

# THE INDIAN INSTITUTE OF METALS DELHI CHAPTER

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## NEWS LETTER

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## INTRODUCTION

This Newsletter contains the following:

- 1 Minerals, Metals, Metallurgy & Materials (MMMM) 2014 event held at Pragati Maidan, New Delhi from 4<sup>th</sup> to 7<sup>th</sup> September 2014
- 2 Summary of the Exhibition and Conference along with its Recommendations
- 3 SAIL planning to double steelmaking capacity to 50MT by 2025
- 4 High domestic steel prices may trigger import rush
- 5 Prof. Brahm Prakash Memorial Materials Quiz 2014
- 6 Iron Ore Pellet maker KIOCL set to be merged with iron ore giant NMDC
- 7 Fall in coking coal prices to help steel companies
- 8 Many national and international news items

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### **Minerals, Metals, Metallurgy & Materials (MMMM) 2014 Event**

The Delhi Chapter of The Indian Institute of Metals (IIM DC) in collaboration with International Trade & Exhibitions India (ITEI) Pvt Ltd, a part of the ITE Group PLC, UK, organised MMMM 2014 event at New Delhi, from 4<sup>th</sup> to 7<sup>th</sup> September 2014. The event consisted of the following in the area of Metals and Minerals Sector:

- a) International Exhibition and
- b) International Conference

The Exhibition was inaugurated by Shri Narendra Singh Tomar, Hon'ble Minister of Steel, Mines, Labour & Employment on 4<sup>th</sup> September 2014. Thirty one countries across the globe participated in the Exhibition.

The Conference "Emerging Trends in Metals and Minerals Sector" was inaugurated by Shri Syeddain Abbasi, Joint Secretary, Ministry of Steel on 5<sup>th</sup> September 2014. The Valedictory Session of the Conference was presided over by Shri Vishnu Deo Sai, Hon'ble Minister of State for Steel, Mines, Labour & Employment, on 7<sup>th</sup> September 2014. 37 Technical Papers were presented in the Conference from various organisations of India and abroad. The Conference consisted of six technical sessions, inaugural session and a valedictory session. Various subjects in the area of Metals and Minerals Sector were touched upon in the Conference.

The Delhi Chapter is happy to inform the readers that the feedback about the MMMM 2014 event was very encouraging. The Chapter has made a Summary of the Exhibition as also of the Conference along with its Recommendations and these have been sent to various organisations including concerned Ministries of Government of India for their information. It is hoped that this will form an important reference document. These are also being given in the succeeding pages. The technical papers presented in the Conference have been uploaded on our website. These can be accessed at the following website:

[www.mmmmconferences.com](http://www.mmmmconferences.com)

## MMMM 2014 – A Grand Success



MMMM 2014, South Asia's leading Business Event for Minerals, Metals, Metallurgy and Materials Industry was inaugurated on 4<sup>th</sup> September, 2014 by **Shri Narendra Singh Tomar, Hon'ble Minister of Steel, Mines, Labour and Employment, Government of India, New Delhi**. The exhibition's inauguration was also attended by **Shri Naveen Jindal, Chairman, Jindal Steel and Power Limited**, a leading company in Steel Production and Power Generation in India as Guest of Honor. **Shri Vishnu Deo Sai, The Hon'ble Minister of State for Steel, Mines, Labour and Employment**, graced the event as Chief Guest in the valedictory session of MMMM Conference.

This Business Platform was well received by the Industry in India and abroad having the presence of **189 leading exhibitors from 31 countries** across the globe.

MMMM 2014 has received an outstanding response from the industry with 8241 trade visitors from 18 countries visiting the exhibition.

The exhibition was co-located with 5 other industry events so as to cover the entire spectrum of products and services relating to

Minerals, Metals, Metallurgy and Materials Industry to create a complete business platform for the industry professionals.

- **UMEX** – International Exhibition on Used Machinery
- **IMEX** – Exhibition on Machine Tools and Engineering products
- **Tech India** – Exhibition on Manufacturing and Production
- **CWE** – Exhibition on Cutting and Welding Equipments
- **Mega Micro Small and Medium Enterprise (MSME) Summit** – Conference on “**Indian MSME's: Driver of Industrial Growth in India**”.

A few other highlights of this complete business platform are:

- **Supported by 7 Ministries of Government of India and 19 major Trade Associations**
- Invited **Trade Delegations**
- Presence of **Mineral Rich States of India**
- **Launch of “World Metal Forum”- WMF** will be a business-led forum with a target membership of 20,000 from worldwide metal and allied industries.
- Three day concurrent international conference on “**Emerging Trends in Metals and Minerals Sector**” by The Indian Institute of Metals- Delhi Chapter
- **3 Days Mega MSME Summit** on “**Indian MSME's : Driver of Industrial Growth in India**”



The exhibition also saw a **joint venture** getting signed between **Technomag Concast Pvt Ltd. and MCC Capital Engineering and Research Incorporation Limited** to enhance their business turnover in India. The joint venture was signed and exchanged in the VIP Lounge of MMMM 2014.



The Mega MSME Summit which was a co-located event had the illustrious presence of the following dignitaries from the Central Government of India

- **Sh. Kalraj Mishra, Hon'ble Minister of Micro, Small & Medium Enterprises, Government of India,** graced the occasion as Chief Guest and inaugurated the Mega MSME Summit
- **Sh. Santosh Gangwar, Hon'ble Minister of Textiles, Government of India** attended as Chief Guest on September 5, 2014 at Mega MSME Summit
- **Gen. V K Singh, Hon'ble Minister of State (IC), Development of North Eastern Region** attended as Chief Guest at Mega MSME Summit on September 6, 2014



Exhibitors from MMMM 2014 were extremely satisfied with the Visitor turnout at MMMM 2014. A few of their testimonials are given below.

*"This show has proved to be the best platform to showcase the engineering and manufacturing capabilities of YOGIJI-DIGI"*

**Navneet Singh Gill, Managing Director -YOGIJI-DIGI**

*"It is a pleasure participating in MMMM every year. We got a large number of delegates & visitors both from India and abroad coming to our stall and enquiring about our products and services"*

**Ashish Kumar, Head - Corporate Communication, TATA Steel Limited**

*"Good response of people in the field of steel"*

**Stefano Talassi, COO - Industrial Transformer Division, Transformers & Rectifiers (India) Ltd.**

## About the Organisers

### Joint Organiser and Sponsor

The Indian Institute of Metals is a premier body representing professional metallurgists and material scientists from Industry, R&D Institutions and Academia in India.

IIM was conceived in 1946 with the objective of promoting and advancing the study of science and technology of metals / alloys and best practices in the metallurgical profession. Headquartered at Kolkata, IIM conducts its activities through three divisions and fifty chapters spread across India.

Today IIM is the apex professional Institute in the field of Minerals, Metals and Materials sector and has nearly 11,000 members. Delhi Chapter is one of the leading chapters and has the support of National Council of The Indian Institute of Metals for organising this prestigious event.

### Organiser

ITEI – International Trade and Exhibitions India Pvt Ltd is a part of the ITE Group PLC UK, which has 30



offices worldwide and organises over 230 leading trade exhibitions and conferences each year, in 21 countries, including specialized exhibitions in Mining and Metallurgy, Metals, Oil and Gas, Industrial and Manufacturing, Power and Energy, Building and Construction, among other. ITEI presently organises a number of annual trade events and co-coordinates the participation of Indian companies at ITE's various events around the world, has ambitious growth plans of expanding its existing events and launching new events that will provide business opportunities for India's growing industries.

