



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



2nd bimonthly CHT Newsletter for the period June-July 2019 covers many important meetings held during this period including 27th Executive Committee, 20th Working Group, 85th SAC to review guidelines and key issues for implementation of PM JI-VAN scheme besides other on-going R&D projects, Water Consumption Study, Activity Committee Meetings on Rotary Equipment & Power Generation, Distribution, Electrical Maintenance & Utilities, vendor presentations on New technologies, 5th International Yoga Day, etc. CHT also celebrated Swachhta Pakhwada from 1-15 July 2019 wherein various activities were undertaken to mark the fortnightly celebrations.

I am happy to inform that CHT has obtained renewed accreditation of ISO 9001:2015 Quality Management System in June 2019, without any non-conformity. Our endeavor continues to streamline our own systems & procedures as well as encourage R&D projects & new innovative technologies in the downstream hydrocarbon sector including bio-fuels.

We look forward to your valuable comments & suggestions for enriching the Newsletter.

(K.K. Jain)
Executive Director

85th Meeting of the Scientific Advisory Committee (SAC)

85th Meeting of the Scientific Advisory Committee (SAC) on Hydrocarbons of MoP&NG was held at OIBD Bhawan, Noida on 5th July 2019 under the Chairmanship of Dr. Anil Kakodkar. At the outset, Shri K.K. Jain, Executive Director, CHT welcomed Dr. Anil Kakodkar, Chairman, SAC, Shri Sunil Kumar, Joint Secretary (Refineries), MoP&NG and other SAC members. The special meeting of SAC was convened to exclusively discuss and finalise some of the key issues and guidelines for implementation of the PM JI-VAN scheme. The representatives from concerned Ministries/ Departments were also invited. Detailed deliberations were done on the recommendations of the three subcommittees (viz. Project Evaluation & Implementation Committee; Supply chain logistics Committee; Research & Innovation Committee) on the various provisions in the scheme notified vide Gazette notification dtd. 08th March 2019. SAC finalised the guidelines and also some of the recommendations, which shall be put up for considerations by the various concerned Ministries through MoP&NG. The objective of the scheme was redefined and is stated as "The intent of the scheme is to enhance the viability of the plants now or in future with evolution of technology and experience with the objective to obtain intangible benefits like reduction of environment pollution, reduction in dependence on fossil fuels & import of Oil & Gas, employment generation, rural development etc.



(Seated from L to R): Shri Sunil Kumar, JS (R), MoP&NG, Dr. Anil Kakodkar, Chairman, SAC, Shri K.K. Jain, Executive Director, CHT during the 85th Meeting of SAC held at OIBD Bhawan, Noida on 5th July 2019.



85th Meeting of SAC in progress at OIBD Bhawan, Noida on 5th July 2019

Meeting of Sub-Committees of PM JI-VAN Yojana

The meeting of Sub-committee-2 (Supply chain logistics Committee) of PM JI-VAN Yojana was held at CHT on 10th June, 2019 under the Chairmanship of Shri Anil Pande, ED (OD&E), HPCL for providing guidance in matters as per the terms of reference of the committee. After detailed deliberations, the Sub-committee recommended some additional clauses/conditions on the various provisions (related to the terms of reference of the committee) in the scheme notified vide Gazette notification, for consideration by SAC.

The meeting of sub-Committee 1 & 3 (Project Evaluation &

Implementation Committee and Research & Innovation Committee) of PM JI-VAN Yojana was held at IOC-R&D Centre, Faridabad on 13th June, 2019 under the chairmanship of Dr. S.S.V. Ramakumar, Director (R&D), IOCL and Prof. R. Kumar, Professor Emeritus, IISc, for providing guidance in matters as per the terms of reference of both committees. After detailed deliberations, the Sub-committees recommended some additional clauses/conditions on the various provisions (related to the terms of reference of the committee) in the scheme notified vide Gazette notification, for consideration by SAC.

Review meeting of R&D projects

Review meeting of R&D projects was held at CHT, Noida on 25th June, 2019 under the chairmanship of Prof. R. Kumar, Professor Emeritus, IISc, Bengaluru. Following projects were reviewed

- a. Coal to Liquid (CTL) Technology
- b. Biomass Hydro-pyrolysis for production of fuel grade Hydrocarbons
- c. Slurry phase Residue Hydrocracking
- d. Catalytic Decomposition of Natural Gas
- e. Parametric study for Desalter

Shri K.K. Jain, ED, CHT welcomed the Chairman & participants of this meet. During his welcome address, he expressed that all the projects being discussed are very important from the point of view of Indigenous capability development. Few of the projects are of National Importance. He requested all concerned to complete the projects in the Mission Mode as time is the essence. Chairman stressed on regular and critical review of the projects so that timely decision can be taken on the challenges arising in the projects.

