



NEWSLETTER

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Chairman, Delhi Chapter

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Chairman, Technical & Publication Committee

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INTRODUCTION

This News Letter contains Chapter News containing briefs on Executive Committee meeting; Chapter Level NMD Celebrations wherein Prof. H. S. Ray, an Eminent Visiting Professor of IIT Kharagpur delivered a talk on "Innovative Problem Solving".

The News Letter contains an article titled "Hot Metal De-sulphurization" by Shri S C Suri, Life Fellow of IIM and Executive Committee Member, IIM-DC.

The News Letter also contains a write-up titled "Bechmarking Water Use in Metallurgical Industry" by Shri V. N. Grover, EC Member, IIM-DC.

The News Letter contains Steel Sector trends in production, consumption and growth of steel; performance of PSUs under Steel Ministry and major initiatives taken by Ministry of Steel during 2008-09.

The News Letter also contains National and International news relating to Ferrous and Non-Ferrous Sector.

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Chapter News

Executive Committee Meeting

Fourth meeting of the Executive Committee of the IIM Delhi Chapter was held on 9th January 2010. Matters relating to MMMM 2010, MOU renewal with M/s ILZDA and UNDP Project, renovation of Auditorium and planning of National Seminar were discussed.

Chapter Level NMD Celebrations

One minute silence was observed to pay homage to Dr. P. Ramachandra Rao, who passed away on 10th January 2010 at Madurai. Dr. Rao was former Director NML, Vice Chancellor BHU & DIAT Pune and President of IIM during 2002-03.

On the occasion of Chapter Level NMD Celebrations, a talk by Prof. Hem Shanker Ray, Emeritus Fellow (AICTE) was organized on the topic **“Innovative Problem-Solving”** on 18th January 2010 in the Conference Room of Safdarjung Club, New Delhi.

Prof H. S. Ray is an Eminent Visiting Professor of IIT Kharagpur, former Director RRL Bhubaneswar, CGCRI Kolkata and author of several books on metallurgy. His lecture was a lively session with a power point presentation, film slides and anecdotes where in 40 persons actively participated.

The topic of the talk was elaborated like “Out of Box Thinking for Innovative Problem Solving”. According to the speaker the problems are normally categorized as CLOSED (HARD) and OPEN (SOFT):

- a. CLOSED Problems: They need intellect, knowledge and convergent thinking.
Problem / method / goal - all are well defined e.g.
 - Calculate volume of a well defined solid
 - Pass an examination in school
 - Solve a differential equation
- b. OPEN Problems: These need divergent thinking and inventive solutions
Problem/ method/ goal - are not well defined e.g.
 - Calculate volume of an irregular solid.
 - Be successful in job selection
 - Find a life partner
 - Estimate happiness of a country

In school, colleges and laboratories we learn to solve methods of well defined problems with unique answers

Close problems are often “hard” problems

Open problems are often “soft” problems

To reach goals one has to solve both hard (H) and soft (S) problem.

Examples

Kennedy: * Send man to moon before 1970 (H)
* Introduce black – white equality (S)

Bush: * Defeat Saddam Hussain (H)
* Establish Democracy in Iraq(S)

TRIZ (Theoria Resheneyva.....) is Russian Acronym for Theory of Inventive Problem Solving – TIPS.

Genrich Altshuller, who first proposed the principles of TRIZ, was a Russian patent expert in Navy during World War-II. He and his colleagues examined some 200000 patents to study the underlying nature of creativity. He concluded that only 2% of solutions were truly pioneering and the rest were improvements on a previous idea or concept presented in a novel way. He listed the following basic findings:

- Problems and solutions are repeated across industries and sciences using one or more of fundamental inventive principles.
- Patterns of technical advances are repeated again and again
- Innovations used scientific effects outside the field where they were developed
- There is psychological inertia to accept a new idea

Concluding his talk Prof. Ray summarized the basic requirements of problem solving as:

- a. Define the problem in a way that the problem solver is not trapped in a psychological inertia
- b. Be certain that the real problem is being addressed
- c. Start from final [ideal] result.

Hot Metal De-sulphurisation

S. C. Suri
Life Fellow IIM & Chairman-
Technical & Publication Committee

Introduction

As the demand of ever lower steel sulphur levels continues, the use of hot metal de-sulphurisation remains the most cost effective way of removing sulphur in the BOF steel making process. Today soda, lime, calcium carbide and magnesium are the main agents being used via injection methods for de-sulphurisation of hot metal. Optimum performance is achieved with mixtures of these materials rather than one individual de-sulphurising reagent.