## MMMM 2014 – SUMMARY OF CONFERENCE

### 05-07 September 2014 at Pragati Maidan, New Delhi

The International Conference “**Emerging Trends in Metals and Minerals Sector**” was aimed to present the novel emerging technologies and research innovations for the industrial growth in the metals and minerals sector including steel and non-ferrous sector, minerals and ores processing sector, shaping and treating of metals, advanced materials, energy efficiency and environment in industries, etc. The Conference consisted of total seven technical sessions including the plenary session. The Plenary session was on the processing of iron ores, biotechnological innovations in Gold extraction and market demand and applications in steel sector. On the first day, after ‘Plenary session’, two more technical sessions were held on ‘Iron and Steel Technologies’ and ‘Mining and Minerals Preparation Technologies’. On the second day, four technical sessions on ‘Innovations in Non-ferrous Technologies including Rare Earths’, ‘Shaping of Metals’, ‘Advanced Materials’ and ‘Energy and Environment’ were held in succession. There were total thirty seven speakers for the technical sessions, including three speakers for the plenary session. About 200 delegates from India and overseas companies participated in the conference. A Valedictory session was held on the third day after which the Chief Guest Minister of State for steel, mines, labour and employment, Govt. of India delivered his address. The detailed Conference program is as under:

### 5th September 2014

#### Inaugural Session

The conference started with the welcome address delivered by **Shri S.C. Suri**, Chairman, IIM Delhi Chapter. He presented a brief introduction of the conference and welcomed all the dignitaries and delegates at the conference. **Mr. K.L. Mehrotra**,





Vice Chairman briefed about the MMMM 2014 International Exhibition progressing concurrently with the International Conference and highlighted that the country's metals sector has been increasingly becoming dependent on the global factors. The Guest of Honor, **Dr. R.N. Patra**, President IIM & CMD Indian Rare Earths Ltd. presented a lucid overview of the overall metals sector in the country and its international status. **Shri Syedain Abbasi**, Joint Secretary, Ministry of Steel, Govt. of India, delivered the Inaugural Address of the Conference. He emphasized that India is presently the 4<sup>th</sup> largest steel producer in the world and has potential to upgrade its ranking in this sector. However, sustained and focused efforts in this direction are necessary. He mentioned that presently due to the global competition, imports in the metal sector have become cheaper in the country. The raw material sector requires revival and requires significant attention to become competitive in the global market. **Mr. Deepak Vaidya**, Honorary Secretary, IIM Delhi Chapter presented vote of thanks at the end of the inaugural session.

### Plenary Session

The International Conference consisted of total seven technical sessions including one plenary session. **Dr. R. N. Patra**, President IIM and CMD Indian Rare Earth Ltd. was the session Chairman for the Plenary Session and introduced the three speakers of this session. **Professor B.K. Mishra**, Director, CSIR-Institute of Minerals and Materials Technology, Bhubaneswar delivered a talk on '*Problems in processing of different iron ores of India - some alternative techniques*'. He addressed the issue of large quantity of banded iron ores and other low-grade materials occurring in Indian iron ore mines, which are difficult to be beneficiated. He suggested the technological advances, such as, reduction roasting followed by magnetic separation or microwave heating for the beneficiation of these low-grade ores. Under the optimum conditions these technological advances were found to deliver quality magnetic concentrates assaying 63-65% Fe with 65-70% recovery. **Professor K.A. Natarajan**, Department of Materials Engineering, Indian Institute of Science, Bangalore delivered his presentation on '*Biotechnological innovations in gold extraction: Indian imperatives*'. He highlighted the innovations of biotechnology for the extraction and mining of gold with illustration of examples. He demonstrated development of a bioreactor technology at IISc Bangalore in the collaboration of Hutti Gold Mines, Karnataka State for the biooxidation of the refractory G.R. Halli concentrate. **Mr. Sushim Banerjee**, Director General, Institute for Steel Development & Growth (INSDAG), Kolkatta delivered his talk on '*Steel-market demand generation and new application areas*'.



### Session on Mining & Minerals Preparation Technology

The session was chaired by **Mr. S. Ranade**, Executive Director, JSW Steel Ltd.. There were six speakers in this session. **Mr. Ujjal Chakraborty**, Chief Pellet Plant, Tata Steel Ltd., Jamshedpur delivered his talk on '*Problems and issues in production of pellets in India and Tata Steel's initiative thereof*'. Mr. Chakraborty presented a brief view of the TATA's world's first integrated steel plant having 6 MTPA pellet production capacity and discussed the issues pertaining to it. He pointed out that introduction

of pellets enhances mine life by using lower grade ores. He also highlighted the innovative steps taken by his company in the process of production of pellets. **Mr. K K. Mehrotra**, Former CMD,



MECON Ltd. delivered a presentation on '*Slurry pipeline: cost effective solution for India steel industry for transportation of iron ore for long distance*'. Mr. Mehrotra presented a brief review of iron ore scenario in India apart from need and advantages of slurry transportation system. He gave global and Indian scenario of slurry pipeline for iron ores and a cost benefit analysis of slurry pipeline vis-a vis transportation by Indian Railway was presented for the transportation of iron ores.

**Mr. R. Prasad**, MECON Ltd., presented his talk on '*Enrichment of low grade iron ores by beneficiation*'. He indicated that in order to

achieve the targeted steel production of 300 MTPA by 2025-26 in the country, iron ore requirement will be of the order of 500 MT. To achieve the said target, it is essential to evolve alternate beneficiation technologies for the effective utilization of low and sub grade iron ores, which are

likely to be added to the National resource base of iron ores as per the guidelines of IBM. The speaker discussed the methods of enrichment of low grade iron ores to make suitable for sinter and pellet products in a techno economic and eco friendly manner. **Dr. S.K. Pan**, DGM & HoG (Mineral Engg.) Research & Development Center for Iron & Steel, SAIL, Ranchi delivered his talk on the '*Recovery of rich fine iron mineral particles through beneficiation of slimes and low grade hematite ores of SAIL captive mines*'. Dr. Pan discussed the intense beneficiation techniques for recovery of iron mineral part to more than 95% from low grade



ores. The implementation of innovative slime beneficiation systems at the SAIL R&D center in its two iron ore mines, viz., Dalli and Meghahatuburu and further expansion plan for the Bolani and Barsua mines were highlights of the presentation. **Mr. Sanjay Wadhwa**, GM Projects, Korus Engineering Solutions Pvt. Ltd. delivered a presentation on '*Iron ore pelletization-Technology and need*'. He addressed that about 70-75% of production of iron ores in India is of fines, which need be agglomerated for further processing. For the processing of low grade iron ore fines, pelletization is the highly profitable proposition since the fines should not be disposed at throw away prices and may be converted into pellets, which adds to value. **Mr. Hervinder Singh**, Business Head-Mining, Jindal Steel & Power Ltd., presented a talk on '*Emerging trends in the Mining Industry*'. He gave a brief overview of his company and presented the current challenges and opportunities in the mining industry focusing on the futuristic requirements of the steel industry.

### Session on Iron and Steel Technologies

The session having eight speakers was chaired by **Dr. B.N. Singh**, Chief Technologist, Uttam Group & Former CMD, RINL. **Mr. P.C. Mahapatra**, AVP JSW Steel Ltd. delivered talk on '*Innovations in iron and steel technologies at JSW steel Ltd.*'. The speaker discussed some of the initiatives taken at JSW steel to efficiently deal with the Indian raw material conditions viz. handling of high manganese iron ore fines and its management, till steel making. The processing aspects of low grade iron ores at JSW



were also discussed. The key highlights of the talk were installation and commissioning of Slime Recovery Plant, Micro-pellet plant and Briquetting plant as some of the key innovations undertaken at JSW Steel Limited. **Mr. Sungkee Shin**, POSCO, Pohang, Korea delivered his presentation on *'Technological advances of FINEX iron making Process'*. He presented the comparative aspects of the FINEX process viz-a-viz conventional blast furnace process. The history of scaling up of FINEX process at POSCO upto 2.0 MT/Y was presented. The speaker emphasised the fact that the FINEX process could sharpen the competitive edge by continuous challenges of the improvement of operation and facility. **Mr. Luo Yang** (Robbie) Ramon Science & Technology Co. Ltd., Hunan, China presented a talk on *'A new vibration ladle slag detection system'*. The various aspects of the new vibration ladle slag system in terms of development of hardware and software parts were discussed. The new system is applied to several steel continuous casters and has achieved close to 95% alarm accuracy with the new algorithms. **Dr. Bala Paramanathan**, Danieli Corus presented a talk on *'High capacity iron making with large, modern blast furnaces'*. In view of the growing capacity of the steel making industry, the speaker presented new expansion projects being developed by the Government of India which include traditional BF-BOF plants, since they are efficient and economic. Simultaneously, small and classical blast furnaces are replaced by the large and modern blast furnace plants, which was the highlight of the talk. **Mr. Jae-Ho-Lee**, POSCO and Engineering Center, Pohang, Korea delivered a presentation on *'Introduction of LBR revamping construction method'*. In this presentation, the speaker introduced the actual construction practices of POSCO E&C and its technological aspects; mainly, the features and benefits of the Large Block Ring method of Blast Furnace.



