



PICTORIAL REPORT



Theme: Future of Oil & Gas in India's Energy Security

Focus I: 'Brownfield Redevelopment & Management for Energy Security

Focus II: 'India as a HUB for Manufacturing of Oil Field Equipment & Services'

powering nations growth India 2013

2nd National Convention

Friday 26th & Saturday 27th July 2013 at Hotel ITC Maratha, Near Sahar International Airport, Mumbai



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THE PROGRAMME

Day I – Friday, 26th July, 2013

(9:00 am - 9:45 am) Registration & Tea

(10:00 am - 11:30 am) Inaugural Session

- 10:00 am : Hon'ble Ministers arrive & are greeted with flowers and introduced to the 'NAC Members' & other prominent invitees.
- 10:05 am : Lighting of the Traditional Lamp
- 10:10 am : Welcome Address : **Shri R.S. Pandey**
(Former Secretary – Petroleum & Natural Gas),
Chairman, National Advisory Council
- 10:20 am : About the Convention : **Shri Indra Mohan**
President, India-Tech Foundation
- 10:45 am : Keynote Address II : India as a HUB for Manufacturing of Oil Field Equipment & Services
-Shri A. K. Purwaha, CMD, Engineers India Ltd.
- 11:00 am : Guest of Honor's Address: **Hon'ble Smt. Lakshmi Panabaka**
Union Minister of State for Petroleum & Natural Gas
- Inaugural Address: **Hon'ble Dr. M. Veerappa Moily**,
Union Minister of Petroleum & Natural Gas
- Vote of Thanks : **Shri Ashish Gupta**
Secretary General, India-Tech Foundation

Tea Break – 11.30 am to 12.00 noon

(12:00 noon - 1:30 pm) Keynote Session-I

- Session Chairman: **Shri A. K. Purwaha**,
CMD, Engineers India Ltd.
- Interface between Oil & Gas and the Power Sector
-Dr. A. K. Balyan,
MD & CEO, Petronet LNG Ltd.
- Shri S. D. Prasad**,
G.M., Gas Sourcing, NTPC
- Gas Sourcing and National Gas Grid
-Shri J. Wason,
Chief Executive Officer, GAIL Gas Ltd.

(1:30 pm - 2:30 pm) Networking Lunch

(2:30 pm-5:30pm) Keynote Session-II- Round Table Meet

- Theme: Vision 2025 & Road Map for Oil & Gas Sector
Chairman & Moderator : **-R. S. Pandey**,
Former Secretary, Petroleum & Natural Gas.
- Co-Chairman: **-Shri J. G. Chaturvedi**,
ED - Asset Manager (Ahmedabad), ONGC Ltd.

Topics for 'Round Table Meet':-

- I. LNG Sourcing
-Dr. A. K. Balyan, MD & CEO, Petronet LNG
 - II. Unconventional Sources of Hydrocarbon - Indian perspective
-Shri Sanjay Chawla, Head Alternate Energy,
DG – Hydrocarbons
 - III. Challenges faced in Deep Water Drilling & Production
- Shri K. B. Chaudhary, GM & Head - Drilling, ONGC
 - IV. FDI in Oil & Gas Sector in India
- Shri Deepak Mahurkar, Director,
Pricewaterhouse Coopers (PwC)
 - V. Enhanced Oil Recovery in Matured Field
-Shri Suresh Kumar,
Sr. Advisor, Cairn India
 - VI. Monetization of Marginal Fields
-Shri B. S. Negi, Former Member,
Petroleum & Natural Gas Regulatory Board
 - VII. IT in Oil & Gas Sector
-Shri Karthikeyan D.
Industry Leader - IBM India - South Asia
- (6:30 pm onwards) Networking Cocktail & Dinner

Day II – Saturday, 27th July, 2013

(10:00 am – 1:00 pm) Keynote Session-III

- Session Chairman : **Shri R. S. Pandey**,
Former Secretary, Petroleum & Natural Gas
- Co-Chairman : **-Shri B. S. Negi**, Former Member,
Petroleum & Natural Gas Regulatory Board
- Challenges & Solutions for Asset Management
-Shri S. Rath, Director-Operations, Oil India Ltd.
- Challenges & Solutions for Asset Management
-Shri L. B. Muralidhar, Vice President (Operations),
BG Exploration and Production India Limited
- CBM Technology & Monetization
-Dr. Shailendra Kumar Singh,
VP & Head - CBM Division, Essar Oil Limited
- Need for CNG & Systems of Converting
- Shri P. K. Pandey,
Chief General Manager (Operation), Indraprastha Gas Ltd.
- Risk Based Inspection Methodology for Offshore Structures
-Shri Ashutosh Thanvi,
Sr. Structural Engineer - DNV Mumbai
- Marine Logistics Challenges in Oil & Gas Sector
-Shri S. Hajara,
Former CMD, Shipping Corpn. of India
- (1:00 pm - 2:00 pm) Networking Lunch