Hot Metal De-sulphurisation

With the exception of free cutting steel, sulphur is undesirable in steel. This is because of embrittlement during manufacture and its use. As the demand for lower steel sulphur levels increases, we need far lower hot metal sulphur levels. Today hot metal is regularly de-sulphurised below 100 ppm and in some cases to 10 ppm.

Over time many de-sulphurisation agents have been developed to provide hot metal de-sulphurisation in a cost effective way. The main agents together with their advantages and disadvantages are briefly reviewed.

Soda

During the 1960s, soda was a popular de-sulphurisation agent. However difficulties were encountered due to the decomposition of sodium carbonate in contact with the liquid iron

producing sodium oxide fumes. These fumes are harmful to health and fume extraction system was generally inadequate.

Today soda de-sulphurisation is no longer used. Apart from occasional use of soda as a fluxing agents to reduce the iron losses when de-slagging, soda is not being used as a de-sulphurising agent.

Lime

Lime is the most important calcium source in steel production. It is widely available naturally as lime-stone. Its use in hot metal de-sulphurisation is in the burnt condition.

Lime has problematic conveyance characteristics in the granulated size which is necessary for hot metal de-sulphurisation. It is also adversely affected by moisture.

Lime is the cheapest hot metal de-sulphurisation agent used today. However, it has a lower effectiveness. It also produces the larger quantity of slag. Iron losses are directly proportional to slag weight. This adversely affects the cost. Today lime is primarily used in combination with other agents principally magnesium.

Calcium Carbide

In the 1970s, calcium carbide was introduced as a hot metal de-sulphurisation agent. Since then it has become one of the most popular de-sulphurisation agent.

In contrast to lime, calcium carbide mixtures are hazardous substances. This therefore would involve need for a considerable number of safety devices. Modern de-sulphurisation plants are therefore equipped with measuring facilities for determining the acetylene and moisture contents in the extraction system.

Magnesium

The use of magnesium hot metal de-sulphurisation has increased significantly in recent years, resulting from the considerable increase in high grade steel production.

At the first glance, magnesium is an expensive de-sulphurisation agent. However if its effectiveness is taken into consideration, the specific de-sulphurisation costs are lower than other de-sulphurisation agents. Magnesium effectiveness is 7 times higher than that of calcium carbide.

Future prospects

Hot metal de-sulphurisation will remain the most cost effective route for sulphur removal in steel production. According to the current level of knowledge, the types of de-sulphurisation agents will not change. However, the relative use of each of the agent will change as the steel product demand changes. The use of fluxing agent for reducing the iron losses will mainly increase the extent of calcium carbide in the mixture.

Due to its high efficiency measures, magnesium will continue to be a major de-sulphurising agent. Further development using magnesium in secondary raw materials can be expected. Lime will also keep its current importance as a premier de-sulphurisation agent. But this will be in combination with other de-sulphurising agents like magnesium.

Benchmarking Water Use in Metallurgical Industry

*V N Grover
Member, Executive Committee
& Ansul Gupta*

The world has witnessed an international meet on global warming at Copenhagen in December 2009. While it is necessary to reduce energy use by increased efficiency, conservation of water is equally important for the benefit of society at large.

Benchmarking is the management technique to set higher targets for achievement than what one is getting today. Let the industrial units set their own targets.

Managing Water in Steel Industry

Steel is an industry in evolution from large, integrated, multiple-product facilities to smaller facilities focused on specific products or markets. The energy intensity of the steel industry has been steadily decreasing since 1950. Independently, the water use intensity of the steel industry has decreased, principally because there is a growing stress on water in recycling, so much so that recycling of water has become a business not only in the steel industry but in other manufacturing industries also.

The steel industry is categorized into three types of facilities:

- Integrated steel plants, which use ore, coke, limestone, energy, and water to make multiple products;
- Mini mills based on scrap steel and sponge iron;
- Finishing mills, which use intermediate steel products called semis to make products for focused markets

Water supply comes from surface water sources like rivers, groundwater sources, and can as well come from the municipal sewage treatment plants. Water is used for heat transfer from the processes, to protect equipment and refractory, treat flue gases to control emissions in the environment etc. Water use in industry can be classified according to the type of application, such as contact or non-contact water.

Contact Water

Examples of contact cooling or quenching in an integrated steel plant are coke ovens, gas cleaning from blast furnace, slag handling, scale breaking in hot rolling operations, acid pickling, cold-rolling operations, caustic washing for coating lines, etc. Water is also used in wet scrubbers for air pollution control in coke oven gas treatment, sinter plants, blast furnace gas treatment, basic oxygen furnaces, acid pickling, and coating operations.

Non-Contact Water

Water is used in a series of heat exchangers in coke oven gas treatment, blast furnaces, basic oxygen furnaces, electric arc furnaces, hot rolling and cold-rolling operations, boilers, annealing furnaces, and coating lines. This non contact water is generally discharged separately from the process waters.

