

## **Conference on “Realizing Hydrocarbon Vision 2030 for North East India”**

**2-3rd November, 2017**

### **Inaugural Session:**

The conference started with a welcome address by Mr. S. Rath, Director (E&P) FIPI. The keynote speakers for the session were:

- 1) **Shri Utpal Bora** : Chairman & Managing Director, OIL
- 2) **Shri V P Mahawar** : Director (Onshore), ONGC,
- 3) **Shri S M Vaidya** : Executive Director, IOCL
- 4) **Shri Padmanabhan** : Ex-Managing Director, NRL

During the opening session various speakers gave emphasis on doubling production of hydrocarbons by 2030 from North East region by inducting state of the art technology. The speakers mentioned that there has been challenge to work in North East region due to difficult terrain and is one of the major concerns for carrying out exploration activities. The speakers opined that there is a huge potential of carrying out exploration activities in regions of Manipur, Nagaland & Mizoram which can act as future hydrocarbon potential areas of North East India.

A special emphasis was given by the speakers on sharing of specialized services used by various players in Oil & Gas industry for the optimization of resources. In order to enhance production from the non-flowing wells in the North East region, a mechanism should be developed wherein, on pilot basis such wells may be handed over to service providers to implement advanced technologies for their monetization and incentives to such service providers can be linked to the performance. Government of India is looking towards North East India as a gateway for South East Asian Nations and in the same line the players in Oil & Gas industry must come forward with proper development strategy for Realizing Hydrocarbon Vision 2030. Speakers also stressed that E&P players of North-east should meet regularly for knowledge sharing.

### **Technical sessions:**

#### **I. Exploration-Production & Environment**

- a) The first speaker of the session was **Dr. P Chandrasekaran, Director (E&D), OIL**. The speaker in his presentation showcased that most of the hydrocarbon potential areas of North East India are unapprised. He introduced about the concept of super-basins and the possibility of A&AA basin becoming the super-basin. The speaker highlighted the problems faced by E&P companies in obtaining environment clearances by various government agencies within a reasonable time frame. Dr. Chandrasekaran advised that there is a need of in depth G&G survey which has not been done in recent years significantly. He mentioned that around 7000 Km of 2D seismic is being carried out by OIL in North East however there are issues regarding clearances from different State Governments. The speaker mentioned the efforts laid out by OIL have been able to increase the hydrocarbon production profile despite of its mature fields by discovery in EOCENE play.

He discussed about policy interventions for addressing the sectoral needs, the stakeholders in E&P operations & time gap between EOI submission & exploratory drilling (4-5 years). It was sought to devise a forum where all the clearances would be obtained expeditiously and requirement of collaboration between the major players within the industry for tackling different issues. There is a need of structured interaction in the form of different committee meetings involving key executives of major players and stakeholders from Government departments.

He also raised an issue related to different categorization of E&P activities under EOI notification 2006 & forest conservation act 1980.

Assam & Assam Arakan basin has produced till date more than 2.2 billion barrel of O+OEG. However, we always emphasize to work in shelf area whereas the belt of Schipper remains mostly poorly explored. In northeast region pattern of monsoon has changed and with the present process of getting acreage from OALP i.e. EOI submission (July to November) to grant of PEL (June next year), falls in such a timeline which leads to loss of 2-3 Field Season due to limited weather window. He mentioned that the process Oil Ningru even after 15 years is brought out under E&P activities. This is mainly due to incorporation of FC Act 1980. Government should allow parametric drilling of wells by NOCs. The exploration and production team of OIL, ONGC, IOCL and HOEC if possible to meet every quarter for sharing of ideas and implementation of new deals.

- b)** The second speaker of the session was **Mr. P Elango, Managing Director, HOEC**. He briefed about the successful operation for private players in Assam Shelf region and highlighted the advantage of prefabricated processing facilities to reduce the time due onsite construction of such facilities. He also mentioned about the issue regarding the requirement of various clearances for the same purpose and emphasized on the planning for successful implementation of a project. As per USGS, Assam and Assam Arakan basin is placed at 83<sup>rd</sup> position worldwide. In order to track production and supply of gas, HOEC has engaged EXPRO wherein readily built gas processing unit will be in place in almost 1/3rd of the time. Dirok Field is currently producing 0.3 MMSCMD of gas and will be able to produce 01 MMSCMD once the Hollong Modular Gas Processing plant is commissioned by March 2018. In addition, further upsides are still to be explored and it is important to create additional gas demand committing to long term supplies and improving gas grid. In order to supply the additional gas, capacity of 30km Kusijan-Duliajan 12" pipeline needs to be upgraded with additional compression facility of a parallel pipeline / rerouting of gas produced by the fields in that area. HOEC is hoping they would be able to add 2 MMSCMD of gas in near future but the ground realities are that in NE region it is difficult to get good service companies to work for. Gas at the same is not being evacuated by the parties so the wells have to be shut or gas to be flared. Thus the serious attention is required for grid management and gas supply deep-bottlenecking.