EXPERT TALK



Dr. M. Veerappa Moily,
Union Minister of Petroleum & Natural Gas

- Increase in gas prices will help global oil companies with advanced technologies to invest in India for oil exploration.
- Government cannot afford to take timid decisions for the petroleum sector. We need to achieve overall growth of economy on a faster phase on a sustainable basis and protecting the interest of both consumers and producers.
- We don't have the giants like Exxon, except BP, coming to India. In future, nobody will come if gas prices are not revised. We are not ready to pay \$6.8 per mBtu in India but are importing LNG (liquefied petroleum gas) at \$17.
- Either Produce Oil & Gas or Simply Perish!!! There is no intermediate way. Over 3 Trillion Cubic Feet of discovered gas reserves are not being developed as they are not viable at \$4.2 per mBtu. Everything has a price and you have to give the price.
- If volumes increase, more investments and latest technologies will come into the sector and then the gas prices may even come down in the future.
- Due to the increase in gas price new hydrocarbon blocks in Tripura and Cavery basin will become commercially viable

Smt. Lakshmi Panabaka,
Union Minister of State for Petroleum & Natural Gas



India has emerged as a major refining HUB in the world. To meet the growing demand of petroleum products, the refining capacity in the country has gradually increased over the years by setting up new refineries in the country as well as by expanding the refining capacity of the existing refineries. Nation endeavors to bridge the ever-increasing gap between demand and supply of petroleum products by intensifying exploratory efforts for Oil & Gas in the Indian sedimentary basins and abroad. India is now producing CBM on a commercial scale.



Shri R. S. Pandey,
*Former Secretary-Petroleum & Natural Gas
& Chairman, National Advisory Council*

Policy and decisions has to go hand-in-hand in the Oil & Gas Sector which has been functioning efficiently due to the sheer efforts of Union Minister of Petroleum & Natural Gas, **Dr. M. Veerappa Moily**. Criticality of Oil & Gas Sector lies in the fact that there is not a single household in the country which does not require Oil & Gas. Considerable efforts are required and there is a need to have a fresh look at the perspective of Oil & Gas sector in India.



(L to R) : S. D. Prasad, GM, Gas Sourcing,

said, "Oil & Gas contributes nearly half of primary energy resource i.e 45% which is being provided through 40,000 outlets without any interruption or shortage. In India, in coming decade's i.e around 2030, if the production of Oil is curbed, the output of gas will be double at about 80 BCM. Gas is cleaner and relatively cheaper compared to Oil even being at the highest import price of energy. The major deterrents faced in Oil & Gas sector are efficient pipeline networking and lack of transparency in the LNG business."

Shri Indra Mohan President, India-Tech Foundation introduced the theme of the convention, and also extended his warm welcome on behalf of India-Tech Foundation to the Honorable Ministers, Keynote and Eminent Speakers, Session Chairmen, Technocrats, Entrepreneurs, Members of the Counselor Corps and the Press Media. During his introductory remarks he said, "Energy security is of prime importance for India – one of the fastest developing economies in the world. Therefore, for achieving energy security, a focus needs to be on improving the productivity from new finds – both in India & Abroad – as well as from depleting & marginal fields. The changes in the international crude oil prices make a significant impact on the economy due to its significant forward integration with many other sectors. The need of the hour, therefore, is to channelize all efforts on exploration of new blocks effectively as well as efficiently and use to technology like Brownfield management. Indian Economy will need the support of Oil & Gas sector to meet its burgeoning demands and expectations."

A keynote address on "India as a HUB for Manufacturing of Oil Field Equipment & Services" was given by **Shri A. K. Purwaha**, CMD, Engineers India Ltd who said "We are highly dependent on foreign players for Oil Field equipment and services. Developing India as a HUB for manufacturing of Oilfield equipment and services will be an opportunity to exploit the vast business potential it offers in this sector. The rising demand for Oil & Gas has resulted in increased exploration activity leading to the shortage in oilfield services like deep water rigs. Operators are finding it difficult to contract off-shore rigs to fulfill their exploration, development and production program. The large gap between the required and available infrastructure needs to be bridged."