Return-Flow Applications and Water Loss

The process water from any operation requires treatment before it is mixed with fresh water. In order to conserve this scarce resource, it is now mandatory for the industry to opt for zero discharge strategy and one of the methods of this approach is called "Cascading".

The last stage of water use in cascading is for applications like slag quenching at blast furnaces, basic oxygen furnaces, coke quenching in coke ovens, spray chamber cooling at caster and for suppression of dust in material handling yards.

Recycling of process water requires extensive use of cooling towers where evaporation is the major cause of water loss. This loss is made good by addition of make-up water, which again is very high if we look at the specific consumption levels of water according to the process.

Relationship of Water to Energy

Each unit operation in the steel-making process exhibits a different relationship between water use and energy consumption. In some cases, there is actually an inverse relationship. For instance the technology of reheating furnace for hot strip mills has progressed from three-zone furnaces with a heat rate of 5.25 GJ/ton of steel heated to eight zone furnaces with a heat rate of 1.48 GJ/ton. Though the energy consumption level for reheating was brought down by better efficiency, the cooling requirements increased with each additional zone to protect the internal components of the furnace.

In this example, the energy use requirement in the year 2000 came down to only 28 percent of the 1980 requirement, but the cooling water requirement went up to 230 percent of the 1980 requirement. A similar experience occurred with the blast furnaces as more cooling is added to the shell to extend the life of the linings and make incremental improvements in energy balance with coal injection, heat recovery, oxygen addition, and burden management to increase yields.

In the transition from blast furnace and basic oxygen furnace combinations to electric arc furnaces with high scrap and supplemental supplies, the net energy and water consumption will decrease. The blast furnace – basic oxygen furnace combinations require a net use of approximately 9 cubic meters of water and 18 GJ/ton of steel produced. The use of scrap steel in place of the hot metal as feed to the basic oxygen furnace would reduce these ratios. If a direct reduced iron plant and electric arc furnace were coupled together with no scrap steel feed, the similar net usage rates would be approximately 2 cubic meters of water and 14.8 GJ/ton of steel produced. The use of scrap steel as feed to the electric arc furnace would further reduce these ratios.

The path to energy and water conservation in the steel industry is transformational in changing processes and not incremental in improving existing processes.

[This write-up is based on a document of the Center for Waste Reduction Technologies, American Institute of Chemical Engineers, prepared for the U.S. Department of Energy in the year 2003]

Steel Sector Trends

- With production of 46.77 million tonnes of crude steel during the period January-October, 2009, **India emerged as the fourth largest steel producer in the world** and is expected to become the **2nd largest producer of crude steel in the world by 2015**, provided all requirements for creation of fresh capacity are adequately met.
- India also maintained its lead position as the **world's largest producer of direct reduced iron (DRI) or sponge iron**. Sponge iron production for sale was 20.8 million tonnes in 2008-09 which was higher by 2.1% over 2007-08.
- **222 Memorandum of Understanding (MoUs)** have been signed by the investors with various State Governments for setting up additional 276 million tonnes of steel capacity in the country.
- Major investment plans are in the **States of Orissa, Jharkhand, Karnataka, Chhattisgarh and West Bengal**.

Source: PIB Steel News

Production, Consumption and Growth of Steel

The National Steel Policy 2005 had projected an annual steel consumption growth of 7 % based on a GDP growth rate of 7-7.5% and production of 110 million tonnes of crude steel by 2019-20. Going by the existing growth trends **these estimates are likely to be exceeded** and it is envisaged that in the next five years, demand will grow at **higher annual average rate of over 10%** as compared to around **7% growth achieved between 1991-92 and 2005-06**.

- Production for sale of total finished steel at (alloy + non-alloy) was at **38.961 million tonnes during April-November, 2009** as against **38.024 million tonnes in corresponding period of 2007-08, a growth of 2.5%**.
- Exports of total finished steel (alloy + non-alloy) was at 1.81 million tonnes during **April-November 2009** as against 2.952 million tonnes in corresponding period of 2007-08, a decline of 39%.
- Imports of total finished steel (alloy + non-alloy) was at 4.59 million tonnes during April-November, 2009 as against 4.134 million tonnes in corresponding period of 2007-08, a growth of 11%.
- Consumption of total finished steel (alloy + non-alloy) was at 34.304 million tonnes during April-November, 2009 as against 33.995 million tonnes in corresponding period of 2007-08, a growth of 6.8%.