**Mr. Takanori Iwakiri**, Nippon Steel & Sumikin Engg. Co. Ltd., Fukuoka, Japan delivered a talk on the *'Blast furnace equipment of Nippon steel and Sumikin Engineering'*. He discussed about the various equipment and technologies his company has improved and developed continuously for the blast furnaces. The systems he discussed included top charging system, solely BFG operation system for hot stove and multi-vessel electrostatic precipitator (MVEP). **Mr. Fuminori Otake**, Nippon Steel & Sumikin Engg. Co. Ltd., Fukuoka, Japan presented a talk on *'Establishment of the long-life technology of the BOF'*. He discussed about the steel-making plants which his company has been making and has various effective features, viz.

long life BOF, Kanbara Reactor (KR) for desulfurization and Ruhrstahl Hausen (RH) equipment for achieving low-level carbon content. Specific emphasis was given on the newly introduced long-life BOF system. **Mr. Taro Sato**, Mitsubishi-Hitachi Metals Machinery Inc., Hiroshima, Japan delivered a talk on *'Introduction of technologies applied to no. 2 hot strip mill at JSW, Vijayanagar works'*. In his presentation, he discussed about the No. 2 hot strip mill at JSW Vijayanagar works being one of the most modern hot strip mills in the India for which MH has supplied the most advanced technologies including the Pair Cross system with the Mill Stabilizing Device.



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**6th September 2014**

## **Session on Innovations in Non-Ferrous technologies including rare earths**

**Mr. R.N. Parbat**, Past President, Indian Institute of Metals chaired this session on the second day of the Conference and introduced the four speakers.

**Dr. B. D. Pandey**, Chief scientist and Head-Metal Extraction and Forming Division, National Metallurgical Laboratory (NML), Jamshedpur delivered his presentation on the '*Scenario of rare earths in India and extraction of rare earths from secondary resources*'.

Dr. Pandey presented the current scenario of the primary resources of rare earths in India and elsewhere vis-à-vis their application and demand. Further, he highlighted the recent R&D work carried out at CSIR-NML on the hydrometallurgical extraction of rare earth metals, such as, yttrium and europium alongwith other metals, La, Ce and Tb from the phosphor powder of fluorescent lamps.

**Professor Goutam Sutradhar**, Department of Mechanical Engineering, Jadavpur University, Kolkatta delivered a presentation on '*Metal matrix composites for the transportation systems to conserve energy*'. He addressed the challenges for the Automakers and manufacturing engineers in making light-weight vehicles and fuel efficient with low emission without sacrificing the reliability and efficiency. He presented the opportunities to manufacture low cost cylinder liners, pistons, bearing surfaces, cam shaft tappets, lifers, rockers, etc in Indian foundaries, which he has developed in collaboration with Wisconsin-Milwaukee University in the USA.

**Mr. Yuri Khakhanov**, Skolkovo Innovation Center delivered a talk on '*Supporting developments of MMMM sector related innovative technologies*'. He introduced that Skolkovo is a strategic development institution established by the Russian Government that provides financial support to both Russian and international innovative projects. He discussed the cluster support system at his institution and also presented examples of projects in the MMMM sector.

**Mr. Anup Mehra**, Director-Commercial MOIL presented a talk on '*Overall view of manganese ore in Indian steel sector-present and future*'. He anticipated that due to the targeted production capacity of 300 million tons of crude steel after 10-15 years, the gap between demand and supply of manganese ore will increase that will require higher imports. Since, the average grade of manganese ores produced in the country is low, high grade manganese ores will be required to be imported. He impressed upon the fact that there is a need for acquiring high/medium grade manganese ore properties abroad, to supplement the manganese ore requirement.

## **Session on Shaping of Metals**

The session having five speakers was chaired by **Dr. Sanak Mishra**, the Past President Indian Institute of Metals. **Mr. D.D. Kapur**, Joint Managing Director,



Korus Engineering Solutions Pvt. Ltd., delivered a presentation on '*Philosophy of setting-up various rolling mills engineered by Korus in past nine years*'. He gave a brief introduction of various projects handled by his company. He discussed about the various types of rolling mills engineering supplied by his company. He also presented the emerging trends of TMT rebar mills, wire rod mills, coil routes, heavy bar mills and structural mills, etc. **Mr. Shin Ozeni**, Mitsubishi Hitachi Metals Machinery Inc., Hiroshima, Japan delivered a presentation on '*Newly developed universal crown control mill HYPER UC-MILL for rolling of high hardness and thinner steel*'. He discussed that HYPER UCM-Mill enables rolling of higher strength materials than is possible with conventional mills and materials of the same strength can be rolled to thinner thicknesses. He also discussed the methods to decrease the investment in TCM mills for the benefits to the steel makers. **Mr. Hiroki Maegawa**, Nippon Steel & Sumikin Engineering Co. Ltd., Fukuoka, Japan presented a talk on '*Advanced internal quality control technologies for top quality of special bar quality*'. He discussed that Nippon steel has been working on the innovative technological development for CC machines of blooms and billets to meet the strong demand for those quality required by Nippon steel and Sumitomo Metal Corporation and other main Japanese special steel manufacturers. He also highlighted that his company assures the quality of special steel by steady operation in constant casting temperature with the state-of-the-art technologies. **Mr. Pankaj Puri**, DGM, Rail & Structural Mill, Bhilai Steel Plant delivered a talk on '*New rail technologies and prospects for Indian railways logistics*'. He addressed that SAIL with its rail manufacturing facilities at Bhilai has been a partner in progress and development of Railway infrastructure since past five decades. He discussed the upcoming URM facilities to be installed at Bhilai being the most sophisticated technologies from across the world and would be an asset for the SAIL to remain a world class long rail producer. **Mr. Matthias KNABL**, Vice President, INTECO Special Melting Technologies, GmbH, Austria delivered a talk on '*Production of heavy forging ingots upto 250 tons via the ESR process*'. The presentation was focused on the operational experiences of large sized ESR plants especially with the challenge of a well-controlled starting and hot topping process as well as the electrode change procedure. The results of attainable quality of ESR ingots produced in a 250-tons static mold as well as a 145 tons short collar mold ESR plant were also presented.

### **Session on Advanced Materials and Materials Handling**

**Mr. B.R. Thukral**, Former ED, Hindustan Zinc Ltd. and Past President IIM Delhi Chapter chaired this session and introduced the five speakers. **Dr. S. Narahari Prasad**, DGM, MIDHANI presented a talk on '*Advanced materials for the Strategic Sector*'. He addressed the major challenges for the processing of critical materials at MIDHANI and its contributions to the strategic sectors of the country viz. Defense, Space and Atomic energy sectors. An overview of the alloy and product development programs was presented and futuristic materials, such as, Graphene, refractory metal alloys, powder metallurgy superalloys, etc were also discussed. **Mr.**



**Avtar Singh**, Head, Product Application Group, Flat Product Technology Group, Tata Steel Ltd., Jamshedpur presented a talk on '*Challenges in development of Automotive steel*'. He gave a brief overview of his company and activities. He presented the challenging opportunities towards the development of automotive steel aiming to meet the requirements of the present scenario. **Mr. Deepak Viadya**, Outokumpu delivered his presentation on '*Innovation in stainless steel: responding to global megatrends*'. He focused on the recent developments at his company on the materials and technologies in the area of stainless steel responding with the global trends. He discussed recent innovations with the duplex, ferritic and austenitic steel family for the components developments for the processing industries, refineries, power generation, bridges and temples, etc. **Dr. A.K. Kapoor**, DRDO, Hyderabad delivered a presentation on '*Materials science for missiles*'. He



briefly discussed the materials being used for the missiles and various products developed by the DRDO in this area. **Mr. Jagannathan Rajagopalan**, Managing Director Psmel South Africa presented a talk on '*Case study on JSW CRM #2 logistics: Merits of automated YMS & ASRS*'. He presented their state-of-the-art Cold Rolling Mill 2 (CRM 2) JSW Bellary that has adopted a total automatic yard management system and ASRS wherein coil products are handled as much as possible with extreme care without damage to the sides or layers insuring the receipt of the coils to the customer as were produced with extreme care and advanced technology.

