV would be incorporated.

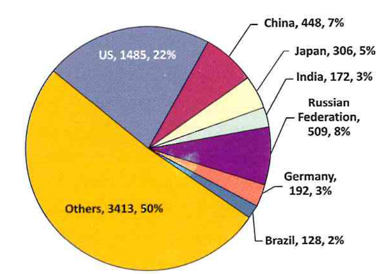
USA - World's Largest Oil & Gas Consumer

USA is the largest Oil & Gas Consumer in the world.

Oil: At 885 MMTPA (2008), USA's share of world oil consumption was 22.5%, about 2.5 times that of the next largest oil consumer, China (376 MMTPA, 9.6% of world); 4 times that of Japan (222 MMTPA, 5.6% of world, 3rd largest) and 6.6 times that of India (135 MMTPA, 3.4% of world, 4th largest).

Gas: USA consumed largest quantity of gas as well - 600 million ton oil equivalent (mtoe) in 2008, 1.6 times that of Russian Federation (378 mtoe, 2nd place, 14% of the world), 8.3 times that of China (73 mtoe, 8th place, 2.7% of the world) and 16 times that of India (37 mtoe, 17th place, 1.4% of world).

Oil+Gas Consumption (mtoe) (2008)



(Country, Oil & Gas consumption in million ton oil equivalent (mtoe), % of world)

Source: BP Statistics

Treat the Earth well. It was not given to you by your parents. It was loaned to you by your children.

– Kenyan Proverb

BD-Marketing & BD-Refineries & Pipelines

BD-Marketing

Milestones

1998
- BD-Marketing group formed
- Regional Offices opened in Kuwait, Malaysia & Dubai

1999
- M/s Baraka Ltd. appointed as Servo Lube Distributors in Bangladesh

2000
- M/s David Pieris Motor Co. appointed as Servo Lube Distributors in Sri Lanka
- Regional Office opened in Mauritius

2001
- Export of packed Bitumen to Bangladesh
- IndianOil Mauritius Ltd. incorporated on 24th October

2002
- IndianOil bagged award for export of 0.5 MMT HSD to Sri Lanka
- IndianOil enters downstream petroleum business in Sri Lanka
- Lanka IOC (P) Ltd. incorporated on 29th August
- Export of Bulk Bitumen to Bangladesh/China

2004
- Memorandum of Understanding (MoU) signed with Galana Africa Ltd. for acquisition of Galana's assets in Madagascar
- MoU with Nepal Oil Corp. for setting up JVC for laying Raxaul-Amlekganj pipeline

2006
- Memorandum of Collaboration (MoC) with PT Medco International Tbk, Indonesia for joint collaboration in downstream sector
- MoU with Saudi Aramco for acquisition of Aramco's assets in Petron, Phillipines
- Export of Group II LOBS to Pakistan State Oil, Pakistan
- Dubai Regional Office converted to a Wholly Owned Subsidiary (IOC Middle East Fze.)

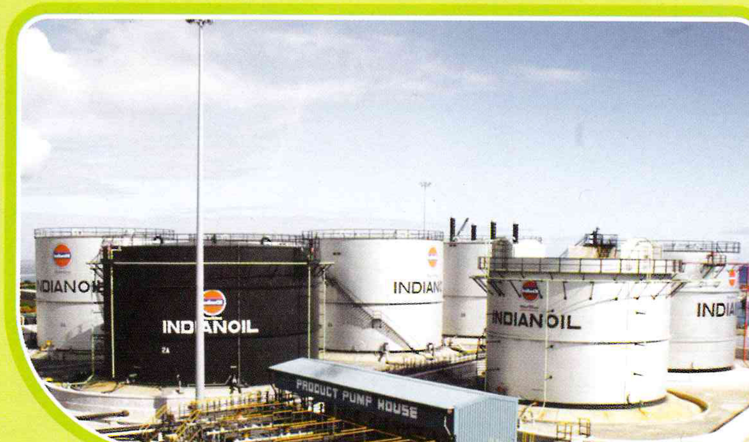
2007
- MoU with Calik Energy for collaboration in downstream sector in Turkey
- Export of LOBS to Dubai

Photo Essay (BD-Marketing)

Signing of MOU between Govt. of India and Govt. of Mauritius at Port Louis, Mauritius leading to creation of IndianOil (Mauritius) Ltd. on 18th July 2000. Sh Ram Naik, Hon. Minister of P&NG, Govt. of India exchanging MoU document with Hon. Mr. Rajkeswur Purryag, Deputy Prime Minister & Minister of Foreign Affairs & International Trade, Govt. of Mauritius.

Foundation Stone Laying Ceremony of IndianOil (Mauritius) Ltd (IOML) Bulk Oil Terminal at Mer Rouge, Port Louis, Mauritius (12th April 2002. From L-R: Mr. R Sareen, MD, IOML, Hon. Mr. A Jugnauth, Prime Minister, Rep. of Mauritius, Hon. Mr. AR Bundhun, Vice President, Rep. of Mauritius and H.E, Mr. Vijay Kumar, High Commissioner of India to Mauritius.

Visit of Mrs. Nirupama Rao, current Foreign Secretary, Government of India to Lanka IOC, when she was India's Ambassador to Sri Lanka



Panoramic View of IndianOil (Mauritius) Ltd. Terminal at Mer Rouge, Port Louis, Mauritius

Milestones

2009

- Hosted Energy Security Meeting under the Chairmanship of Additional Secretary, Ministry of External Affairs (MEA)
- Commissioning assistance to ENOC, Dubai for CCR & Naphtha Hydro-Treater Units

2008

- Conducted Pre-feasibility study for upgradation of Thanbaykan Petrochemical Complex in Myanmar
- Hosted India-South Africa Joint Working Group Meeting on Hydrocarbon and India-Yemen Joint Technical Committee Meeting

2007

- Bid for operation and upgrading of Ras Lanuf Refinery of National Oil Corporation (NOC), Libya, under JV with NOC
- Provided commissioning assistance to Oman Refinery Company for Isomerisation Un

2006

- MoU with United Oil Projects Company, Kuwait, for cooperation in upstream/downstream oil & gas activities
- TSA with Oando Plc, Nigeria for providing technical services to Port Harcourt Refinery
- MoU with Kuwait Petroleum Corporation for cooperation in upstream/downstream oil & gas activities
- Agreement with Eni International B.V. of Italy and Calik Enerji of Turkey for acquisition of 12.5% equity stake in Samsun-Ceyhan project at Turkey jointly promoted by Eni and Calik
- MoU with China Petrochemical Corporation for cooperation in projects worldwide

2005

- Agreement with Axens S.A., France, for start-up related services to Axens' customers
- First major overseas acquisition attempt for acquisition of controlling stake in Turkish Petroleum Refineries Corporation (TUPRAS)
- MoU with Calik Enerji, Turkey for cooperation in downstream oil & gas activities in Turkey

2004

- MoU with HPCL for cooperation in upstream & downstream business opportunities
- MoU with Edo State Government of Nigeria for setting up a refinery in Edo State

2003

- Agreement with PII for jointly bidding for turnaround maintenance of Port Harcourt Refinery in Nigeria
- Bid for shutdown inspection/maintenance services to GASCO
- Feasibility study for upgradation of Thanylin refinery, Myanmar
- Bid for upgradation of Tehran/Tabriz refineries in Iran

2002

- Agreement to provide on-site Software Consultancy & Services to ENOC, Dubai
- Commercial Bid to Abu Dhabi Gas Industries Ltd. (GASCO) for warranty shutdown job
- Agreement to provide Consultancy Services to Oman Refinery Company
- Bid for Operation & Maintenance Services for Sohar Refining Company LLC, Oman

2001

- JV with ONGC for Training, Consultancy & Services

1999

- BD–Refineries & Pipelines group formed
- Agreement with NRL to assist in commissioning of NRL Hydrocracker Plant
- MoU with IPCL to participate in Petrochemicals and Refining sector
- MoC with L&T for cooperation in projects in India and abroad
- MoU with Bahrain Training Institute (BTI) to provide training services in Bahrain

1998

- Agreement with Reliance Petroleum Ltd. for providing training
- MoU with Madras Refineries for cooperation in hydrocarbon downstream business
- Manpower secondment Agreement (MSA) with ENOC, Dubai

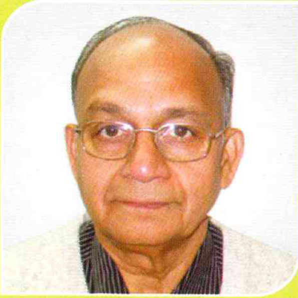
1997

- MoC with Trinidad & Tobago National Petroleum Marketing Co. Ltd. (NPMC) for training and consultancy services
- Agreement with Numaligarh Refinery Ltd. (NRL) for training on Hydrocracker Plant
- Technical Services Agreement (TSA) with Emirates National Oil Company (ENOC), Dubai

1996

- Memorandum of Collaboration (MoC) with Petronas Penapisan (Melaka) for co-operation in upstream/downstream sector

IndianOil's Entry into Sri Lanka's Petroleum Sector



Raj Kumar Gupta
Former General Manager (BD-Marketing)

During March 2002, Mr. N. K. Nayyar, the then Executive Director (International Trade) and I visited Sri Lanka to scout for opportunities for export of IndianOil's surplus petroleum products. During discussion with senior officers of Government of Sri Lanka (GoSL) and Ceylon Petroleum Corporation (CPC, a PSU under GoSL and the only company in petroleum trade in Sri Lanka then), we realized that Sri Lankan Government wants reforms in the downstream petroleum sector and would welcome one or two private players. We took the clue and utilized this visit to conduct detailed discussions with the Minister of Disinvestment, Secretary, Public Enterprises Reforms Commission (PERC) and other senior Secretaries of GoSL and convinced them that IndianOil was best suited to be the second player in the downstream petroleum sector in Sri Lanka to bring the badly needed reforms in the sector.

Since many of these officials in GoSL had themselves seen IndianOil's massive & efficient retail operations in India, they got fully convinced of IndianOil's capabilities. Under the able guidance of Mr. M. S. Ramachandran, the then Chairman, we moved the project on jet speed to start IndianOil's retail operations in Sri Lanka at the earliest. In June 2002, we signed an MOU with GoSL for IndianOil's entry in Sri Lanka's downstream sector and by Sept 2002, IndianOil Board approved 'incorporation of a Wholly Owned Subsidiary in Sri Lanka under the name and style of Lanka IOC (P) Limited (LIOC), with an equity investment of Rs 200 crores'. Mr M. Nageswaran (the first MD of LIOC) and various other officers from IndianOil were positioned in Colombo by October 2002. By this time, Mr. N. K. Nayyar was also elevated to the post of Director (P&BD). Finally, on 5th December 2002, we incorporated LIOC as a BOI (Board of Investment) company in Sri Lanka (recognition as a large player in the sector). On the same day (i.e. 5th December 2002), an interim tripartite agreement among GoSL, CPC and LIOC was also signed and we paid a token advance of $ 2 million, which enabled LIOC to start its commercial operations from 100 retail outlets (earlier owned by CPC), 1 terminal (Trincomalee Oil Terminal) and the common storage facilities at Colombo. This kicked off our Sri Lankan retail operations in less than 9 months of our first visit to Sri Lanka! LIOC's office, located on the 20th floor of the most centrally located and sought after office address, the Twin Towers in Colombo, provides a very conducive environment for all the officials and is worth visiting.

After finalizing takeover of 100 retail outlets from CPC, sales from these outlets and Trincomalee Oil Terminal started in mid-February 2003. Modernization of the outlets commenced immediately and refurbishment of a number of outlets was taken up at top speed. The objective was to let Sri Lankan public not only see reforms in the sector, but also feel it through a great fuel-purchase-experience at these outlets. In just about a year, the "INDIAN OIL CORPORATION" emblem was visible from 100 outlets, quite a few of which were in the advanced stage of refurbishment & remodeling. The first refurbished outlet in Colombo was inaugurated by Shri Ram Naik, the then Petroleum Minister of India, on 28th May 2003. The final valuation of 100 outlets, Trincomalee Oil Terminal and our one third share in the common storage facilities at Colombo was negotiated and settled with GoSL soon after.

World Trade Center (WTC) twin towers with Bank of Ceylon tower on left and the Presidential Secretariat in the foreground, Colombo. LIOC office is located on the 20th level in the west tower of WTC
Photo Courtesy: Bernard Gagnon in Wikipedia

There was no looking back since then. All the 100 outlets and many more franchisee outlets (also known as 'B' Site outlets), taken over subsequently, were refurbished to world-class standards. LIOC's refurbishment of its outlets kicked in competition and forced CPC to start remodeling their left over outlets, benefiting the retail customers immensely.

Presence of LIOC in Sri Lanka's downstream petroleum sector was very well appreciated by GoSL, all the political parties, general public and the media. Afterwards, we divested 24% of equity in LIOC to the general public and the Financial Institutions through IPO route (Initial Public Offering). This helped in building our image further, as the general public now got a feel of being the owner of the prestigious company of Sri Lanka. Sri Lankan operations put IndianOil on the Global map in the true sense. Today LIOC is the largest private company of Sri Lanka.

Since I was involved in this project right from day one till LIOC was well established and stood firm on its own, it gives me great satisfaction that I could meaningfully participate in IndianOil's Globalization efforts.

– After superannuating from IndianOil in November 2004, Shri R. K. Gupta has opened a consultancy firm in the name of 'Sumona Consulting Pvt. Ltd.' (D-19, Sector-30, NOIDA).

Drops Make Ocean

R. Ramakrishnan
General Manager
(BD-R&P)

For any successful large industrial organization, business diversification is a critical process for minimizing overall enterprise risks. To step into a new arena and diversify the business away from the core activities, a new group "Business Development and Consultancy Services " (BD&CS) was formed by IndianOil in 1994. Shri B. M. Bansal, the then Dy. General Manager (BDCS) with a small group of two officers was at the helm of affairs to pursue IndianOil's business opportunities. The objective was to foray into emerging businesses viz., Gas, Petrochemicals, Exploration & Production, Bio-Fuel, Power sector, etc., both in India and abroad. In pursuit of this goal and to explore another potential area in Refineries & Pipelines, a dedicated sub group "Business Development (Refineries & Pipelines)" was formed in 1999.

To start with, BD(R&P) focused its activities on revamp/up-gradation/product quality improvement projects in refineries abroad, implementation of cross-country pipeline projects and long term contracts for Operation & Maintenance of refineries, terminals, pipelines, etc. In addition, BD(R&P) was also looking for opportunities in offering manpower secondment services as well as providing technical services, consultancy and training etc., abroad.

During its long journey, BD(R&P) group have done its best to solicit business abroad and participated in various ventures and bidding activities like acquiring stake in Turkish Petroleum Refining Corporation (TUPRAS), Turkey, up-gradation & operation of Ras Lanuf Refinery (Libya), establishment of proposed grassroots refinery in Edo State (Nigeria), modernization & revamp of Eastern Refinery, Chittagong, Bangladesh, equity participation in the proposed Trans-Anatolian Pipeline Project (TAPCO), etc. However, these efforts could not be transformed into business propositions for reasons beyond our control. Nevertheless, BD(R&P) group has been playing a significant role in secondment of manpower abroad since its inception to satisfy the needs of customers either directly or through Petroleum India International (PII).

BD(R&P) has also established its brand image abroad for IndianOil's quality manpower. IndianOil's employees have not only enhanced their experience by working in different locations and cultures in foreign countries, they have also earned reputation for IndianOil as well as for India as a reservoir of highest quality technical manpower for downstream hydrocarbons industries. IndianOil's personnel, having worked in various refineries in the Middle East / Gulf countries as technical diplomats and brand ambassadors of the nation, have been able to combine technical prowess & work discipline with ease. These personnel have created a constant & huge demand for IndianOil's technical manpower among various reputed Petroleum Refiners in the Middle East/Gulf countries like ENOC, KNPC, etc. There is a very high potential to earn handsome revenues as well as valuable experience by secondment of manpower in future.

Besides manpower secondment, there is good business potential in 'training' as well. Requests have been pouring in from abroad seeking training programs, especially on Refinery & Pipeline Operations & Maintenance. Training programs are conducted at customers'/IndianOil's premises. BD(R&P) coordinates with various Divisions/ groups to design training programs as per the customers' need.

Despite constraints on manpower resources, BD(R&P) has been relentlessly pursuing various proposals related to Refinery & Pipelines area of petroleum business abroad to fulfill IndianOil's vision to widen its foot-print abroad. BD(R&P) group have earned revenue of Rs 247 lakh in the last 3 financial years through manpower secondment & providing training to foreign customers. Though this is a modest revenue, this is only a beginning and IndianOil's quest for earning Foreign Exchange would continue through BD(R&P)'s business proposals.

CO_2 Concentration Facts

Carbon dioxide (CO2) is the most important anthropogenic greenhouse gas. The global atmospheric concentration of carbon dioxide has risen from a pre-industrial value of about 280 parts per million (ppm) to 379 ppm in 2005. The atmospheric concentration of carbon dioxide in 2005 far exceeds the natural range over the last 650,000 years (180 to 300 ppm) as determined from ice cores. Any rise above 2 degrees poses challenging natural threats to mankind. In laymen's terms, there is only a 50% chance of a serious natural problem on staying under 450 ppm. Today, the level of CO2 concentration in the world is 390 ppm. Beyond 450 ppm, the challenges would be utterly fatal.

Marketing Servo Lubricants in the Middle East – A Success Story

DV Ramana Rao
Dy. General Manager (CS)
Marketing HO
(Former Managing Director, IOC Middle East FZE)

It was May-2003, when I took charge of Regional Office, Dubai, established as a Representative Office in 1998 for pursuing Business Development activities in the Middle East. One of the key tasks of this office was to market Servo Lubricants in the Region.

After one week of my joining, I was huddled in a discussion with Mr. Phil Garrison, Director, Luventis Ltd., our sole distributor for the region. Luventis has just started marketing Servo Lubricants and problems were aplenty - too high price, no brand awareness, low product sales, resellers returning products, huge inventory, etc. Mr. Phil was furious. He threatened to close the distributorship and even suggested me to close shop & go back to India unless IndianOil makes serious efforts to blend Servo lubricants in UAE. UAE is a highly competitive market with more than 40 lubricant brands - Shell, BP, Mobil and Castrol being at the top. With no local blending base and little or no brand awareness, the un-competitively priced Servo was getting nowhere.

Within no time, I opened negotiations (for sourcing lubricants for re-branding) with BP Middle East (BP), which owned a blending plant (M/s MELUBCO) in Jebel Ali Free Zone, Dubai, jointly with Exxon Mobil and Emirates General Trading Co., a National Oil company, which marketed Emarat brand products. After a few rounds of discussions, we realized that BP had very few positives in store for us. They were not very keen due to our low volumes, their blending rates were non-negotiable, their commercial terms were unfriendly and they were not willing to micro-change their production plans to help us in our initial stages. The only positive was that they did not want to say 'NO' to IndianOil!