Source: PIB Steel News

- **Data on production for sale, consumption, import and export of total finished steel (alloy + non alloy) and production of crude steel from the year 2004-05 onwards are shown in the table below:**

Total finished steel	2004-05	2005-06	2006-07	2007-08	2008-09	(in million tonnes)
						2009-2010 (April-November)*
Production for sale	43.513	46.566	52.529	56.125	57.164	38.961 (2.5%)
Consumption	36.377	41.433	46.783	52.175	52.351	36.304 (6.8%)
Import	2.293	4.305	4.927	7.029	5.839	4.59 (11%)
Export	4.705	4.801	5.242	5.077	4.437	1.81 (- 39%)
Crude steel production	43.437	46.460	50.817	53.857	54.52	37.98 (4.9%)

Source: JPC: *Provisional, Note: figures in bracket indicate % change over the same period last year.

Indian crude steel production in the year 2009 to be 56 million tonnes

According to the latest release from worldsteel Indian crude steel production during January to November 2009 totaled 51.198 million tonnes up by Marley 1.4% YoY as compared to 50.467 million tonnes during January to November 2008.

Assuming that December 2009 production would equal that of November 2009, the total Indian crude steel output is seen close to 56 million tonnes up by about 1 million tonnes or 1.8% YoY.

Source: Steel Guru

Performance of PSUs and companies under Steel Ministry

- Profit after Tax (PAT) of the Companies with Steel Ministry have gone up around four times, **from Rs. 4819 crore in 2003-04 to Rs. 12792 crores in 2008-09.**
- The contribution of PSUs to Central and State Government exchequer by way of excise duty, customs duty, dividend, corporate tax, sales tax, royalty etc. has gone up by **210 % from Rs. 5,829 crore in 2003-04 to Rs. 18,082 crore in 2008-09.**
- Net worth of major PSUs under the Ministry of Steel grew by quantum leaps, indicating their robust financial health. The net worth of SAIL, RINL, NMDC, MOIL, MSTC and KIOCL as on **31.3.2004** were **Rs. 4,659 crore, Rs. 4,852 crore, Rs. 1,967 crore, Rs. 139 crore, Rs. 83 crore and Rs. 1,389 crore** respectively, which rose to **Rs. 27984 crore, Rs. 12420 crore, Rs. 11615 crore, Rs. 1320 crore, Rs. 342 crore and Rs. 2,196 crore** respectively as on **31.3.2009.**

Major initiatives taken by Ministry of Steel during 2008-09

(i) Administrative and fiscal action to manage inflation in the steel sector

The Government took a number of fiscal and administrative steps to contain steel prices. The gist of fiscal measures taken during the year for achieving price stability were:

- i) Central Value Added Tax (CENVAT) on steel items reduced from 14% to 10% with effect from 24.02.2009
- ii) Countervailing duty (CVD) on Thermo Mechanically Treated (TMT) bars and structurals, reintroduced with effect from 2.1.2009

(ii) Meetings of Inter Ministerial Group (IMG)

An Inter Ministerial Group (IMG) to monitor and coordinate various issues concerning major steel investments in the country has been constituted under the Chairmanship of Secretary (Steel). This is for conducting coordination meetings with the steel investors, concerned Central Ministries/Departments and the State Governments. A meeting of IMG was held on 5.8.2009. It was attended by all major PSUs and private steel investors and Ministries/Departments such as Railways, Shipping, Road Transport & Highways, Environment & Forest and Mines.

(iii) Survey of measure domestic steel consumption

As the present per capita consumption in the country is only **around 47 kg (2008)** against the world average of 190 kg and that of 400 kg in developed countries. A study has been commissioned through the Joint Plant Commission (JPC) during the 2008, to estimate the per capital demands for iron and steel by the rural population and to determine the factors for its enhancement.

(iv) **Mega Expansion Plans of SAIL, RINL & NMDC Ltd.**

The Steel PSUs are in the midst of ambitious expansion plans. The major thrust of the modernization and expansion plans is to adopt the best modern technology, which in addition to being cost effective and should also be energy efficient and environment friendly.

- The progress of the expansion of SAIL, RINL and NMDC is monitored on a regular basis in the Ministry. As a consequence of monitoring, a number of improvements have been put in place in project implementation.
- The expansion and modernization programme of SAIL is well underway at all its steel plants to enhance the hot metal production capacity from the level 13.82 million tonne per annum to 23.46 million tonne per annum under its current phase. The current phase of expansion and modernization is expected to be completed by the financial year 2012-13 and as of now, project implementation is broadly on schedule for meeting this target. Out of the total investment on Modernization and Expansion, a provision of Rs. 10,356 crore has been made in the financial year 2009-10 and this investment target is expected to be fulfilled by the end of the financial year.
- In respect of RINL, expansion plan for increasing liquid steel capacity from 3.6 million tonnes to 6.3 million tonnes by 2010 is progressing as per schedule. Stage-I of the project would be completed by October, 2010 and Stage-II by September, 2011. Supply orders for all major packages have already been placed. In case of RINL, the expansion plan would increase its capacity from 3 million tonnes to 6.3 million tonnes of liquid steel production per annum by 2010 and 2011 in phases, at an estimated cost of around Rs.12,228 crore.
- The progress of activities in respect of Integrated Steel Plant (ISP) of NMDC is also well underway. The environmental clearance for Integrated Steel Plant of NMDC at Nagarnar was accorded by the Ministry of Environment and Forests (MoEF) on 15th September, 2009. Chhattisgarh Government has sanctioned drawal of water for NMDC. NMDC is in the final stage of the process of shortlisting of the technology provider.

