



उच्च प्रौद्योगिकी केन्द्र

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At a Glance

From the desk of ED

1

3 18th EC meeting of CHT

PAT Meeting

3

4 Solomon Associates' Data Coordinators' Seminar

"Energy-water nexus"

5

6 Awards for best performance in CO₂ emission

New Initiative : Innovation Awards

6

7 IED Audit

Visit of Assistant Secretary, MoP&NG to CHT office

7

8 हिंदी पत्रवाक्य

20th Refinery Technology Meet

10

11 सुस्वागतम्

विदाई

11

From the desk of ED



It's my privilege to greet all readers of this Bulletin as I assume the responsibility of heading the Centre for High Technology. With the continued support of the Ministry of Petroleum & Natural Gas and all our other stakeholders, we rededicate ourselves to your service.

To attain continuous improvement in the performance of Indian

refineries, CHT, on behalf of the Ministry of Petroleum and Natural Gas (MoP&NG) and the PSU/ JV refineries, has engaged M/s Solomon Associates to benchmark refineries for the calendar year 2014. The study will compare various KPAs (Key Performance Areas) of the Indian Refineries related to process, energy, environment & maintenance performance, operating expenses, financial performance and human resource management with refineries worldwide. Like the previous two cycles in 2010 and 2012, this process will help in gap identification for achieving greater efficiencies, enhanced reliability and improved margins by realizing the full technical and financial potential of the refineries. The exercise was kicked off by the Data Coordinators' Seminar held at OIDE Bhawan during 30 - 31st July, 2015. More than 80 participants from 15 PSU refineries attended the 2 day event and obtained clarifications on various issues with regard to the data to be submitted to the consultant. The benchmarking exercises, along with presentations to the refinery managements and to the Ministry, is to be completed by 31st March 2016.

As you know, CHT took a lead role in benchmarking energy consumption in Indian refineries by developing the Specific Energy Consumption metric in association with EIL. Starting from last year, we began compiling data and computation of carbon dioxide emissions from refineries. Responding to the widespread concern over global warming and climate change, the Ministry of Petroleum & Natural Gas has approved our proposal to confer an award on the refinery with the lowest CO₂ emission. This will be in addition to the awards given for annual Specific Energy consumption and those based on audit of steam leaks during OGCF 2015. Earlier CHT had invited applications for awarding best Innovations of the year under 3 categories, i.e., Best Indigenously Developed Technology, Best Innovation in Refinery (refinery / group/ individual) and Best Innovation in R&D Institute (institute / group / individual). The nominations received are being scrutinized by the Select Committee of SAC.

The Government of India enacted the Energy Conservation Act in 2001. The Act aims to make the industrial sector more energy efficient, by notifying Designated Consumers (DCs) among the energy intensive industries and mandates on progressive energy reduction. For this purpose, The Bureau of Energy Efficiency (BEE) launched the PAT (Perform, Achieve and Trade) scheme. PAT is a market based mechanism in which sectors are assigned efficiency improvement targets. Consumers which surpass their targets get incentives in the form of Energy Saving Certificates (EScerts), while those that do not; have to pay a penalty and/or purchase EScerts. These certificates will be tradable at energy exchanges from November 2015. In the PAT cycle-I, eight energy intensive sectors were covered. From PAT cycle-II, 3 more sectors including Refinery sector will be covered. CHT is assisting BEE in operationalizing the target setting exercise for Petroleum Refinery sector.

With a view to generate awareness and promote the use of Hindi in official work, CHT celebrated Hindi Fortnight during 8th to 22nd September 2015. As a part of celebrations, various competitions were arranged among the employees, such as Noting-drafting, Handwriting, Translation, Recitation, etc.

