



सत्यमेव जयते

सीएचटी न्यूज लेटर CHT



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उच्च प्रौद्योगिकी केन्द्र
पेट्रोलियम और प्राकृतिक गैस मंत्रालय, भारत सरकार

Centre for High Technology
Ministry of Petroleum & Natural Gas, Govt. of India

From the desk of the Executive Director



Esteemed Readers,

During the period October-November 2019, many important meetings were held viz. 28th Executive Committee Meeting, 21st Working Group Meeting, completion of the Performance Benchmarking studies pertaining to the PSU Refineries & Pipelines – 2018 cycle by M/s Solomon Associates, Readiness of OMCs in BS-VI implementation, Water Consumption Reduction in refineries, Evaluation of proposals received against Pradhan Mantri JI-VAN Yojana, Activity Committee Meetings on Advance Process Control, Blends, Optimization and Digital Transformation and Oil & Gas Pipelines, were held.

CHT in consultation with the constituted committee finalised Annual Awards for Refinery Performance Improvement, Saksham and Innovation for the year 2018-19. These Awards shall be presented during the upcoming 24th Refining & Petrochemicals Technology Meet (RPTM) at Bengaluru during 19th-21st January 2020. These Awards are presented to encourage competition amongst the refineries and recognise overall performance improvement & innovation.

The theme for the forthcoming 24th RPTM is "Driving Refining & Petrochemicals towards Sustenance". This meet provides a forum for exposition of recent advances and technological developments, which are of direct relevance to the Refining and Petrochemical sector. Till date, I am happy to share that CHT has received an overwhelming response from various foreign / national companies for the participation in the 24th RPTM & submission of technical papers/ posters/ exhibition stalls. Presently, the selection of papers for various technical sessions is under process. Your views, suggestions and ideas to improve the CHT Newsletter further are solicited.

(K.K. Jain)
Executive Director

28th Meeting of the Executive Committee of CHT

The 28th Executive Committee Meeting (EC) was held under the Chairmanship of Shri Sunil Kumar, Joint Secretary (R) MoP&NG on 22nd Nov., 2019 at PCRA, New Delhi. Shri K.K. Jain, Executive Director, CHT welcomed the Chairman and other members of EC. ED, CHT also welcomed Shri S.M. Vaidya, Dir (R) IOCL as member of EC. Thereafter, CHT made a detailed presentation on the status of Refinery Performance and Improvement Programme (RPIP) of PSU Refineries, Development of Water Consumption Norms and reduction of Water footprint, Performance Benchmarking Study of PSU refineries for 2018 cycle and plan for 2020, Performance Benchmarking Study for Pipelines – 2018, Reduction of Steam Network at refineries, Feasibility Study by M/s LanzaTech, Pradhan Mantri JI-VAN Yojana, on-going R&D projects, Catalyst Manufacturing Unit in India, CHT Budget etc.

21st Meeting of the Working Group on Refineries

The 21st Working Group Meeting (WGM) was held under the Chairmanship of Shri Sunil Kumar, Joint Secretary (R), MoP&NG on 22nd Nov., 2019 at PCRA, New Delhi. CHT made a detailed presentation on the Agenda Items viz. Review of BS-VI projects, Refinery Performance (Crude Tput, MBN, Operational Availability, Distillate), Status of grid power intake in PSU refineries along with future plans, Improvement in Project Execution Strategy by EL, Sharing of Streams: Loss due to dual tax regime, Catalyst Manufacturing Unit in India etc.

"PSU refineries Benchmarking – 2018 by M/s Solomon Associates

M/s Solomon Associates successfully completed the 2018 cycle of Performance Benchmarking study of the Indian PSU refineries during mid Oct. 2019. M/s Solomon Associates made a final consolidated presentation on the performance of PSU refineries at MoP&NG on 18th Nov. 2019. Dr. M.M. Kutty, Secretary, P&NG chaired the meeting. Shri Sunil Kumar, Joint Secretary (Refineries), MoP&NG, representatives of M/s Solomon Associates along with Directors of PSU Refineries and ED CHT were the major participants in the meeting. The following major points emerged out the detailed presentation made by Solomon:

- New process units and refineries should be built considering external benchmarks.
- Building up of strong reliability cultures and improvement in economic thinking skills, including total life-cycle cost analysis.
- Refineries should always target an Operational Availability of $\geq 97\%$
- Capacity utilization of Primary Conversion Units needs to be enhanced.
- Explore economical options to purchase or transfer intermediate feedstocks for better complexity utilization.