## Session on Energy and Environment

**Dr. Ajay Mathur**, Director General, Bureau of Energy Efficiency chaired this session and introduced six speakers. **Dr. Amit Chakraborty**, GM, JSW steel Ltd., delivered his talk on '*Waste management at JSW Steel Ltd.*'. He highlighted JSW steel's innovative approach towards identifying measures to maximize utilization of generated wastes and achieve the zero status. He addressed the JSW's adoption of waste management technologies; such as, micro-pellet plant, mill scale briquetting plant, slime recovery plant and utilization of granulated blast furnace slag and LD slag as aggregates for roads towards the maximum utilization of the generated wastes. **Mr. Prabhas Kumar**,



Research & Development Center for Iron and Steel SAIL, Ranchi delivered a presentation on '*Efforts towards reduction in energy consumption and GHG emission in SAIL plants*'. He highlighted that RDCIS has been playing a lead role in identifying energy conservation schemes for the reduction in energy consumption in SAIL plants and has contributed significantly towards energy conservation and green house gas reduction by implementation of innovative ideas including in-house developed energy efficient combustion systems and optimization of thermal engines. **Mr. Manu Bhargava**, Exxon Mobil Lubricants Pvt. Ltd. presented a talk on '*Energy efficiency in Mining operations*'. He presented a global energy outlook for 2040 and sustainable technologies having the investment opportunities. He discussed the extensive applications and Mobil industrial lubricants in mining sector. He also discussed the top mining challenges and correlated with energy efficiency in the mining operations. **Mr. Steve Steranka**, Radcomm Systems Corp delivered a presentation on '*Radioactivity in the metals industry*'. He discussed the radioactive hazards and accidents occurred due to the unsafe practices in the metal industry. The effects of such accidents were presented with reference to the actual incidents happened. The technological advances in the metals sector to prevent such incidents were also elaborated. **Mr. K. Shanmuganathan**, Project Assistance (Tech) UNDP-Aus AID-MoS Steel Upscaling project delivered a talk on '*Energy efficiency in steel Re-rolling Mills in India*'. He discussed that the energy efficiency intervention made in steel re-rolling mills (SRRMs) showcased reduction of energy consumption by 30%. He also presented an update of energy efficient interventions made, the results achieved and the follow up actions taken up to upscale energy efficiency in small scale steel industrial units in India. **Mr. Anand Kumar Jha**, MECON Ltd. delivered a talk on '*Alternate energy options for bulk production of DRI under Indian context - A green technology initiative*'. He emphasized that the use of alternate fuel options, viz. Corex export gas, Coke oven gas, Syn gas from coal gasification, underground coal gasification, shale gas for DRI production, etc provide a good opportunity to meet the growing energy demand in the country. He discussed that as a futuristic scenario, Shale gas, UCG and CBM can provide options for use in gas based DRI, once significant breakthrough is achieved in its bulk discovery through appropriate technology interventions and the policies of the Government of India.

## 7th September 2014

The Valedictory session held in the morning session of the third day. **Mr K. L. Mehrotra**, Vice Chairman, IIM Delhi Chapter welcomed the delegates and dignitaries at the dais. He gratefully welcomed the participants and valuable guidance provided by the Hon'ble Minister of State of Steel, Mines, Labour & Employment. Shri Mehrotra presented a brief overview of the Conference and the exhibition. **Mr. G.I.S. Chauhan**, Honorary Joint Secretary, IIM Delhi Chapter presented a *Detailed Summary of the Conference proceedings* including different sessions held at the conference. The Chief Guest of the session **Mr. Vishnu**

**Deo Sai**, Minister of State for Steel, Mines, Labour & Employment addressed the audience and appreciated industrious efforts of the organizers of the MMMM 2014 exhibition and the international conference to make it a successful and memorable event. The Exhibition Summary was given by **Mr. B.D. Jethra**, Former Advisor Planning Commission of India and Member-Advisory Committee, IIM Delhi Chapter. It was followed with the distribution of awards for the exhibitors by Honorable Minister of Mines, Steel and Labour & Employment and **Ms. Kim Willis**, CEO, ITEI. The Session and the International Conference concluded with formal Vote of thanks proposed by **Mr. Deepak Vaidya**, Honorary Secretary, IIM Delhi Chapter.

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### **MMMM 2014 RECOMMENDATIONS**

The International Conference was attended by luminaries and stalwarts in the area of Minerals, Metals, Metallurgy and allied sector. The following issues have come into sharp focus.

- 1 Mineral and Metals constitute the most valuable national resource and form the basic raw material for development of infrastructure, capital goods and basic industries. Minerals and Metals contribute around 4.5% of the national GDP. Their exploration need be guided by nation's long term national goals and perspective.
- 2 Increased emphasis is required on exploration activity for coal, iron ore and other non-ferrous mineral reserves. Geological Survey of India has to play a significant role in Survey and enhancing exploitation of mineral resources.
- 3 So far the exploration of iron ore resources in India is being done to a depth of 60-70 meters against the common international practice of ~100 meters. In order to improve the resource base the exploration activity needs to be permitted to the public and private sectors by the Government.
- 4 There is a need for preparation of database of metals and minerals as resource inventory. This information presently available is scanty and obsolete.
- 5 There is a need for development of innovative / path-breaking technologies for utilization of Indian iron ore fines, slimes and non-coking coals.
- 6 Beneficiation / upgradation of low grade iron ore, coal and agglomerates need to be pursued with greater vigour so that low grade iron ore and coals etc. can be effectively utilized.
- 7 There is a need for development of commercially viable technologies for utilization of steel plants and mine-waste including LD / EAF slag.



- 8 There is a need for development of indigenous technology for new processes and improved products vis ultra-high strength steels, high strength high formable steels, CRGO steels and coated products.
- 9 There is a need for development of innovative technologies for effective recovery of waste heat in different iron and steel making processes.
- 10 We have a plan to create 300 MT capacity of crude steel by 2025. A detailed strategy has to be drawn in advance to ensure the raw material availability and energy needs for production of such ambitious production target.
- 11 The current scenario of the primary resources of rare earths in India needs a detailed review. Innovative technologies need to be developed for extraction of rare earth metals from the mineral reserves.
- 12 Defence and space sector needs special steels for strategic applications. Bulk of these special steel required by the space sector are being imported. Specific requirements of such steels need be worked out for production of such grades for regular requirements.
- 13 Steel is among the 32 sectors under National Skill Development Council that has been created recently. A long term plan needs to be made for meeting the skill gap in the sector.
- 14 Project Management continues to remain a weak link in project implementation. The modern techniques and various innovative technologies are being followed in developed countries to complete the project within the time and cost schedules.
- 15 Minerals and plant equipment for construction and installation of steel plants are not available indigenously leading to permanent dependence on foreign suppliers. There have not been adequate endeavours on our part to indigenize equipment manufacturing. It needs entrepreneurial commitment and zeal effectively supported by the Government.