(v) **Steel Processing Units**

SAIL has planned to set up **Steel Processing Units (SPUs)** at various locations in Bihar (Bettiah, Mahnar, Gaya); Uttar Pradesh (Lakhimpur); Madhya Pradesh (Gwalior, Ujjain and Hosangabad); Himachal Pradesh (Kangra) ; Assam (Guwahati) and Jammu & Kashmir (Srinagar) to meet customers' demand for supplying sized and finished steel near the point of consumption, particularly in states where there are no steel plants and where steel consumption is low compared to the national average. Out of these units envisaged, foundation stones have been laid at nine sites (Bettiah, Mahnar, Gwalior, Ujjain, Hosangabad, Gaya, Lakhimpur, Kangra and Srinagar). The SPU at Bettiah is under implementation. For SPUs at the other locations, tendering activity for various packages is in progress.

(vi) **Merger/acquisitions/revival and restructuring of PSUs**

Various proposals for merger of PSUs under the administrative control of Ministry of Steel are underway.

- Government has approved merger of **Sponge Iron India Limited (SIIL) with NMDC**. The merger procedures and formalities at the corporate level of NMDC and SIIL have been

completed. The final formalities at the level of the Ministry of Corporate Affairs are underway.

- BRL has finally been merged with SAIL w.e.f. 1.4.2007 (appointed date) by an order of the Ministry of Corporate Affairs (MCA) filed with Registrar of Companies (ROC) on 27.08.2009. BRL is now rechristened as 'SAIL Refractory Unit' (SRU).
- Draft Scheme of amalgamation with appointed date of merger as 1.4.2010 has been approved by the Ministry and has been filed on 7.12.2009 with the Stock Exchanges where SAIL and MEL are listed for their approval. Thereafter, the Scheme would be filed with the Ministry of Corporate Affairs for issue of the Order of Amalgamation. Efforts will be made to ensure that all the approvals are obtained in the next three months and the merger process completed by the end of June 2010. After the merger, a capital investment of Rs.250 crore is proposed to be made to enhance the capacity of the plant.
- The Cabinet has approved a restructuring plan for Bird Group of Companies (BGC). The restructuring proposal envisages converting under BGC into Public Sector Undertakings and vesting their management control to Rashtriya Ispat Nigam Limited (RINL), in a subsidiary cum holding structure in order to make these companies economically viable and sustainable.
- **Restructuring of Hindustan Steelworks Construction Company Ltd. (HSCL)**
"HSCL, a Kolkata based company, was established in 1964. HSCL is engaged in the construction of integrated steel plants and other infrastructure development activities. The company has accumulated losses to the tune of Rs. 1379 crore due to heavy interest burden and excessive manpower in the past. However, the company has shown operational profits for the last several years. A revival/restructuring package is being evolved by the Government aiming at expediting the process of modernization of Steel Plants and infrastructure projects by HSCL. HSCL would be in a position to take up fresh infrastructure projects and earn profit after the implementation of the revival package.

Source: PIB Steel News

National & International News

Government approves NMDC and SAIL merger

The country's largest iron ore producer NMDC said that the government has approved the merger of secondary steel producer SAIL with itself.

It said "The Ministry of Corporate Affairs has passed an order for merger of Sponge Iron India with NMDC on January 18th 2010."

The Ministry had convened a hearing last November to allay fears, if any, of shareholders or any related parties on the proposed merger. The company had expected to close the merger deal last October.

Meanwhile, the company is conducting a fresh financial viability study of SAIL for its proposed INR 1,200 crore investment in the firm. The Government in May 2008 had cleared the merger of SAIL with NMDC, under which SAIL would get financial support and assured supply of iron ore from NMDC. The merger got the shareholders' approval in June 2009.

Source: Steel Guru

[Chiria mines will be leased to SAIL - Mr Soren](#)

Mr Shibu Soren chief minister of Jharkhand said the entire Chiria mines in the state's West Singhbhum district would soon be leased to the Steel Authority of India Ltd for its expansion and modernization projects.