Executive Committee (EC) Meeting

The 27th Meeting of the Executive Committee of CHT was held under the Chairmanship of Shri Sunil Kumar, Joint Secretary (Refineries), MoP&NG on 9th July 2019 at Conference Room, MoP&NG, Shastri Bhawan, New Delhi. The meeting was attended by Director (Refineries) of IOCL, BPCL & HPCL; MDs of CPCL, MRPL & NRL; Director (T), EIL; ED (Trg, R&D and Start-up), GAIL; Dy. Chief F&AO, OIIB and senior officials from IOCL, BPCL, HPCL, EIL, CPCL, MRPL & NRL. During the meeting, detailed review was held on the progress and status of major activities of CHT including Refinery Performance Improvement Programme of 9 PSU Refineries, Refinery Performance Improvement Programme through M/s Shell at MRPL, Development of Water Consumption Norms and Reduction of Water Footprint for 13 PSU Refineries, Performance Benchmarking Study of PSU refineries for 2018 Cycle, Benchmarking Study of PSU Refineries for Calendar Year 2020 onwards, Performance Benchmarking Study for Pipelines – 2018 Cycle, Study on Reduction of Steam Network at Refineries through M/s KBC and Lab Correlation Programme. During the meet, EC also approved following proposals: Feasibility Study for Ethanol Production from Off-gases; Proposal for Reference Fuel: EIL/IOC R&D and one R&D project (Design & Development of Fibre Optic gas Sensors and System for Petroleum Industry: CSIO/BPCL). EC recommended following items for approval by Governing Council: CHT Budget; appointment of Auditors and adoption of annual accounts of CHT; proposal of IOC R&D

(Compact Reformer Unit for producing H-CNG and trials at Rajghat Bus Depot and Organization of 24th Refinery & Petrochemical Technology Meet (RPTM). EC also reviewed R&D projects funded by CHT.

Performance Review of Refineries by Working Group on Refineries (WGM)

The 20th Working Group Meeting was held under the Chairmanship of Shri Sunil Kumar, Joint Secretary (Refineries), MoP&NG on 9th July 2019 at Shastri Bhawan, New Delhi. The meeting was attended by Director (Refineries) of IOCL, BPCL & HPCL; MDs of CPCL, MRPL & NRL; Director (T), EIL; and senior officials from IOCL, BPCL, HPCL, EIL, CPCL, MRPL & NRL. The data on Physical, Financial & Project parameter for all the PSU Refineries is collected every month and the consolidated information covering Actual performance vis-à-vis Targets along with reasons for deviation is presented during the review meeting chaired by JS(R), MoP&NG to enable refineries to take corrective actions, if any. During the meeting, detailed deliberation was done on Review of Refinery Performance; Status on maximisation of Grid Power intake at PSU Refineries; Incentivizing refinery for maximizing green power in MBN calculation; Supply of Grade A (1000 ppm S) Kerosene; Strategy for implementation of BS-VI fuel supply; Improvement in Project Execution Strategy; MBN Roadmap-2030; Sharing of Streams (Loss due to dual tax regime); Catalyst Manufacturing Unit in India and PSU Refineries Capacity Expansion Projects (Major issues).

Performance Audit on the "Implementation of BS-IV norms and preparedness of BS-VI norms was conducted by Indian Audit and Account Department from period September 2018 to January 2019. CHT has consolidated received replies from refineries and submitted to MoP&NG on 10th July 2019.

Recertification of ISO 9001:2015 Management System Certificate at CHT

Re-certification Audit was carried out successfully by M/s International Certification Services Pvt. Ltd. (ICS), Mumbai at CHT office on 07th June 2019 and subsequently renewed certificate dtd. 17th June 2019 for ISO-9001-2015, with validity of three years up to 16th June 2022, has been received by CHT.

Activity Committee Meeting

Rotary Equipment

ACM on Rotary Equipment was organized by CHT in association with IOCL Guwahati as the host Refinery on 27th & 28th June 2019 at Guwahati. The meet was inaugurated by Chief guest Shri K.K. Jain, ED, CHT, in presence of Mr. Sanjay Manchanda, ED(GR), as the Guest of Honour.