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### **SAIL planning to double steelmaking capacity to 50 million tonne by 2025**

Steel Authority of India (SAIL) is finalizing a plan to nearly double steelmaking capacity to 50 million tonne (mt) by 2025 at an investment of Rs 1,50,000 crore. In step with a planned hike in capacity, the company said it has secured a 30-year mining lease from union mines ministry for iron ore at Dhul khera village, in Rajasthan's Bhilwara district. "SAIL is finalizing its Vision 2025 document, which will steer the company to increase its production capacity of hot metal to 50 million tonne, along with related and enabling business activities. Implementing the Vision 2025 would entail an investment of about Rs 1,50,000 crore in addition to the investment made in the current phase of expansion," the company's chairman C S Verma informed shareholders at its 42nd annual general meeting on 23.9.2014. Outlining the company's growth strategy he said the government's focus on manufacturing and infrastructure through development of smart cities, ports, power plants, industrial corridors and revival of Special Economic Zones (SEZ) augurs well for a substantial boost in steel demand in the near future. SAIL is in the final stages of its current expansion plan to raise hot metal capacity to 23 mt by investing Rs 70,000 crore and has already spent Rs 55,444 crore till August 2014 on it. On a cumulative basis, SAIL has placed orders worth Rs 62,778 crore under its ongoing modernisation & expansion plan. The company said it has been making an average expenditure of more than Rs 10,000 crore each year for the past five years and it plans to make a capital expenditure of Rs 9,000 crore on modernization and expansion during 2014-15. Alongwith higher steel capacity, SAIL is also scouting for new iron ore deposits to improve its raw material security. The recent acquisition of Rio Tinto's coal assets in Mozambique through International Coal Ventures, in which SAIL has a 28% stake, will provide the company's coking coal security with supplies staring from this financial year, Mr Verma informed shareholders.

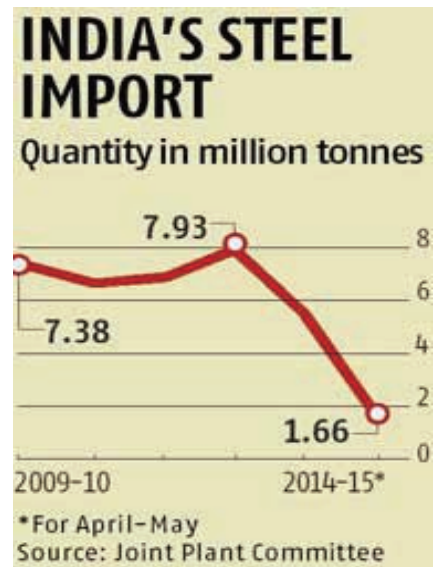
Source: The Economic Times

## High domestic steel prices may trigger import rush

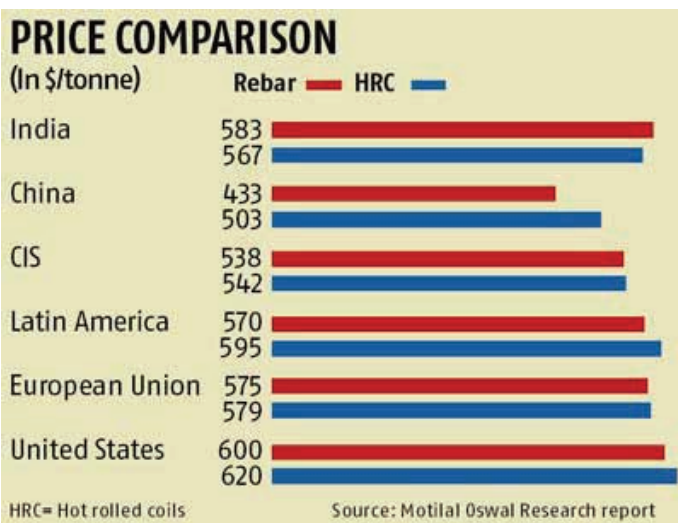
In a setback to local producers, the prices of imported steel have fallen about 20 per cent this month, as China has dumped its produce here due to demand falling in that country. By contrast, elevated iron ore prices have kept steel on a firm footing in Indian markets.

Hot rolled coil (HRC) is being quoted at \$503 a tonne in China. After the transportation cost of \$17 a tonne is factored in, its landed cost in India works out to \$520 a tonne, \$47 lower than the prevailing price of \$567 a tonne in India. Through the past five-six months, HRC import prices stood at \$535-545/ tonne. Steel in India is more expensive compared to spot market prices in most countries in the Commonwealth of Independent States (CIS). Rebar is quoted at \$583 a tonne in India, compared with \$433/tonne in China and \$538/tonne in CIS countries. "On a landed-cost basis, Chinese long products are now cheaper by about \$60 a tonne. Therefore, institutional consumers have already started importing rebar. Long product imports saw a sharp surge in August, and this is likely to continue due to further weakness in Chinese long-product prices," said Sanjay Jain, analyst with Motilal Oswal Securities. An official in the steel ministry said, "Between April and August, India's steel imports rose 22-23 per cent. India is closely monitoring the situation." For the April-May period, steel import stood at 1.66 million tonnes, according to ministry data. The official added steel import from Japan, China and South Korea, under the free trade agreements (FTAs) with these countries, had risen. According to sources, steel import from Japan rose to 527,000 tonnes in April-August, a rise of 64 per cent compared to the corresponding period last year. During the same period, import from South Korea jumped 28 per cent to 657,000 tonnes.

An industry official said, "The surge in imports, coupled with low industrial growth, is impacting Indian steel companies. The lower import duty regime under the FTA is resulting in lower landed steel prices." About 70 per cent of the imports are through FTAs. Shivramkrishnan, chief commercial officer of Essar Steel, says, "Industry is sandwiched between higher input cost of iron ore/fines, availability issues in Odisha and other states due to Supreme Court orders and cheap steel imports. It is important that the government reviews the raw material availability, whether for iron ore or gas, and ensure the requirement of the domestic steel sector is fully met, especially in the case of iron ore/fines linked to international prices. The government also needs to quickly review the FTA and its impact on core sectors of the economy, as well as the damage it could do in the longer run." The steel sector has urged the government to take steel out of the FTA list, restrict imports from Japan and South Korea, and impose anti-dumping duty to protect domestic steel mills from Chinese dumping. Motilal Oswal Securities' Jain said, "Indian steel mills are lobbying with the steel ministry for anti-dumping duty on Chinese imports to protect the domestic market. It remains to be seen whether the government will move to protect the domestic steel sector." Raw material prices continue to remain high, primarily due to a slowdown in steel demand in China and surging supplies. Global coal prices are trading at about \$70 a tonne, against about \$100 a tonne two years ago. Coking coal prices have declined 21 per cent since December 2013, owing to higher supplies from major Australian miners such as BHP Billiton, and lower demand from China. Iron ore prices have declined 40 per cent since December 2013. The fall in steel prices has brought the margins of integrated



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steel producers under pressure. As the royalty on mineral excavation has been raised to 15 per cent from five per cent earlier, the prevailing premia over imports would lead to dumping from foreign markets.

Source: Business Standard

### **Good days elude domestic steel companies**

Steel companies have raised prices twice in the current financial year but achhe din (good days) continue to elude them, with the market showing reluctance to absorb any increase in prices. In July and September, producers of flat steel, used in white goods and consumer durables, had raised prices by Rs 700 a tonne. On both occasions, the companies could hardly pass on the increase, said a steel producer. This is primarily because demand is yet to see any major recovery, even though the clamour for infrastructure development is getting louder from the government side. Producers are worried about some other aspects, too. Despite a steep drop in raw material prices globally, domestic prices are on the rise due to availability issues. In Odisha, only four iron ore mines are operational. "In the past week, Odisha miners have increased prices by Rs 300 a tonne," said a producer. Prices of high-grade iron ore, with 65 per cent Fe content, is now available at Rs 7,100 a tonne. Add to it logistics cost of Rs 1,500 a tonne and it's clearly an uncompetitive scenario. Iron ore prices have crashed to about \$80 a tonne. NMDC prices are still lower than that of private miners at Rs 4,600 for lump ore and Rs 3,160 for iron ore fines. However, the public sector miner has maintained a status quo on prices even as global prices have nose-dived. Most of the bigger steel producers are now resorting to import iron ore. JSW Steel, which had earlier projected iron ore imports of six million tonnes, is scaling it to 10 million tonnes. "This is affecting margins severely," said a producer.