Mr Soren told reporters that he was in favour of SAIL being handed over the Chiria mines, which have deposits of good quality iron ore, so that the company could meet its modernization and expansion needs. The earlier stand of the Jharkhand government was that SAIL should be leased some of the mines and the rest should be given to private parties that want to set up steel plants. This had led to a legal battle and a case is pending in Jharkhand High Court for last two and a half years.

Mr Soren admitted that some few private companies had taken the leases in the Chiria mines by flouting the norms. He added that "I would take up the issue of mines' leases in the cabinet and ensure that leases would be granted in a transparent manner." On industrialization in Jharkhand, Mr Soren said that his priority would be to ensure that the government undertakings keep running smoothly and sick units were revived.

Source: Steel Guru

[Chiria mines to meet SAIL needs - Mr Soren](#)

Mr Shibu Soren chief minister of Jharkhand has assured Mr VK Srivastava MD of Bokaro Steel Plant that SAIL's needs would be met by Chiria mines.

Mr Soren told reporters that SAIL's Bokaro plant had surplus land where the public sector undertaking could undertake its expansion. The current needs of iron ore could be met by the Chiria mines. He added that iron ore requirement of SAIL's Durgapur Steel Plant could be met from Chiria mines.

Source: Steel Guru

[SAIL MEL to set up furnace in Chandrapur plant](#)

Maharashtra Electrosmelt Ltd a SAIL subsidiary will invest INR 200 crore to set up a furnace with capacity of 42,000 tonnes per annum at its Chandrapur plant. Maharashtra Electrosmelt sources said that "Its board has already cleared the expansion proposal and it has been sent to the sub committee of Steel Authority of India Ltd board for approval."

Sources said that it would require an investment of around INR 200 crore and once it is cleared by the sub committee, global tenders would be floated for the purpose. It would take two years from the date of placement of the order to get the furnace commissioned. This furnace for the Chandrapur plant will have a capacity of 42,000 tonnes per annum for increasing production of silicomanganese. Sources said that Maharashtra Electrosmelt at present supplies 50,000 tonnes of ferromanganese required by SAIL plants, besides meeting 40% demand for silicomanganese. Post expansion, MEL would be in a position to fulfill 70 per cent silicomanganese requirements by SAIL plants.

Sources further added that apart from capacity expansion, a 67.5 MW power plant has been proposed to be set up at Chandrapur by NSPCL a joint venture company of NTPC and SAIL to reduce MEL's dependence on external sources of electricity. Currently, MEL has a power plant with 4.2 MW capacity which is fired by the gas generated in a blast furnace.

Source: Steel Guru

[SAIL RSP posts record saleable steel production in 2009](#)

It is reported that SAIL's Rourkela Steel Plant registered the highest saleable steel production of 2.02 million tonnes in 2009. This was achieved due to the best ever performance by hot

strip mill which registered a production of 1.54 million tonne of hot rolled coil. As per report the plant has also achieved more than 100% capacity utilization in hot metal, crude steel and saleable steel production with 110%, 109% and 120% respectively. RSP has also registered improvements over the previous calendar year in areas like production of galvanized sheets by 7.6%, ETP by 14.1% and CRNO by 1.6%. The plant has created new benchmark in the field of coke rate, average lining life in steel melting shop-II specific energy consumption and make-up water consumption with the all-time best figure of 539 kg per tonne of hot metal, 4,540 heats, 7.03 giga calorie per tonne of crude steel and 4.46 meter cube per tonne of crude steel.

Source: Steel Guru

[JSL plans 2.5 MT of stainless steel output capacity by 2014](#)

JSL Ltd said its stainless steel manufacturing capacity will go up to about 2.5 MT by March 2014 on the back of a 1.6 MT greenfield plant it would set up in Orissa, making it the largest producer in India. The BSE-listed company, which produces 0.72 MT of stainless steel from its Hisar plant, has commenced work in Orissa to set up 0.8 MT of capacity as part of first phase. "In the first phase of this greenfield project, we will set up a unit of 0.8 MT capacity. We expect to complete this by end of fiscal 2010 or early 2011," JSL Ltd General Manager (Marketing) Ajay Kumar told. The integrated project will have facilities for mining of iron, manganese and chrome ore for production of ferro- alloys and stainless steel in the melt shop and rolling mills. "We will add another 0.8 MT as part of second phase by end of fiscal 2014. We will be the number one producer of stainless steel in the country as our total manufacturing capacity will go up to about 2.5 or 2.6 MT," Kumar said. The total capacity upgradation by 2014 includes an existing ferro-alloy plant at Visakhapatnam with an installed capacity of 40,000 MT per annum as well as a precision strip unit, which will have a production capacity of 30,000 tonnes.