- c) The third speaker of the session was **Shri. Sanjay Chawla, GGM (Res), Assam Asset, ONGC**. He gave an overview of Assam Asset and mentioned about the prospects of production enhancement by implementing various planned schemes including few EOR techniques in upper Assam shelf region. He also presented the roadmap of ONGC Assam Asset for reducing the 10% import under the firm category and future plans. In his presentation he also gave an overview of exploration place in Assam Shelf and Assam Arakan fold belt and stressed on plans for enhancing exploration activities in NE region by induction of enhanced technology in the region.
- d) The fourth speaker of the session was **Dr. V.P Upadhyay, Advisor, GOI, MoEF&CC**. He briefed about the importance of maintaining balance between environment and industrial development. He specified that most of the times the three clearances i.e. environment clearance, forest clearance and wildlife clearance are used alternatively and is linked with environment clearance. He mentioned that it is important to have thorough knowledge of the rules and regulations of the regulating authority and ensuring adherence to the same while applying for environment clearances. He stressed upon the application for environment clearance at the planning stage of the project in order to avoid unnecessary delay. He also mentioned that oil companies should collaborate with premier R&D institutes of NE India to develop new technologies for recycling and value addition of various waste materials produced during E&P activities and refining operations. The Universities in north-east region especially IIT Guwahati, Dibrugarh University & Tezpur University need to be tapped for coming up with solution related to the environment issues. He also mentioned that the research labs of OIL, ONGC should open up for research projects being carried out by educational institutions which will surely bring in more value to the research work carried out by such universities. He also mentioned that proper communication with regulatory bodies and the operators is essential. The very sensitive and rich biodiversity of NE regions must be preserved and all precautions to be taken by the operators for its preservation. Accreditation of laboratories of OIL and ONGC will help in acceptance of analysis by government bodies.

In a nutshell following suggestions were made during the session:

- Exploratory Drilling activities being a Short Term Temporary Activity may be exempted from Environmental Clearance under EIA Notification, 2006 – as similar procedure followed for Off-Shore Drilling projects
- Review of declared Reserve Forest areas, Declared Wildlife Sanctuary (WLS) or Tiger Reserve etc. is required. Many such declared areas are found to be having No Forest Cover, rather there exists Township, Villages, Govt Offices, Tea Garden workers homesteads.
- Permitting Oil & Gas Exploration Activities beneath Forest Surface of Wildlife Sanctuary / National Parks etc., if the Drilling activities are proposed through Horizontal Directional Drilling Technology from outside of the Forest boundary at distance more than 1 Km away from the Forest Boundary

- MoP&NG /DGH should ensure that Block allotted for E&P activities to be free of protected areas like National Park, Wildlife Sanctuaries, Biosphere Reserves, Coral Reefs, ESZ areas of Tiger Reserve etc.
- A Gas Coordination Committee needs to be formed with representation of all gas producers, transporters and major customers in Assam to ensure well-coordinated gas demand and grid management for the benefit of all the stakeholders.

### **Downstream Minutes**

Presentation on Oil & Gas Downstream sector were made by :

1. Shri G.C. Sikder, CGM, Bongaigaon Refinery, IOCL
2. Shri B.K. Sarma, GM (Ops.) NE Office, IOCL
3. Shri A.P. Chakravarty, CGM (Project), NRL
4. Shri D Mohanty, Ch. Projects Manager (Systems), IOCL, PL HO
5. Shri Rupam Goswami, CTSM, NRL
6. Shri Geetam Barthakur, OIL
7. Shri Reep Hazarika, GM(O&M), BCPL

The presentations covered extensively the current status of refineries, pipelines and marketing infrastructure in North East, projects and actions initiated in line with North East vision and outlook up to 2030.

#### **Refineries**

At present, four refineries are in operation in the state of Assam with a total capacity of 7 MMTPA. However, local crude availability is 4.54 MMTPA resulting in underutilization of refining capacity. IOCL has made arrangements for receiving imported crude using Paradip – Haldia – Barauni crude pipeline and back-pumping from Barauni to Bongaigaon Refinery (BGR) using Oil India pipeline. This arrangement has helped IOCL in utilizing refining capacities of BGR and Guwahati Refineries.

North East refining capacity is poised to increase to about 16 MMTPA by 2030. The capacity of Numaligarh Refinery (NRL) will increase by three times from current 3 to 9 MMTPA by 2030. As outlined in the North East Hydrocarbon Vision 2030, the capacity of Guwahati Refinery will go from 1 to 1.7 MMTPA and that of BGR from 2.35 to 4.5 MMTPA. BGR's capacity expansion proposal to 3.0 MMTPA is put up and is under consideration. The configuration study for capacity expansion to 4.5 MMTPA is presently under progress.

It was informed that an INDMAX project is coming up at BGR which will significantly bridge the gap of LPG in North East as BGR's LPG production will jump from 50 TMTPA to 250 TMTPA. MS production at BGR will also significantly increase from present level of 200 TMTPA to 550 TMTPA.

NRL is also progressing on its plan to set up a bio-refinery at Numaligarh for production of fuel grade ethanol from bamboo which will be blended to Motor Spirit. Environment clearance for the project has since been obtained. Setting up the plant will further enhance availability of petroleum products in the region.