The Refining sector in India is currently passing through a challenging phase, amidst fluctuating prices of crude oil & products, shrinking refining margin, need for huge investment for upgrading fuel quality in line with

international trend, stringent environmental stipulations and increasing concern for energy security, residue upgradation, etc. Going forward, refining operations will also be guided by reduction in carbon footprint and water consumption. In order to meet these challenges, there is an urgent need to explore and adopt innovative solutions to create and add value from the existing assets, improve the process and energy efficiency, yield optimization, process integration & intensification, loss control, reliability management, minimizing environmental impact, hydrogen addition and upgrading bottom of the barrel coupled with quality upgradation, etc. For meeting Hon'ble Prime Minister's vision of reducing energy imports by 10% by 2022, and 50% by 2030, Refineries will also see integration with gasification and bio-refining for feed diversification. Hydrogen is the fuel and a carrier of energy of future; refineries are in best position to meet requirement as applications are developed and demand increases progressively.

Keeping these challenges in view, the theme of the 20th Refinery Technology Meet (RTM), the biggest event on CHT's calendar, will be "Value Creation through Innovative Solutions". RTM is scheduled during 16th – 18th February, 2016 at Hyderabad in association with Indian Oil Corporation Limited. The technical papers that will be presented during the RTM, will primarily focus on this theme and address various innovative approaches that should be adopted by the Indian Refining industry to achieve pacesetter performance. RTM provides perfect platform to the top professionals and decision makers from the oil and gas refining companies to discuss the latest industry issues, network, share their experiences in operations, maintenance, project implementation and also share their groundbreaking ideas, discuss and learn the latest in refining technology to stay ahead of competitors. The RTM welcomes refinery professionals from across the refining and related industries to demonstrate their products/ services to the operators / end-users. I am looking forward for your active support to make the mega event successful.

Brijesh Kumar
Executive Director

18th Meeting of Executive Committee (EC) of CHT

The 18th Meeting of Executive Committee of CHT was held on July 6, 2015 under the chairmanship of Shri Sandeep Poudrik, IAS, Joint Secretary (Refineries), MoP&NG, Government of India and participated by Directors (Refineries) of IOC, BPC and HPC, Director (T)-EIL and Director-IIP, apart from Directors and senior officials from CPCL, MRPL, NRL and OIBD. The EC approved the proposal to engage M/s Solomon Associates to

benchmark the Indian PSU refineries and BURL for the calendar year 2014. The EC also reconstituted the Committee for commercialisation of Indigenous Technology. Apart from these major decisions, EC had a detailed review on the progress and major activities of CHT including HCF projects, Technical Services Program and proposal for Performance Gap Reduction & Margin Improvement Programme.

PAT Scheme implementation in Refineries

Perform, Achieve & Trade (PAT) is a regulatory instrument to reduce specific energy consumption (SEC) in energy intensive industries, with an associated market based mechanism to enhance cost effectiveness through Energy Saving Certificates (ESCCerts), which can be traded.

PAT is an initiative under NEMEE (National Mission for Enhanced Energy Efficiency), which itself is one of the eight missions under NAPCC (National Action Plan on Climate Change). Under this initiative, 15 energy intensive sectors have been identified. In PAT cycle-1 (2012-13 to 2014-15), Eight sectors were covered. In PAT cycle-2, three more sectors including Petroleum Refineries will be covered. PAT cycle-2 will commence from 1st April, 2016 and will end on 31st March, 2019.

BEE (Bureau of Energy Efficiency) under MOP (Ministry of Power) has been entrusted with the mandate of implementation of PAT scheme. MOP will notify Refineries above a threshold limit of energy consumption as Designated Consumers (DCs). Under the PAT scheme, a target for energy saving is given to each DC. If the achievement is better than the Target, Energy saving certificates (ESCCerts) are issued (1 MTOE= 1 ESCert). If the achievement of a DC falls short of Target, then ESCerts have to be purchased and/or Penalty has to be paid.

CHT is closely associated with BEE in implementation of PAT scheme in Refineries. The MBN methodology for computation of Specific Energy Consumption (SEC), developed by CHT has been accepted to be the performance metric for the PAT scheme by the Technical Committee headed by ED (CHT). CHT is also helping BEE in developing the format for collection of required data from the Refineries and the calculation of Specific Energy consumption. A Technical sub-committee has also been formed to look into external factors which would affect the SEC and to suggest methodology of normalisation.