- Monthly review of Energy Intensity Index (EII) gap closure progress should be carried out.
- Steam network size reduction should be taken up on priority for a better energy efficient operation.
- Increased molecular management awareness is required for a higher Volumetric Efficiency as refining is a volumetric business.
- Yield performance of conversion unit to be further improved.

The presentation enabled the participants to identify the major gap areas with respect to peers which the PSU's need to bridge & become globally competitive.

"How to use data workshop" by Solomon Associates at CHT

CHT in association with M/s Solomon Associates organized a 2 day "How to use data" workshop at OIDB Bhawan, Noida on 19th-20th Nov. 19 for study cycle year 2018.



(Seated from L to R) Mr. Kevin Henke, Solomon Associates, Mr. K.K. Jain, ED, CHT and Ms. Radhika Ojha, M/s Solomon Associates during the inaugural session of the "How to use data workshop" held at OIDB Bhawan, Noida, on 19th Nov. 2019

The workshop aimed to provide a clearer insight on various Solomon KPI's, how have they been derived, interpretation of the data and its significance. The workshop saw a good representation from all the PSU's and comprised of a mixed team of members from Technical, Finance, HR, Maintenance, Operations. Detailed hands on experiences were also given by Solomon Associates for a thorough understanding of the entire benchmarking process.



Group Photograph of the participants of the "How to use data workshop" held at OIDB Bhawan, Noida, on 19th Nov. 2019

A total of 75 delegates participated in the workshop and the programme was well appreciated by all the participants.

"Solomon Presentation on Pipeline Benchmarking"

M/s Solomon Associates successfully completed the 2018 cycle of Pipeline Benchmarking study during October 2019. M/s Solomon Associates made an Executive presentation of Study results on 21st October 2019.



Mr. K.K. Jain, ED, CHT, addressing the senior officials in presence M/s Solomon Associates, during the inaugural session of the "Executive Presentation of Study Results" held at OIDB Bhawan, Noida, on 21st October 2019

Two Workshops at Delhi & Mumbai were also held on 22nd October 2019 and 25th October 2019. Study results have been shared with all the participating companies. Presentation of study results at MoP&NG is scheduled to be held in second week of Feb. 2020.

Activity Committee Meet - "Advance Process Control, Blends, Optimization and Digital Transformation"

The 19th CHT Activity Committee Meet on "Advance Process Control, Blends, Optimization and Digital Transformation" was organized by IOCL, Barauni Refinery in collaboration with Centre for High Technology, during 14th-15th October 2019 at Begusarai.

Shri K.K. Jain, Executive Director, CHT in his inaugural address highlighted the 4th industrial revolution and the importance of digitization and digitalization. He elaborated on the impact of artificial intelligence in process industry and environmental impact mitigation thereof. Smt. Sukla Mistry, Executive Director, IOCL, Barauni Refinery in her key note address highlighted the current challenging environment of petroleum industry and the need to improve GRM of the Refinery to maintain profitability.



Group Photo of the delegates at the Activity Committee Meet on Advance Process Control, Blends, Optimization and Digital Transformation at IOCL, Barauni Refinery on 14th October 2019.

Shri V. Suresh, GM (AC&A), BPCL was the Convener the ACM. Over 110 delegates from IOCL, HPCL, BPCL, MRPL, Nayara Energy, BORL, Numaligarh Refineries Ltd., OMC R&D laboratories and IIP participated wherein the refinery representatives have presented their experience in APC. Also several vendors like Aveva, Honeywell, AspenTech, Equinox, Jaaji technologies and HTRI presented on the latest trends in Optimization.

Activity Committee Meet - "Oil & Gas Pipelines"

The two day 37th CHT Activity Committee Meet – Oil & Gas Pipelines was organized by IOCL, Eastern Region Pipelines during 14th – 15th November, 2019 at Kolkata. With the theme 'Evolution of Oil & Gas Pipelines in India – Emerging Challenges and Digital Solutions' the Meet witnessed a confluence of senior professionals of pipeline operators from across the country.