At present, India's stainless steel production stands at a meager 1.8 MT.

Source: Metals Place

[Copper price may rise in 2010](#)

Copper's amazing bull run is likely to continue into next year, for a while at least. But there is a lot of speculative froth in these prices and valuations have very little to do with current fundamentals, analysts believe.

The red metal climbed to a fresh 16-month high above \$7,300 early January on expectations for demand in 2010 and a possible strike at a mine belonging to Chile's Codelco, the world's No. 1 copper producer. The metal, used in power and construction, earlier touched \$7,380, its highest since September 4, 2008. Codelco braced for a strike at its giant Chuquicamata mine after workers rejected a wage offer, stoking supply concerns. A strike started on January 4 at Chuquicamata although analysts expect any stoppage to be short lived. The Chuquicamata strike vote came just hours after union workers began an indefinite strike at Chile's Altonorte smelter, where owner Xstrata has cut output at the facility for nearly a month for maintenance work. Analysts also said improving U.S. consumer confidence data and expanding business data from the U.S. Midwest, was also boosting investor sentiment.

Copper prices were little affected by a firmer dollar, which benefited from year-end flows in thin trade. A strong U.S. currency makes metals priced in dollars more expensive for holders of other currencies. A weak dollar has boosted industrial metals this year, combined with Chinese buying, new investor cash and an improving macro outlook. The metal is now on course for an annual rise of about 140 percent, it's biggest in at least three decades. The red metal has rallied every quarter this year, its longest run of gains since breaking a run of nine quarterly increases at the end of 2006. Average quarterly gains for London copper in 2009

were 24 percent, pipping 1987's average of 20 percent. However, demand worries remain. Copper stocks rose 10,025 tons to 495,950 tons - the highest point since early April.

Source: Metal world News Digest

[Nickel all set to gain in 2010](#)

Most of the base metal prices will be dependent on Chinese demand in 2010 and Nickel is no exception. If indications from global markets are any hint, global primary nickel usage may recover around 1.35 million tons, said a report. But, that is not enough. Prices are set to go up to certain extent in 2010 also. Hope lies in Chinese demand. A recovery of demand was seen in stainless steel production in China, Korea and Taiwan in the second quarter of 2009 and to lesser extent in Europe and the United States in the third quarter, added the report.

Primary nickel demand was strong in China and surrounding countries, with both real and apparent consumption increasing. In Europe and the United States, demand is expected to decline in 2010 due to weak stainless steel production and also relatively high usage of nickel-containing scrap. In 2010 it is possible that growth in stainless steel and nickel use will continue in China and in other parts of the world but at slower rate. Nickel has been the laggard among the base metals rally during 2009 with returns of around 61 percent. In the coming year, nickel prices are set to perform well.

As long as \$15550/15500 holds support, the prices will edge higher towards 21900/22000 levels. Nickel prices are moving in a channel with supports around 16500/15500 range and resistance coming around 26600/26900 zones. In 2010 nickel production is set to increase to 1.44 million tons. World primary refined nickel production was 1.38 million tons in 2008, and declined to 1.28 million tons in 2009.

Source: Metal world News Digest

[Aluminium demand may rise this year](#)

Aluminum consumption in Asia may continue to grow in 2010 as stimulus measures in China, the world's biggest metals consumer, and rest of the region lift demand for the metal, an executive at Novelis Korea said.

Aluminum prices have surged 32 percent this year as China's \$586 billion stimulus spending increased demand for the metal used in car parts, construction and cans. China's economy expanded 8.9 percent in the third quarter, the fastest pace in a year. Harbor Intelligence forecasts demand will outstrip supply by 380,000 tons next year and prices will average \$2,700. Prices have averaged \$1,652 a ton this year. Asia used to depend on Western countries for demand generation. This year, most aluminium and aluminium products are consumed within Asia, driven by the stimulus spending.

There is overcapacity in China. Still, China is different from other parts of the world because "when prices are bad, they close capacity, and when prices are good, they start again". Barclays Capital forecasts that the global surplus in aluminium will increase 29 percent to 1.63 million tons next year as the biggest annual price increase since 1994 spurs producers to increase output.

Source: Metal world News Digest

[Vedanta to promote downstream industries](#)

London based Vedanta Aluminium Limited (VAL), which is setting of an alumina refinery and smelter projects in Orissa, reiterated its commitment to set up an aluminium park in Orissa to promote downstream and ancillary industries in the state. The move will help develop the small and medium size enterprises (SMEs) in the state, VAL senior vice-president said.