Hon'ble Smt. Lakshmi Panabaka, Union Minister of State for Petroleum & Natural Gas said, "Our Country is one of the fastest growing economies in the world with GDP growth projected at about 9% during 12th Five year Plan. In order to meet the growing energy needs, govt. and Oil companies have taken several steps to enhance hydrocarbon security for the country through domestic oil exploration by NELP policy. Acquisition of overseas Oil & Gas assets, Development of unconventional Oil & Gas sources, Coal Bed Methane policy, development of Oil & Gas infrastructure, enhancing of refinery capacities, strategic storages of crude Oil and conservation of Oil & Gas through adoption of energy efficient practices are being followed by the nation. India & Finland have decided to join efforts in the area of sustainable development for mutual benefits in the Oil & Gas sector which includes specific projects in solar energy applications for Oil & Gas projects; Bio-Fuels & Algae based bio-fuels research and water & waste water management."

In his Inaugural Address Union Petroleum Minister, **Hon'ble Dr. M. Veerappa Moily**



R. S. Pandey, (Former Secy-P & N G) Chairman, National Advisory Council Presents a Memento to Hon'ble Dr. M. Veerappa Moily, Union Minister of P & NG





NTPC; Dr. A. K. Balyan, MD & CEO, Petronet LNG Ltd.; A. K. Purwaha, CMD, Engineers India Ltd.; J. Wason, Chief Executive Officer, GAIL Gas Ltd.

gave a motivational speech stating “**Lets Explore and Produce or Simply Perish!!!**”. He further said, “India is lacking in international diplomacy. Due to the rigorous efforts of Petroleum & Natural Gas ministry, Baghdad has now offered excellent Oilfields to explore and produce Oil and also to set up a Fertilizer plant. We have secured 50 BCM of gas from Turkmenistan, which will be delivered in India with a gas pipeline of around 1700 KM by August 2017. In Every \$ 1 billion spent on E & P exploration around \$500-600 million comes back to the government through the revenue of firms it promotes, taxes and royalty. If more income is generated we can give concession and subsidies. There should be absolute clarity and no ambiguity in the policy framework, so that we can project to the world that India is moving towards energy independence.”

The Inaugural session was concluded with a vote of thanks given by **Shri Ashish Gupta** Secretary General, India-Tech Foundation, who thanked the Hon'ble ministers for taking time out of their busy schedule to grace India-Tech's 2nd National Convention, Keynote Speakers, Speakers in the Subsequent Sessions, Sponsors, Corporate Supports, Team India-Tech Foundation, Press Media, Hotel Management and the Delegates attending the seminar.

Keynote Session-I was as chaired by **Shri A. K. Purwaha**, CMD, Engineers India Ltd. During his opening remarks he said, “Country's need is to expedite Oil exploration and production facilities and increase the hydrocarbon availability domestically and indigenously. For our country to grow at the GDP of around 8.5 percent our energy needs has to be fuelled at around 5.5 percent of GDP.”

The first presentation was on 'Interface between Oil & Gas and the Power Sector' by **Dr. A. K. Balyan**, Managing Director & CEO, Petronet LNG Ltd who said, “India is the 4th largest consumer of energy (4.6%) in the world after USA, China & Russia. The total energy requirement is projected to grow at 6.5% per year between 2012-13 and 2016-17. Given India's growing energy requirements & unlikelihood of matching increase in the domestic supplies, despite some significant oil & gas finds recently, the import dependence will accentuate sharply in the coming years. India is a complex gas market, which has multiple prices based on field/ source. The Domestic Gas price is determined by Government and allocation is based on Gas Utilization Policy. Inadequate gas transmission network with high cost of transportation acts as a major hurdle in developing efficient natural gas production in the country.”

Shri S. D. Prasad, G. M., Gas Sourcing, NTPC, while speaking on 'Interface between Oil & Gas and the Power Sector' said that the total installed Power Generation Capacity of the country stands at 225.13 GW. However the share of gas based electricity generation contributes merely 7.3%. Around 60% of the Gas/R-LNG goes to anchor customers' viz. Power & Fertilizer sectors, as top priority, being Regulated Sectors. Some issues of concern with Gas based Generation in India are Declining Domestic Gas Production, High Cost of RLNG and Domestic Gas Pricing. Depleting domestic gas supplies have increased the dependence of Power Sector on costlier R-LNG. There is a need in the country to have peaking power as a measure for Energy Security.”