Oil & Gas Pipelines in India

Emerging Challenges and Digital Solutions



(from L to R): Seated on dais are Shri J.P. Sinha, Executive Director, IOCL, ERPL, Shri A.K. Tewari, Executive Director (Ops. & HR), IOCL, PLHO and Chief Guest of the Meet, Shri K.K. Jain, Executive Director, CHT and Shri A.K. Jana, CEO, Gail Gas Ltd. during the inaugural session of the ACM on Oil & Gas Pipelines at Kolkata on 14th November 2019

Shri A.K. Tewari, ED (Ops. & HR) IOCL, Pipelines H.O. was the Chief Guest of the meet. During his keynote address, Shri Tewari stressed that harnessing state-of-the-art cutting edge technology continuously has been the forte for Oil & Gas Pipelines for manifesting as game changers in transforming the overall petroleum energy landscape of the Nation. Thus such Meets on a regular basis only builds upon the prowess and reliability of this segment in the energy business, he added. He also expressed his firm belief that the Meet with its wide variety of technical sessions would transcend to bountiful takeaways for all participants and delegates.

In course of the inaugural function, the objectives of the Meet were shared by Shri K.K. Jain, Executive Director, CHT with the delegates. Shri K.K. Jain highlighted the various activities & functions of CHT. He also re-iterated his belief that this Meet shall benefit all the participants in terms of exchange of best practices and takeaways.

In his welcome address, Shri J.P. Sinha, Executive Director, IOCL, ERPL thanked everyone for gracing the occasion and mentioned that with a plethora of disruptions from technology as an enabler, there are marked paradigm shifts in conventional methods of doing business in the nation's energy sector. He too wished the Meet to be a success.

In tune with the impetus on supply of cleaner fuels pan-India, the inaugural session also had a presentation on overview and challenges in CGD sector of the country by Special Invitee, Shri A.K. Jana, CEO, Gail Gas Ltd.

Shri Rajesh Uprety, GM (T&HSE), IOCL, ERPL was the convener of the meet. The event was attended by more than 100 nos. pipeline specialists of the country from both public and private sectors.

Industry-wide Inter Laboratory Correlation Programme (ILCP) for BS-VI fuels in NCR region

A laboratory inter-comparison programme was carried out with Refineries, marketing and R&D Centres in NCR region with BS-VI grade MS and HSD Samples from marketing installations and completed during the period of July-October, 2019. Following parameters were tested:

- MS : Density, Sulphur, Existing Gum Content, RON, Distillation and Aromatics
- HSD : Density, Sulphur, Flash Point, Recovery @360 Deg. C and Copper Corrosion

All the parameters tested were within acceptable deviation limit.

Feasibility Study on Reference Fuel by EIL & IOC R&D

- CHT awarded a Work Order for "Development of Process Scheme for Reference Fuel" to EIL along with IOCL-R&D on 2nd September 2019.
- Design and Operating data of various MS & HSD blending streams were obtained from IOC Refineries (Paradip, Mathura, Barauni, Panipat & Gujarat).

A review meeting was held at CHT office on 6th Nov. '2019 to address the additional data requirement

India Japan forum for Energy Efficiency, Conservation and Renewable Energy

Officials from CHT have participated in the India Japan forum for Energy Efficiency, Conservation and Renewable Energy organized by PCRA in association with JASE in New Delhi on 08th November 2019.

Rashtriya Ekta Diwas/ National Unity Day

To commemorate the birth anniversary of Sardar Vallabh Bhai Patel, who played an important role in uniting India by integrating many Indian Princely States to make an Indian Federation, 31st October 2019 was celebrated as Ekta Divas at CHT. Sardar Vallabh Bhai Patel is also famous as the Ironman of India and one of the founding members of the Republic of India. Shri K.K. Jain, Executive Director, CHT administered the Ekta pledge to all Officers and employees of CHT and urged them to work towards the country's unity and Integrity.

Vigilance Awareness Week

Like every year, Vigilance Awareness Week was observed in CHT from 28th October to 2nd November 2019. Shri K. K. Jain, Executive Director, CHT administered the Integrity pledge on 28th October 2019 to all Officers and employees.

This awareness week campaign affirms our commitment for promotion of integrity and probity in public life through citizen participation. The Vigilance Commission has chosen this year's theme as 'Integrity- A Way of life'.