As though that wasn't enough, India's steel exports of non-alloy flat steel are set to drop by a million tonnes, adding to the supply and pressure on prices. India exported nearly six million tonnes of steel products in the last financial year. In the first quarter of FY15, total exports of non-allow flat steel stood at only \$1 billion. The finished steel production in India is about 87 million tonnes. "By March 2015, another 8-10 million tonnes will be added. Exports have to be a balancing factor. If state taxes rebated, then it will be WTO (World Trade Organization) compatible and will encourage exports," said H Sivramkrishnan, chief commercial officer at Essar Steel. One of the main reasons for lower exports is the rise in the production cost of Indian steel and the higher cost of basic raw material, a producer explained. In the April-June quarter, the drop in flat non-alloy steel was 20-25 per cent. "The trend is continuing for the July-September quarter," Sivramkrishnan added. The Federation of Indian Export Organisations and industrial chambers have already taken up the issues with the commerce ministry. "The inverted duty structure of raw material and the supply cut on allocated gas to steel sectors are also some of the factors. This needs to be suitably addressed by support measure," said a producer.

Source: Business Standard

### **CII Steel summit highlights raw material security for Indian steel sector growth**

Mr Vishnu Deo Sai, the Minister of State for Steel, said that a new Steel Policy is on the anvil to facilitate the steel industry in increasing production to 300 MTPA by 2025, up from the present 81.2 MTPA. The new policy is likely to focus on capacity addition and address issues related to raw material security, environmental challenges and land acquisition. Mr Deo Sai said that discussions are already taking place on the establishment of an eastern corridor to address freight and other logistics issues faced by the industry. There should also be a national body to supervise and undertake research in the steel sector. Mr Ajay Shriram, President, CII, and chairman & Senior Managing Director, DCM Shriram Limited, said that the demand for steel is bound to accelerate with India building much needed infrastructure. To develop a roadmap, he suggested creating a joint task force with industry and ministry as partners to bring in all diverse stakeholders together for an action agenda for the sector. Mr Rakesh Singh, Steel Secretary, said that the government's effort to increase the share of manufacturing in GDP from 16% to 25% put great responsibility on the steel sector. To encourage greenfield units, he said that discussions were on regarding SPVs in association with the

state governments. These SPVs would ensure raw material linkages and clearances for the project, and then be auctioned or sold to the private sector through appropriate mechanisms. Mr CS Verma, chairman, CII National Committee on Steel and chairman, SAIL, set the tone for the discussions by outlining the various challenges hindering the steel industry from realizing its potential. He highlighted the unavailability of raw materials, high cost of logistics, human resource gaps and low R&D spend. He also pointed to the need to review FTAs especially for CEPA and dumping by China under the guise of alloy steel. Welcoming the government's "Make in India" initiative, Mr Sajjan Jindal, Chairman & Managing Director, JSW Steel Limited, spoke of the need for closer coordination between various stakeholders so that the Indian steel industry could realize its potential. Since steel is a base industry, the effort must be taken as a mission by all. In addition to the various challenges outlined by previous speakers, Mr Naveen Jindal, chairman, Jindal Steel & Power Limited, said that steel was still very expensive for the common man and as a result, per capita consumption has been almost stagnant. For costs to fall, output must increase. To increase output and meet the goal of 300 MTPA by 2025, government support and favourable policies were essential.

Source: Steel Guru

### **China steel demand shrinks for first time in 14 years as slowdown stings**

China's steel consumption dropped this year for the first time since at least 2000 due to slower economic growth, leading to a surplus of iron ore in the country and a more than 40 per cent plunge in prices of the steelmaking raw material. But top global miners like Vale and Rio Tinto, which have invested billions of dollars to ramp up output to sell more iron ore to China, are still convinced that Chinese demand has yet to peak with an urbanisation drive there expected to last at least another decade. Apparent crude steel consumption in China, the world's top consumer and producer of the alloy, fell 1.9 per cent on year to 61.9 million tonnes in August, Wang Xiaoqi, vice chairman of the China Iron and Steel Association, told an industry conference. "There are many reasons for this, the economy slowing and the economy undergoing restructuring. Steel consuming sectors have cut their demand," Wang said on recently. With China now focusing growth on consumption and away from investment that has fuelled years of massive expansion in China's steel sector, Wang said: "From now, domestic steel output and consumption won't rise along with economic growth." China's steel consumption dropped 0.3 per cent to 500 million tonnes in the first eight months of the year, he said.

China's economy got off to a weak start this year as first-quarter growth cooled to a six-quarter low of 7.4 per cent. Beijing responded with a flurry of stimulus measures that pushed the pace up slightly to 7.5 per cent in the second quarter, but soft July and August data suggest the boost is rapidly waning. The decline in China's steel consumption this year marks the first time demand has shrunk since 2000, said CLSA commodity strategist Ian Roper, who has tracked the data since that year. "We've been bearish for a while saying property construction activity has peaked, but maybe the scale of the decline will be faster than we anticipated," Roper said. "This reinforces our view that there will be a multi-year downtrend in demand for iron ore, and there's no hope for a recovery in prices to anywhere near \$100/tonne," he added. Iron ore fell below \$80 a tonne this week for the first time since September 2009 and is on track for its biggest-ever annual drop amid a deep supply glut stoked by top, low-cost producers including Rio and Vale. Shanghai rebar futures, which plunged more than 3 per cent to a record low a few days back have shed around 30 per cent of their value this year and could come under further pressure if output remains high amid poor demand. China's crude steel output is likely to hit 826 million tonnes for the year, said Wang, up 6 per cent from the official 2013 output figure released by the government but only slightly above the 822 million tonnes cited in August by leading steelmaker Baoshan Iron and Steel. Weak demand has been a big strain on China's steel sector this year with Beijing, in a bid to cut down overcapacity, not too keen on rescuing companies as it has done before for fear of bloating the government's bad debts. Sinosteel Corp, China's biggest state-owned steel trader earlier told financial magazine Caixin that it was facing financial problems due to unpaid bills from customers, but denied rumours that it is struggling because of overdue loans amounting to 10 billion yuan (\$1.63 billion).

Source: The Economic Times



## **Steel consumption may grow by about 3% this fiscal: Joint Plant Committee**

Despite near flat growth in the first 5 months of the current fiscal, steel consumption in India may go up by a "realistic" rate of around 3 per cent for the entire 2014-15, says Joint Plant Committee (JPC) Chief Economist AS Firoz. "The growth in country's steel consumption in the current fiscal can be below 3 per cent or around 3 per cent. That is the realistic scenario," Firoz said. JPC is under the Ministry of Steel. Continuing with subdued consumption trend for the last couple of years, India's steel consumption grew by just 0.3 per cent to 31.17 million tonnes (MT) during the April-August period of 2014-15. "If in the rest part of the year, the consumption grows by around six per cent, then the average for the entire year will be three per cent or below. It is realistic," Firoz said. India's steel consumption grew by just 0.6 per cent in 2013-14, its lowest in four years, to 73.93 mt, impacted by a slower expansion of the domestic economy. Firoz said consumption of steel would certainly rise from here on as lot of infrastructure projects are already in the pipeline and that was why his assessment of 3 per cent growth was "not a tall order". "Besides, the automotive sector is reviving which will certainly pull the demand up. Capital goods sector and lot of machinery sector have also potential to do well. So, all these will pull demand," he said. Construction sector accounts for around 60 per cent of the country's total steel consumption while automobile sector consumes 15 per cent. Both sectors have been plagued by a slowdown in the economy.