The last presentation for the session was on 'Gas sourcing and National Gas Grid' by **Shri J. Wason**, Chief Executive Officer, GAIL Gas Ltd. who said, “75% of India's gas travels through GAIL's network. India is expected to be the 3rd largest energy consumer by



Shri A. K. Purwaha,
CMD, Engineers India Ltd.

India is vastly unexplored territory with only about 26% of sedimentary basin been explored and almost 80% of country's crude oil requirements are met through imports. A significant investment in Hydrocarbon value chain including development of related infrastructure in the country is required. Precarious situations like ageing Oil rigs upstream operations need to be sustainably upgraded to maintain their operability. Investments in off-shore exploration and production activities has reach around \$600 billion in 2012 of which \$240 billion was in drilling and associated services.



Dr. A. K. Balyan,
Managing Director & CEO, Petronet LNG Ltd

Affordability of Natural gas varies across consuming sectors. There is a need to look into pricing of Energy considering quality of life, cost of production and fuel replacement opportunities. Natural gas & LNG needs to play a crucial role in mitigating demand-supply gap for new under construction combined cycle (base load) capacities. LNG Pricing a challenge can be mitigated through: mix of domestic gas, RLNG Targeting niche markets like liquid fuel replacement in industries, housing societies and Bilateral Agreements with quality Industrial power consumers.



Shri J. Wason,
Chief Executive Officer, GAIL Gas Ltd.

The objective behind setting National Gas Grid is firstly, to accelerate Natural Gas Consumption pan-India and open up multiple sourcing options of NG/LNG- for a balanced socio- economic development and inclusive growth and secondly, to optimize NG Pipeline networks and its utilities across the country. Gas Grid offers multiple sources of NG/ Multiple suppliers (inlets) and multiple regional network owners to integrate several networks and work as a single network operator maintaining the network integrity.



Audience listening in rapt attention



Indra Mohan, President, India-Tech Foundation presents a Memento to Hon'ble Smt. Lakshmi Panabaka Union Minister of State for P & N G.



Shri J.G. Chaturvedi,
Executive Director
ONGC Ltd.

For security of energy needs of the country the vision 2025 has to be achieved and the country should become self sufficient in energy.

While boosting the economy of the nation we need to note that every citizen should get energy at affordable price. While trying to make India as a HUB of manufactures it is important that operators and manufacturers should come closer and promote indigenization industry. For monetization and marginal fields there is a need for incentivization.



Shri Sanjay Chawla,
Head Alternate Energy,
DG - Hydrocarbons
The need for CBM resources is generated due to the ever increasing gap of Demand-Supply chain in Oil & Gas resources.

Exploration front should focus upon the availability and utilization of unconventional sources like Coal Bed Methane, Shale Oil & Gas, Gas hydrate and Underground Coal Gasification for energy production. In India, Coal Bed Methane has been commercialized. Shale Oil & Gas policy formation is under the process and is likely to be released very soon. Gas hydrate is at various R & D stage worldwide and we partner to all this activities. Underground Coal Gasification is also under policy formulation state.



Shri B. S. Negi,
Former Member,
PNG Regulatory Board
India's current Oil production stands at 42 MMT and Gas production at 54.60 BCM. The key drivers of Gas Demand and Pricing

are large consumers that are Price Sponsors like Fertilizers & Power, Smaller Consumers which are Price boosters like Glass, Ceramic Steel, Chemical and CGD-SSS Model and the Regulator- PNGRB. In reservoir failure the consumers should be given priority in allocation of gas from nearby field. For CNG field while transporting Gas it should be compressed to 230 bar and transport it by cascades mounted on LCV, truck or trailer. In gas production exceeding 0.1 mmscmd after the allocation the matter should be referred to MOPNG.



Shri Karthikeyan D.,
Industry Leader,
IBM India - South Asia
Worldwide Oil and Gas IT Strategies will help decision-makers conquer the five crucial challenges they face today in pursuit

of conventional and unconventional oil and gas resources: Enhancing and optimizing oil and gas production., Reducing the costs of capital projects, drilling, completion, production, operations, and maintenance., Maintaining and strengthening security, safety and environmental protection., Creating opportunities and reducing risks through energy trading & lastly Improving the ability to predict and respond to potentially disruptive incidents.