In spite of the unfavorable terms, our paramount objective to speed-start blending of Servo Lubricants forced us to agree to the terms of BP. The arrangement was to blend Servo Lubricants on the basis of re-branding of equivalent grade of BP, using suitable base oil and additives of BP.

With blending arrangements in place, I started negotiations with Luventis on sharing of margins. As a Representative Office, IndianOil was not permitted to receive or make payments involving any business activity. After intense negotiations, Luventis agreed to pay royalty and remit the amount to India based on the quantity of product blended and delivered by BP. Accordingly, suitable agreements were entered into with BP and Luventis.

Based on Luventis' requirements, the pack-size of Servo lubes was finalized: 1 & 5 litres in small packs and 200 litres in steel drums. For small packs, Pampa industries, Jebel Ali, Dubai was short listed. For 200 litre steel drums, arrangements were made with Balmer Lawrie, Middle East. Moulds of 1 & 5 litres containers and artworks of Servo labels and cartons for various grades were obtained from Marketing HO, Mumbai. The artworks were suitably modified and developed in Arabic through local agencies. It was decided to make the labels on PE material instead of paper, as PE material gives better appearance and labels do not easily peel off during storage/display.

Though everything was in place to start production, 'minimum order quantity' to BP (which was more than our requirement) turned out to be a major hurdle. 'Inventories' were my Achilles heel. Being a Representative Office, I had no space other than my small office. Where do I keep the inventory of balance packing material in a place like Dubai, where nothing is free? The labels needed to be stored in AC environment to retain quality of PE material and glue used.

The solution came from an unlikely (or may be 'likely', as we are used to emotional attachments to our motherland) quarter – "local Indians' love for a great Indian organization" - thanks to the reputation and goodwill of IndianOil! The agencies were mostly owned and managed by Indians, who agreed to extend a helping hand and "volume of business" did not matter. The agencies agreed to keep excess material in their own godown free of cost and supply them in small quantities as and when required!

Finally, the first batch of production of Servo lubricants commenced in December 2003. It was a great sight to see Servo lubricants coming out of BP's blending plant along with other top brands viz. Mobil, Castrol, Duckham, etc. Later on, due to better rates, we shifted Servo blending from BP to Emarat, who also extended all support needed in the initial stages. Luventis also quickly expanded marketing activities to cover entire UAE and appointed distributors in Oman, Bahrain and Yemen.

The year 2004-05 was a great year for us, as our Lubricants sales surged to over 400 KLPA. We also expanded our activities and exported 1100 KL of products to IndianOil's subsidiary, LIOC (Sri Lanka). The products supplied from Dubai were well accepted in Sri Lanka due to better quality of packaging and appearance.

After this high, perhaps the law of averages caught us, and beginning April 2005, our sales started to decline due to steep increase in international Base Oil prices. Moreover, insufficient promotional support added to the woes. Luventis' operations were severely dented. Its financial limitations to pursue marketing in the entire region and high overheads (due to long distribution chain of IndianOil-Luventis-Distributor-Retailer) forced it to resign from the distributorship in August 2005.

This setback taught us a lesson. Considering the limitations in pursuing marketing activities as a Representative Office, approval of Board was obtained in October 2005 for its closure and formation of a Wholly Owned Subsidiary (WOS) for directly taking up marketing activities. Accordingly, IOC Middle East Fze (IOCME) was born with an office in Jebel Ali free zone in April 2006. It had an authorized capital of AED 10.0 million and paid up capital of AED 1.0 million. (AED is United Arab Emirates Dirham, the currency of UAE; 1 AED = Rs. 12.58 as on 23rd January 2009).

Immediately, dealer selection process was initiated. A committee from Marketing HO visited Dubai, Oman and Bahrain in May 2006 and finalized the distributors separately for Oman and Bahrain.

Keeping in view the differing pricing needs of a variety of customers, blending arrangements were consolidated with Emarat (for high performance grades) and Universal Lubricants (for low cost grades). Packaging arrangements for plastic containers, labels and cartons made previously by the Representative Office were also regularized.

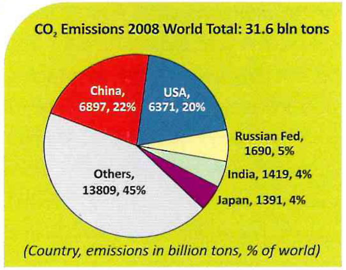
In July 2006, Marketing HO called for a global tender for sale of 3800 MTs of Base Oil ex-Chennai. Sensing the opportunity, I participated in the tender and submitted our bid with back to back sales arrangements with a local lube blending company. After a lot of efforts, we finally bagged the order. The cargo was traded on high sea sales basis with a local company (M/s Emirtas Lubricants Company, Sharjah) in August 2006 & thus started the 'trading' activities of IOCME.

In the first half of the financial year ending September 2006, IOCME achieved a turnover of AED 775,500 and made profit of AED 131,253. Though it was a modest beginning, I saw great opportunities in trading and bunkering activities, besides lubricants marketing.

My tenure ended in September 2006. It is heartening to note that IOCME has further consolidated its lubricants marketing activities in the Middle East Region. It has appointed new distributor for Qatar and re-launched Servo Lubricants in Oman and Qatar. It is now regularly trading in lube base stock from India. From a modest beginning, Dubai Regional Office has transformed from a Representative Office to a Wholly Owned Subsidiary of IndianOil and has now established itself as a major Lubricants Marketing Company in the Middle East Region.

National Solar Mission Launched by Hon. Prime Minister

Dr. Manmohan Singh, Hon'ble Prime Minister of India inaugurated 'Jawaharlal Nehru National Solar Mission' in New Delhi on 11th January 2010. India's 'National Solar Mission', one of the eight missions under 'National Action Plan on Climate Change', aims to promote development and use of solar energy for power generation and other off-grid uses in the country with a target of 20 GW solar power by 2022.



(Country, emissions in billion tons, % of world)

China, the No.1 CO_2 Emitter in the World

China, with 6.9 bln tons of CO_2 emissions (22% of world) in 2008, is the no. 1 CO2 emitter in the world, followed by USA (6.4 bln tons, 20.2%) & Russia (1.7 bln ton, 5.4%). India is in the fourth position, at 1.4 bln tons (4.5% of world). However, with respect to per capita emissions, an average Indian (1.2 tons/head/yr in 2008) emits 17 times less as compared to a person in USA (21 tons/head/yr), 10 times less than a Russian (12 tons/head/yr), 9 times less than a Japanese and 4 times less than a Chinese!

Sources: BP Statistics, 2009 & Population Reference Bureau Datasheet, CP&ES Analysis

National Mission on Enhanced Energy Efficiency - A step towards efficiency

A national mission that will help cut 5% of our energy consumption by 2015 has been approved by the Prime Minister's Council on Climate Change. National Mission on Enhanced Energy Efficiency, the second of eight missions under India's National Action Plan on Climate Change, has a corpus of Rs.75,000 crore and is designed to control India's energy consumption. The most innovative initiative under the mission is the "Perform, Achieve and Trade" (PAT) mechanism, which will assign energy efficiency improvement targets to the country's most energy intensive industrial units, with the provision of allowing them to retain any energy-efficiency improvements in excess of their target in the form of Energy Savings Certificate, called ESCerts. Units will also be allowed to purchase ESCerts to meet their targets.

B Ashok
General Manager
Karnataka State Office
(Former Regional Manager, South East Asia, Kuala Lumpur)

Business Development – My South East Asian Experience

Setting up Office at Kuala Lumpur

Though I was the second incumbent at the South East Asia office at Kuala Lumpur, I had to go through the initial pangs of setting up a new office almost from scratch. I had to get the work permits and also get the registration of the office extended. While these involved a lot of paper work and time, fortunately Malaysia offered a more organised environment for getting things done. The objective was to get an entry for IndianOil into Malaysia. Though we were a Fortune 500 company, the undisputed leader in the industry in India, we were still unheard of in South East Asia. Moreover, most of the countries in SE Asia had large domestic players such as Petronas (in Malaysia), Pertamina (in Indonesia), PTT (in Thailand), etc. Multinationals such as BP, Shell, ExxonMobil and Caltex were also entrenched in most of these countries.

The Challenges

The major challenge was to operate in a completely alien environment, to which an IndianOil officer was typically not used to. The culture, approach to business and etiquettes of doing business was different in each country. As a business development unit, there was no precedence or practice to follow. I had to spot opportunities and take them forward. Those opportunities could be in Refining, Pipelines, R&D or Marketing. It could be small ones such as Training, Manpower Secondment or large ones such as Joint Ventures or acquisitions. Being a single man office, one was left to think for himself. Moreover, with large local entities and multinationals firmly entrenched, gaining a foothold in relatively more developed countries like Malaysia and Thailand was quite an uphill task. Other countries in SE Asia (10 countries in all) were equally challenging, and each of them was unique in itself. I had to hit many different arrows at the same time with the hope that some would hit the target.

Memorable & Enriching Experiences

I was privileged to be a part of Corporate Business Development Group. This was at a time, when our first Vision/Mission statements were being formulated and expansion of our business abroad (Mauritius and Sri Lanka) and diversification interests were taking shape. Bitumen export to Bangladesh was also commencing. Due diligence activities for IPCL and IBP had just begun. The Gas Sale Purchase Agreement with Petronet LNG was being analysed with a magnifying glass by all the marketers (viz. IndianOil, GAIL and BPC). My posting to the Regional Office at Malaysia opened up the opportunity to translate some of these initiatives into business proposals. Being a part of these activities was indeed a great learning and enriching experience. Representing IndianOil in SE Asia was akin to representing Indian Oil industry in SE Asia. It was an opportunity to work closely on Oil and Gas issues with various Indian embassies in SE Asia at a strategic level. Introducing our Rail Road oils in part of Malaysian Railways and enabling R&D collaboration with Petronas and Pertamina were other rich experiences.

How IndianOil Started HSD Exports to Bangladesh

My first visit to Bangladesh for exploring possibilities of exports of surplus petroleum products from Haldia refinery was in September 2001. In spite of offering many advantages including better price than their then current source, our sincere and continuous efforts did not produce much result as Bangladesh Petroleum Corporation (BPC) was traditionally importing products from Kuwait due to some bilateral understanding between the two Islamic nations. Moreover, taking petroleum products from India was against their country's political will.

It was sometimes during the third quarter of 2003-04 that BPC did not get timely supplies of HSD from Kuwait Petroleum Corporation (KPC) and the country went dry of HSD. There was a total hue and cry in the country and at that time, Government of Bangladesh (GoB) as well as BPC, considering our proposal submitted earlier, requested us to send two HSD cargos of 20 TMT each to save their country from the crisis. We very promptly organized these cargos by diverting the vessels planned for other coastal movement and helped Bangladesh Government. This was a real turning point for us, as the senior level functionaries of GoB including the Hon. Minister of Energy could convince all those who were opposed to imports from India earlier, the need to take part requirement from IndianOil (Haldia Refinery), which was next door to them.

Finally, we succeeded in bagging a term contract for export of one cargo of 20 TMT per month for 12 months. The term contract was very successfully executed by us with full satisfaction of BPC. The years 2002-03, 2003-04 and 2004-05 were the golden years for exports through negotiated contracts by BD-Marketing group.

Raj Kumar Gupta
Former General Manager (BD-Marketing)

Bulk Bitumen Exports ex-Haldia Refinery - A New Beginning

Raj Kumar Gupta
Former General Manager
(BD-Marketing)

Debasish Nanda
Chief Manager
(BD-Gas)

In the late nineties, India became a net-exporter of petroleum products. Export of Bitumen was never thought of seriously, except for supply of small quantities to Nepal by tank lorries.

In those days, lower demand and hence lower evacuation of Furnace Oil / Bitumen was hurting yield of some refineries. Haldia Refinery sought help of BD Group to export Furnace Oil (FO) or Bitumen to improve yield. BD-Marketing (BD-M) took up the challenge and first appointed a bitumen distributor in Bangladesh for marketing of packed bitumen. However, the quantities were very small to make any significant impact on FO / Bitumen evacuation from Haldia. Efforts by BD-M to export FO to Bangladesh also could not materialise because of high Sulphur content in FO produced at Haldia.

The biggest handicap of Haldia refinery was lack of infrastructure to export bulk Bitumen. There was no pipeline connectivity to the jetty. Every time BD-M and Refinery Group would discuss export of bulk bitumen, the discussion would stop at "pipeline", as Refinery Group would ask for confirmed assurance against pipeline connectivity.

Around October 2002, HO-Marketing came up with the idea of moving bulk Bitumen from Haldia Refinery to Kakinada to meet short-fall in Southern Region. Discussions were being held with a Mumbai based party, M/s Bitucorp Terminal & Distribution Co Pvt Ltd (Bitucorp), a sister concern of M/s Richmond Mercantile Ltd. FZC (Richmond) (a Sharjah-registerd Co.), which was a prominent Bitumen trader in the Middle East and South East Asia. Bitucorp used to import bitumen from Iran and market the same in India.

Bitucorp had hired a tank (having heating facility) inside the premises of Haldia port complex. For moving bulk Bitumen to Kakinada, they had proposed to transfer bulk bitumen from Haldia Refinery to their hired tank and then move by a vessel to Kakinada. However, the quantity required to be moved to Kakinada alone was not making the project commercially viable, as the vessel required to be chartered by the party had to be fully utilised. The proposal was not progressing further.

BD-M came up with the idea of exporting bulk Bitumen by using arrangements of Bitucorp at Haldia. For that to happen, Haldia Bitumen has to be first accepted by the buyers outside India. Richmond collected bitumen samples from Haldia and sent to China, Thailand, Bangladesh, Malaysia, etc. The product was cleared in the lab test in China & Malaysia. China was also looking for huge amount of bitumen at that time for setting up of infrastructure for 2008 Beijing Olympics.

For some reasons, the Haldia – Kakinada Bitumen movement was not materialising, leading to idling of the tanks hired by Richmond/Bitucorp. Additionally, imported bitumen from Iran was not doing much business as the Indian market was mostly catered to by domestic bitumen. When Haldia Bitumen got clearance from overseas markets, Richmond, in their anxiety to utilise the idling tank at Haldia, finalised two export orders, one each from China and Bangladesh and negotiated/finalised price and commercial terms and conditions. They also hired a vessel in January 2003. The first cargo of 2650 MT was loaded for Bangladesh on 13th February 2003 and the second cargo of 5100 MT was loaded during 25th/26th February 2003 (understood that the second cargo was sold in the Chinese market).

These two export orders tremendously improved the morale of BD-M group. Buoyant with this success, BD-M assured export of bulk Bitumen from Haldia on regular basis to Refinery group, which commissioned the pipeline connectivity in February 2004. The first bitumen vessel loaded through pipeline was exported to Bangladesh in February 2004 itself. Soon, BD-M realised that Bangladesh is a natural market for Bitumen from Haldia. Bangladesh imports about 120,000 MTs of Bitumen per year and Haldia has enough surplus bitumen to cater to the Bangladeshi market.

Subsequently, one Bangladeshi Group, namely, Bay Terminal & Distribution Company (BTDC), came forward to import bulk Bitumen from Haldia. The party had already two bitumen vessels. Initially, IndianOil had a contract for 15 TMT followed by another one for 50 TMT. After a series of short term contracts, BTDC came up with the idea of entering into a long term contract for import of 100 TMT bulk Bitumen from Haldia for three years. The contract, after lot of protracted negotiations, got executed in January 2006. Since then, bulk Bitumen export from Haldia has become a regular feature, contributing to foreign exchange earning and improving yield of Haldia Refinery.

IndianOil was also successful in exporting bulk Bitumen by tank lorries to Bangladesh through "Delivered at Frontier" basis. Under this, tank lorries with bitumen unload the cargo at the Indo-Bangla border into bitumen tanks installed by M/s Corolla Corporation. IndianOil also took a lot of initiatives to export packed bitumen to Afghanistan and bulk / packed Bitumen to Pakistan. However, IndianOil does not enjoy the competitive advantage it enjoys in the eastern coast compared to the western coast. On the western coast, Iran and the Middle East can be more competitive than the Indian suppliers, while in the eastern coast, for Bangladesh and Myanmar market, Haldia enjoys a clear advantage over Singapore.

BD-M Group would like to thank Refineries Group, Optimisation Group, Marketing Division (Commercial Department), Refinery Coordination Office, Haldia, various committees which negotiated and finalised the terms and conditions for export of bulk Bitumen from Haldia as well as the top management for this success story.

Suresh Chander Gupta
CEO, IndianOil-CREDA Biofuels Ltd.

Debasish Nanda
Chief Manager
(BD-Gas)

Historic Exports of 5 TMT Group II Lube Oil Base Stock (LOBS) to Pakistan

July 6th 2006 will go down as a golden day in the business history of India and Pakistan, when 5000 tonnes Group II Lube Oil Based Stock (LOBS) was exported to Pakistan from Haldia Refinery. In the face of tense political environment prevailing between the two countries, the success of export of LOBS cargo to Pakistan State Oil Company is an achievement by itself.

Between 2005 and 2006, Business Development – Marketing Group (BD-M) has been making all efforts to export HSD from IndianOil's Jalandhar Terminal to Pakistan for consumption in Lahore and nearby areas in Punjab province. Then, Pakistan used to import around 4 MMT of Diesel at Karachi Port, major portion of which is transported all the way to Lahore, situated in the north eastern part of Pakistan. We felt that supply of Diesel from Jalandhar across the border by road or rail would be a win-win situation for both the countries. However, due to political inertia, this proposal never saw the light of the day.

It is said that when one door closes, God opens another door. Though efforts of BD-M group for diesel export did not materialize, it resulted in Government of Pakistan (GoP) permitting Pakistan State Oil Company (PSO) to import Group II LOBS from IndianOil on one time basis in March 2006. This is significant as GoP did not allow import of any petroleum product from India as a matter of policy.

For this success story, more than 500 written communications/e-mails were exchanged between BD-M Group and PSO & various other offices. More than 300 letters/e-mails were written/received by Mr. S.C. Gupta (the then DGM, BD-M) alone. However, associated with this success story were a unique set of problems/impasses. Even after lot of communications and negotiations through written mails, breakthroughs were hardly coming by. The situation was getting increasingly difficult, as neither any official from PSO was visiting our office nor any IndianOil official visited Pakistan. One day, Mr. Debashis Nanda, the then Sr Manager, BD-M informed me (SC Gupta) about the ultimatum given by PSO – "if we do not finalise the price by evening, this deal is off". Immediately, a committee of three officers [Mr. S.P. Goel, GM-Tech, RHQ, Mr. S. Nagarajan, DGM, BD-F and Mr. S. C. Gupta] was formed and authorized to negotiate and recommend the price. Mr. Nanda's suggestion that the three committee members should immediately discuss and finalise the price and obtain approval of Director (P&BD) was accepted. After lunch, the committee members sat down for discussions, prepared their recommendations and straightway went to Director (P&BD)'s chamber in Sadiq Nagar. After discussing the issues with Director (P&BD), prepared the approval note, obtained Director (P&BD)'s approval in his room and PSO was informed about our offer on the same day! This started the ball rolling. PSO accepted our offer. However, for finalizing payment and other terms & conditions, a number of mails were exchanged to resolve the issues. Considering the sensitive nature of prevailing political scenario, MOP&NG was also apprised about our intention to export cargo to Pakistan.