The plan for submission of Refinery-wise Targets by BEE is 31st December 2015 and for the notification of Targets by MOP is 31st March 2016.

Under the PAT scheme, each DC has to-

- ❖ Have a certified Energy Manager
- ❖ Submit annual energy return
- ❖ Get energy audit conducted by an accredited energy auditor
- ❖ Implement techno-economic viable recommendations
- ❖ Comply with energy consumption norms and standards.

“ Live as if you were to die tomorrow.

Learn as if you were to live forever.”

-Mahatma Gandhi

Data Coordinators' Seminar on Performance Benchmarking of Indian Refineries (PSU) for year 2014



Data Coordinators' Seminar for Performance Benchmarking of Indian PSU refineries in progress: Seated (L-R): Shri Rajen Kapoor, Executive Director (Actg.), CHT; Mr Kevin Henke, Senior Consultant, Solomon Associates, Ms Rachita Ojha, Solomon Associates and Shri R. Krishnamurthy, Director, CHT

Data Co-ordinator Seminar on Performance Benchmarking of Indian Refineries (PSU) was conducted by M/s Solomon Associates (SA) at CHT, OADB Bhawan, Noida on 30-31st July, 2015. More than 80 delegates from the 15 participating PSU refineries and BORL attended. ED Actg.-CHT, in his inaugural address, expressed happiness at the large turnout and hoped that Seminar would clarify doubts and result in better quality data submission and thereby improved results from the benchmarking exercise. He also expressed confidence that with the measures the refineries had taken since the last round of benchmarking in 2012, the results would be better this time. He urged the participants to make use of the extensive database of Solomon Associates to get a feel of what the best performing refineries are in terms of scale, configuration and operating parameters, so that changes can be made in their own refineries, if feasible, and best operating practices can be followed. This benchmarking exercise assumes additional importance, as the annual MOU with the Government includes parameters taken from this exercise; hence, it was

necessary that the objective of the Seminar – of a clear understanding of the methodology and data input – was achieved.

Mr Kevin Henke, Senior Consultant, SA, expressed great expectation from the deliberations. He explained the importance of this Seminar & requirement of Performance Benchmarking and briefed about the agenda/ schedule of the two day event. Following the Inauguration, the seminar went into the details regarding data input spreadsheets, role of data checks to ensure quality, definition of refinery facilities & standard units, non-process facilities, allocation of shared facilities and key process unit data. Mr Henke also discussed different Key Performance Areas and best practices of process/ maintenance/ energy balance / material balance in operation of refineries.

The Seminar was highly interactive and delegates from the refineries made effective use of the opportunity to clarify their doubts. Participants ranged from Technical Services, Operations, Finance, Maintenance and Human Resources, whose areas of responsibility covered the entire gamut of data sought by Solomon Associates for the benchmarking exercise.



Mr Kevin Henke answering to queries from participants

“The only thing that I have done that is not mitigated by luck, diminished by good fortune, is that I persisted, and other people gave up.”

—Harrison Ford

“Energy-water nexus”

—Brijesh Kumar

Executive Director, Centre for High Technology

Vast amount of water is used in the energy sector as water is the most effective medium for carrying away waste heat. Even the Renewable power sources such as photovoltaic solar and wind power, which require little water to produce energy, require water in processing the raw materials, to build the turbines and solar panels.

As energy requires water, water supply and sewage disposal also needs energy. In the areas where fresh water is scarce, the energy footprint for the drinking water may be extremely high, as it must be brought in from a long distance.

Both water and energy face rising demands and constraints in many regions as a consequence of economic and population growth. Excessive consumption of both can lead to resource depletion, pollution, and increase in their prices. In addition, climate change will amplify their vulnerability to one another.

Nearly 70% of the earth is covered by water, yet the world's water systems face formidable threats. Only 2.5 % of it is fresh. The rest is saline and in ocean. Even then, just 1% of our freshwater is easily accessible, with much of it, trapped in glaciers. In essence, only 0.007 % of the planet's water is available to quench 8.0 billion people.