(L to R) : Deepak Mahurkar, Director, Pricewaterhouse Coopers (PwC); B.S. Negi, Former Member, Petrol. & Nat. Gas; J. G. Chaturvedi, ED - Asset Manager (Ahmedabad), ONGC Ltd.; R. S. Pandey, Former Secretary, Petroleum & Natural Gas; Suresh Kumar, Sr. Advisor, Cairn

2020. To ensure long-term gas-supply security from multiple natural gas sources, GAIL has integrated into import of LNG through Joint ventures/Equity participation route. For setting up India's Gas Grid efficiently the ideology should be: spread the P/L networks through Trunk and Regional links, Identify the Domestic Gas/LNG sources and working storages, enable powers to an entity such as GAIL for Gas Grid Management and synchronize the NG consumption projects. Gas Grid will help to optimize NG Pipeline networks and its utilities across the country."

Keynote Session-II - A Round Table Meet with a theme: *Vision 2025 & Road Map for Oil & Gas Sector* was chaired and moderated by **R. S. Pandey**, Former Secretary, Petroleum & Natural Gas who said, "Policy and decisions has to go hand-in-hand. Considerable efforts are required and we need to have a fresh look at the perspective of Oil & Gas sector. Today, Oil & Gas has achieved an efficient functioning due to the sheer efforts of Union Petroleum Minister **Dr. Veerappa Moily**.

Co-Chairman **Shri J. G. Chaturvedi**, ED - Asset Manager (Ahmedabad), ONGC Ltd. informed that even though the potential areas for gas hydrates has been mapped in India, it is still in the R&D status because we are in the process of developing technology with safety hazards on how to extract, exploit and evacuate the gas.

While a concern was raised by one of the delegates on "How CBM policy is adhered by petroleum ministry," **Shri Chaturvedi** replied, "When the CBM block policy was established, it was decided that anything upto 300m below the surface will belong to coal ministry and after that it can be taken by petroleum ministry for CBM purpose."

The first presentation at this 'Round Table Meet' was on 'LNG Sourcing' presented by **Dr. A. K. Balyan**, MD & CEO, Petronet LNG who said, "Natural gas & LNG play a crucial role in mitigating demand-supply gap for new under construction combined cycle (base load) capacities. R-LNG can serve as top up fuel for base load plants thereby augmenting the PLF and providing solution for meeting the Peaking Power Demand. LNG based power generation with integrated LNG Terminal

has benefits like No VAT on Natural Gas, No Marketing margin & pipeline tariff, helps harness cold energy to increase efficiency of power plant and offers high reliability and ability for generation of peaking power.

The next presentation was on 'Unconventional Sources of Hydrocarbon - Indian perspective' by **Shri Sanjay Chawla**, Head Alternate Energy, DG - Hydrocarbons who informed that India has 92 TCF of total CBM resource of which 10 TCF has been utilized. The gas hydrates with resource standing at around 18 TCM is under various R&D & evaluation stages. There are issues on CBM policies like no cost recovery and the bidder has to share the production link payment with the government. Issues related to CBM - Oil & Gas, CBM-Coal policy in some instances are under same area and the policy formation is in the progress on these fronts. Since number of wells required for CBM development is higher than the conventional gas there are challenge related to land acquisition and overlapping issues. In shale Oil & Gas 6 basins were identified for Shale Oil & Gas production in the nation besides other basins are also prospective for the production which can be tapped through advanced data acquisition measures.

Shri K. B. Chaudhary, GM & Head - Drilling, ONGC presented on 'Challenges faced in Deep Water Exploration' who said, "There are around 80 Deepwater Blocks awarded in NELP regime. ONGC has set world water depth drilling record in 10,411 feet of water in India in June 2013 by Ultra-deepwater drillship DDKG1. Development of deepwater finds on the east coast will lead to significant deepwater drilling activity in mid term to long term." He further informed that some of the challenges in deep water drilling are requirement of very long planning like 12-15 years, building of Drill ship, exploration and production, requirement of huge funds to sustain 10-12 years of field development cycle (building drillship to development), Long lead time to get equipment & material, Lack of experienced and skilled work force and Environment Protection & Logistics.