Source: The Economic Times

## **2014 to be peak year for China's steel exports - CISA Official**

Mr Qu Xiuli, deputy secretary general of China Iron and Steel Association said that China will embrace a peak year for steel exports in 2014, with both export volume and its growth hitting record highs. Steel mills in China at large increased exports due to a pick-up in global steel market along with the economic recovery in developed economies since this year and insufficient domestic demand. China exported 56.38 million tonnes of steel products in the first eight months of this year, up 34.3% from the same period of 2013. Imports during the period rose 4.4% YoY to 9.64 million tonnes. Net exports on crude steel equivalent hit 49.72 million tonnes, a gain of 42.7% from a year earlier. Industry insiders said the level has already reached record highs. The export average price in January to August 2014 hit USD 795.3 per tonne down 7.5% YoY. The import average price was USD 1,249.9 per tonne, up 3.5%. Mr Qu said that China's steel exports are expected to keep rising in the latter half of the year, but the growth rate will pull back as the sharp rises in China's exports have resulted in increasing international trade frictions. He suggested that Chinese steel mills optimize the structure of export products and regional layout and enhance added value of export products so as to reduce trade frictions and improve competitiveness in global market. Mr Xu Lejiang, chairman of China Iron and Steel Association and president of Baosteel said that "We'll have a peak year for steel exports this year. The developing regions, such as Middle East, Africa, Southeast Asia and Eastern Europe, will be the main target regions for China's steel exports."

Source: Steel Guru

## **Iron ore pellet maker KIOCL set to be merged with iron ore giant NMDC – Report**

Indian Express reported that the Indian government is set to merge KIOCL with NMDC Limited. The steel ministry which administratively controls it, has reasoned that the best way to prevent its closure is to merge it with a stronger NMDC. Seeking to examine the viability of such a merger, KIOCL had commissioned a study by global consultancy firm PwC in May. The firm in its report is learnt to have suggested the merger is very much viable considering the combined synergy of the merged entity. PwC said that the integration would be easy, as KIOCL's assets would generate adequate revenue and reduce project risk, valuable skill experience of establishing a blast furnace unit and operating it. The captive berths being operated by BSE-listed KIOCL in Mangalore port would help make exports easy. A steel ministry official reasoned KIOCL being raw-material starved, NMDC would be able to give it raw material security by supplying iron ore from its mines in Karnataka. The steel ministry official said that "Based on these findings, the steel ministry has planned to merge both the PSUs as NMDC has the requisite financial and technical wherewithal to integrate both the operations." Mr Malay Chatterjee chairman of KIOCL said that NMDC should not have any apprehensions on this proposal is a win-win for both the companies. Mr Chatterjee said that "NMDC has cash reserve of nearly INR

40,000 crore, while KIOCL has a net worth of around INR 18,000 crore. Considering that both the firms are mining entities, there would be no issues in synergizing operations. KIOCL would in no way be a liability to NMDC." KIOCL has been passing through turbulent times for the past 3 years owing to depleted production, poor sales of pellets, stoppage of blast furnace operations, unpredictable market situation and near-total lack of raw material availability. KIOCL net profit rose to INR 9.24 crore in the quarter ended June 2014 as against INR 0.78 crore during the same quarter ended last year.

Source: Steel Guru

### **Iron ore: Moody's says impact of sliding prices being felt across economy**

*Global credit ratings agency Moody's says the impact of lower iron ore prices is being felt across the economy with local miners, mining contractors, construction firms, and airlines feeling the pain.*

Iron ore prices have slumped by nearly 40 per cent this year as the big miners, BHP Billiton, Rio Tinto and Fortescue Metals, ramp up production and China's economy slows down. Benchmark iron ore prices for imports into China are trading at around \$US83.50 a tonne and in a new report Moody's predicts prices will range around \$US85-95 a tonne for the remainder of the year. It expects prices to increase to \$US95-105 a tonne next year as high cost producers leave the market, although the report notes that lower growth in China and the increased supply of iron ore could limit price rises. The agency says the lower prices are hurting local producers and will continue to do so for another six to 12 months. Moody's says of the iron ore miners it covers, WA Pilbara miner Atlas Iron is the most exposed because its cost of production is around the current iron ore price. The ratings agency estimates Atlas Iron's cost of production to be \$US76 to \$81 a tonne although Atlas chief executive, Ken Brinsden, recently said that the company's break even cost was the low to mid-\$80. Moody's says Atlas has significant cash on hand of \$AUD265 million but it says that will be reduced if prices remain around current levels or fall further. Of the big miners, Moody's says Fortescue Metals is the most affected by the declining price because its costs are higher than BHP and Rio and it only produces iron ore. But it says Fortescue is being helped by its debt reduction program and lower capital costs now that its Pilbara expansion is completed. The report said that BHP Billiton and Rio Tinto are "well positioned to navigate the lower price environment". It only looked at BHP Billiton, Rio Tinto, Fortescue and Atlas.

### **Lower prices result in reduced cash flow for mining services**

Moody's says it expects the miners to put the squeeze on their contractors to cut costs which will reduce the cash flow of mining services companies like Ausdrill, Barmenco, and Emeco. Ausdrill announced it was owed \$8 million by Northern Territory iron ore miner Western Desert Resources, which went into voluntary administration earlier this month because of the lower iron ore price. Airlines and airports like Qantas and Perth Airport are also being affected because the miners are laying off staff reducing the need for fly-in, fly-out (FIFO) workers. Moody's says that further cuts to capital spending and expansion plans will lower the workload of construction firms such as Leighton Holdings. Other companies not rated by Moody's are also losing money because of the lower iron ore price. WA Mid West miner Gindalbie Metals has an estimated cost of production of US\$100 a tonne. Arrium, the former OneSteel, saw its share price slump on Thursday after it tried to raise \$754 million by selling new shares because of the hit on its bottom line. But it only managed to raise \$465 million from institutional investors so its shares fell by nearly one third to \$0.40. Australia's resources forecaster, the Bureau of Resources and Energy Economics, predicts an average iron ore price of \$US90-95 a tonne over the next five years and estimates it could drop below \$US80 a tonne as part of the price cycle.

Source: www.abc.net.au

### **Fall in coking coal prices to help steel companies**

Indian steel makers are set to benefit from a sharp fall in coking coal prices but the gain is likely to be limited as steel prices have also begun to slide in the global markets, according to metal analysts. Coking coal, a key ingredient in steelmaking, has tumbled 16% in the quarter to June over the previous quarter, according to rating agency ICRA, because of lower demand from China and higher supply. It is now hovering close to \$100 (about Rs 6,000) per tonne. Analysts say lower coking



coal prices will reduce input costs of Indian steel producers, who import significant quantities of the commodity. The biggest beneficiary will be JSW Steel, which imports all its coking coal requirement, followed by Steel Authority of India (SAIL), which imports about 70% of its requirement. Another big beneficiary will be Tata Steel, which imports half of the coking coal it needs. A \$10 drop in coking coal prices leads Rs 500 in earnings to a benefit of an average before interest, tax, depreciation and amortization (EBITDA) per tonne of steel sold, if everything else remains the same, said Giriraj Daga, an analyst with Nirmal Bang. However, the impact on margins is likely to be limited as global steel prices have started falling accordingly. This is already hurting Indian steel producers. Analysts say had steel prices remained steady in global markets, Indian producers could have seen their EBITDA climb Rs 400-800 per tonne. Tata Steel's EBITDA was Rs 15,529 per tonne in the first quarter of 2014-15, while that JSW Steel was Rs 8,500. SAIL's EBITDA was Rs 4,101 per tonne in the same period. Lower coking coal prices are beneficial but steel prices have also started coming under pressure globally. Therefore, overall the impact of margins may not be significant. It all depends on steel price trajectory," said Abhisar Jain, metals analyst at Centrum Broking. While coking coal prices are falling due to oversupply and weak demand, steel prices are unable to hold on to the prices due to the same reason. Experts do not expect coking coal prices to fall further. "International coking coal prices have already corrected significantly. While in near-term, further decline can't be ruled out, in medium-term horizon, it is unlikely to fall significantly more," said Jayanta Roy, senior VC and co-head, corporate sector ratings at ICRA.