More than a billion people currently live in water-scarce regions, and as many as 3.5 billion could experience water scarcity by 2025. Increasing pollution degrades freshwater and coastal aquatic ecosystems and climate change is poised to shift precipitation patterns and speed up glacial melt, altering water supplies and intensifying floods and drought.

Another paradox is that water availability is lowest in equatorial countries, where populations are rising. India, China & most parts of Africa are predicted to face water shortages in the near future. Even countries in Central & Eastern Europe will face water shortage, if immediate steps are not taken to conserve and minimize water usage. Most of the countries predicted to face water shortage are agricultural intensive which means they will start importing food once the water issue gets difficult to manage.

Water-energy-food nexus is on top of the global policy agenda these days. The understanding of this nexus allows us to invite engagement & investments in future to target

efficiency in water use and reductions in energy intensities in the energy sector.

By conserving water and reducing runoff, the negative impacts of the water-energy nexus can be mitigated. Through a Water footprint, one can learn how much water is consumed and what action can be taken to reduce water consumption from the activities with the highest impact.

Water constraints can occur naturally, as in the case of droughts and heat waves, or be human-induced, as a result of growing competition among users or regulations that limit access to water.

For the energy sector, constraints on water can challenge the reliability of existing operations as well as the physical, economic and environmental viability of future projects. What does this mean for future energy supply? Integrate water constraints into the energy sector. Power generation will have to deploy more & more technologies fit for water-constrained conditions. The development of unconventional oil and gas resources, which raises notable water-quality risks, will be challenged and this can involve trade-offs in cost, energy output and project siting.

Likewise there are many synergies and trade-offs between water & energy use and food production. Recognizing these synergies and balancing these trade-offs is central to jointly ensuring, water- energy and food security. India is the world's largest groundwater user. Agriculture, groundwater and electricity sectors in much of India are now bound in nexus of mutual dependence where the growth of agriculture is being supported by unsustainable trends in groundwater and electricity, so much so that even growth in agriculture is now threatened.

In some areas, the imbalance is staggering. For instance, the Upper Ganges in northern India, where underground reservoir would essentially need 54 times as much rain as it currently gets to replenish the water that's being used by farmers and the local population.

The energy-water challenge is too large for any organization to tackle alone. The global community is well aware of this nexus, but has so far addressed them in isolation, within sectoral boundaries. A nexus approach to sectoral management, is needed to ensure that co-benefits and trade-offs are evaluated and considered.



Awards for best performance in CO₂ emission

It has become imperative to measure and control emissions from the hydrocarbon industry which contributes to 3-5% of total Indian Green House Gas (GHG) emissions in view of vital issues of international concern, both in industrialized and developing countries, such as global warming and climate change.

As an initial step to address the issue, estimation of CO₂ emission will be done as per the API compendium for GHG 2009. Refinery emissions are categorized in three parts such as 1) Direct emission 2) Indirect emissions related to energy and 3) Other indirect emissions during loading and transport of crude and products. It has been decided to

follow Carbon Weighted Tonne (CWT) method for estimating CO₂ emissions; as it is being widely used for comparing CO₂ emission in refineries in EU.

It was proposed earlier to institute awards for refineries with the lowest carbon footprint, on lines similar to that for the awards for Specific Energy Consumption (SEC). In continuation of this, to recognize refineries with best performance in Carbon Dioxide emission, MoPNG has approved the constitution of the Award Selection Committee and accorded its approval for conferring 2 nos. of awards to best performing refineries in 2 categories for the year 2014-15.

New Initiative : Innovation Awards

The Governing Council of CHT has accorded approval for institution of R&D/Innovation award for 'Best Indigenously Developed Technology/Process'. The objective is to promote innovative scientific endeavor in the country by encouraging and rewarding excellence in original invention/innovation and channelizing national and international knowledge and expertise with the mission of giving impetus to innovation activity in the country. Also, it is aimed at recognizing the hidden creative talent in individuals or group out of recognized R&D system that could be harnessed for the benefit of the nation. The award

is primarily for Hydrocarbon sector and will be given every year.