The meet was attended by 53 nos. of delegates from IOCL (Ref. / PL / Mktg / RHQ (M&I), BPCL- KR, BPCL-MR, HPCL-MR, HPCL-VR, GAIL, CPCL, HMEL, NRL, Nayara Energy Ltd., ONGC (MRPL), OMPL, EIL, OISD besides Vendors e.g. Eagle Burgmann India Ltd., Sundyne, Euroflex Transmissions, Mascot Dynamics and Burckhardt Compression (India) Pvt. Ltd.



(Seated on the dais from LtoR) Shri N.K. Chakraborty, CGM(T) IOCL, GR; Shri Sanjay Manchanda, ED, IOCL Guwahati Refinery; Shri K.K. Jain, ED, CHT during inaugural session of ACM on Rotary Equipment

Shri K.K. Jain, ED, CHT enlightened the participants with the objective of the meet and the need of conducting such meets on regular basis to ensure successful modernization of the oil refineries located across the country. In his speech, Shri Jain cited a number of focus areas of refinery operations such as sustained throughput, sustained quality products, safety, minimal environmental damage and compliance to environmental standards, energy performance involvement, GRM & NRM etc. and urged the Rotary engineers to adopt a maintenance philosophy towards minimizing unplanned shutdown of equipment for maintenance, eliminating repeated failures, employing innovative methods for maximizing the life of components and system, maximizing the run length of equipment, minimizing maintenance cost and developing cost effective inventory management. He also recommended the experts to play a significant role in sharing best practices, trouble-shooting experiences and developments and operating experiences with new technology solutions in the CHT platform and help the Refineries to take leaps towards modernization.

In his keynote address, Shri Sanjay Manchanda, ED, IOCL, GR called the Activity Committee Meet a 'give and take programme' saying that it will help the organizations to address their liability issues and various challenges faced by them. He also called for innovation to enable implementation of best cost effective practices in the Refineries. He further said that IOCL declared the year 2019 as the 'Year of Solutions' to push towards implementation of innovative practices in its operations and practices.

The Technical sessions comprised of a total of 37 presentations as per the agenda given by CHT. The convener of the meet was Shri P.K. Basumatary, GM(Maint.), GR. The two-day activity committee meet was concluded through a valedictory function at GR L&D Centre on 28th June 2019.

Power Generation, Distribution, Electrical Maintenance and Utilities

Activity Committee Meet on 'Power Generation, Distribution, Electrical Maintenance and Utilities' was organized by CHT in collaboration with Panipat Refinery on 30th & 31st July 2019. The meet was inaugurated by Shri Sanjaya Bhatnagar ED (PRPC). Shri P. Raman, Director, CHT, gave the key note address to the participants wherein he urged the participants to share their best practices & areas of concern in Power Generation, Distribution & Maintenance as it is the need of the hour since refineries have been notified as Designated consumer under PAT cycle-II. Shri Rahul Prashant CGM (P&U, IT), Panipat

Refinery was the Convener of the meet.

The two day ACM was attended by 64 delegates from all across the private and public sector oil companies in India. A number of reputed consultants and OEM's viz. Aveva, BGGTS, EIL, Yokogawa, Solvina, PTC, Schweitzer Engineering and GE Water & Process Technologies, also attended and gave presentations highlighting major developments going on across the globe in the area of enhancing reliability and optimization of existing assets. The delegates from oil PSU's shared several case studies on troubleshooting and experience pertaining to their refineries. The programme saw a detailed deliberation amongst the participants on the various ongoing issues as well as the path forward to be adopted for further optimization of the existing assets. The meeting ended with participants highlighting major take-aways which shall go a long way in helping to improve refinery performance.



Seated on the dais from L to R are Shri G. C. Sikder CGM(I/C) IOCL PRPC; Shri P. Raman Director (CHT); Shri Sanjaya Bhatnagar ED (PRPC); Shri Rahul Prashant CGM (P&U, IT) during inaugural session of the ACM on 30th July 2019 at IOCL Panipat Refinery

Development of Water Consumption Norms and Reduction of Water Footprint

- On 7th June 2019, a detailed review of ongoing study for IOCL Guwahati Refinery was carried out in presence of senior representatives from the refinery, EIL and CHT. The issues related to data sufficiency and the formats to be followed were deliberated in detail.
- CHT along with EIL visited IOCL Gujarat Refinery on 14th & 15th of June 2019 for carrying out a detailed review of the ongoing study. CHT along with EIL interacted with the process owners in the refinery and a standard format was developed for preparing a unit wise and an overall water balance of the refinery. EIL has already submitted the revised water balance for IOCL, Gujarat refinery in line with the discussions held during the visit.
- A review of water balance prepared by EIL was carried out at CHT on 16th July 2019 for HPCL Vizag & Mumbai refineries. In the meeting, the major issues related to the unit wise balances were highlighted to EIL and the modifications in the formats and the balances in line with the IOCL Gujarat was advised. EIL is expected to submit the "Water Balance" with interim recommendations in Aug 2019.