'FDI in Oil & Gas Sector in India' was presented by **Shri Deepak Mahurkar**, Director, PriceWaterhouse Coopers (PwC) who said, "FDI in O&G sector (FY12)



(L to R) : P. K. Pandey, CGM (Opn), Indraprastha Gas Ltd.; L. B. Muralidhar, VP (Ops.), BG Exploration & Prod. (I) R. S. Pandey, Former Secretary, Petroleum & Natural Gas; S. Rath, Director-Operations,

3 National Convention

Manufacturing
nt & Services



Oil India Limited; Dr. A. K. Balyan, Managing Director & CEO, Petronet LNG Ltd.; Petroleum & Natural Gas.; Sanjay Chawla, Head Alternate Energy, DG – Hydrocarbons; K. B. Chaudhary, Oil India; Karthikeyan D. Industry Leader, IBM India - South Asia

stands at 6% of total FDI received in the country. FDI policy in Indian Oil & Gas sector has an element of sectoral policy and business environment support like Upstream – risky and equity play. Most of our foreign exchange is parked in other countries due to continuous imports of equipment and services. We need develop resources over here so that our foreign exchange is saved.”

The next presentation was on 'Enhanced Oil Recovery in Matured Field' presented by **Shri Suresh Kumar**, Sr. Advisor, Cairn India who informed that these days, few reservoirs are actually produced under “pressure depletion”. Most reservoirs have natural pressure support from associated aquifers, or engineered injection programs like waterfloods to maintain pressure and sweep oil from injectors to producers. “Listen to the Reservoir” is the principle we need to follow. For Reservoir Management: Understand reservoir geology, Start early in field life, don't go too far below P_b , Develop waterflood design based on early performance, Have all net pay open in injectors and producers and conduct a surveillance program. Seismic tool can also act beneficial for Reservoir Description. There should be emphasis on data acquisition, interpretation and integration for value maximization. Focus should be on routine production and well surveillance strategies through Digital Oil field, Saturation logging, Production Logging, etc. Preparedness to constantly review development plan and implement changes rapidly is required.

Shri B.S. Negi, Former Member, Petroleum & Natural Gas Regulatory Board gave presentation on 'Monetization of Marginal Fields' who said, “Brownfield Redevelopment has issues like Production falling, Uneconomical output for the operator, subcontracting not competitive, Connectivity with Gas Grid and Gas Pricing. For this we can implement a Methodology of Gas Sale from Marginal Fields such as 1) If there is connectivity to grid and production exceeds 0.1, the allottees shall continue to get gas for one more year 2) In case the production decreases the pro-rata cut would be effected. For Gas Monetization, Connectivity to Gas Net work through Cross Country Pipeline network and Regional Pipeline network is required. There should be

Gas sale to local customers- dedicated pipeline and CNG cascades- transportation of gas else Mini LNG – LNG by tanker Concept should be implemented.

IT in Oil & Gas Sector was presented by **Shri Karthikeyan D.** Industry Leader, IBM India - South Asia who said, “Some Industry Challenges and the solutions pertaining to the problems while ensuring efficient IT services to Oil & Gas sector as follows: Global Crude Oil Price Volatilities impacts refining margins can be balanced through ERP, Energy Trading and Risk Management. Inconsistent taxes on petroleum products among Indian States can be reduced through ERP and Supply Chain Management. Frequent changes in regulations increase the capital expenditure which needs proper energy & emissions Monitoring and Asset Management. Scared and ageing Workforce reduces productivity and slows decision making which requires Asset Management, Health & Safety applications and Mobility Solutions.”

Day II: 27th July, 2013

Keynote Session-III was chaired by **Shri R. S. Pandey**, Former Secretary, Petroleum & Natural Gas who said that asset management, monetization and marine logistics will help us set a broader vision for utilizing & channelize the available Oil & Gas resources in speedy development of Indian Oil & Gas sector. The co-chairman **Shri B.S. Negi**, Former Member, Petroleum & Natural Gas Regulatory Board informed that we have gas resources of around 11 Billion Cubic Meters and 130 million barrels of oil of which recoverable part is quite good. However, the resources are struggling underneath due to the lack of policy initiative.

While attending a concern raised by delegate about developing a CNG as floating transportation he said, “Technologically, there is a provision for CNG which can be cool down and compressed to -30 degree Celsius which can prove economical as compared to LNG and with a lesser volume.”