The awards will be conferred for the following categories:

- ◆ Best indigenously developed technology
- ◆ Best Innovation in Refinery (refinery/group/individual)
- ◆ Best Innovation in R&D Institute (refinery/group/individual)

In this regard, nominations have been invited from PSU oil companies & their R&D wings, private & JV oil companies and CSIR-IIT.

“ We, the present generation, have the responsibility to act as a trustee of the rich natural wealth for the future generations. The issue is not merely about climate change; it is about climate justice. ”

-Narendra Modi

ISO – 9001:2008 Audit for CHT

Centre for High Technology obtained ISO 9001:2008 in June 2013 and as per the system requirement, 2nd Periodic Audit (PA2) was carried out by M/s DNV GL on 17th July 2015. On satisfactory completion of the audit, M/s DNV GL has certified for continuation of ISO 9001:2008 to CHT office.

This certification is as per the international standard related to quality management system. This certification rates an organization on customer focus, approach sustained customer satisfaction by producing & delivering services and providing support functions that meet customer's needs and expectations.

Prior to the audit, 1-day ISO awareness training programme was organised on 10th July 2015 at CHT office as per the ISO requirements.



ISO awareness training programme in progress at CHT office

Visit of Assistant Secretaries, MoP&NG to CHT office

Assistant Secretaries in Ministry of Petroleum & Natural Gas, Government of India, Shri Arun Thamburaj and Ms Vandana visited CHT office to get a feel of the refining industry and to understand functioning of this nodal agency working under MoP&NG. They were warmly welcomed by ED-CHT, Shri Brijesh Kumar and briefed

about the activities undertaken by CHT for the overall growth of hydrocarbon sector in India. CHT Directors, Shri Rajan Kapoor, Shri I. H. Shivaraya, Shri A. S. Pathak and Advisor (T) Shri A.K. Agrawal Participated in the meeting and briefed the officials regarding different aspects of CHT functions.



Shri Brijesh Kumar, ED-CHT and Shri Rajan Kapoor, Director-CHT briefing about CHT activities in the meeting



Shri Arun Thamburaj and Ms Vandana, IAS, Asst. Secretaries, MoP&NG at CHT office



उच्च प्रौद्योगिकी केन्द्र में हिंदी पखवाड़े का आयोजन



शासकीय कार्यालयों के दैनंदिन कामकाजों में हिंदी को प्रोत्साहन देने के लिए हर वर्ष सितंबर माह में अनेक कार्यक्रम आयोजित किए जाते हैं। उच्च प्रौद्योगिकी केन्द्र में भी दिनांक 8 सितंबर से 22 सितंबर तक हिंदी पखवाड़े का आयोजन किया गया। पखवाड़े के उद्घाटन समारोह में अपना संदेश देते हुए माननीय कार्यकारी निदेशक, उच्च प्रौद्योगिकी केन्द्र, श्री बृजेश कुमार ने सरकारी काम में हिंदी के सरल और सामान्य प्रयोग पर बल दिया। उन्होंने भाषा की लोकप्रियता और उसकी सरलता के घनिष्ठ संबंध का विवेक किया। उन्होंने कठिन और अप्रासंगिक क्लिष्ट शब्दों के उपयोग से परे रहने तथा आम बोल-चाल के शब्दों की उपयोगिता का महत्व समझाया।

इस अवसर पर माननीय श्री धर्मेन्द्र प्रधान, पेट्रोलियम और प्राकृतिक गैस मंत्री (स्वतंत्र प्रभार), द्वारा जारी संदेश का सामूहिक वाचन किया गया। मंत्री महोदय ने अपनी अपील में हिंदी के प्रयोग को और प्रभावशाली बनाने पर बल दिया। उन्होंने अपील की कि मंत्रालयों तथा चपकरनों का सीधा सम्पर्क जनता के साथ होता है, अतः जनता को जन-भाषा में ही समझाना उचित है। पखवाड़ा अवधि 8 से 22 सितम्बर के दौरान निम्नलिखित कार्यक्रम आयोजित किए गए थे।