## **Petro-chemicals**

Presently, the petrochemicals market for the North-east is poised for a bright future. This is because the per capita consumption of polymer is very low in the region at 3.75 kg as compared to the national figure of 8.5 kg.

BCPL with a capacity of 2.80 lakh MTPA of polymer (HDPE, LLDPE and PP) is presently operating at 100% capacity; but is facing shortage of feedstock, mainly Natural Gas. To meet the growing demand, availability of Natural Gas in the region is to be increased either through increased production or extending the national gas grid to the region.

The plastic parks proposed at Tinsukia, Imphal and Agartala should also be expedited so that the polymer consumption is increased in the region.

Development of the river-ways from Guwahati port to Chittagong port will also be an enabler for exporting polymers to the ASEAN region.

## **Marketing Infrastructure**

North East states are currently consuming 3.5 MMTPA of petroleum products whereas supply is 6.6 MMTPA. Except for LPG and Bitumen, all other products in the North East are surplus and have to be moved out of this region through various modes specially product pipelines. Export of diesel to Myanmar and Bangladesh by NRL which has recently started, is expected to pick up in near future. The demand of Petroleum Products is expected to grow to 7.3 MMTPA by 2030. However, with the increase in refining capacity to 16 MMTPA by this time, the overall surplus will still remain at 7.0 MMTPA plus. However LPG will remain deficit in the region.

IO-AOD, SO (Marketing Division) of IOCL has initiated actions for construction of product depots at Silchar (Moinarbandh), Sekherkote and Doimukh (Arunachal Pradesh). Capacity of existing LPG Bottling plant is being augmented and action for adding one more bottling plant in near future have been initiated. Feasibility of adding three more bottling plant is also being examined.

With the current road infrastructure with a long period of rainy season and political issues, OMCs are facing challenges in the regular supply of Petroleum Products to various consumers in the regions. To overcome the same, Rail / Pipeline connectivity is being planned for all the POL Depot / terminals.

With the rising demand and availability of surplus products, NE region can play a major role in the supply of petroleum products in the countries like Bhutan, Myanmar, Bangladesh etc. Hence, development of appropriate all weather road infrastructure which will speed up development of Oil & Gas infrastructure in the region is essential.

## **Pipelines**

NRL is planning to lay a crude pipeline from Paradip to Numaligarh using offshore facility of IOCL. The proposed pipeline of NRL will have additional capacity of 2 MMTPA to cater to the Crude requirement of BGR & GR. OIL India is also revamping its pipeline to extend pumping of imported crude upto Guwahati refinery.

In order to fulfill the rising demand of LPG, IOCL is working on the feasibility of laying a LPG pipeline from Chittagong to Agartala and from Durgapur to Guwahati (alternate to Chittagong Pipeline).

Beside the pipelines for crude and LPG from external sources, expansion of current product pipelines and projects for new pipelines (Guwahati – Silchar – Imphal Product Pipeline by Indian Oil Corporation Ltd. and Numaligarh – Imphal pipeline by NRL) have been initiated for distribution of products within the region. Oil Marketing Companies (OMCs) and GAIL are also planning for gas and more product pipelines in North East for last mile connectivity by 2030. NRL has also initiated feasibility studies to construct a product pipeline from Numaligarh via Gohpur to Itanagar to ensure uninterrupted supply to that part of Arunachal Pradesh.

In order to develop these vital pipeline infrastructures in North East region, aid from the central as well as state governments will be vital from time to time to accelerate the completion of projects in line with the recommendations made in the Final Report on Hydrocarbon Vision 2030 for Northeast India.

### **Summary**

1. For refining sector to progress in North East, crude oil pipelines from East Coast of India to be implemented as fast-track mode.
2. To meet the rising demand of LPG in the North East Pipeline for transport LPG from import source to North East also needs to be expected which involves bilateral coordination between India and Bangladesh.
3. Development of all-weather road infrastructures in North East must be given top priority to ensure the energy supply to all consumers in the regions and boost export to neighboring countries.
4. In the vision 2030 a total investment of INR 130,000 Cr has been envisaged out of which INR 80,000 Cr is for upstream, INR 20,000 Cr for mid-stream and INR 30,000 Cr for downstream. It was stated that by implementation of the INR 20,000 Cr midstream projects, there will be last point connectivity to customers which will bring in growth prospects in the region and hence the need for more focus on implementation of such projects.

Since development of downstream infrastructure involve multi-companies activities a mechanism for joint discussion, review and actions needs to be evolved among the oil companies for fast-track action with support from state and central Govt., internal coordination and management of external interface without any duplication.

Also it may be noted that developing energy corridors in terms of developing natural gas pipeline for transportation is the need of the hour. In order to develop such energy corridors at fast pace, the Petroleum and Mineral Pipeline (Acquisition of Right of User Inland) Act 1962 is required to be made effective on similar lines as with the NH Act 1956. Since land acquisition for such projects takes time and lead to delay in execution of projects, further support from state and central Govt. is also required for obtaining statutory clearances like Forest clearance, Environmental clearances on fast track basis including availability of land for stations/SV stations so as to execute the projects on time.