Our problems were still not over and many other surprises were in store for us. Haldia Refinery started making the product available as per our requirement. Arrival of ship arranged by the agent appointed by PSO got delayed. In the meantime, LOBS Group II requirement of Marketing Division also increased. To meet the additional

Sh Debasish Nanda, Sr Mgr, BD-M, IndianOil exchanging pleasantry with the Captain of the vessel MT Sea Glory (with LOBS for Pakistan State Oil) at Haldia Port on 6th July 2006 requirement, Mr. Nanda used his contacts in Haldia Refinery. Mr. S.P. Goel also maintained close coordination with Haldia Refinery so that full requirement of Marketing Division and PSO could be met in time. Haldia Refinery rose to the occasion and made the product available. When Pakistan's ship arrived at Haldia, bays were not available for berthing. To take care of any unforeseen situation, we had already positioned our two officers (Mr. D. Nanda and Mr. Babu Pullan) at Haldia to ensure that this historic cargo is loaded without problems. They telephoned that berth is not available for Pakistan's tanker due to priority being accorded for other cargoes. Mr. Nene, Head of our Supply & Distribution Group at Marketing HQ in Mumbai was contacted for assistance. Finally, the ship was berthed and cargo was loaded on 6th July 2006. This was the first ever export of a petroleum product from India to Pakistan. This was a truly HISTORIC achievement for IndianOil, Oil industry in India and India!

Story of BD's First Export Cargo (to Sri Lanka)

Our efforts to export surplus MS, HSD and ATF to Sri Lanka started in mid May 2001. However, we met with a lot of resistance from Ceylon Petroleum Corporation (CPC), as it used to import a sizeable quantity of these products through tender route. Our proposal to CPC was for supply of these products through a Term Contract on negotiated prices. Since it was a total deviation from their age old system, it required a series of long-winding and patient discussions and negotiations spread over a period of 16 months to get us results. Finally, we signed a Term Contract for supply of one cargo of 40 TMT petroleum products (combination of products were decided by CPC based on requirement) every month for 12 months. The products were to be supplied from Chennai Refinery on C&F Colombo basis.

Marketing Division helped BD group to smoothly execute the Term Contract by realigning production numbers of IndianOil's refineries and also allocating a 40 TMT vessel at the required time every month. After completing the Term Contract, CPC further extended the contract for another two months and we successfully exported two more cargos in the ensuing two months. In all, seven cargos of 40 TMT each (0.272 million tons) were exported during 2002-03 and rest seven cargos (0.274 million tons) were exported during 2003-04.

Export of petroleum products by BD group thus started with a bang when the first cargo was exported in September 2002 to Sri Lanka (CPC). This was a big breakthrough for BD-Marketing group and it gave way to more product export contracts through Term Contracts. IndianOil management also backed the group whole heartedly. From 2003-04, Lanka IOC (LIOC) started operations in full swing. LIOC had to arrange fuel for retailing through 100 retail outlets acquired by them and BD group was right there to extend timely assistance to organize exports from IndianOil.

Raj Kumar Gupta
Former General Manager
(BD-Marketing)

Short Stories

Business Development project activities are like R&D activities. Path is new and unknown. You never know what surprise is in store for you at the next crossing. Many a times, I have come across very interesting incidents, some of which I am giving below for your leisure reading.

Relationship with Dawood Ibrahim

During a serious discussion on a business proposal pertaining to Dubai, a Senior Official, who was not convinced of the proposal, asked his colleague from Business Development group: "Can you confirm that this party is not related to Dawood Ibrahim?"

Business Department Officer: "No sir, I can not confirm. I have not met any of them."

Senior Official: "How can I agree with your proposal? You should not put up such proposals."

Business Development Officer: "Sir, you should have raised this question before we set up our office in Dubai."

How to fix export target?

One fine afternoon, a Senior Official, who was given the task of finding IndianOil's HSD export potential, called me (I was DGM, BD-Marketing) for a discussion. The discussion went something like this.

Senior Official: "Sufficient quantity of HSD for export will be available after commissioning of Haldia Petrochemical complex. How much quantity can you export?"

Myself: "Please tell me year-wise availability and HSD specifications."

Senior Official: "Assume that whatever quantity of HSD you can export is available. Now tell me the export potential. We have to fix up future targets."

Myself: "We are not getting HSD for export to Sri Lanka and Bangladesh, for which we have already committed. Even for exploring export potential, we need availability numbers and specifications."

Senior Official: "Don't worry; if HSD is not available from indigenous sources, you can look for import options to meet the target. After all, we have to meet our export targets, you see!"

Suresh Chander Gupta
CEO, IndianOil-CREDA Biofuels Ltd

Ramesh K Tiku
Dy. General Manager
(BD-Marketing)

Business Development (Marketing) Growth Story

Set up in 1998, the present BD-Marketing group, was initially known as 'Country Relations' department. With articulation of IndianOil's Vision statement in 1999, it took the name 'Globalisation', before finally settling down to 'Business Development – Marketing' (BD-M). During the formative days of BD group, activities related to 'overseas lubricant marketing' and 'overseas downstream marketing' were entrusted to BD-M. It was also planned to develop entry strategies for countries in South East Asia, SAARC and other neighboring countries.

The first major breakthrough came with acquisition of a storage terminal at Mer Rouge in Mauritius and signing of an MOU between IndianOil & Government of Mauritius for collaborating in hydrocarbon sector in Mauritius. Since then, our subsidiary IndianOil Mauritius Ltd has established itself with creation of state-of-the art retail storage and aviation facilities and now, it is a leading player in downstream marketing of petroleum products in Mauritius.

The next big step was establishing a subsidiary in Sri Lanka (Lanka IOC Ltd) by acquiring retail & storage assets from Ceypetco, the national oil company of Sri Lanka. Today, LIOC is a major player, having established its own lube blending plant and undertaking its own product sourcing and trading. Sri Lanka and Mauritius were success stories, where IndianOil created its Wholly Owned Subsidiaries and entered the downstream market in a big way.

BD-M group also set up a regional office in Dubai, which later on went on to become IOC Middle East (FZE), a Wholly Owned Subsidiary. The objective was to explore markets and facilitate export of SERVO lubricants to the Gulf region. This office has been successful in establishing SERVO brand of lubricants in the Middle East Region.

BD-M has always been on the lookout for POL export opportunities to nearby countries, whenever exportable surplus were available. Bitumen has been regularly exported to Bangladesh, Sri Lanka and Nepal. Term Contract has also been entered into with Bangladesh Petroleum Corporation for supply of HSD. The year 2006 was a watershed year for the Corporation when, for the first time, Group II LOBS was exported to Pakistan (Pakistan State Oil). Very recently, BD-M group has also been successful in winning a Global Tender for supply of LOBS to Bangladesh Petroleum Corporation. IndianOil has also proposal to set up a Lube Blending Plant in Bangladesh for blending and marketing of SERVO brand lubricants.

To keep an eye on emerging business opportunities in the neighbouring countries, BD-M group has appointed Country Agents in Bangladesh, Pakistan and in Sri Lanka. BD-M group is also constantly on the lookout for acquisition of downstream assets in other countries particularly in South East Asia and Africa.

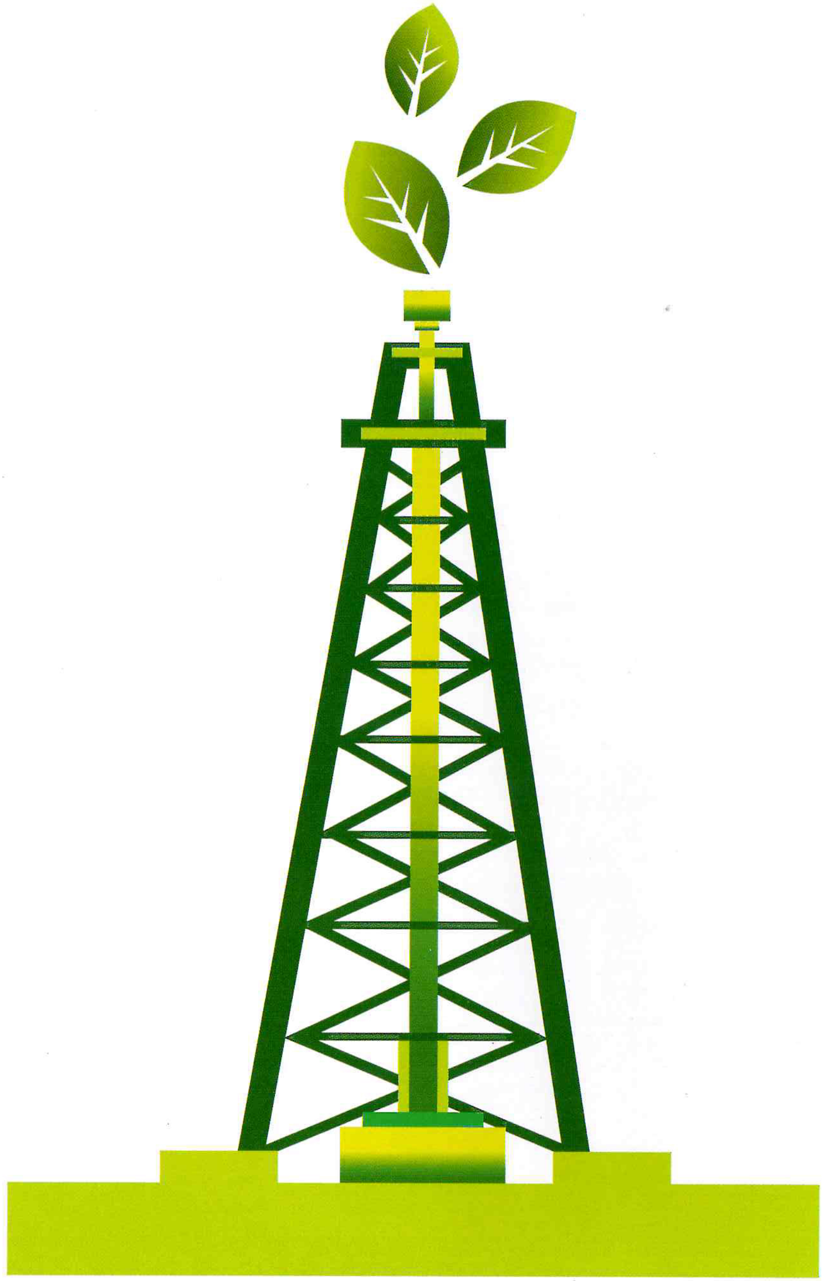
Global Warming Potential of Green House Gases

All greenhouse gases (GHG) have what is called a Global Warming Potential (GWP), which is used to compare the abilities of different GHGs to trap heat in the atmosphere. GWPs are based on the heat-absorbing ability of each gas relative to that of carbon dioxide (CO2), as well as the decay rate of each gas – i.e. the amount removed from the atmosphere over a given number of years. GWPs can also be used to define the impact GHGs will have on global warming over different time periods or time horizons. These are usually 20 years, 100 years and 500 years. For most greenhouse gases, the GWP declines as the time horizon increases. This is because the greenhouse gas is gradually removed from the atmosphere through natural removal mechanisms.

By assigning a GWP value it allows policy makers to compare the impacts of emissions and reductions of different gases. For instance, methane is a significant contributor to the greenhouse effect and has a GWP of 21. This means methane is approximately 21 times more heat-absorptive than carbon dioxide per unit of weight.

From the table, you can see that nitrous oxide is 310 times more absorptive than carbon dioxide, and can linger in the atmosphere for over a hundred years. However, due to its sheer quantity, CO2 is the most problematic of greenhouse gases, although if the Earth warms too rapidly, methane emitted from permafrost areas could outweigh carbon dioxide.

Green House Gas	Lifetime (years)	Global Warming Potential (Time Horizon)		
		20 years	100 years	500 years
CO_2	variable	1	1	1
Methane	12±3	56	21	6.5
Nitrous Oxide	120	280	310	170
HFC-23	264	9100	11700	9800
Sulphur Hexafluoride	3200	16300	23900	34900
Perfluoromethane	50000	4400	6500	10000



Until man duplicates a blade of grass, nature can laugh at his so called scientific knowledge.

– Thomas Edison

Exploration and Production (E&P)

Milestones

1995
- Exploration and Production (E&P) group formed

2000
- Awarded 2 blocks under New Exploration Licensing Policy–I (NELP-I) with ONGC (Operator)

2001
- Awarded 8 blocks under NELP-II with ONGC/OIL (Operators), Gujarat State Petroleum Corporation (GSPC) and GAIL

2002
- Awarded 2 Coal Bed Methane (CBM) blocks under CBM-I with ONGC (Operator)
- Awarded an exploration block in Iran under an Exploration Service Contract (ESC) with ONGC Videsh Ltd. (OVL) (Operator) and OIL

2003
- Awarded one exploration block under NELP-III with ONGC (Operator)
- Farmed into an exploration block in Assam and Arunachal Pradesh with Premier Oil, UK (Operator). Later, Hindustan Oil Exploration Company (HOEC) took over the operatorship

2004
- Memorandum of Understanding (MoU) with OIL for pursing overseas upstream business opportunities

2005
- Farmed into an exploration block in Cachar, Assam with Premier Oil, UK (Operator)
- Awarded 2 exploration blocks in Libya by National Oil Corporation (NOC) under Exploration and Production Sharing Agreement (EPSA-IV) bid rounds-1 & 2 with OIL (Operator)

2006
- Farmed into an exploration block in Gabon with OIL (Operator) and Marvis Pte Ltd., Singapore
- Acquired interest in an exploration block of Nigeria with OIL, Suntera Resources Ltd. (Cyprus) and Summit Oil International Ltd. (Nigeria) being the operator
- Gas discovery made in Mahanadi offshore exploration block, awarded under the NELP-II

2007
- Oil & gas discoveries made in Iran by the consortium of OVL (Operator), IOC and OIL
- Awarded 2 exploration blocks under NELP-VI with Petrogas E&P LLC (Oman) / GSPC (Operators), GAIL and HPCL
- Awarded 2 exploration blocks in Yemen under its 3rd International Bid Round with Medco Energi, Indonesia (Operator), Kuwait Energy (Kuwait) and OIL

2008
- Gas discovery made in 'farm in' block in Assam-Arunachal Pradesh with Hindustan Oil Exploration Company Limited (Operator) and OIL (Licensee)
- Awarded an exploration block in Libya EPSA-IV Bid Round-4 with Sonatrach, Algeria (Operator) and OIL
- Farmed into a deepwater block in Timor-Leste, with OIL and Reliance Exploration & Production DMCC (Operator)
- Commerciality study for the gas discovery in the exploration block of Iran, with OVL (Operator) and OIL accepted by National Iranian Oil Company (NIOC)
- Awarded 2 onshore exploration blocks in Cambay basin as Sole Operator, under NELP-VII Round
- Awarded one deepwater exploration block under NELP-VII Round with ONGC (Operator) and GSPC

2009
- PSAs for awarded blocks ratified by Yemeni Parliament; Presidential Decree for award of the blocks signed
- Submitted a Master Development Plan for Farsi discovery to National Iranian Oil Company (NIOC) in consortium with OVL (Operator) and OIL

Photo Essay (E&P)

Sh VS Okhde, ED (E&P), IOC during signing of Production Sharing Agreements for Blocks 82 & 83 in Yemen on 13th April 2008. Also seen are representatives of Oil India Limited, Medco Energi, Kuwait Energy and Ministry of Oil & Minerals, Republic of Yemen.

Sh BM Bansal, Director (P&BD), IOC signing farm-in agreement with Reliance Exploration & Production DMCC for participating interest in their Block-K in Timor-Leste on 2nd june 2008. Also seen Sh Ashok Anand, Director (HR&BD), Oil India Ltd. and Sh Atual Chandra, President International Operations (E&P), RIL

Sh BM Bansal, Director (P&BD), IOC during signing of Exploration & Production Sharing Agreement for Area 95/96 in Libya on 25th May 2008. Also seen are representatives of Oil India Limited, Sonatrach, National Oil Corporation of Libya and Indian Ambassador to Libya

Sh AK Tiwari, GM (E&P) and Sh DN Narasimha Raju, JS, MoP&NG exchanging documents in presence of Shri VK Sibal, DG, DGH, Government of India during signing of Production Sharing Contracts for two Type-S blocks awarded to IOC in NELP -VII round on 22nd Dec. 2008

My Days in E&P

Santanu Samanta
Dy. Manager (E&P)

I joined Northern Region, Marketing Division, IOC in 1997 with about 35 engineers and 3 other geoscientists. We had no idea about our future postings as we were directly sent to IIPM for training programme. My first posting was Allahabad. When I reached Allahabad Terminal, to my surprise, I was told to go back to Delhi and report to DGM (E&P) at Corporate Office! My innings in E&P took roots on that day. At that time, E&P department had 6 officers - DGM (E&P) and five other middle-level officers. Two officers were from IndianOil and three others came on deputation from ONGC.

IndianOil was then trying to get its foothold in the E&P business. Our initial efforts to join hands with OVL in a project in Kazakhstan and to collaborate with Enterprise Oil of UK for development of D18 field in Mumbai offshore did not bring success. Meanwhile, two of the ONGC officers in deputation decided to go back, leaving only one mid-level geoscientist in the department. During this learning phase, in spite of all out efforts, opportunities did not materialize. However each failure came with great learning, which helped us in our future endeavours.

The first New Exploration Licensing Policy (NELP-I) was announced during 1998 and that was the opportunity we were looking for. 48 blocks were offered and we made wholehearted efforts to participate in this bidding round. We collaborated with Petronas, Malaysia and Petrotrin (National Petroleum Company of Trinidad and Tobago). Subsequently, we made joint studies of some blocks with ONGC. Finally, we submitted bids jointly with ONGC for five blocks and with Petronas for one block. The bids were submitted on 18th August, 1999. Shri Subir Raha, the then Director (HR&BD), hosted a dinner for E&P department on the same evening. We were not exactly celebrating, but it was expected that we would get at least four blocks out of those six blocks, for which we submitted bids. But Reliance stole the thunder in NELP-I round by bagging 16 blocks including D6 and NEC25 blocks, where they made the largest hydrocarbon discoveries in recent times. I may admit here that when we reviewed the deepwater blocks along with ONGC prior to submission of bids for NELP-I round, D5 block (adjacent to D6) looked more prospective. We submitted the bid for the block along with ONGC. But Cairn Energy's bid was better and subsequently, discoveries were made by them in the block (Cairn later sold the block to ONGC under a package deal). We were awarded two blocks along with ONGC in NELP-I. Production Sharing Contract (PSC) for these two blocks were signed on 12th April 2000 and finally IOC had E&P projects in its kitty.

It is very easy to look at the success story of Reliance and point out the failures of others. But one must not forget that Reliance has also relinquished 9 blocks awarded to them during NELP-I and II rounds after unsuccessful exploration efforts (discovery has been declared commercial in only two blocks). In some of the relinquished blocks, they have also made penalty payments for not finishing the committed minimum work programme on time. Such uncertainties are always part of exploration business, which is often neglected by the analysts.