Baselining data of Petrochemical under PAT cycle- IV

On 2nd July 2019, CHT attended a meeting at BEE office to review the draft reports submitted by EIL on baseline data verification audit for IOCL Panipat Petrochemical complex and RIL Hazira manufacturing division for PAT cycle-IV. In the deliberation, CHT/BEE along with EIL reviewed the methodology and advised to make necessary updations/corrections in the report.

Vendor presentations on new technologies at CHT

1. M/s Honeywell UOP

On 24th June 2019, Mr. Akshay Gupta from Honeywell UOP made a detailed presentation at CHT on Digital Refineries illustrating how IR 4.0 can improve profitability through connected optimization which can be achieved by constant data processing, underlying high fidelity models, modifications and ongoing feedback. Another presentation on Renewable Solution was made by Mr. Dharmesh Mahajan who highlighted the massive opportunity of converting surplus Biomass into Bio-crude reserve of the country. He explained about latest technologies for converting different crop residues into Bio-Crude which can be further processed in Refineries for value addition.

The session was interactive where participants were mainly apprised of the major benefits of leveraging IR4.0 to Drive Profitably in Refinery with Connected Process Optimization and also thrusts on renewable energy.

2. M/s Clariant

Mr. Ralf Hortsch & Mr. Swadhin Banerjee of M/s Clariant visited CHT, Noida on 24th June, 2019. Shri S.K. Varshney, Joint Director welcomed the guests and thereafter Mr. Ralf Hortsch made detailed presentation on Clariant group with special focus on Biotech & Bio-based chemicals. They discussed in detail about the Sunliquid® process for efficiently converting agriculture residue (Lignocellulosic biomass) into bioethanol. They have successfully demonstrated their technology at a demonstration plant in Munich, Germany and are setting up a commercial plant with a capacity of 50 TPA of bioethanol in Romania. They also discussed about the advantages this process has over other competitive technologies available in the market.

Environment Day

Environment Day was celebrated on 5th June 2019 at the office of Centre for High Technology. On this occasion, Shri K.K. Jain, Executive Director, CHT, planted fruit bearing saplings in the premises of OIBD office complex. Other CHT officials also planted fruit bearing saplings on this occasion. Shri K. K. Jain appealed to all CHT officials to plant more and more trees to help promote green environment and clean air.



Shri K.K. Jain, Executive Director, CHT, along with CHT officials on 5th June 2019, Environment Day after tree plantation

Yoga Day

5th International Yoga Day was celebrated on 21st June 2019 by Centre for High Technology in line with the guidelines of the Ministry of Petroleum & Natural Gas, Govt. of India. On this occasion, Yogacharya and his group demonstrated various yoga exercises for all officers and employees of OIBD, CHT, OISD, ISPRL in the auditorium of OIBD Bhavan, Noida. Yogacharya also explained the importance & health benefits of Yoga and requested all to practice yoga daily in order to maintain a healthy life. Yogacharya said that few yoga exercises such as breathing exercises viz. anulom-vilom; eye exercises etc. can be done at home as well as during office hours.



Swachhta Pakhwada

In compliance to the guidelines of Ministry of Petroleum & Natural Gas, Govt. of India, Centre for High Technology, in association with other offices housed at OIBD Bhawan viz. OIBD, OISD, ISPRL, observed Swachhta Pakhwada during 1-15 July 2019. In order to make Swachhta Pakhwada successful, CHT organised day wise programs related to sanitation. Various types of events were organized such as street play, plantation in campus, speech competition etc. to increase awareness of Swachhta in general public. During this fortnight, the cleaning of the place around the OIBD office Complex and Hindon River, Noida was jointly carried out by CHT & OIBD.

Shri K.K. Jain, Executive Director, CHT, donated RO water purifying system to provide clean water to the children of Girls Inter College located in Hoshiarpur, Noida. On this occasion, a cleanliness kit was also distributed to the underprivileged children of school in Noida. During the fortnight, walkathon was organised wherein officers and employees took out banners and billboards for spreading awareness about sanitation. In house Slogan competition on cleanliness was organised for officers & employees whereas written competition for ideas on hygiene for employees working on contract, was organised at CHT. Prizes were distributed to the winning participants by Shri K.K. Jain, Executive Director, CHT on the 15th July 2019 i.e. concluding day of the Swachhta Pakhwada.

Photo Gallery - Swachhta Pakhwada