The first presentation was on 'Challenges & Solutions for Asset Management' presented by **Shri S. Rath**, Director-Operations, Oil India Limited who said, “Oil India deploys a wide array of improved oil recovery (IOR) and



Shri S. Rath,
Director-Operations,
Oil India Limited

India's fragile energy security is under severe pressure from its rising dependence on Imported Oil, Regulatory Uncertainty, Opaque Natural Gas Pricing policies and almost complete dependence on Fossil Fuels as the dominant source of energy. Inadequate domestic supplies of Coal, Oil and Natural Gas are forcing the country to increase its import bill. Crude oil production of ONGC and OIL - Field's are maturing however, new discoveries are hard to come by. Use of advanced techniques, have enabled OIL India to maintain production rates despite majority of the fields being old.



Shri L. B. Muralidhar,
Vice President (Operations),
BG Exploration & Prodn. (I) Ltd.

At BG Exploration and Production India, there is campaign awareness on major accident hazards and based on these hazards we plot the barrier model that control measure to prevent accidents. We also have an optimization team segmented as 6 weeks, 90 days and 2 years forecasting which is assigned to do the job according to their time frame. Few challenges which we are facing as an asset management company is: improper root cause analysis, repeated failures, lack of technical expertise and experience, handing over, technological.



Shri. Shailendra K. Singh,
VP & Head - CBM Division,
Essar Oil Limited

India has the 4th largest coal reserves globally but relatively undeveloped CBM production. CBM Development carry lower exploration and appraisal risk as compared to off-shore Indian Oil & Gas prospects. There should be faster process of gas price approval and freedom to market gas to operator instead of fixing industry sector specific mandates and Provision of cost recovery also in case of CBM. Simultaneously, provisions for exploitation of Coal Bed Methane, shale gas, Underground Coal Gasification & other emerging unconventional resources has to be done.



Shri S. Hajara,
Former CMD,
Shipping Corpn. Of India

Energy security of the Country would primarily mean “Hydrocarbon Security”. Despite expected increase in production of domestic natural gas, dependence on imported LNG is likely to be very high in future. Development of a strategic shipping reserve would be a significant step for securing India's energy future, which entails an active support from the govt. by providing cargo support and by making the environment more conducive for the growth of Indian shipping companies. There is tremendous potential for increasing the foreign exchange earnings/savings by increasing the share of Indian shipping in India's overseas trade.



Oil India Ltd.; S. Hajara, Former CMD, Shipping Copn. of India; B.S. Negi, Former Member, P & N G Regulatory Board; Oil India Ltd.; Dr. Shailendra Kumar Singh, VP & Head - CBM Division, Essar Oil Ltd.



Audience listening in rapt attention



Valedictory Session

enhanced oil recovery (EOR) techniques at an early stage in the life of oil fields to achieve maximum recovery of oil reserves from ageing and depleting fields. While keeping the safety Operations of Ageing Asset in mind it can be broadly split into 2 categories: (a) Material related issue and (b) Inspection, repair and maintenance related issues. The Ideology should be Replace or Repair & Reuse. As the pressure on our indigenous hydrocarbon industry increases with the ever-widening chasm between demand and supply, it is the need of the hour to make the most of what we have. Effective Asset Management is an essential practice to realize this.

The next presentation on 'Challenges & Solutions for Asset Management' was presented by **Shri L. B. Muralidhar**, Vice President (Operations), BG Exploration and Production India Limited who informed that BG is an international company with operations across the 22 countries. Over the time, BG has focused upon asset management and developed the concept of uniformity in which number of assets can be synced with similar process. Integrated Activity Planning System has helped change the way we work in which we follow risk assessment system mapped out with 5 X 5 matrixes in which all 20 risks are plotted and accordingly attacked for solution.

Dr. Shailendra Kumar Singh, VP & Head - CBM Division, Essar Oil Limited presented 'CBM Technology & Monetization' who informed that some monetization challenges for India CBM technology are 1) CBM Block-Geology & Geography in terms of quality of the blocks such as CBM blocks are carved out in areas with primary coal based infrastructure, no gas evacuation infrastructure in place and the Blocks are often located in close proximity of existing built-ups, forests, etc. 2) Technical Expertise and Equipments like lack of CBM skilled manpower in the country and New and more appropriate technologies 3) Geopolitics: Unconventional resources (CBM / Shale Gas) require huge land resources and many blocks are located in areas of militant activities jeopardizing operations. While taking Gas Pricing & Fiscal incentives into consideration, Industry welcomes the long required decision by the GoI to implement a free gas price in the long run starting with current slabbing up of price upto USD 8.4/mmbtu. Monetization is achievable with application of adequate technology to minimize land footprint."