In NELP-II, to regain the lost ground, ONGC submitted very aggressive work programme, which would not have been justifiable under normal circumstances. But from ONGC's point of view, probably they did not want to take any chances, because this was their core business. Along with ONGC, we won 8 blocks out of 9, for which we submitted bids.

Around this time, Premier Oil was trying to enter into E&P business in India, but because of stiff competition, they were finding it difficult to get any block under NELP rounds. They approached us for joint participation in the available farm-in opportunities in India. Some people of higher ranks in Premier Oil were from the erstwhile Burmah Oil Company and they had a good database of the North East region and Burma (Myanmar). Therefore, they were particularly interested in this region. After studying the prospects and entry opportunities in different blocks, they targeted AAP-ON-94/1 block (awarded under pre-NELP rounds), where Hindustan Oil Exploration Company (HEOC) was the operator. At that time, HOEC was also looking for suitable partners for continuing operations in the block. After a series of discussions, finally it was agreed that both IOC and Premier Oil would take participating interests from HOEC, while Premier Oil would be the operator after their entry into the block. As we signed the farm-in agreement in March 2002, there was a sense of expectation and hope amongst us, as it appeared that as compared to our other NELP blocks, the chances of hydrocarbon discovery in this block was relatively high. It was believed that Premier Oil's worldwide experience of working in difficult terrains would be very useful to overcome the logistic challenges for data acquisition that was there in the block. I had the opportunity to be part of the seismic data acquisition team for about three weeks. That was indeed a memorable experience.

Northeast has its own charm that other places can't match and as geologists, we are lucky to get so close to nature. We went to the hills and dense forests for seismic data acquisition, where people would not venture out normally. The natural scenery was breathtakingly beautiful with a mixture of hilly terrains, rivers, jungle and the ubiquitous tea gardens. Besides, it was raining most of the times. Add wild elephants, boars, leeches, etc. to it and our adventures would be as interesting as it could get. Security threat was there, particularly because we were working with quite a few expatriates. Apart from the security cover provided by the local administration, Premier Oil also brought its own security expert who had the experience of fighting during Iraq war as part of British troops. One day, when I was accompanying them, they showed me a defused land mine (they called it a "booby trap") in a forest area, which was once a terrorist hideout.

For quality control during data acquisition, Premier Oil brought some experienced people on contract basis. They were from different parts of the world - England, Australia, Israel, Thailand, Italy and there was even a Kenyan of Indian origin. While explaining the data acquisition methodology they would narrate us some of their fascinating experiences of working in African jungles or in the swamps of Philippines. With the help of these people, despite the rain disruptions, Premier Oil was, to a large extent, successful in implementing international practices for seismic data acquisition and succeeded in acquiring good quality seismic data.

Our tie up with Premier Oil was further strengthened when we farmed-in into Cachar block later. The expectations also increased after interpretation of the newly acquired seismic data. But the first failure came when the Lakkhi-1 well went dry in the AAP-ON-94/1 block in 2005. Later that year, Premier Oil decided to withdraw from the block. It was unexpected, but our decision to continue with the other partners hopefully would bring fruit in near future. But a bigger failure was awaiting us. The failure of the Masimpur well in the Cachar block may be considered as the biggest setback not only because of the money we had already spent, but also because of the expectations we had from this block. It was unfortunate that because of non availability of suitable rigs, the block could not be probed by more than one well. The failure to make any discovery in this block still haunts me. It's indeed a lost opportunity for us.

Our overseas ventures started with submission of bid for Farsi block in Iran in February 2001, though the block was awarded only in December 2002 after lengthy negotiations. By forming consortium/JV with Oil India Limited (OIL), we have successfully bagged a number of exploration projects abroad in the last few years. We have also achieved some successes in our exploration efforts in last 2-3 years, both in domestic and overseas projects. A significant step was taken last year by the management, when it was decided that IOC would bid alone for small sized blocks offered under NELP-VII round and after the successful bidding, we are now operator in two blocks. Operatorship will no doubt throw us new challenges, but at the same time, it will give us more opportunities to grow. I believe we will build upon these successes for strengthening our E&P portfolio.

Blocks pursued by IOC (as in January 2010)

Sl	Round	Year of Award	Block	Operator	IOC's Participating Interest	Status
NELP BLOCKS						
1	NELP-I	2000	MB-OSN-97/4	ONGC	30%	Relinquished
2			GV-ONN-97/1	ONGC	30%	Relinquished
3	NELP-II	2001	MB-DWN-2000/1	ONGC	15%	Relinquished
4			MB-DWN-2000/2	ONGC	15%	Relinquished
5			MB-OSN-2000/1	ONGC	15%	Relinquished
6			WB-OSN-2000/1	ONGC	15%	Phase-I
7			WB-ONN-2000/1	ONGC	15%	Relinquished
8			GV-ONN-2000/1	ONGC	15%	Relinquished
9			MN-OSN-2000/2	ONGC	20%	Phase-III
10			MN-ONN-2000/1	OIL	20%	Relinquished
11	NELP-III	2003	AA-ONN-2001/2	ONGC	20%	Phase-II
12	NELP-VI	2007	MB-OSN-2004/1	GSPC	20%	Phase-I
13			MB-OSN-2004/2	PETROGAS	20%	Phase-I
14	NELP-VII	2008	CB-ONN-2005/2	IOC	100%	Phase-I
15			CB-ONN-2005/7	IOC	100%	PEL* Awaited
16			KG-DWN-2005/1	ONGC	20%	Phase-I

PEL: Petroleum & Exploration License

Blocks pursued by IOC (as in January 2010)

Sl	Round	Year of Award	Block	Operator	IOC's Participating Interest	Status
CBM BLOCKS						
17	CBM -1	2002	BK-CBM-2001/1	ONGC	20%	Phase-II
18			NK-CBM-2001/1	ONGC	20%	
FARM-IN BLOCKS (DOMESTIC)						
19	PRE-NELP	2003	AAP-ON-94/1	HOEC	43.548%	Appraisal stage
20	PRE-NELP	2005	CR-ON-90/1	PREMIER OIL	35%	Relinquished
OVERSEAS BLOCKS						
21	IRAN	2002	FARSI BLOCK	OVL	40%	Development plan submitted
22	LIBYA (EPSA-IV)		AREA-86			
	BID ROUND 1&2	2005		OIL	50%	Exploration phase
23			BLOCK-102/4	OIL	50%	
24	NIGERIA (FARM-IN)	2006	OPL 205	SUMMIT OIL	17.5%	Exploration/Appraisal stage
25	GABON(FARM-IN)	2006	BLOCK SHAKTHI	OIL	45%	Exploration phase
26	LIBYA (EPSA-IV) BID ROUND-4	2008	AREA-95/96	SONATRACH	25%	Exploration phase
27	TIMOR-LESTE (FARM-IN)	2008	BLOCK-K	RELIANCE E&P DMCC	12.5%	Exploration phase
28	YEMEN 3RD INTERNATIONAL BID ROUND	2009	BLOCK-82 BLOCK-83	MEDCO ENERGI	15% 15%	Exploration phase

PEL: Petroleum & Exploration License

NELP VII – Mission Accomplished!

Santosh K Srivastava
Dy. Manager (E&P)

It was March 2007 and another licensing round was getting over with signing of Production Sharing Contracts (PSC) for blocks awarded to various Indian and foreign Exploration & Production (E&P) companies. This time, it was a domestic one – New Exploration Licensing Policy, Sixth Round (NELP-VI), where IOC added 2 more exploration blocks in its E&P portfolio. IndianOil now had a pretty impressive kitty of eight NELP-I 'farm-in' and 2 Coal Bed Methane (CBM) blocks in India, besides 7 overseas blocks in Iran, Libya, Gabon, Nigeria and Yemen – quite significant for a company that had ventured into E&P arena only around 10 years back and was still considered as a new entrant by the industry players. But, was it really that impressive? Heart of hearts, we knew that we could not achieve what we should have by that time or, rather what we are capable of – 'Operatorship'! That is what we lacked! A distant word for us then! We were till then participating only as a non-operator in all these blocks. We were also aware of the fact that some of the companies, which started later than us in E&P, had gone ahead, taken the plunge, and became operators.

Was it really that important to be an operator? Yes, otherwise, you are left at the mercy of others (operators), who may, at times, lack the technical and financial acumen to run the show. Then, as a non-operator, you lack the recognition that you otherwise deserve. Others do not take you seriously. It is important to bear in mind that we are not talking here of any other company but of IndianOil – a company which, at one point, enjoyed better credit rating than the sovereign one, whose turnover figures were like a dream even for its closest brethren, and who had been India's frontrunner in Fortune's 'Global 500' listing for years together.

We were running out of time. Almost every bidding round demanded operatorship experience as a pre-qualification. And, we knew that if something bold and daring was not done in time, we might have been left with a tag of a 'non-operator' forever.

It was at this important juncture when a conscious decision was taken under the stewardship of Shri Sarthak Behuria, Chairman and Shri B M Bansal, Director (P&BD) for IndianOil to fulfill its long cherished dream to become an E&P operator at the earliest opportunity. With this, the writing on the wall was clear, our task was cut out – pretty daunting one for that matter – and challenge was thrown open.

The announcement by the Government of NELP-VII Round in December 2007 came as a silver lining – for the first time ever in Indian upstream licensing history, 9 blocks, each having an area of less than 200 sq km, were offered as Type-S blocks in India's most prolific onshore Cambay basin, with no requirement of prior operatorship experience. Bidding for these blocks was a big opportunity for us to become an Operator. We also realized that it was probably the last opportunity we have to prove ourselves and to achieve hitherto unachievable i.e. the operatorship.

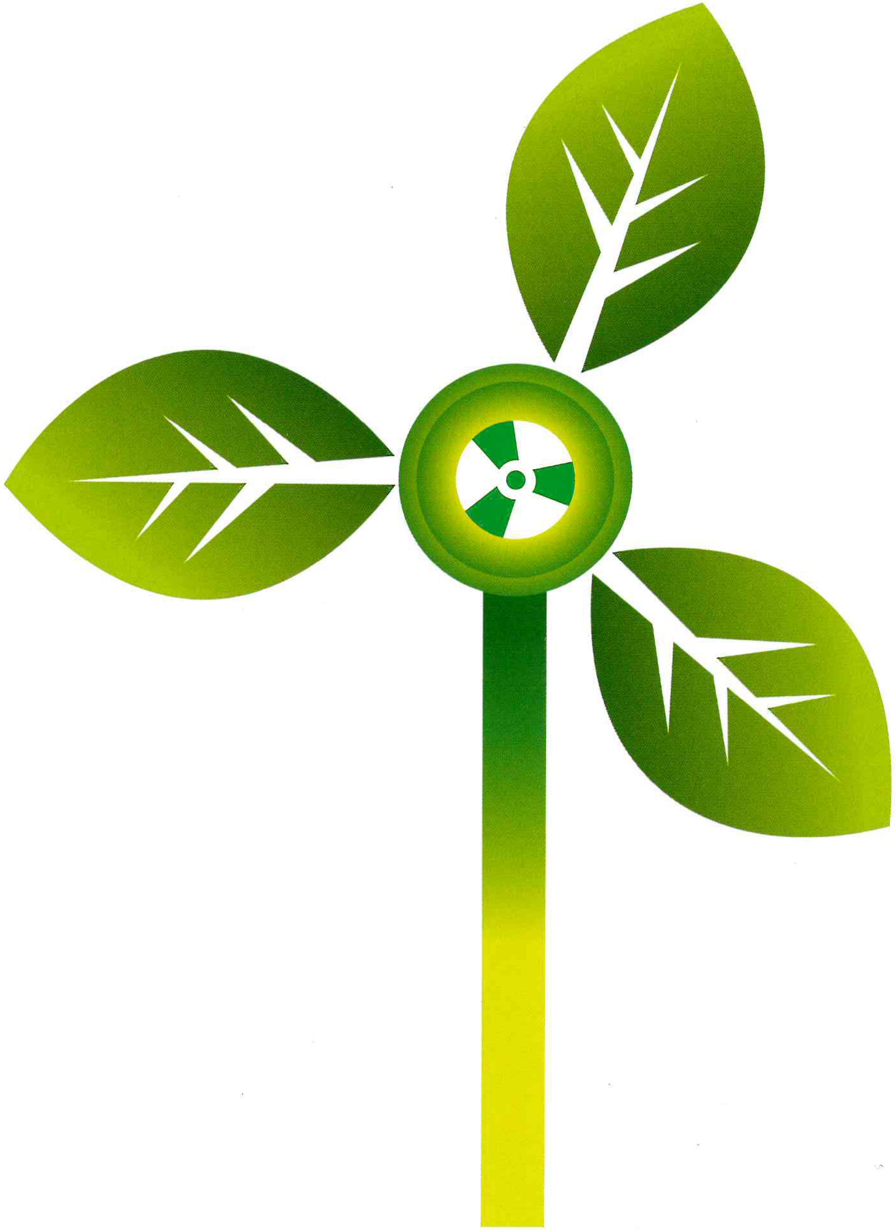
To reach such a milestone, we had to tread into many untested routes. We wanted to leave nothing to chance. For the first time, an experienced Indian consultant fully conversant with the geology of Indian sedimentary basins was appointed in January 2008 to shortlist the blocks prior to data room viewing and to evaluate the blocks in the data room. With his help and expertise, we short listed 5 Type-S blocks for detailed techno-economic evaluation.

The next task was to appoint an acclaimed international consultant to carry out detailed due diligence and to recommend the bidding parameters for IndianOil to put in winning bids. For this purpose, an Australian consultant was appointed after floating Request for Proposal (RFP) to a record number of 13 E&P consultants. The consultant recommended 2 Type-S blocks for bidding, as others were not found to be much 'prospective'.

The recommendations of the Consultant regarding bidding parameters were reviewed in the backdrop of over-aggressive bidding strategies followed by some of the big names in the field. After a lot of internal discussions, debates and introspection, the bidding parameters to be put in the bids were finalized under the advice and guidance of Director (P&BD), who extended all his support towards the cause. And finally, the bids for those 2 Type-S blocks – CB-ONN-2005/2 and CB-ONN-2005/7 – were put in on the scheduled bid submission date of 30th June 2008. The bids were to be opened and winners to be announced on the same day.

With bated breath, raised heartbeats and lot of anxiety, but confident of coming out with flying colors, we kept on waiting at the venue for the results to be announced by the Government. It was around 10 PM and 30th June 2008 became a red-letter day in the history of IndianOil, when we were declared winner as a sole operator with 100% participating interest for both the blocks amidst very stiff and cutthroat competition – the first block drew attention of as many as 11 bids and the second block had attracted a record number of 17 bids, previously unheard of in Indian upstream licensing history. The bidders included not only new aspirants but also established players like ONGC, GSPC, HOEC, RIL, NIKO, Pan Orient, GAIL and others. Our aggressive bids outbid all these bidders to emerge as the winner. The feeling of success was hard to sink in, as one of the blocks was won by a razor thin margin of 0.22 points on a 100-point scale! As an icing on the cake, IOC in consortium with ONGC (operator) and GSPC also bagged the Krishna-Godavari basin deepwater block KG-DWN-2005/1 in the same round.

With the winning bids for both Type-S blocks, IndianOil realized its long-cherished dream of becoming an upstream operator. It was a quantum jump in the endeavors of IndianOil in the field of E&P. While posing new challenges in the days to come, it heralded a new era in E&P efforts of IndianOil. With this, the name of IndianOil was etched in indelible ink on the world map of E&P operators, the vision had been fulfilled and the mission had been accomplished!!!



Plans to protect air and water, wilderness and wildlife are in fact plans to protect man.

– Stewart Udall, a former American politician

Corporate Planning & Economic Studies
(Including Renewable Energy)

Milestones

2009
- First Wind Power project of IndianOil commissioned within 5 months from the date of award of work
- Operational & functional test completed for wind farm
- 'Perspective Plan 2022' presented at Board Strategy Meet, Goa
- Solar Lantern launched in Orissa and Karnataka
- 'Energy Digest' quarterly corporate journal launched
- Power curve verification test for Wind Energy Generator developed and completed
- IndianOil forayed in Nuclear Power; MoU signed with Nuclear Power Corporation India Ltd.
- First commercial Solar Charging Station commissioned at Puri
- 'Maharatna' scheme of Govt of India announced – IndianOil meets criteria

2008
- 21 MW wind power project (at Jangi, Kuchchh-Gujarat) - work order placed on Suzlon
- Achieved highest ever MoU score of 1.01 (2007-08)
- 'Renewable Energy Group' formed
- Pilot Solar Charging Station commissioned at Sathla (Meerut DO) and Chokoni (Bareily DO)
- First GRI-III compliant Sustainability Report of IndianOil published
- COPU review held at Goa
- Sponsorship for Petrotech-2009

2007
- Feasibility Report on wind power in Gujarat completed (through TERI)
- Tender floated for the first wind power project of IndianOil
- Fortnightly publication 'Economy Mirror' launched
- "Macroview from CP&ES - The Big Picture Simply Explained" – new column launched in 'IndianOil News'

2006
- 'Fact Book' launched
- XI-Plan document of Planning Commission (Inputs provided)
- Study report on 'Project Management' by multi-Divisional Committee
- Regulatory Board Bill/Act (Inputs provided)
- Wind power project work initiated

2005
- 'Growth Plan-Vision 2030' presented at Shimla Strategy Meet
- First 'i2i' (Intent to Implementation) meet of IndianOil held
- Study report on 'Impact of Gas on IndianOil'
- Study report on 'Corporate Restructuring-Synergy in Energy'
- Arjun Sengupta Committee report on Empowerment of PSUs (Inputs provided)
- Structured CAPEX Review by Board

2004
- Quarterly journal of CP&ES "Vithika" launched
- Study report on 'Estimation of India's Rural POL potential and Rural Marketing Strategy'

2003
- Name of 'Corporate Planning' changed to 'Corporate Planning & Economic Studies' (CP&ES)
- People Process System study with McKinsey (Inputs provided)
- Study report on 'Oil Industry Restructuring'

2001
- X-Plan document of Planning Commission (Inputs provided)
- Nitish Sengupta Committee report on Restructuring of Oil Sector (Inputs provided)

2000
- Hydrocarbon Vision-2025 document of Govt. of India (Inputs provided)
- e-Business cell formed

1999
- Navratna 'Global Vision' document prepared
- 'Infrastructure Development Group' formed
- First "Strategic Meet (Board Retreat)" held at IIPM, Gurgaon

1997
- Announcement of Navratna Status for IndianOil
- First Navratna Strategy Document (draft) presented
- Long Range Projection & Perspective Plan of IndianOil prepared

1995
- Quarterly publication 'Emerging Scene' launched

1987
- First Perspective Plan prepared

1986
- First Annual Plan Document prepared

1985
- Corporate Planning Group formed

Photo Essay (CP&ES Including Renewable Energy)

Inauguration of IOC's first Wind Power Project (21 MW) in Kutch, Gujarat on 2nd May, 2009; L-R: Sh AMK Sinha, ED (CP&ES), IOC, Sh SK Sinha, ED (WRPL), IOC, Sh PK Chakraborti, Director (PL), IOC, Sh S Behuria,Chaiman, IOC, Sh BM Bansal, Director (P&BD), IOC, Sh R Modi, President - India Business, Suzlon and Sh VK Jayachandran, ED (Gujarat), IOC

Sh Sarthak Behuria, Chairman, IOC receiving 'MoU Excellence Award 2007-08' from Hon'ble Prime Minister, Dr. Manmohan Singh on 15th October 2009 in presence of Sh Vilasrao Deshmukh, Hon. Minister of HI&PE and Sh Arup Roychoudhury, Chairman SCOPE

Distribution of Solar Lantern to a villager by Sh BM Bansal, Director (P&BD) during inauguration of Solar Charging Station at Kisan Seva Kendra, Sathla, Meerut, Uttar Pradesh on 21st August, 2008. Also seen are Sh SK Sarangi, GM (CP&ES) & Sh B Barpujari, GM (CP&ES)

Sh V Ramgopal, GM, Odisha State Office (at right) exchanging MoU document with Sh V Muthuswamy, COO, MIC on 20th June 2009 for marketing Solar LED Lanterns; Also seen: Sh BR Pradhan, SM(CP&ES), CO, Sh S Annamalai, SRSM, OSO & Sh S Choudhury, SDRSM, Bhubaneswar DO

Signing of MoU with Nuclear Power Corporation of India Ltd. on 4th November 2009 in Mumbai: Sh S Behuria, Chairman, IOC & Sh SK Jain, CMD, NPCIL signing MoU. Also seen: Sh SK Sarangi, GM (CP&ES), IOC (at right) & Sh P Narang, CM (CP&ES), IOC (at left)

Strategy Meets of IndianOil – A Perspective

Satish K Sarangi
General Manager (CP&ES)

"Strategy Meet" of the Board of IndianOil is a meeting of the Board of Directors held away from the din & bustle of Corporate Office, to consider issues critical for the future of the Corporation. This is the apex level meet of IndianOil, which is held at least once every year & so far, 15 such meetings have been held since 1999. The importance of the Strategy Meets was reinforced after IndianOil acquired Navratna status. Secretary, MoP&NG is invited to attend Strategy Meets.