"In keeping with Vedanta's policy of collaborative growth for all, we propose the concept of

development of an Aluminium Park in Jharsuguda region of Orissa that will co-locate multiple downstream industries. This is in line with the promise given by the chairman of Vedanta Group Anil Agarwal, regarding the establishment of the downstream aluminium park at Jharsuguda during his last visit to the state," the senior vice president informed. Stating that the proposed park would help promote the budding enterprises by utilizing molten or liquid alumina, the process would reduce the cost of producing different aluminium products like electrical appliances, aluminium extrusion and automobile parts.

"While the park is expected to house at least 10-15 medium size downstream units it would also lead to generate direct and indirect employment opportunity for around 13,000-18,500 people," he said, adding, VAL was committed to enhance productivity through technical expertise, research and development (R&D) support, reliable and uninterrupted power supply and availability of raw materials. The location of the park near the VAL's smelter plant at Jharsuguda is expected to reduce the input cost for downstream products. Jharsuguda is a cosmopolitan town that is fast emerging as the economic hub of western Orissa and there is a clear vision for the city developed by the state government. Currently, many small and medium-scale steel units are being set up in the town vicinity.

"The proposed location of this aluminium park would be cost advantageous because it has such facilities as impressive transport system, land availability, availability of power supply and skilled labour," Samal remarked.

Source: Metal world News Digest

[Chinese copper smelting industry under consolidation](#)

China's largest and third largest copper producers Jiangxi Copper Corporation and Yunnan Copper Company Limited respectively have become partners with China Minmetals Group and Aluminum Corporation of China Limited and now Tongling Nonferrous Metals which is the second largest copper producer has finally found someone to fall back on.

According to a report, Tongling Nonferrous announced December 29th 2009 that its majority shareholder Tongling Nonferrous Metals Group Holdings Company Limited have joined China Railway Construction Corporation and acquired 66.67 percent of the shares of Canada's Corriente Resources with CNY 4.41 billion. Tongling Nonferrous Metals Group defeated many competitors for the acquisition. According to a news agency last year, companies including Tongling Nonferrous Metals Group, the world's fourth largest copper producer Switzerland's Xstratar Company and the world's largest copper miner Chile's state copper company Codelco all expressed interest in participating in Corriente Resources' Panantza, San Carlos project in southern Ecuador, added the report.

Compared with domestic counterparts, the acquisition mode is very similar to an overseas acquisition case by China Minmetals Group and Jiangxi Copper 2 years ago. Tongling Nonferrous Metals Group first set up a joint venture company with China Railway Construction Investment Company Limited and then acquired Corriente Resources through this JV.

Although Corriente Resources is listed on the Toronto Stock Exchange and the New York Stock Exchange at the same time, its main asset lies in mineral assets and mineral interest in the Corriente Copper Belt in southeastern Ecuador. Now these 3 companies have found partners, the current pattern of competition in the domestic copper industry has also changed. China Railway Construction which had never been in the mining industry said its Board of Directors meeting held October 27th 2009 has decided to make mineral resources development one of the company's main businesses. This adds another central enterprise in the mining industry.

Source: Metal world News Digest

A to Z Words of Wisdom

- ❖ **A**dversity is the touchstone of friendship and introduces a man to himself
- ❖ **B**ook is the best friend; the same today and for ever.
- ❖ **C**arelessness does more harm than want to knowledge.
- ❖ **D**ecision should not be final except your decision to live creatively.
- ❖ **E**xperience is the best of School matters, only the School fees are heavy.
- ❖ **F**amily that prays together, stays together.
- ❖ **G**enerosity is the quality of heart and not of mind.
- ❖ **H**appiness is one commodity that multiplies by dividing it.
- ❖ **I**ntegrity of men is to be measured by their conduct and not by their professions.
- ❖ **J**ustice delayed is justice denied.
- ❖ **K**nowledge is the only treasure which cannot be stolen.
- ❖ **L** laugh and word laugh with you, weep and you weep alone.
- ❖ **M**ind is like parachute, it stands working only when it opens out.
- ❖ **N**onviolence is the supreme religion from time immemorial to eternity.
- ❖ **O**pportunity comes once, you never get a second chance.
- ❖ **P**atience and perseverance overcome mountains.
- ❖ **Q**uotations are a parole of literary men all over the world.
- ❖ **R**eading is to mind, what exercise is to body.
- ❖ **S**elf-realization is a first step towards attainment of salvation.
- ❖ **T**roubles, like babies, grow larger by nursing.
- ❖ **U**n happiness should serve as a challenge to rise above failure of yesterday.
- ❖ **V**irtue itself turns vice, being misapplied.
- ❖ **W**e never know the worth of water till the well is dry.
- ❖ **X**mas comes once in a year but its joy should remain for whole year.
- ❖ **Y**ou are young at any age if you are planning for tomorrow.
- ❖ **Z**eal is a bad soldier who fires before the word of Commander.