Source: The Economic Times

### **Non-ferrous Snippets**

In the case of nonferrous metals, India is well known for its dominance with abundant natural resources, world scale capacities, expertise in mining & extraction, booming domestic markets etc., The major players at present are National Aluminium Co. Ltd, Hindalco Industries Ltd, Bharat Aluminium Co. Ltd, Vedanta Aluminium Ltd. Birla Copper (Hindalco), Sterlite Industries Ltd, Hindustan Copper Ltd, Hindustan Zinc Ltd and Binani Zinc. India has got vast and excellent resources of bauxite for production of aluminium and our country has been a traditional exporter of bauxite. Production of aluminium during 2013-14 amounted to 1.51 million tonnes. Looking at copper, India is largely dependent on imported copper concentrates as we are not endowed with quality deposits. India produced 627,114 tonnes of copper during 2013-14. With respect to zinc, India is blessed with huge quantities of high grade ore resources in the state of Rajasthan. Currently India (HZL) ranks 4<sup>th</sup> in terms of world production of Zinc. During 2013-14, our country produced 788,903 tonnes of Zinc. In the case of lead, our primary production as well as imports are very limited and 85% of our requirement is met mostly through recycled lead from used lead batteries, lead scrap etc., During 2013-14, India produced 122,864 tonnes of primary lead; almost 5 times this quantity came from recycled lead from used lead batteries and this sector is currently growing by leaps and bounds.

Nonferrous metals like Aluminium, Copper, Zinc & Lead find vital applications in infrastructural sectors (like power, telecom, highways, railways, ports etc.,) as well as construction, automobile, manufacturing etc., With the proposed emphasis and massive investments in infrastructure and creation of smart cities as well as the encouraging turnaround in the Indian economy, India is poised for quantum jumps in the nonferrous sector in the coming years, with a vast scope in international trade too.

–L. Pugazhenthay  
Past President, IIM

### **Prof. Brahm Prakash Memorial Materials Quiz 2014**

Metallica 2014, a Metallurgical Quiz was organized by our Chapter on 1<sup>st</sup> August 2014. Eighteen Schools participated in this Quiz. A team of two students Arya Deepesh and Siddharth Sadhu from Cambridge Foundation, Rajouri Garden, New Delhi was declared winner of this event.

Prof. Brahm Prakash Memorial Materials Quiz 2014 is organized every year at Kalpakkam in September. This winning team of Metallica 2014 was sponsored by Delhi Chapter for participation in the Prof. Brahm Prakash Memorial Materials Quiz 2014 (BPMMQ 2014) held at Kalpakkam on 20<sup>th</sup>

September 2014. This team participated in Brahm Prakash Memorial Material Quiz held at Kalpakkam on 20.9.2014. A brief report given by the student team members is reproduced below:

"We started our journey on Thursday, 18<sup>th</sup> of September. The three (team of two students and one escort teacher) of us assembled at the Delhi airport sharp at 8:30 am. Our departure time was 10:10 am and arrival at the Chennai airport was 12:55 pm. We took our luggage and went towards the exit gate, we saw a man holding a placard with "BPMMQ 2014" written on it i.e. Prof. Brahm Prakash Memorial Materials Quiz 2014. Kalpakkam was at a distance of 75 km approx. from the airport. Our driver took approximately 2 hours to complete this journey. He dropped us safely at the D.A.E. (Department of Atomic Energy) Senior Hostel. We had our lunch there which was also sponsored by IIM (Indian Institute of Metals) itself. After the lunch we were taken to our respective rooms. We slept for a while and then went for a walk in the evening. We came back at around 9:00 pm and had our dinner. The next day we had to report sharply at 8:30 am at the reception as our bus was scheduled for 9:00 am and we were to be taken at the Metal Camp.



The first place we visited was the FBTR (Fast Breeder Test Reactor), second was the BHAWANI Test Reaction and the last but not the least was the PFBT (Prototype Fast Breeder Test Reactor). We saw the huge machines, control rooms and the elements of these reactors. We were also given a registration kit which had a notepad inside it. Our guides explained us about each and every thing of these reactors and we also noted down the key points in our pads. This was the best experience in my life till date. We feel lucky today as from our state only the three of us got the chance to visit all these nuclear wonders. After all the visits we had



our dinner and went to our hostel. The next day was probably the most important one as the quiz was going to be held that day. We were very excited and nervous for the quiz. From the entire country 32 teams participated and all were looking extremely nervous. We were literally biting our nails when the first round was going to be held. The questions were one word type and luckily we cleared our first round. Our confidence boosted a little and we were ready to face the next round. Then was the semi-finale, 16 out of the 32 were eligible for it and ours was one of it.

This round was the buzzer round and comprised of 50 questions. Unfortunately, we couldn't clear this round as we knew correct answers of some questions only. Actually, the syllabus and the model questions given at their website were very different from the questions given in the quiz, we prepared according to the topics given at the website. We felt bad and were very disappointed with our performance. But our teacher motivated us that it's just the beginning and the two of us have to go a long way ahead. He told us not to lose hope and to work more hard. We promised him that now we will work more hard and will make our school proud. After all the round the Trichy team was declared as the winners of this Quiz and the two students were given a cash prize of Rs. 15,000 each. We had our dinner and congratulated all the finalists. After the quiz day we had two more days, so we planned to visit the nearby sites. We talked about this with the escort of the Raigarh team as they



were also planning to go somewhere. It was decided that we all would go to Pondicherry the next day. We were very excited about this. We got up early in the morning and left our hostel at about 7:30 am. In the car we had too much fun and the Raigarh team became our good friends. It took about 2 hours to reach the place. We saw 3-4 amazing temples over there and then had our lunch. We also saw the famous beach of Pondicherry, it was really very beautiful. In the evening we went to the beach of Kalpakkam and enjoyed a lot over there. We went to our hostel and took bath. After that we had our dinner and it was decided that our team and Raigarh team would play Damsharas at night. We enjoyed a lot playing with them and our bonding continued to grow. We exchanged mobile numbers with them and promised to stay in touch with them. The next day we went to Mahabalipuram and saw the Rock Caves, the famous Shore Temple over there and some beaches. We went to our hostel and packed our bags as it was our return day to Delhi. We left for the airport in evening. On the whole, our journey was quite awesome as we did as much fun as we could, no matter we couldn't win the quiz but it was an extraordinary experience for all of us. We feel proud that we represented our state in the quiz and the mind-blowing metal camp. We also thank IIM Delhi for sponsoring our trip. Very few people get this chance".



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### **Nothing is more exhausting than searching for easy ways to earn a living**

“People judge you by your actions, not your intentions. You may have a heart of gold, but so does a hard-boiled egg”. A thousand words will not leave as lasting an impression as one deed. Connect your good intentions with awesome actions. If you don't do it, you don't really believe it.

Some people spend their whole time searching for what's right, but then they can't seem to find any time to practice it. Remember, knowing what is right to do and then not doing it is wrong. Your life story is not written with a pen, but with your actions. To do nothing is the way to be nothing.

Action subdues fear. When we challenge our fears, we master them. When we wrestle with our problems, they lose their grip on us. When we dare to confront the things that scare us, we open the door to personal liberty.

Momentum doesn't just happen. “The common conception is that motivation leads to action, but the reverse is true—action precedes motivation. Don't wait to be motivated. “Take the bull by the horns until you have him screaming for mercy” (Michael Cadena).

Laziness is a load. Expectation is the idle man's income. Ironically, idleness is persistent. It keeps on and on, but soon enough it arrives at poverty.

“There is no idleness without a thousand troubles”. We are weakest when we try to get something for nothing. Proverbs says, “Hard work brings prosperity; playing around brings poverty.”

Henry Ford once commented, “You can't build a reputation on what you're going to do.” “Shun idleness. It is a rust that attaches itself to the most brilliant of metals”. We need to be like a cross between a carrier pigeon and a woodpecker: he not only carries the message, but he also knocks on the door.

A man of words and not of deeds is like a flower bed full of weeds. Don't let weeds grow around your dreams. To only dream of the person you would like to be is to waste the person you are. Don't just dream of great accomplishments; say awake and do them.

*This is the fourth of series of “Nuggets of truth” which are our sound food for soul. Get ready to blow the lid off our limited Thinking & create your recipe for happiness & success.*

Compiled by Shri K L Mehrotra  
Vice Chairman – IIM-DC & Former, CMD – MOIL

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