Strategy Meets of IndianOil

Sl	Location	Year
1.	Gurgaon (IIPM)	1999
2.	Gurgaon (Bristol)	2000
3.	Manesar	2000
4.	Ananda, Haridwar	2001
5.	Shimla	2001
6.	Agra	2002
7.	Shimla	2002
8.	Jaipur	2003
9.	Udaipur	2004
10.	Jodhpur	2005
11.	Shimla	2005
12.	Kodaikanal	2006
13.	Mussoorie	2007
14.	Kochi	2008
15.	Goa	2009

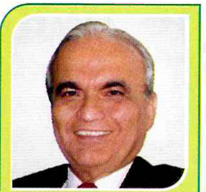
The first meet of such strategic nature was held in 1999 at IIPM, Gurgaon, which was christened "The Third Eye - A People Workshop". The Vision of the Corporation was adopted at this meet. One unique feature of this meet was the efforts to include views of IndianOil employees from across India through emails (employees across India were asked to respond to 3 simple questions). This meet, in fact, was a revival of the erstwhile Annual HRM Conference of the organization under a new name - 'The Third Eye'. The name was so given as it signifies the seat of supreme creative and intuitive power in the human mind and has the capacity to see into the future – and this meet was designed for deeper introspection and to evolve a common vision for the Corporation.

Photograph taken during Goa Strategy Meet on 26th June 2009. Seated from L-R: Mr Michael Bastian, Dr (Mrs) Indu Sahani, Mr S Sundareshan, Mr S Behuria, Mr PK Sinha, Prof (Dr) Indira Parikh and Mr NK Poddar. Back row L-R: Mr VC Agrawal, Mr BM Bansal, Mr GC Daga, Mr SV Narasimhan, Mr PK Chakraborti, Prof Gautam Barua, Mr Anees Noorani, Mr BN Bankapur and Mr Anand Kumar.
Mr KK Jha (photo on left) has assumed the position of Director (Pipelines) on 1st September 2009 in place of Mr PK Chakraborti, who retired on 31st August 2009.

The vision, which emerged from the Third Eye workshop, served as a super-ordinate goal of IndianOil for 10 long years before the need was felt to have a relook at the same. This vision has now been re-casted with the super-ordinate goal to become "The Energy of India" and has been unveiled during the Golden Jubilee Year, (2009) on 30th June.

About a couple of months before every Strategy Meet, the agenda for the Strategy Meet, i.e. a list of topics/ issues are carefully chosen by P&BD-CP&ES (Corporate Planning & Economic Studies) group and the same (with appropriate rationale) is presented in one of the Executive Committee (EC) meetings, where the topics are finalized after deliberations.

Strategy Meets have been one of the best debating grounds for many bright ideas, many of which have become the cornerstones of the corporation's growth. The decision to put up Naphtha Cracker is one such strategic move, which would be a vital component of IndianOil's already diversified portfolio and would also resolve the surplus Naphtha problem while adding value to IndianOil's product lines. The decision to put up a grassroot refinery-cum-petrochemical complex at Paradip was another strategic move, which would make India a refining hub and leverage IndianOil's ability to act as a POL sourcing point for countries in the Indian Ocean rim. Some other critical decisions debated and considered during various Strategy Meets are: Acquisition of IBP, Conversion of Kandla-Bhatinda pipeline from product to crude, Initiatives to retain market leadership, Strategies to retain talent, Employee engagement, Consolidating IndianOil's businesses through infrastructure rationalization & augmentation, Globalization outlook, Aviation strategies, Lube marketing strategies, New Initiatives in petrochemicals, Bio-diesel initiatives, Gas pipeline & overseas pipelines business strategies, Financing strategies, Shipping strategies, Strategies to be Asia's leading commercial R&D organization, Building project management capabilities, etc.



"I am confident that with your collective efforts, a common vision and specific goal-oriented missions, we will emerge as a stronger, integrated and diversified global entity." "Vision is a shared dream...., a dream shared by every stakeholder in the company. By building a shared vision, we create vibrant communities that support each other".

M.A. Pathan
Former Chairman, at Third Eye Workshop, IIPM, 1999

Drawing from the deliberations held during the Kodaikanal Strategy Meet in 2006, IndianOil instituted a committee to examine the reasons for causing delays in project execution and recommend corrective measures. This has resulted in adoption of innovative project execution methodologies for Paradip Refinery Project (PDRP). With focus on talent management, several changes were made in the methodology and approach to recruitment and career progression, including introduction of the now prevalent e-Performance Management System (ePMS).

During the Shimla Strategy Meet held in June 2005, P&BD-CP&ES Group presented a comprehensive Growth Plan for IndianOil (named Vision 2030). This was for the first time that the future business plans for the Corporation was charted out with detailed market/ financial analysis. 'Sustainable Growth Rate' model was used to estimate the corporation's financials. The goal to become a US$ 300 billion company (by 2030) emerged from this presentation/ deliberation. This presentation and detailed analysis went on to become a flagship study report of P&BD-CP&ES group as well as for the entire corporation. So much so that Board members opined that such presentations should be made during every Strategy Meet, which could not only provide a perspective of the energy world around us, it would also take stock of the achievement of Growth Plan targets and reset/ revise old/new goals and objectives. Accordingly, keeping in mind the dynamic market conditions in India and around the world, P&BD-CP&ES group, from time to time, has been working towards revision of the Growth Plan of the Corporation. The latest Growth Plan with the revised business goals were presented at the Goa Strategy Meet during June 2009.

"Let us begin the journey in a different way...let us stop for a while, to think, to plan, and then to move on. Today, we shall be talking about IndianOil's past and present in several perspectives to give us a paradigm for its future".

Subir Raha
Former Director-HR At Third Eye workshop, IIPM, 1999

For the first time, during the Goa Strategy Meet (June 2009), it was proposed (through the Growth Plan presentation) to enter into Nuclear Energy through an appropriate tie-up. After a lot of internal deliberations/ debates, an MoU was signed with Nuclear Power Corporation of India (NPCIL) on 4th November 2009 at Mumbai, which paved the way for IndianOil's formal entry into nuclear energy.

Typically, during the Strategy Meets, presentations / deliberations are followed by a 'Blue Sky' session, during which, all Directors are requested to provide feedback, which, besides being thought-provoking and path-breaking, provide strategic directions to enable IndianOil to achieve its goals & vision in the medium & long run.

In 2005, for the first time, i2i workshop (Intent-to-Implementation) was conducted at IIPM-Gurgaon, the key objective of which was to apprise the top officials of IndianOil about the proceedings of the Strategy Meet. Typically, the presentations made at the Strategy Meet are shared at the i2i meet once again and the senior officials are requested to come out with action plans to achieve the objectives in each of the strategic areas identified. One of the key strategic decisions, which emerged from the i2i workshop during 2006, was IndianOil's Bio Diesel initiatives, which was in a nascent stage till then. Clear cut action plans, starting with formation of a separate group under Director (P&BD) were conceived during this i2i workshop. Later on, IndianOil Board approved the amendment to the Memorandum of Association of IndianOil to enable it to enter the entire value chain of bio diesel. Bio-Diesel group went on to form a JV (IndianOil-CREDA Biofuels Limited) with Chhattisgarh Renewable Energy Development Agency (CREDA) for farming, cultivating, manufacturing, production and selling of biomass, bio-fuels and allied products & services.

"We have structured all our presentations to focus on the future strategies. The key issues, on which we intend to deliberate as we go through the topics, are 'Where we will be 5 years from now, both financially and physically and the strategies to achieve the targets."

Sarthak Behuria
Chairman, At Mussorie Strategy Meet, 2006

Strategy Meets have not only become the apex-level-meet of IndianOil, where the top minds meet exclusively to chart the future growth of the Corporation, they have also, over the years, become the true cornerstone of IndianOil and has provided strength and vision to IndianOil to be the "Energy of India".

"No price is high price for acquiring the stakes of IBP."

Naresh Narad, IAS
At Shimla Strategy Meet, 2001

AMK Sinha
Executive Director (CP&ES)

Sanjoy K Dam
Chief Manager (CP&ES)

Performance and Autonomy – The Twins in IndianOil

This paper attempts to provide insights into the context, motivation, and policy framework that went into developing a performance anatomy in IndianOil. Continued excellence in performance was causally significant in driving the company to greater heights through devolution of powers, which became an important instrument to charter the growth history of IndianOil. The story of IndianOil is the story of phenomenal growth of a public sector oil refining and marketing giant, that has attained commanding heights in the period of four decades. During its onward march towards 'excellence', IndianOil people toiled hard and gave theZir best to create all time record performances.

Introduction - Public Sector as an engine of growth

Public sector – A strategic role : Ever since economic planning was launched in 1951, public sector in India became almost synonymous with development plans and programs. Growth of public sector in nation's economy was motivated by socio-economic conditions and policy framework of the Government. Public sector, over a period of time, therefore, grew as a hybrid entity sharing characteristics of government institutions and private enterprises. Like government, some of its goals (non-commercial) were difficult to quantify and like a private enterprise, some of its goals (commercial) were readily quantifiable.

IndianOil – from humble beginning to an oil giant : On the eve of India's independence, the Downstream Oil Industry was entirely in the hands of multinationals. No new refinery was built in the country for over five decades, even though the demand for petroleum products grew manifold. What finally put an end to this situation was the Industrial Policy Resolution of 1956, which laid the foundation for a national oil industry. Indian Refineries Limited was set up in 1958, followed by formation of Indian Oil Company in 1959. It became Indian Oil Corporation Limited (IndianOil) in 1964 as a result of merger with Indian Refineries Limited, with its registered office in Mumbai.

Performance Management

Need for performance measurement: If 'poor' commercial performance in a Central Public Sector Enterprise (CPSE) can be explained away in terms of 'non-commercial' objectives and at t he same time, if no effort is made to distinguish between legitimate reasons for poor commercial performance (e.g. government's pricing policies) and other reasons (e.g. incompetence leading to high cost), then even the quantifiable objectives will lose their power to guide, motivate, evaluate and control the performance of CPSE. In effect, CPSEs then just become a government agency and lose their hybrid character. The tone for measurement of PSU performance was therefore, set long ago by Pandit Jawahar Lal Nehru, in his speech during the AGM of FICCI in 1963. India thereafter saw a period of intensive development and growth, particularly in basic industries. The major feature of the Indian industrial strategy was to carve out a prominent role for the public sector in planning and industrialization process. With the growing role of public sector in the nation building process, particularly in the developing countries, the issues of performance measurement and autonomy of PSUs began to be discussed seriously in the developmental economic policies. Our Honorable Prime Minister, Dr. Manmohan Singh, the then Secretary General, South Commission, Geneva had argued that while privatization is no panacea for the ills of public sector, ground rules need to be evolved for giving autonomy to public enterprises so that managers can perform without day-to-day government interference in their operations.

Memorandum of Understanding (MoU) – an instrument for performance measurement : MoU as a form of performance contracting instrument for public enterprises management gained acceptance

Scope of MoU

MoU, is expected to perform some of the following functions and enhance the operational efficiencies of CPSEs.

- Concretize performance standards with clarity
- Ensure that performance matches agreed targets
- Motivate performance
- Enhance accountability in the CPSEs
- Systematize Government-CPSE relationship
- Create an opportunity to develop long term corporate plan consistent with Government's policies
- Make CPSE management committed to the goals
- Provide basis for an effective incentive scheme (PIS) for better performance
- Create a chain reaction by setting in motion downstream accountability across the organization

The number of CPSEs signing MoU has significantly gone up from 4 in 1987-88 to 197 in 2009-10. Performance of CPSEs is ranked on the basis of a rigorous review process at the highest level of the Government. In the latest pay revision, under Justice Rao committee, performance related pay has been linked to MoU score of CPSE and categorization has been suggested.

in India in mid 1980s as a response to the concerns expressed on the performance levels of the public enterprises. In the ultimate connotations, in the Indian context, MoU is a commitment secured by the Government from the top management of the CPSE to achieve specific targets given specific conditions including specific assistance by the government. It is therefore, an agreed commitment by the management of a CPSE to the Government.

Goal: The main goal of MoU policy is to reduce the 'quantity' of control and increase the 'quality' of accountability. MoU system

Year wise details of MoU composite score of IOC

Financial Year	MoU Score	Financial Year	MoU Score	Financial Year	MoU Score	Financial Year	MoU Score
2008-09	1.06	2007-08	1.01	2006-07	2.36#	2005-06	1.14
2004-05	1.14	2003-04	1.04	2002-03	1.06	2001-02	1.185
2000-01	1.06	1999-00	1.05	1998-99	1.168	1997-98	1.272
1996-97	1.136	1995-96	1.14	1994-95	1.12	1993-94	1.173
1992-93	1.32	1991-92	1.12	1990-91	1.278	1989-90	1.077

*IOC submitted 1.04

inspires long term corporate planning and strategic management. It enables CPSEs to prepare for new challenges.

MoU performance of IndianOil : IndianOil has been signing MoU since 1989-90. It has been rated excellent since inception barring 2006-07 due to reasons beyond control. It can be observed from the table that performance of IndianOil has been exemplary. IndianOil had been awarded 'MoU excellence Award' on several occasions in the past. Recently, in a glittering ceremony held at Vigyan Bhawan on 15th October 2009, IndianOil was awarded 'MoU Excellence Award for 2007-08'. In the same function, our Chairman Shri Sarthak Behuria was also honored with 'Scope Award for Excellence and Outstanding Contribution to the Public Sector Management – Individual Category – 2006-07'. These awards were received in the hands of Honorable Prime Minister of India. What a befitting compliment to a company in its golden jubilee celebration year! MoU process has since been internalized through setting targets in the functional areas and are being monitored on a regular basis.

Autonomy

Autonomy linked to performance: Performance evaluation is critical in its own right, but its importance is compounded as it is a precondition for enhancement of autonomy as a whole to the management. When asked about Public sector performance, managers are reported to have echoed "Give us clear objectives, give us autonomy to pursue those objectives and then judge us by the results".

Key decisions taken by the Navaratna Board

Some of the major landmark decisions, that formed the bedrock of today's achievements, were rooted in the strategic direction set by the Navratna Board which, inter alia, include the following.

- Capital investment – Over Rs 70,000 crore investment in several capital intensive projects
- Expansion along the Energy value chain – Evolve into an energy company by expanding across the hydrocarbon value chain (E&P, Petrochemicals, Gas, Biofuel, Hydrogen, Wind, Solar, Nuclear etc.)
- Articulation of Vision and Mission statements – For the first time, IndianOil articulated its Vision and Mission statements in July 1999, which was revisited during its golden jubilee year 2009
- Creation of the post Director (Planning and Business Development) - A unified set up created for identifying and initiating business opportunities that dovetails the plans in line with vision and core competencies
- Energize People and Processes – Initiate transformational efforts to reorient business processes though launching multiple initiatives in order to emerge even stronger from deregulation

Enhanced autonomy - Navratna status: With increasing number of CPSEs successfully displaying high degree of performance in terms of MoU provisions, Government started to identify such CPSEs that have comparative advantages and support them in their drive to become global giants. In pursuance of these objectives, the Government decided to grant enhanced autonomy and delegation of powers. The selected CPSEs were therefore, required to develop strategic vision and seize opportunities for mergers, acquisitions, investments and thereby create value to their stakeholders through several cost effective and visionary strategies.

Saga of IndianOil

With the process of economic liberalization in energy sector and devolution of powers through the Navratna charter, IndianOil was poised to inspire and manage the multidimensional challenges through an intrinsic sense of motivation and become a global organization. The reconstituted Navratna Board of IndianOil rolled out an agenda identifying business opportunities and adopted strategic direction, aligning organization structure, people and processes to bring about the necessary slate of change to create a competitive differentiation in the energy business.

In keeping with the global business models and its vision to grow into a 'transnational integrated energy major', IndianOil, through a well concerted effort has since embarked upon other segments of hydrocarbon value chain through a set of strategies viz. (i) Backward integration into upstream (Exploration and Production), (ii) Forward integration (Petrochemicals), (iii) Green agenda - Bio-fuels, (iv) Diversification (Gas), (v) Downstream overseas retail marketing, (vi) Export of projects and consultancy services and (vii) Alternative energy. This process of strategic architecture is driven by the business groups under Director (Planning and Business Development). Riding on the wave of performance and autonomy, IndianOil has achieved several milestones in its corporate history and grown even faster than competition. In creating value to its stakeholders, IndianOil people have toiled hard and displayed a high degree of unflagging energy riding on its core values and skill sets.

Conclusion

The promises of interlinked aspirations deeply rooted in 'performance' and 'autonomy' has infused dreams in IndianOil people to scale even greater heights and expand its scope and scale of operations. This has been now made possible through the initiative of the Department of Public Enterprises (DPE), Govt. of India to create another exclusive club of CPSEs, known as 'Maharatna' companies , which would be poised to become Indian multinationals through rapid expansion of their global operations backed by further autonomy and economic opportunities. IndianOil is likely to join this exclusive club very soon!