दिनांक	कार्यक्रम/प्रतियोगिता
08.09.2014	श्री धर्मेन्द्र प्रधान, माननीय राज्य मंत्री, (स्वतंत्र प्रभार), पेट्रोलियम और प्राकृतिक गैस मंत्रालय, भारत सरकार द्वारा जारी अपील का पठन श्री बृजेश कुमार, कार्यकारी निदेशक महोदय द्वारा हिंदी पखवाड़े का उद्घाटन टिप्पण-आलेखन (Noting-Drafting) प्रतियोगिता
14.09.2014	श्री राजनाथ सिंह, माननीय गृह मंत्री, भारत सरकार, द्वारा जारी संदेश का पठन लघु टिप्पणियों का अंग्रेजी से हिंदी तथा हिंदी से अंग्रेजी में अनुवाद
18.09.2014	शब्दार्थ प्रतियोगिता
22.9.2014	वाक (Elocution) प्रतियोगिता पेट्रोलियम और प्राकृतिक गैस मंत्रालय से आमंत्रित सुश्री शोभना श्रीवास्तव, सहायक निदेशक (राजभाषा) का कार्यकारी निदेशक महोदय द्वारा स्वागत-सम्मान तथा सुश्री शोभना श्रीवास्तव द्वारा संबोधन परिणाम घोषणा और पुरस्कार वितरण माननीय कार्यकारी निदेशक महोदय के सविष्ट संबोधन द्वारा समापन

सभी प्रतियोगिताओं में उच्च प्रौद्योगिकी केन्द्र के सभी हिंदी और हिंदी-इतर कर्मचारियों ने उत्साहपूर्वक भाग लिया। पखवाड़े के समापन अवसर पर सुश्री शोभना श्रीवास्तव, सहायक निदेशक (राजभाषा), पेट्रोलियम और प्राकृतिक गैस मंत्रालय को विशेष अतिथि के रूप में आमंत्रित किया गया था। हिंदी पखवाड़े के दौरान आयोजित प्रतियोगिताओं के विजयी प्रतिभागियों को कार्यकारी निदेशक महोदय श्री बृजेश कुमार एवं आमंत्रित

अतिथि सुश्री शोभना श्रीवास्तव जी ने पुरस्कार प्रदान किए। इसके उपरान्त कार्यकारी निदेशक महोदय ने सुश्री शोभना श्रीवास्तव को धन्यवाद दिया। उन्होंने सभी सफल प्रतिभागियों बधाई दी एवं अन्य कर्मचारियों एवं अधिकारियों को भी हिंदी पखवाड़े में उत्साहपूर्वक भाग लेने के लिए धन्यवाद दिया।

उच्च प्रौद्योगिकी केन्द्र में आयोजित हिंदी पखवाड़े की सचित्र झलक



20th Refinery Technology Meet

As a part of dissemination of information on latest developments and emerging trends in the field of downstream hydrocarbon sector, Centre for High Technology (CHT) has been periodically organizing Refinery Technology Meet (RTM) on various themes of immediate relevance to the oil industry. Such meets provide a platform to the participants from oil companies and other organisations to interact, discuss and obtain comprehensive inputs on technological advancements from developing suitable strategies to meet future challenges.

The RTM also aims at bringing together participants from public & private sector refineries, policy makers, consultants, catalyst manufacturers and technology providers from India and abroad and provide a platform for sharing, interacting and exchange of technical ideas among refinery operators, technology providers, researchers, etc.

During the last RTM at Chennai, which was organised during 2014, more than 600 delegates from India and abroad participated in the three days program apart from the Chief Executives, Directors and Senior Executives from the oil industry. A total of 83 Technical Papers, including 36 papers from Global leaders in Refining Technology such as Shell, Exxon Mobil, Chevron, UOP, Axens, Lummus, Dupont, Soloman, KBR, etc., were presented during the Technical Sessions. The three Poster Sessions were organised during three days of Meet covering 80 poster papers. Also, 12 exhibition stalls for displaying new refinery technologies and catalysts during the meet were billeted.

