

M2M Expo - 2010

Oil & Gas Technical Session

A.K. Hazarika, Director (Onshore)

Oil and Natural Gas Corporation Ltd. (ONGC)

Member Oil & Gas Subcommittee, India

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Methane to Markets Partnership

- An international public-private initiative launched by United States Environment Protection Agency (USEPA).
- Initiatives are cost effective. Can be used as a clean energy source mainly in four sectors
 - Oil & Gas
 - Agriculture
 - Landfills
 - Coal Mines

Methane to Markets Partnership

- Provide a number of important environmental and economic co-benefits
 - Stimulating local economic growth
 - Creating new sources of affordable alternative energy
 - Improving local air and water quality, with associated public health benefits
 - Increasing industrial worker safety

Methane to Markets Partnership

- ONGC is the only company in India to have entered into a MoU with USEPA in August 2007 in Oil & Gas Sector
- Building a strong knowledge base and capacity within ONGC to cost-effectively reduce methane emissions from our installations.

Methane to Markets Partnership

- Reducing methane emissions can yield
 - significant economic by saving energy
 - Environmental by reducing GHG
 - operational benefits, safety
- Numerous proven cost-effective technologies and practices exist
 - Directed Inspection and Maintenance Practices (DI&M)
 - Use of VRU (Vapour Recovery Unit)
 - Changing over from wet seal to dry seal

ONGC's Initiatives

- 4 technology transfer workshops in Dec 2007
- 7 pre feasibility(table top analysis) study in early 2008
- 4 pilot measurement studies in May 2008
- Presentation to ONGC Board in Sept 2008
- ONGC M2M action plan developed
- Longer duration repeat measurement at Uran & Kallol

ONGC's Initiatives

ONGC M2M Program team formation

- Core team with four members
- 10 Asset coordinators
- Hands on training of the core team on measurement techniques during June 26- June 30, 2009.
 - Through USEPA-ONGC collaboration
 - By HY-BON Engineering, Midland, Texas at ONGC Uran Plant

ONGC's Initiatives

- Six prefeasibility studies undertaken in Early 2009
- 2nd measurement study undertaken in Nov 2009
- Has been taking part in collaborative platforms organized by USEPA.
- ONGC is in the advance stage of procuring the relevant equipments for undertaking leak detection and measurement of fugitive methane.
- Has arrested approx 115 Million Cubic Feet of Methane through Directed Inspection & Maintenance (DI&M) activities

ONGC's Initiatives

- Has initiated actions to arrest tank vapors at Uran & Kallol through VRU
- Has also initiated action to arrest vapors along with flare gas in the Heera Platform, Offshore
- Through these projects, ONGC envisages to reap the benefits of increased savings of approx 20 800 SCMD from Uran Plant and 50000 SCMD from Neelam & Heera Platform where flare gas recovery and Vent recovery are being addressed together

Opportunities & Challenges for Indian O & G Sector

- The other companies in the O & G sectors
 - Can emulate ONGC's successful experience
 - Can take part in collaborative capacity building
 - Share experience & knowledge
 - for effective detection
 - measurement
 - arrest of the Fugitive Methane.

Opportunities & Challenges for Indian O & G Sector

- Reducing methane emissions can yield
 - Significant quantifiable benefits
 - can be replicated throughout oil and natural gas operations
- Key challenges
 - Identification and quantification of existing methane emissions
 - Proven Cost effective technology for implementation breaking market barriers

Conclusion

M2M is a brilliant positive step towards sustainable development and the benefits are many

- Operational and maintenance improvements
- Cost savings, and
- Enhanced safety.

Thank You