The journey of IndianOil conjures up to a kaleidoscope of exciting stories dedicated to the service of the great nation. The blazing success of IndianOil, today, is distinguished by its venerable tradition, capability to withstand the unceasing hardships and rooted in its passion to be an ingratiating practitioner of true corporate values and commitment. Seen as a barometer of Brand India, IndianOil represents the true blue national company of the country. It energizes the lives of millions of our countrymen and is committed to serve the nation with greater vigor in the years to come. The vision trajectory for IndianOil is committed to turning it into a truly global energy company with turnover of around US $160 billion by 2022. It is committed to sustainable growth and playing the leadership role in the hydrocarbon value chain with testimony of 'A jewel in the crown of India and its people'.

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[1]Extract of speech of Pt. Jawaharlal Nehru during AGM, FICCI, 1963 .... 'The way a government functions is not exactly the way that business houses and enterprises normally function. A Government rightly has all kinds of checks, as it deals with public money. Usually it has time to apply these checks. But when one deals with a plant and an enterprise where quick decisions are necessary, which may make a difference between success and failure, the way a government functions is not sometimes suitable. I have no doubt that the normal governmental procedure applied to a public enterprise of this kind will lead to the failure of that public enterprise. Therefore, we have to evolve a system for working public enterprises where, on the one hand, there are adequate checks and protections, and on the other, enough freedom for that enterprise to work quickly and without delay. Ultimately it has to be judged by the results, though one cannot judge a government by financial results alone. In judging a big enterprise, one has to judge by the final results...."

[2]Key note address by Sri Manmohan Singh in World Bank Annual Conference on Development Economics in 1989

[3]For detail understandings of the concept and mechanisms, interested readers may refer to the seminal works by Dr. P. Trivedi currently Secretary (Performance Management), Cabinet Secretariat, GOI and Prof Leroy. P. Jones of Boston University amongst others

[4]Composite MoU score 1.00- 1.50 (Excellent), 1.51-2.50 (Very Good), 2.51-3.50(Good), 3.51-4.50(Fair), 4.51-5.00(Poor)

[5]In course of study conducted by Prof Leroy P. Jones of Boston University for a World Bank project; this response was given by CPSE executives from different parts of the world

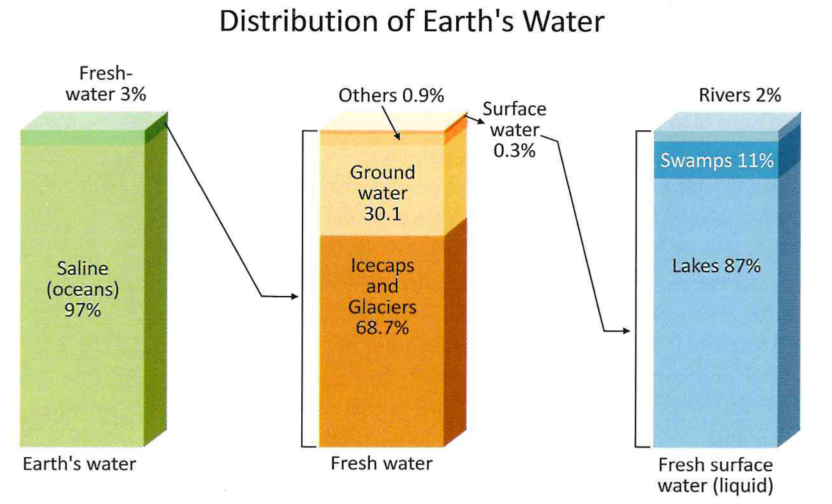
[6]Vide circular dated 22.7.1997, Navratna status with enhanced autonomy was granted to 9 (nine) select CPSEs including IndianOil

[7]Vide letter dated 8.1.2010, from Secretary, DPE, GoI to Chairman, IOC amongst others

Earth's Water Distribution

Where is Earth's water located and in what forms does it exist? You can see how water is distributed by viewing these bar charts. The left-side bar shows where the water on Earth exists; about 97 percent of all water is in the oceans. The middle bar shows the distribution of that three percent of all Earth's water that is freshwater. The majority, about 69 percent, is locked up in glaciers and icecaps, mainly in Greenland and Antarctica. You might be surprised that of the remaining freshwater, almost all of it is below your feet, as ground water. No matter where on Earth you are standing, chances are that, at some depth, the ground below you is saturated with water. Of all the freshwater on Earth, only about 0.3 percent is contained in rivers and lakes—yet rivers and lakes are not only the water we are most familiar with, it is also where most of the water we use in our everyday lives exists.

Source: United States Geological Survey



Birth of the Renewable Energy Section under Corporate Planning & Economic Studies (CP&ES)

Barun Barpujari
General Manager (CP&ES)

September 2006 was a significant month for Planning and Business Development group and for that matter, IndianOil, as we took the first tentative steps towards our journey on Renewable Energy.

Discussion by Corporate Planning & Economic Studies (CP&ES) group with the Associate Director, Distributed Generation & Rural Electrification, TERI led to a proposal to set up Solar Lantern Charging Stations at our Kisan Seva Kendras (KSKs) to charge solar lantern for renting out to villagers to light their homes. The initial proposal, which envisaged implementation of the scheme under CSR, morphed into a business model to provide necessary incentive to our stakeholders (KSK/RO dealers, LPG Distributors) to sell solar lanterns as Non-Fuel Revenue generating items. The learnings from the implementation of the two pilot projects at Sathla (near Meerut) and Chokoni (near Bareilly) in Uttar Pradesh helped develop three business models to take IndianOil's solar lantern initiatives forward. Following the first launch in Orissa in June 2009 and thereafter in Karnataka, the programme is being extended to Bihar, Jharkhand, Andhra Pradesh, North East, Madhya Pradesh and Maharashtra in the first phase. It would, thereafter, be taken forward to the other states.

September 2009 also witnessed the initiation of our entry into wind power sector. The first perspective note led to undertaking a feasibility study. The proposal to undertake a 21 MW wind power project in Gujarat received Board's approval in July 2008. The project was implemented jointly by P&BD-CP&ES group and Pipeline Division. IndianOil's first wind farm was completed and commissioned on 5th January 2009, in a record time of five months.

In order to bring in more focus to the Renewable Energy initiatives of IndianOil, a Renewable Energy Section was created under CP&ES in July 2008. Today, in addition to the Solar Lantern Project, the section is working on the second wind power project and a mega-watt scale solar power plant. It is also assisting the Divisions to implement solar solutions. The Renewable Energy journey of IndianOil has just begun.

Infrastructure Development Group

Infrastructure Development Group (IDG) was formed on 20th January 1999, comprising of ED (Project) of Refineries, Pipelines and Marketing Divisions, GM (Plg-Marketing Division), with ED (Corp Planning) as Convener. Concerned officials were to be co-opted as per requirement. The group was envisaged to conceptualize, formulate and develop projects in each of the Divisions. It was decided that IDG should be pro-actively engaged in formulation of investment proposals for acquisition/ expansion/ replacement/ modernization of assets, keeping an eye on the long term strategic need of the corporation in order to provide a competitive edge.

Since last one decade, IDG has been engaged in conceptualization, formulation and development of various projects covering refinery capacity augmentation, distillate yield improvement, product quality up-gradation, product pipelines (including LPG and ATF pipelines), depots/ terminals, etc. Two of the major successes of IDG group were 1) KBPL conversion from product to crude oil (which not only improved reliability of crude oil imports, but also ensured assured evacuation of products from Koyali refinery) and 2) Panipat refinery expansion from 6 to 12 MMTPA, which was strategically planned based on the strength of KBPL conversion & meeting increasing demand of the fastest growing energy hub of India, i.e. North-West-India.

Satya Narayan Sukhwal
Dy. General Manager (CP&ES)

Barun Barpujari
General Manager (CP&ES)

Pravin T Dongre
Manager (CP&ES)

Riding the Winds to Clean Energy

The upswing in crude oil prices, which started in 2001, continued unabated beyond 2006. Most of the world and especially India, with over 75% import dependence on crude oil, started feeling the heat. IndianOil, with only hydrocarbon fuels in its basket, also started feeling the impact on its operations as well as finances. Simultaneously, world over, climate change issues were taking centre stage and 'Sustainability' had already become the key fulcrum of strategic growth. Energy majors worldwide started widening their energy portfolios and non-fossil energy solutions like solar, wind, biomass, etc. got a big boost.

Solar technologies were in the process of development and their costs were far too uncompetitive vis-à-vis conventional energy sources. However, wind technology, in many areas of Europe and America, had more or less achieved cost parity with fossil fuel based power and was being looked at as one of the plausible energy sources for meeting the ever growing energy requirement.

India's wind energy program was almost 20 years old. The wind farm developments evolved more as an investment directed towards returns (for tax benefits) rather than a realistic option for large scale power generation. The ownerships were fragmented with mostly small investors.

IOC had already made a head-start on hydrogen and biofuels. Commercial application of Hydrogen as automotive fuel was sometime away and so was large scale availability of biofuels. Moreover, India's large deficit in availability of power provided considerable scope for growth for other alternate energy sources. Meanwhile, CPCL had initiated the process of setting up a wind farm for captive consumption of power at its proposed desalination plant. IndianOil felt it would be prudent to explore the possibility of venturing into renewable energy for captive consumption as well as for supplying power to the grid. Initially, exploratory studies & research were carried out with a lot of literature study, interactions with MNRE/IREDA/consultants/ operators to understand this energy domain, gauge the industry scenario and commercials. After through analysis of various States, Gujarat was zeroed in to explore the opportunity.

An exhaustive feasibility study was carried out through TERI after interactions with utilities, state agencies, study of major windy areas of Gujarat, remote location wind mast sites, operating wind farms, substations and grid lines. This helped in understanding the ground level dynamics, operations and performance of different machines at different sites. Based on the recommendation of the feasibility study, tendering was done to set up 21 MW wind power project on Lump-Sum-Turn-Key (LSTK) basis. This was a long drawn and complicated process, given IndianOil's set tendering procedures and wind industry players having their own operating practices and baselines. The tendering process started in October 2007 and culminated with award of work on M/s Suzlon (the largest industry player in India) in August 2008 for setting up the project at Jangi (Kuchchh district of Gujarat). There was a great bit of learning for all players involved in this process – IndianOil adopting its processes to wind energy sector requirements, wind industry players deviating from their established practices to match IndianOil's requirements, consultants evolving new norms for evaluation as well as performance monitoring during supply and erection.

Persistent follow up was maintained, even with Director level officials from Suzlon to ensure speedy implementation / commissioning. Unprecedented rains and flooding in Kuchchh area during implementation challenged the best efforts to complete the works ahead of schedule. Whether it was painting of IndianOil logo on the Wind Energy Generator (WEG) towers, conducting stake holder meet at site for CDM consultation, climbing atop 80-meter high nacelle (cabin mounted on top of tower containing generator, gear box, etc.) for operational and functional tests or getting the hub-high (~79 meter) wind-mast and associated instrumentation installed in slushy fields – each and every process had to be evolved, worked out and monitored in minutest possible details.

Under the able guidance of Shri B M Bansal, Director (P&BD), all round coordination and team work of CP&ES, Pipeline Division and M/s Suzlon, the project was commissioned on 5th January 2009, in 4 months and 25 days, against the contracted time of 6 months. It was one of the fastest commissioning for this size of wind power project through tendering process.

When the stabilized wind farm was inaugurated on 2nd May 2009 by Shri Sarthak Behuria, Chairman, there was heartfelt satisfaction of piloting IndianOil's entry into wind energy sector. The blowing winds and the rotating blades of the wind energy generators in Kuchchh, Gujarat are symbolic of IndianOil's grand ambitions to be the "Energy of India".

Regulatory Process of MoP&NG – Contribution of CP&ES Group

Ramesh K Samtani
(Dy. General Manager)
OSD, Petroleum & Natural Gas Regulatory Board

Regulatory Process: An independent and accountable regulatory framework is a specific response to the broader mantra of promoting economic growth. An independent regulator is needed to foster competition, create level playing field, attract investments (especially for capital intensive industries like energy), enhance transparency, protect interests of consumers, promote competitiveness and efficiency, maintain quality of services, safety, etc. After a very arduous journey spanning over eight years, the Petroleum and Natural Gas Regulatory Board (PNGRB) Bill was passed by both the Houses of Parliamnt, received Presidential assent and became an Act on 3rd April 2006.

Establishment of PNGRB: PNGRB was established on 1st October 2007, primarily to foster competition amongst various players and to lay down, by regulations, technical standards and specifications, including safety standards, in activities relating to petroleum, petroleum products and natural gas, including construction and operation of pipeline and infrastructure projects related to downstream petroleum and natural gas sector.

Contribution of CP&ES Department: Corporate Planning & Economic Studies (CP&ES, then known as 'Corporate Planning') Department was involved in the process, right from the day the first report was prepared by TERI in 1997-98, which suggested to have a Petroleum Regulatory Authority and Petroleum Federation of India (called PetroFed now). After many rounds of long-winding discussions and many draft iterations, Petroleum Regulatory Board Bill came into shape in 2001. IndianOil played a major role in providing detailed comments on various versions of the Bill from time to time and on the report of the Parliamentary Standing Committee. The nodal department in IndianOil was CP&ES group, which contributed significantly in bringing IndianOil's viewpoint to the highest levels in the Ministry. The major contributions of CP&ES group were 1) Exclusion of Crude oil pipelines from the purview of regulator; 2) To keep refining sector out of purview of regulator, as this sector was being de-licensed (except that a mention has been made in the objective of setting up of PNGRB Act); 3) Inclusion of Appellate Tribunal on the lines of Electricity Appellate Tribunal; 4) Convince Government to exclude storage facilities as a part of common carrier pipelines and from the purview of regulator; 5) Keep 'storage facilities beyond a specific capacity' under registration; 6) Include benchmarking as one of the methodologies for determining tariff for petroleum product pipelines; 7) Include 'Transitional arrangements' and period of three years, during which no encroachment (including taking over of retail outlet of one entity by another) permitted.

The journey of about eight years was really a learning experience for all concerned, as this was the first time oil and gas sector was going to have a regulator. The suggestions were based on own experiences, extensive experience gained from study of regulatory processes and systems in various countries, which were suitably amended to meet Indian conditions.

Ten Things to Do to Help Stop Global Warming

1. Change a light: Replacing one regular light bulb with a compact florescent light will save 150 pounds of carbon dioxide per year.
2. Drive less: Walk, bike, carpool or take public transport more often. You'll save one pound of carbon dioxide for every mile you don't drive!
3. Recycle more: You can save 2,400 pounds of carbon dioxide per year by recycling just half of your household waste.
4. Check your tyres: Keeping your tyres inflated properly can improve gas mileage by more than 3%. Every gallon of gasoline saved keeps 20 pounds of carbon dioxide out of the atmosphere!
5. Use less hot water: It takes a lot of energy to heat water. Use less hot water by installing a low-flow showerhead (350 pounds of CO2 saved per year) and washing your clothes in cold or warm water (500 pounds saved per year).
6. Avoid products with a lot of packaging: You can save 1,200 pounds of carbon dioxide if you cut down your garbage by 10%.
7. Adjust your thermostat: Moving your thermostat down just 2 degrees in winter and up 2 degrees in summer could save about 2,000 pounds of carbon dioxide per year.
8. Plant a tree: A single tree will absorb one ton of carbon dioxide over its life time.
9. Turn off electronic devices: Simply turning off your television, DVD player, stereo, and computer when you're not using them will save thousand of pounds of carbon dioxide per year.
10. Be a part of the solution: Learn more and get active at ClimateCrisis.net.

- Adapted from 'An Inconvenient Truth', The award winning feature film documentary on the Earth's climate crisis.

Solar Lantern Initiative of IndianOil

Satish K Sarangi
General Manager (CP& ES)

Barun Barpujari
General Manager (CP&ES)

Bibhuti R Pradhan
Senior Manager (CP& ES)

Life comes to a virtual standstill for millions of Indian rural households after sunset due to non-availability / poor quality of power. The alternate light source for these people is kerosene lamps, which provide very poor quality of lighting and the fumes generated pose health hazards. To obviate these shortcomings, IndianOil conceived and embarked upon the rural solar lighting project. Also in keeping with IndianOil's vision to be an "Energy" major and its commitments toward a cleaner environment, IndianOil has taken several initiatives towards greening its product portfolio / offerings, rural solar lighting project being one of them.

Pilot Solar Charging Station with M/s TERI

Based on a proposal of TERI, a pilot project to provide solar lantern / lighting systems for lighting rural populace was conceived with an aim to make available better quality illumination to the rural populace who are presently using kerosene / LPG based lighting systems. The overriding objectives of the project are...

- Improved quality of lighting for rural populace
- Provide better light at almost same cost as what is being spent on kerosene/LPG for lighting
- Provide a smoke free living environment & reduce smoke-inhalation related health hazards
- Reduce risks of fire/accidents due to upturned kerosene dibris, crude lighting devices, etc.
- Facilitate studying beyond day-light hours
- Extend economic activity beyond sunset

Under the pilot project, 2 Solar Charging Stations (SCS) were commissioned at Kisan Seva Kendras (KSK) at Sathla (near Meerut) and Chokoni (near Bareily) in Uttar Pradesh in Aug/Sep-2008.

Shri BM Bansal, Director (P&BD) inaugurating Solar Charging Station at Sathla KSK on 21st August 2008

Lanterns are charged at the SCS & delivered every evening for use by villagers/ shopkeepers; the used (discharged) lanterns are collected back the next morning & plugged back at the SCS for charging.

Pilot project – Learnings

LED lanterns instead of CFLs: LED lanterns, with lower power requirement, need smaller size panels, thereby reducing cost and improving payback period/ affordability. In the long run, LED is better, as CFL may contaminate ground water through poisoning by Mercury released from the disposed CFLs.

Multiple lighting solutions needed: Since villages consist of different income segments, one lighting solution would not meet all requirements. We need to position a variety of lighting solutions (say 1-watt to 5-watt illumination options) at varying pricing points for different income profiles.

Combination of 'Lantern with panel' & SCS: Since richer villagers would like to have their own lanterns with panels (even at higher cost), we need to have stand alone lighting options in our bouquet of product offerings. The poorer section would opt for rental options.

Need for running multiple appliances: There is also a demand to utilize solar energy to use other electrical appliances. It would be ideal to have embedded options in solar lighting systems to charge mobiles, AM/FM radio sets, etc.

Rentals: Villagers in UP are comfortable with daily rental of Rs. 5/- per day. However, shopkeepers, who

Rooftop solar panels at
Sathla KSKSolar lantern rack at KSK, Sathla

are financially better off, can afford upto Rs. 8-10/- per day, as they are already spending that much on LPG/SKO for lighting. However, rentals have to be decided based on the economic condition of the users.

Lantern Charging Rack at KSK, Sathla

Desired number of light hours: The villagers typically need light for about 4-5 hours every day. To take care of cloudy/rainy days, it would be advisable to have at least 2 days back-up, i.e. once fully charged, the lantern should be able to provide light (at a desirable light intensity) for about 8 hours.