CHT will be organizing 20th edition of Refinery Technology Meet (RTM) during 16th to 18th February, 2016 in Hyderabad jointly with Indian Oil Corporation. The theme of 20th RTM will be *Value Creation through Innovative Solutions*.

Glimpses of previous RTMs



सुखागतम्



श्री बृजेश कुमार
कार्यकारी निदेशक, सच्च प्रौद्योगिकी केंद्र

श्री बृजेश कुमार ने, सच्च प्रौद्योगिकी केंद्र में 18 अगस्त 2015 से कार्यकारी निदेशक के पद पर कार्यभार ग्रहण कर लिया है। श्री बृजेश कुमार ने पंजाब विश्वविद्यालय, चंडीगढ़ से रासायनिक अभियांत्रिकी में तथा MDI गुडगांव से व्यवस्थापन में सपाधि हासिल की है।

उन्होंने अपने व्यावसायिक जीवन की शुरुआत 1981 में इंडियन ऑयल से की और गत 34 वर्षों में संपन्न के विभिन्न विभागों में, जैसे नथुरा रिफाइनरी, रिफाइनरी मुख्यालय तथा अनुसंधान एवं विकास केंद्र में अनेक महत्वपूर्ण ओहदों पर काम करते हुए सच्च अनुभव हासिल किया है।

सच्च प्रौद्योगिकी केंद्र में कार्यकारी निदेशक का कार्यभार ग्रहण करने के पहले वे इंडियन ऑयल के अनुसंधान एवं विकास केंद्र में तथा रिफाइनरी मुख्यालय में कार्यकारी निदेशक के पद पर कार्य कर चुके हैं।

सच्च प्रौद्योगिकी केंद्र परिवार माननीय कार्यकारी निदेशक, श्री बृजेश कुमार का हार्दिक स्वागत करता है।

विदाई

इंडियन ऑयल कॉर्पोरेशन लिमिटेड से प्रतिनियुक्ति आधार पर कार्यरत निदेशक श्री आर. कृष्णमूर्ती, सच्च प्रौद्योगिकी केंद्र, अपना कार्यकाल व्यतीत करके सेवानिवृत्त हो गए। सच्च प्रौद्योगिकी केंद्र परिवार की ओर से श्री कृष्णमूर्ती को विदाई देने के लिए एक समारोह का आयोजन किया गया। इस अवसर पर माननीय कार्यकारी निदेशक, उ. प्रौ. के., श्री बृजेश कुमार जी ने उन्हें स्तुति चिन्ह

पेंट किया। कार्यकारी निदेशक ने श्री कृष्णमूर्ती की सादगी एवं विनम्रता की सराहना करते हुए व्यक्तिगत रूप से प्रशंसा की तथा उनके द्वारा दिए गए महत्वपूर्ण योगदान की सराहना करते हुए उनके सज्जल भविष्य की कामना की। श्री कृष्णमूर्ती ने भी अपने कार्यालयीन व वैयक्तिक जीवन में अर्जित अनुभवों को सफलता साधने के लिए सभी का आभार प्रकट किया।



श्री बृजेश कुमार, कार्यकारी निदेशक, सच्च प्रौद्योगिकी केंद्र
श्री आर. कृष्णमूर्ती जी को स्तुति चिन्ह देकर अभिनंदन करते हुए



श्री राजेश कुमार, निदेशक, सच्च प्रौद्योगिकी केंद्र
श्री आर. कृष्णमूर्ती जी का पुष्पगुच्छ देकर अभिनंदन करते हुए

“I've missed more than 9,000 shots in my career. I've lost almost 300 games. Twenty six times I've been trusted to take the game winning shot and missed. I've failed over and over and over again in my life. And that is why I succeed.”

- Michael Jordan