'Need for CNG & Systems of Converting' was presented by **Shri P. K. Pandey**, Chief General Manager (Operation), Indraprastha Gas Ltd. who said, "Natural Gas is gaining momentum in India, especially as an Automobile fuel due to driven factors like Environmental and Economic concerns. Growing Oil prices acted as a catalyst for CNG usage. CNG as a transportation fuel offers cost effectiveness, Environment friendly – less polluting, reduced adulteration of fuel, lesser transportation cost and Safer fuel – lighter than air etc. The two factors which are essential for the success of CNG programme in any cities are Regulations mandating CNG usage in Public transport and Major Price difference between CNG and Petrol/Diesel."

Shri Ashutosh Thanvi, Sr. Structural Engineer - DNV Mumbai presented on 'Risk Based Inspection Methodology for Offshore Structures' who said, "The Objective of Risk Based Inspection Plans is to build a consistent framework for decision

making under uncertainties. Different inspection strategies are compared in terms of the risk they imply. The Risk is then quantified in terms of probability and consequence of fatigue failure for the overall structural integrity and given feedback on Where, What, How, When for all individual joints."

The Last presentation of 2nd Oil & Gas National Convention was by **Shri S. Hajara**, Former CMD, Shipping Corp. Of India on 'Marine Logistics Challenges in Oil & Gas Sector' who said, "LNG is relatively new area and the share of natural gas in the Country's energy basket is expected to increase from present 8% to 10% in the next decade. LNG shipping is an integral part of the total LNG supply chain with dedicated to particular projects. There is a need to develop a shipping reserve to cater to at least 50% of the import requirements of the key energy resources (Coal & Oil) as a second line of defense to mitigate the risk of over dependence on foreign lines and thereby enhancing India's energy security. A robust shipping industry would also support the economy and economic growth to a very large extent."

Keynote Session-IV - Valedictory Session chaired by **Shri R. S. Pandey**, Former Secretary, Petroleum & Natural Gas and co-chaired **Shri B. S. Negi**, Former Member, Petroleum & Natural Gas Regulatory Board was a summarization of the two day National Convention. **Shri J.G. Chaturvedi**, Executive Director – ONGC Ltd said, "The success of this two day event goes to the team India-Tech, Theme selection and Eminent speakers at this international conference. The international forum has helped us to crystallize ideas. Since the convention has brought all the industry players under one umbrella, it should become an annual event. In future, we need to focus upon integration of Solar, wind and nuclear technologies with Oil & Gas sector and present them during the 3rd Oil & Gas National Annual Convention.

Dr. V.K Rao, Sr. Vice President & OSD, Reliance Power Ltd expressed his concern on the delayed development of marginal fields having great impact on future of energy resources in Oil & Gas sector. Streamlined policy framework has to be developed for getting Oil & Gas underground recovery to utilise it for our energy security. A policy has to be implemented to encourage in exploring the huge untapped shale gas potential in our country. There are 5 shale gas potential basins and around 3 prognostic resources of Shale Gas basins in our country. Instead of Shale gas policy we need Shale gas exploration."

While offering vote of thanks, **Shri. Indra Mohan**, President, ITF appreciated that excellent suggestions had come during the conference launched by Hon'ble minister **Dr. M. Veerappa Moily**, Union Minister of Petroleum & Natural Gas. He invited all the speakers & delegates along with National Advisory Council team to collate information for preparing A White Paper to be submitted to the Ministry and also help make this convention an annual event. He also, informed the eminent speakers, delegates and the press media about the 15th annual event: **POWERTECH India 2013** to be held from 1-3 October 2013 with the theme: *Fuels & Technology for energy security.*

Happy Reading!!!

CONFERENCE ORGANISERS

India-Tech Foundation is an industry association for technology upgradation in Power & Infrastructure sectors in India. India Tech organizes annual exhibitions and conferences on the important subjects of Power, Construction, Telecom, and National seminars on these subjects. The foundation has instituted 'Awards for Excellence' in development of Urban & Rural Infrastructure & Application of IT in State Administration (e-governance), besides Power Sector Reforms & Initiatives

Organiser



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