Village surveys in Odisha

Odisha State Office (OSO) took the lead and conducted market surveys amongst villagers/shopkeepers using kerosene/LPG lamps near Bhubaneswar & Puri for acceptability of solar lanterns, preference of lanterns and to gauge price expectations. Lanterns from various suppliers were demonstrated in front of villagers (mostly women belonging to Self Help Groups). The demonstrations were deliberately organized in the evening hours to provide a real feel of the illuminating power of the lanterns.

After taking feedback from the villagers, OSO finalized the lantern of M/s MIC Electronics Ltd, Hyderabad & went on to sign an MoU on 20th June 2009.

Business models & Target segments

Based on learning from pilot project in UP and market surveys conducted in UP & Odisha, it was gathered that a typical village can be categorized into 4 key target market segments viz. the better-off, the middle class, the poorest and the small shops. Lanterns could be sold / rented out to the villagers / rural shopkeepers from IndianOil's ROs, KSKs, LPG Distributors through 3 distinct business models viz. Direct Sale of lantern (with & without micro-financing) and rental model through Solar Charging Stations.

Microfinance – How does it work?

1. Self Help Group (SHG) members watch lantern demonstration organized by Aanganwadi workers with help from IndianOil/IndianOil's designated NGO.
2. SHG members agree to buy lantern at the designated price.
3. SHG members request Bank Manager, UCO Bank, Barang (a village about 20 kms from Bhubaneswar) to extend micro-finance on the strength of the amount in the savings bank of the SHG members.
4. Bank extends micro-finance in the name of SHG and credits the account of SHG.
5. SHG members together withdraw money from SHG account and pay to MIC for purchase of lantern.
6. MIC's distributor (IndianOil's dealer) gets full amount & delivers lantern either directly or through KSK/RO.
7. SHG members pay EMI to bank in the form of cash every month @ 11% rate of interest. For micro-finance of Rs. 2200/- (cost of present lantern), the EMI for 24 months would be about Rs. 110/-.

Solar Lantern launch in Odisha/Karnataka

As part of the Golden Jubilee Celebration programme, Odisha State Office formally launched solar LED lanterns on 30th June 2009. The occasion was marked by free distribution of lanterns to 5 poorest of poor villagers and 1 Aanganwadi worker selected from 2 villages near Bhubaneswar. During the first couple of days of launch, orders for more than 500 lanterns were generated.

Karnataka State Office followed suit and signed an MoU with M/s Kotak Urja Pvt. Ltd. on 12th September 2009. Presentations have been made at various State Offices, during CMC/CM at CO, to push the initiative forward.

First commercial Solar Charging Station (SCS) at Puri

IndianOil's first commercial SCS was commissioned on 2nd December 2009 at a retail outlet at Puri. This SCS has a nine-in-one solar panel charger, which can be modularly expanded with increase in demand. Quite a few fishermen in this area are keen to take lantern along with the panel in their boats into the sea, so that they can charge during the day (in the boat itself) & use during the night. Typically, they spend 1-3 days in the sea and use dry-cell-operated torches for various fishing needs. Though these lanterns are "moderate-water-splash-resistant", two lanterns have been given to 2 fishremen on an experimental basis, whose performance would be evaluated over next 2 months, after which, necessary changes to the lantern would be made, if required, to improve its "waterproofing"/"sea-worthiness".

Solar lantern launch in Odisha on 30th June 2009 (Golden Jubilee Celebration Day)

Reduction of GHG emissions

IndianOil's Solar Lantern project will help in reduction of green house gas emissions due to reduced usage of kerosene. One lantern (using 1 ltr kerosene/wk, i.e. 52 litres per annum) can reduce CO_2 emissions by 0.1 ton/yr; 1 lakh lanterns can reduce emissions by 10,000 tons/yr! Additionally, IndianOil can garner immense green brand mileage & true to its name, can strongly reinforce its image of a socially & environmentally responsible organization.

Energizing the real (rural) India through green fuel

Under the able leadership of Shri B M Bansal, Director (P&BD), CP&ES-Renewable Energy group has made a modest beginning in rural solar lighting initiative. Given the fact that grid-power-availability for large parts of India is either 'poor' or 'non-existent', the potential to market reasonably priced solar lighting-systems/appliances for rural/ semi-urban households holds very high promise. With the proactive support and guidance of our Director (P&BD), CP&ES group is making steady progress in expanding footprints of solar lanterns across all States in India. In times to come, this initiative of IndianOil may perhaps be remembered as the on of the most socially relevant corporate programme in India in its quest for achieving energy security!

Press Clippings of Inauguration of Pilot Solar Charging Station at Sathla (near Meerut, UP) by Sh BM Bansal, Director (P&BD)


जगमगाएँगे मेरठ के गाँव

साठला में हुई आईओसीएल के पहले सौर ऊर्जा केंद्र की शुरुआत

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METRO BUSINESS

मेरठ, 22 अगस्त, 2008

सौर ऊर्जा से रोशन होंगे गांव

इंडियन ऑयल के निदेशक ने किया देश की प्रथम सौर उर्जा इकाई का उद्घाटन

आगामी सालों में इंडियन ऑयल मेरठ में बिछाएगी गैस पाइप लाइन


मवाना क्षेत्र के सठला गांव में आईओसीएल का पहला सौर ऊर्जा केंद्र शुरू

सौर ऊर्जा से जगमगाएँगे मेरठ के गाँव

समृद्धि की गाथा लिखेगी सौर ऊर्जा

इंडियन ऑयल की नोएडा डिवीजन के प्लानिंग एवं कॉमर्शियल निदेशक बी.एम. बंसल ने किसानों को सौर ऊर्जा लालटेन वितरित कीं।

IndianOil's Foray into Nuclear Power

"All our dreams can come true - if we have the courage to pursue them." – *Walt Disney*

Satish K Sarangi
General Manager (CP&ES)

Pramod Narang
Chief Manager (CP&ES)

A great idea is born

It was an informal high profile get together at the Senior Management Centre in New Delhi on 11th March 2009, the auspicious Holi day. While celebrating the festival of colours, two gentlemen, Mr. Sarthak Behuria, Chairman of IndianOil and Mr. BM Bansal, Director (Planning & Business Development) were casually chatting about the future of nuclear energy in India, given the backdrop of the recently finalised 123 Agreement with the United States. This informal chat laid the foundation stone of IndianOil's nuclear ambitions, which was strongly bolstered by the enthusiasm and support of another gentleman, Shri S. V. Narasimhan, Director (Finance). A great idea of embracing nuclear energy by a hitherto oil major was born. A tie up with another PSU major, Nuclear Power Corporation of India Ltd (NPCIL), was a natural corollary, given their expertise in this field. The suggestion came with such an amazing freshness and novelty that it soon catapulted into a splendid business proposal. Rest, as we all know, is a silent revolution in the pages of IndianOil history, which perhaps has no parallel in the times gone by.

Nuclear Power – The alternative

Today, 'energy security' and 'global warming' are two major areas of concern for countries across the world. Global energy consumption is likely to double by 2050 with a threefold increase in the demand of electricity. It is only natural for all energy producers & marketers to seek cleaner form of energy to meet this demand. The question that looms large in the minds of many – 'Is nuclear power the alternative energy of the future, the way out of our destructive reliance on fossil fuels?' As a number of factors such as concerns for energy security, dwindling fuel resources, volatility in the prices of fossil fuels and growing concerns of greenhouse gasses come together, Governments are prompted to revisit their energy policies and diversify the energy mix. Nuclear power is environmentally benign as the life cycle GHG emissions of nuclear power are comparable to that of wind and solar photovoltaic power. While life cycle GHG emissions from mining of nuclear fuel ore to waste disposal is 9-21 grams CO_2 equivalent/kWh, corresponding figures for coal is 966-1306 and 439-688 for gas based technologies.

India's extensive plans

The projected power requirement for India is 440 GW in the year 2017 as against the current capacity of 150 GW, necessitating an average capacity addition of more than 35 GW per year. In the business as usual scenario, an addition of a maximum of 10 GW per year has been possible over past couple of years, implying a huge supply-demand mismatch. Moreover, being out of the nuclear Non-Proliferation Treaty, India had been largely excluded from technology/fuel transfer for its nuclear power program. As India aspires to be global leader in world economy, a strategic decision by the Government of India to formally recognize the inevitability of the nuclear power and accelerate its nearly stagnant nuclear power program through mechanisms such as Indo-US civil nuclear deal couldn't have come at a more appropriate moment. Plans to enhance nuclear power capacity to 63 GWe by 2032, from the present 4 GWe, now seem to be a reality. India already has a well proven record of nuclear technology. Its 17 Nuclear power stations have been generating electricity at competitive tariffs as against contemporary coal thermal power stations. NPCIL has chalked out 3-stage indigenous nuclear power program in line with the vision of Shri Homi Bhaba, linking fuel cycle of each stage in such a manner that it multiplies the potential of nuclear fuel several folds. The program, as briefed hereunder, supports sustainable power development, given the limited uranium resources but abundant thorium reserves India has.

- **Stage – I:** Construction of natural uranium, heavy water moderated and cooled Pressurized Heavy Water Reactor (PHWR). Spent fuel from these reactors to be later processed to obtain plutonium.
- **Stage – II:** Construction of Fast Breeder Reactors (FBRs) fuelled by plutonium produced in Stage – I. These reactors would also breed U-233 from thorium.
- **Stage – III:** It would comprise of power reactors using U-233/thorium as fuel.

IndianOil's nuclear power foray

Fully aware of its role in energy security for the country and also towards its triple bottom line commitments, IndianOil has done reasonably well in its green energy initiatives like wind and solar. The idea of entering nuclear power appeared to be a perfect fit in its vision to be the "Energy of India". While the new Vision was launched on 30th June, 2009, on the occasion of its Golden Jubilee celebrations, the concept of IndianOil's foray into nuclear power was formally shared with the

Board on 27th June, 2009 during the Strategy Meet at Goa. Since then, the journey was remarkably fast and smooth, thanks to the constant support, guidance and follow up of Sh BM Bansal, Director (P&BD) and the untiring efforts of CP&ES team. The concept was then shared with Secretary, MoP&NG by our Chairman on 12th August, 2009, who was equally excited with the novelty of the idea and expressed his thoughtful consent. Subsequently, the final nod from the Board to sign an MoU with NPCIL came on 31st August 2009. It then took a couple of months and a few rounds of negotiations with NPCIL officials to finalize the MoU. The speed and support exhibited by Shri R. Narayanan, ED (CA), Shri AMK Sinha, ED (CP&ES), team NPCIL and team CP&ES was astounding. On the invitation of NPCIL, a team from Corporate Office also visited NPCIL's Kudankulam plant, which is in the advanced stage of completion.

The wait for the red letter day was finally over on 4th November 2009, when Shri Sarthak Behuria, Chairman IndianOil and Shri S. K. Jain, CMD, NPCIL signed the MoU. A new era of cooperation between two PSUs and a new definition of PPP (PSU-PSU-Partnership) had emerged. IndianOil considers the tie-up with NPCIL a unique WIN-WIN business model for both the entities, as NPCIL looks for competent partners and IndianOil needs to widen its energy basket. In the words of Shri Sarthak Behuria, "This is just the beginning. I am sure, this initiative would go a long way and significantly contribute to fulfill the energy needs to the people of this nation, an objective that both these organizations have been nurturing so well."

Shri Sarthak Behuria, Chairman IndianOil and Shri S. K. Jain, CMD, NPCIL exchanging MoU document. IOC officials from right are: Shri AMK Sinha, ED (CP&ES), Shri R Narayanan, ED(CA), Shri G.C. Daga, Director (M), Shri S. V. Narasimhan, Director (F), Shri B. M. Bansal, Director (P&BD), Shri S K Sarangi, GM (CP&ES) & Shri P Narang, CM (CP&ES). Officials from NPCIL, present during the occasion, include Shri J. K. Ghai, Director (F), (fifth from left) & Shri G. Nageswara Rao, Director (Ops) (sixth from left).

A befitting Feather in the cap

At the dawn of the nuclear age half a century ago, the fledgling nuclear industry promised 'energy too cheap to meter' from our tiny friend - the atom. The 21st-century version of that promise offers not only freedom from imported oil, but also an antidote to global warming. As the P&BD Group celebrates its 15th anniversary, the initiative on diversification into nuclear comes as yet another colorful feather in its cap.

Nuclear Power Facts

- A 4 gram pellet produces same amount of energy as a ton of coal or 150 gallons of gasoline.
- The first nuclear reactor was built in USA in 1942 under the direction of Mr. Enrico Fermi, the famous Italian physicist. USSR built its first reactor 4 years later.
- The first Nuclear Power Plant (NPP) was built in Obninsk (Russia) in 1954. This 5 MW power plant worked accident-free for 50 years.
- Nuclear power contributes to 17 % of electricity generation in the world today.
- USA has the largest no. of NPPs - 104 units with total capacity of about 100 GW. They generate 20 % of electricity of USA.
- France has 59 NPPS, contributing about 80 % of the country's total electric power.
- The safety record of nuclear power is outstanding. Only two fatal accidents have been reported worldwide, one at Chernobyl (Ukraine) in 1986, where the death toll was 31 and a little known accident in Japan (in 1999), wherein two persons violated the safety procedures, while mixing up the fuel for an experimental reactor and succumbed to the exposure. The only other reported major nuclear accident at Three Mile Island (Pennsylvania, USA) in 1979 did not result in any fatalities.
- NPPs emit no carbon dioxide (which contributes to global warming and the greenhouse effect) nor sulfur and nitrogen oxides (which cause acid rain).
- India's Thorium reserves have potential to generate 358,000 GWe years, i.e. 358 GWe per year for 1000 years

Carbon Trading – How does it work?

A country (or group of countries) 'caps' its carbon emissions at a certain level (that's why it is called 'cap and trade') and then issues permits to firms and industries that grant the firm the right to emit a stated amount of carbon dioxide over a time period. Firms are then free to trade these credits in a free market. Firms whose emissions exceed the amount of credits they possess will be heavily penalized. The idea behind carbon trading is that firms, that can reduce their emissions at a low cost, will do so and then sell their credits on to firms that are unable to easily reduce emissions. A shortage of credits will drive up the price of credits and make it more profitable for firms to engage in carbon reduction. In this way the desired carbon reductions are met at the lowest cost possible to society.

From 'Emerging Scene' to 'Energy Digest' – Spreading Knowledge Far & Wide

Jessica Singh
Planning Officer (CP&ES)

Over the years, Corporate Planning & Economic Studies (CP&ES) Department has earned the reputation of being a repository of knowledge not only for Planning & Business Development group but also for the entire corporation. It is as much important to accumulate/analyze information/ knowledge as it is to share the same. In line with this objective, CP&ES group has set long traditions of bringing out knowledge-based publications, which are relevant to the contemporary domains of energy, economy & environment. It is through these publications that CP&ES has emerged as the knowledge-centre for the entire corporation.

Emerging Scene (1995): The publication ball was set rolling with the publication of Emerging Scene. A quarterly magazine with a unique format, containing one essay and one article on issues concerning the corporation and the oil & gas sector, fact & figures along with news & environment scan.

Vithika (2003): No company operates in isolation. In addition to the actions of its competitors in the industry, the larger macro economic developments also impinge on its performance. This is especially true for a company like IndianOil, which is a constituent of the critical energy sector & has country wide operations. Developments in international oil markets also have a lot of bearing on its performance. Keeping this in view, a quarterly bulletin named 'Vithika' was started. It provided an overview of the macro economic developments in the country, developments in oil industry, both within & outside the country. In addition to this, every issue of Vithika carried a special article with the objective of providing in-depth analysis. Vithika also provided snippets of news and major happenings in the industry.

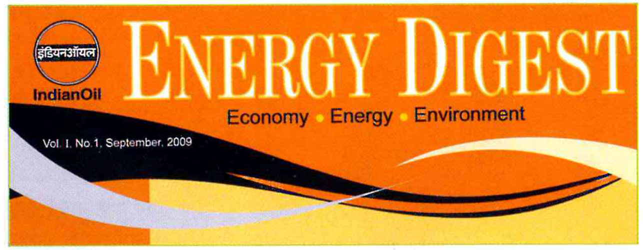
Fact Book: Information is an important ingredient of success in today's business environment. Most of the times, information is available in a scattered form and is often not in a user friendly format. CP&ES took upon itself to fill this void by providing relevant economy/energy/allied data at one place in an organized way & readily retrievable form. Every year since 2006-07, CP&ES has been bringing out its annual Fact Book, which serves as a ready reckoner by providing time series data on Macro-Economic Parameters, World & Indian Oil & Gas, Petrochemicals Sector and details of Industry & IndianOil's performance. Though hard copies of the Fact Book have limited circulation, soft copies are circulated throughout the corporation. It is also available in soft form at the intranet site of CP&ES. On 7th January 2010, Shri Sarthak Behuria, Chairman, released the 'Fact Book 2009' during CMC/Communication at Corporate Office.

Shri Sarthak Behuria, Chairman, releasing 'Fact Book 2009' on 7th January 2010 in presence of Shri BM Bansal, Director (P&BD) during CMC.

Economy Mirror: Since January 2007, CP&ES has been bringing out the fortnightly 'Economy Mirror'. This brief write-up focuses on a current issue concerning the Indian/ international economy/ energy sector. The snapshots are concise & crisp and aim to develop understanding and perspective of the 'topic-in-focus'. The Economy Mirror is published online at www.IndianOilXpress.com, every alternate Monday. Through the Economy Mirror, CP&ES has been able to disseminate knowledge on a variety of issues in a user friendly format.

Macroview: In 2007, CP&ES started contributing neatly researched, lucidly written & easily understandable articles of contemporary relevance for publication in the monthly newsletter IndianOil News under the section titled "Macroview from CP&ES: The Big Picture Simply Explained". As the name suggests, it is an attempt to explain complex issues to the general reader in a simple-to-understand manner. Articles on topics like "China Growth Story", "Carbon Credits", "Purchasing Power Parity" have been published at different times. The depth and simplicity of articles have been highly appreciated by many readers.

Energy Digest: The latest feather in the cap of CP&ES is Energy Digest, the quarterly corporate journal, the first issue of which was released by Chairman on IndianOil Day, 1st September 2009, on the occasion of Golden Jubilee Celebrations. Recognizing the importance of building sustainable energy systems and the complex and vital inter-linkages amongst the macro-troika 'Energy-Economy-Environment' (EEE or E3), P&BD (CP&ES group) conceptualized Energy Digest, which focused on vital issues concerning E3 through a collection of articles with in-depth analysis, contributed by people from within and outside the organization. The motto of the Energy Digest is 'To be a symbiotic channel for sharing knowledge, experience and viewpoints amongst various constituents of the energy sector, so that perspectives are created, enhanced, refined and ultimately applied in the pursuance of development of sustainable energy systems'.



World's Largest Oil Field

Ghawar oil field, an on-shore oil resource located in eastern Saudi Arabia is the largest conventional oil field in the world. It is spread across 8400 sq km, more than 7 times the size of Delhi State! The total recoverable reserves in this field are 75-83 billion barrels (past & future). Its current production is 5 million barrels per day (~6.5% of world) - equivalent to 1.7 times India's consumption! Ghawar oil field is owned and operated by Saudi Aramco, the nationalized Saudi oil company. This oil field was discovered in 1948 and production started in 1951. Relatively little is known about Ghawar because the company and Saudi government closely guard field performance information and per-field production details. Available information is predominantly historical (pre-nationalization), from incidental technical publications, or anecdotal, as per which, this oil field peaked in the year 2005.

Source: Wikipedia

World's First Oil Refinery

The first oil refineries in the world were built by Ignacy Lukasiewicz near Jaslo, Austrian Empire (now in Poland) from 1854 to 1856. They were initially small, as there was no real demand for refined fuel. As Lukasiewicz's kerosene lamp gained popularity, the refining industry grew in the area. World's first large refinery opened at Ploesti , Romania, in 1856-1857 with US investment. After being taken over by Nazi Germany, Ploesti refineries were bombed by the Allies during World War II. Another early large refinery is Oljeön, Sweden (1875), is now preserved as a museum at the UNESCO world heritage site Engelsberg and part of the Ecomuseum Bergslagen.

Source: Wikipedia

Nelson Complexity Index

Nelson complexity index was developed by Wilbur L. Nelson in a series of articles in Oil & Gas Journal in 1960-61. The Oil and Gas Journal calculates refinery complexity as measured by the Nelson Complexity Index annually. The term describes a measure of the secondary conversion capacity of a petroleum refinery relative to the primary distillation capacity.

The Nelson complexity index assigns a complexity factor to each major piece of refinery equipment based on its complexity and cost in comparison to crude distillation, which is assigned a complexity factor of 1.0. The complexity of each piece of refinery equipment is then calculated by multiplying its complexity factor by its throughput ratio as a percentage of crude distillation capacity. Adding up the complexity values assigned to each piece of equipment, including crude distillation, determines a refinery's complexity on the Nelson Complexity Index.

The Nelson complexity index indicates not only the investment intensity or cost index of the refinery, but also its potential value addition. Thus, the higher the index number, the greater the cost of the refinery, and the higher the value of its products.

As per author Robert Maples, US refineries rank highest in complexity index, averaging 9.5, compared with Europe's at 6.5. The Jamnagar Refinery of Reliance Industries Limited is now one of the most complex refineries in the world with a Nelson complexity index of 14.

Planning & Business Development – List of Employees

Name	Designation
Director(P&BD)'s Secretariat	
BM Bansal	Director (P&BD)
Sanjeev Gupta	Chief Manager (BD)
HC Taneja	Manager (Administration)
AK Bhattacharjee	Executive Secretary Gr.B
Petrochemicals	
SC Meshram	Executive Director (PC)
S Mitra	General Manager (PC)
AK Verma	Dy. General Manager (BD-PC)
Sanjiv Shah	Dy.General Manager (PJ PC)
R Nanda Kumar	Chief Manager (PC-Marketing)
RV Prabhu	Chief Manager (PC-Marketing)
KK Goyal	Chief Manager (PC-Marketing)
Sameer Garg	Chief Manager (PC-Marketing)
SK P Singh	Chief Manager (PC-Marketing)
TS R Gopala Rao	Chief Manager (PC-Marketing), Mumbai
KK Sharma	Chief Manager (PC-MO)
KD Shah	Chief Manager (PC-MO)
Sukanta Bhattacharjee	Chief Manager (BD-PC)
Sanjaya Bhatnagar	Chief Manager (BD-PC)
Dr. SS Ray	Chief Manager (PADC)
Rudra Prasad Sengupta	Chief Manager (PC-PJ)
Debabrata Khastagir	Sr. Manager (PC-Marketing)
Mathew C George	Sr. Manager (PC-Marketing)
AV Raghunadhan	Sr. Manager (PC-Marketing)
Satyendra Sahai	Sr. Manager (PC-Marketing)
MC Gupta	Sr. Manager PC-Marketing)
SK Roy	Sr. Manager (PC-Marketing)
Subrata Kumar Bandyopadhyay	Sr. Manager (PC-Marketing)
Marwaha Arun	Sr. Manager (PC-Marketing)
Sameer Garg	Sr. Manager (BD-Finance)
S Jaikumar	Sr. Manager (BD-PC)
Abhay Shrikrishna Mulay	Sr. Manager (PA&D)
Sandeep Khanna	Sr. Manager (Polymer Export)
SG Terawkar	Manager (Finance-PC Mktg)
Arvind Bimbisariye	Manager (PC-Marketing)
Kabisekher Laha	Manager (PC-Marketing)
Manoj Kumar Jha	Manager (PC-Marketing)
Sumit Basu	Manager (Tech. Services)

Name	Designation
RC Das	Manager (PC-Marketing)
Alak Mazumder	Manager (PC-Marketing)
Utpal Basak	Manager (PC-Marketing)
Ramadoss	Manager (PC-M)
Awanish Kumar	Manager (PC-MO)
Vivek Janakrai Mehta	Manager (PADC)
Dhananjay Sahoo	Manager (PADC)
Vivek Janakrai Mehta	Manager (PADC)
Dhananjay Sahoo	Manager (PADC)
Manindar Kaur Narula (Ms)	Manager (IS)
Rajesh Pathak	Dy. Manager (PC-Marketing)
Avinash Dubey	Dy.Manager (PC-Marketing))
Anupam Mishra	Dy.Manager (Polymer Marketing))
Prabhdeep Singh Chandhoka	Dy. Manager (PC-MO)
Rahul Khodaskar	Dy.Manager (PC-MO)
Shivani Paul (Ms)	Dy. Manager (PC-MO)
Evabeth Shullai	Dy. Manager (PC-MO) Panipat
Kumar Suresh	Dy.Manager (P-RD)
Anindya Ray	Assistant Manager (PC-Marketing)
Varsha Maheswari (Ms)	Assistant Manager (PC-Marketing)
Nikhil Kalani	Assistant Manager (PC-Marketing)
Saurabh Agarwal	Assistant Manager (PC-Marketing)
KS Kant	Sr.Officer (PC-Marketing)
AK Singh	Sr.Officer (PC-Marketing)
Manisha Bhargava (Ms)	Senior Officer (PC)
Subrata Samanta	Assistant Manager (Tech.Services)
Raja Poddar	Assistant manager (PADC)
Sukalpa Paul	Asstt. Manager (PC -MO) Panipat
Yugandhar Putta	Assistant Manager (PC-M), Hyderabad
Satya Bhushan	Assistant Manager (PC-M), Chennai
Parveen Grover (Ms)	Private Secretary Gr.B
RK Maggo	Private Secretary Gr.B
Athar Ibraheem Khan	Officer (PC-M)
Rakesh Kumar	Officer (PC-M)
Venkata Hara Pradeep Budda	Officer (PC-M)
Mohammed Sirajuddin	Officer (PC-M)
Ankit Sharma	Officer (PC-M)
Anupama Rose Tirkey (Ms)	Officer (PC-M)
Anshul Gupta	Officer (PC-M)
Rakesh Kumar Pandey	Officer (PC-M)

Name	Designation
Neha Ranjan (Ms)	Officer (PC-M)
S Lianmuansang	Officer (PC-M)
Nirendra Kumar	Officer (PC-M)
Sandeep Kumar	Officer (PC-M)
Deepak P	Officer (PC-M)
Aditya Gupta	Officer (PC-M)
Saurabh Nandy	Officer (PC-M)
Navneet Singh	Officer (PC-M)
Rajesh Kumar	Officer (PC-M)
Saurabh Chaurasia	Officer (PC-M)
Deep Banerjee	Officer (PC-M)
Parveen Kumar	Officer (PC-M)
Anand Dwivedi	Officer (PC-M)
Shiveka Nand	Officer (PC-M)
Navneet Kaushal	Officer (PC-M)
SS Rao Chowdary Chava	Officer (PC-M)
Santosh Kumar	Officer (PC-M)
Ashish Kumar Jha	Officer (PC-M)
Ranjit Kumar	Mktg Officer (Polymers)
KN Sharma	OO (PC-M)
Prabhat Ranjan	Officer (PC-MO)
Abhinav Pandey	Officer (PC-MO)
Nava Jyoti Deka	Officer (PC-MO)
RKP Sinha	Officer (PC-MO)
Krishan Sahay	Officer (PC-MO)
P Sasibhushana Rao	Officer (PC-MO)
Arpit Gupta	Officer (PC-MO)
Ashish Gupta	Officer (PC-MO)
Roopansh Jain	Officer (PC-MO)
Karun Kumar	Officer (PC-MO)
Utkarsh Deep	Officer (PC-MO)
Shyam Kishor Singh	Officer (PC-MO)
Shishir Ranjan	Officer (PC-MO)
Shyambabu K	Officer (PC-MO)
Ayush Gupta	Officer (PC-MO)
Ravi Indurkar	Officer (PC-MO)
Shashwat Malkani	Officer (PC-MO)
Kumar Krishana Chandra	Officer (PC-MO)
Achyut Ashesh	Officer (PC-MO)
Raman Sinha	Officer (PC-MO)
Manish Modi	Officer (PC-MO)

Name	Designation
Ashik Prasad	Officer (PC-MO)
Praveen Sagar	Officer (PC-MO)
Vinay	Officer (PC-MO)
Jugendra Singh	Officer (PC-MO)
Rakesh Kumar	Officer (BD-PC)
Shailendra Kumar	Officer (BD-PC)
Prasoon Saxena	Officer (BD-PC)
Dheeraj .	Officer (BD-PC)
Anoop Sharma	Officer (BD-PC)
Akhil Tyagi	Officer (BD-PC)
Bijaya Roy (Ms)	Officer (PC)
Paramita Som (Ms)	Tech. Officer(Polymers)
Vikram Kumar Soni	Tech. Officer (Polymer)
Naveen Garg	Tech. Officer (Polymer)
Aurobindo Sahoo	Tech. Officer (Polymer)
Ponnuswamy Kalimuthu	Tech. Officer (Polymer)
Amol Arun Chhapanimohan	Tech. Officer(Polymers)
Arpan Chakraborty	Tech. Officer(Polymers)
Unmeet Kumar N Khambadkar	Officer (Tech. Serv.-Polymers)
Robert T Lianmalsawn	Officer (PC)
Swati Krishna (Ms)	Officer (PC-PJ)
Prabhu Narain Chakrawal	Officer (PDAC)
Suresh Mani	Officer (PDAC)
Sandeep J Patil	Officer (PDAC)
Santhosh Kumar Garapati	Officer (PDAC)
P Shyam Kumar	Officer (PDAC)
M Amutharasan	Officer (PDAC)
Sudhir Sudhakar Ambaskar	Officer (PDAC)
Sandeep Sharma	Accounts Officer
Biofuels	
BB Choudhary	General Manager(BD-Bio Fuels)
GK Vij	Executive Secretary, Gr.B
AK Wanchoo	Chief Manager(BD-Bio Fuels)
Saurabh Dutt	Sr. Manager(BD-Bio Fuel)
Arun Sengar	Manager(BD-Bio Fuel)
Naresh Kaushik	Manager(BD-Bio Fuel)
Sanjaya Kumar Das	Dy.Manager(BD-Biofuels)
Sachin Swami	Asistant Manager(BD-Biofuels)
Anand Prakash	BD Officer-Biofuels
Prashant Kumar Sharma	BD Officer-Biofuels

Planning & Business Development – List of Employees

Name	Designation
Anil Kumar M	BD Officer-Biofuels
Sunil Rajagopal	BD Officer-Biofuels
Saranyan R	BD Officer-Biofuels
Gauri Sinha (Ms)	BD Officer-Biofuels
Prakash Chand Gupta	Dy. Manager - Biofuels, Jhabua
G Karthik	BD Officer-Biofuels, Jhabua
Sanjeet Kumar Sameer	BD Officer-Biofuels, Jhabua
Amit Mandhanya	BD Officer-Biofuels, Jhabua
Neeraj Khare	Asstt Manager (BD-Biofuels), Jhansi
Shantanu Mukherjee	BD Officer-Biofuels, Jhansi
IOC-CREDA Biofuels Ltd., Raipur	
SC Gupta	CEO
AK Sahoo	CFO & CS
Sujoy Bhattacharya	Group Head (B.O.)
Birendra Singh Raghuwanshi	Zonal Manager, Ambikapur
Anil Kumar Ambasht	Zonal Manager, Raipur
Ashok Patel	Zonal Manager, Bilaspur
Sushil Kumar	Sr Regional Manager, Raipur
Vivek Kumar	Regional Manager, Bilaspur
Sunil Kumar Roy	Regional Manager, Raipur
Kshitiz Sanadhaya	Regional Manager, Ambikapur
Sreejit Basu	Regional Manager, Ambikapur
Gas	
V Damodaran	General Manager(Gas)
Sunil Gupta	Dy. General Manager (Gas Sourcing)
Sanjay Manchanda	Dy. General Manager (Gas Management)
Md Aquil Ahmad	Dy. General Manager(Gas Group)
SK Satija	Dy. General Manager(BD-Gas)
VK Kaul	Dy. General Manager(BD-Gas)
VP Sinha	Dy. General Manager(LNG)
Debasish Nanda	Chief Manager(Gas Mktg)
Manish Grover	Chief Manager(Gas Mktg)
K Ramu	Chief Manager(Gas Sourcing)
G Kodandaram	Chief Manager(Gas Mktg)
AK Jha	Chief Manager(LNG)

Name	Designation
GSP Singh	Chief Manager(LNG)
Harish Manchanda	Chief Manager(LNG)
PRS Yadav	Chief Manager(LNG)
Seema Dikshit Venkatesh (Ms)	Sr. Manager (Gas Knowledge Management)
JP Misra	Sr. Manager(LNG)
TS Anand	Executive Secretary Gr.D
AK Roy	Dy. Manager(Gas Management)
SK Mishra	Dy. Manager(Gas Management)
Rajaram N C	Dy. Manager(LNG)
Bulumani Hazarika (Ms)	PS-I
Pradhan Purty	PS-I
Ranjith Kumar R	Engineer(Gas Management)
BD-Refineries & Pipelines	
AK Guha	ED (BD-R&P)
R Ramakrishnan	GM (BD-R&P)
KK Biswas	CM(BD-R&P)
DB Paranjpe	CM(BD-R&P)
Josy VM	CM(BD-R&P)
S Ganguly	CM(BD-R&P)
Premlata Golani (Ms)	ES GR B
SP Dhyani	PS-I
BD-Marketing	
RK Tiku	Dy. General Manager (BD-Mktg)
B Ravindran	Sr. Manager (BD -Mktg)
Gopal	Executive Secretary Gr.B
Exploration & Production	
VS Okhde	Executive Director(E&P)
AK Tiwari	General Manager(E&P)
DK Garg	Dy.General Manager(E&P)
Hridesh Baindail	Chief Manager(E&P)
Mohan Joshi	Sr.Admninistration Manager
Sobhan Pathak	Manager(E&P)
Sandeep Jain	Dy. Manager (E&P)
SK Srivastava	Dy. Manager (E&P)
Santanu Samanta	Dy. Manager (E&P)

Name	Designation
Madan Lal	Executive Secretary Gr.C
Barun Chatterjee	BD Officer(E&P)
Pankaj Singh	BD Officer(E&P)
Rajib Mondal	BD Officer(E&P)
Pranamika Bora (Ms)	BD Officer(E&P)
Rakesh Roshan Rana	BD Officer(E&P)
Gurram Vishwanath Reddy	BD Officer(E&P)
Madanlal Prasad	BD Officer(E&P)
Savita Dahiya (Ms)	Officer(E&P)
Shadab Raza	Officer(E&P)
Bikash Kumar Gupta	Officer(E&P)
Moti Lal Gautam	Officer(E&P)
Janmejay Dash	Officer(E&P)
Debdatta Bakshi (Ms)	Officer(E&P)
Krishna Das	Officer(E&P)
Arshil Aazam Khan	Officer(E&P)
Nilabh Kumar Sinha	Officer(E&P)
Chaitanya N K	Officer(E&P)
Narendra Kumar Singh	Officer(E&P)
Vishal Yadav	Officer(E&P)
Kanak Umiyashankar Mehta	Liaison Officer
Brij Lata Kanwar (Ms)	PS-I
Corporate Planning & Economic Studies	
AMK Sinha	Executive Director(CP&ES)
Satish K Sarangi	General Manager (CP&ES)
Barun Barpujari	General Manager (CP&ES)
SN Sukhwal	Dy. General Manager (CP&ES)
PK Goswami	Dy. General Manager (CP&ES)
Sanjoy K Dam	Chief Manager (CP&ES)
Pramod Narang	Chief Manager (CP&ES)
Rohit Dawar	Senior Manager (CP&ES)
Bibhuti R Pradhan	Senior Manager (CP&ES)
Pravin T Dongre	Manager (CP&ES)
NN Mahato	Manager (CP&ES)
Kamlesh M Gupta	ES to ED (CP&ES) Gr B
AK Singh	ES to GM (CP&ES)
Jessica Singh (Ms)	Officer (CP&ES)
MM Arora	ES to GM (CP&ES)
Rohit Raj	Officer (CP&ES)
Ravindra Kumar Meena	Officer (CP&ES)

Name	Designation
BD-Finance	
SC Jain	Executive Director (BD-Finance)
DK Garg	Dy.General Manager (BD-Finance)
RAilawadi	Chief Manager(BD-Finance)
TC Shankar	Chief Manager(BD-Finance)
Ashish Gauba	Chief Manager(BD-Finance)
S Das	Senior Manager(BD-Finance)
Arunima Chaliha (Ms)	Senior Manager(BD-Finance)
Samir Garg	Senior Manager(BD-Finance)
SG Terwarkar	Manager Finance
GK Seth	Manager Finance
Manmeet Kharbanda	Dy.Manager(BD-Finance)
Ruchita Malhotra (Ms)	Dy.Manager(BD-Finance)
AK Khator	Sr.Accounts Officer
Sangeeta Chanana (Ms)	Executive Secretary Gr.B
Abhishek Bansal	Accounts Officer
Ruchi Jain (Ms)	Accounts Officer
Prabhat Kumar	Accounts Officer
Puneet Garg	Accounts Officer
Anjana Saha (Ms)	Accounts Officer
Sandip Sharma	Accounts Officer
BD-Administration	
JR Mukherjee	Dy.General Manager(A&W)
Anil Kapoor	Manager(BD-A&W)
Gurcharan Singh	Manager(BD-Admn)
Meena Kapoor (Ms)	Sr.Admn.Officer
RK Magon	Executive Secretary Gr B

VISION

Ethics
Setting high standards for ethics and values

Customers
Fostering relationships for a lifetime

People
Leading with passion to excel

इंडियनऑयल

IndianOil

The Energy of India

A Globally Admired Company

Technology
Harnessing frontier technology

Innovation
Pioneering the spirit of creativity and research

Environment
Caring for the environment and community

VALUES

Care • Innovation • Passion • Trust

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