IIM Metallurgy Materials Engineering

NEWSLETTER
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(DELHI CHAPTER)

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INTRODUCTION

This News Letter is containing brief on eighth Executive Committee Meeting for the year 2010-11 held on 27.11.2010.

The News Letter contains the following Technical Write-ups:

1. Compilation of information about "World Steel's Short Range Outlook for Steel Demand" by Shri S C Suri, Life Fellow, IIM & Chairman, Technical & Publication Committee, IIM-DC.
2. "Direct Reduced Iron (DRI): Present, Past and Future" by Shri Neeraj Gupta, Member, Technical & Publication Committee, IIM DC.
3. "Modern times and nishkama karma (desireless action) By Shri P. R. Chandna, Executive Committee Member IIM,Delhi Chapter.
4. "Grain Silos in Stainless Steel : A Loss Proof Solution" By: Shri Deepak Vaidya, Cluster Head, Outokumpu India Pvt., Ltd.
5. It contains an interview on " Stopping of Iron Ore Exports" by Shri Malay Mukherjee, CEO, Essar Steel limited.

The News Letter also contains National news relating to Ferrous Sector.

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Chapter News

Executive Committee Meeting:

The eighth Executive Committee was held on 27th November, 2010. The Lecture hall renovation work for civil and flooring is nearing completion. The A/Cs and chairs are yet to be finalized. The progress of Technical conference is satisfactory. 13 abstracts for the technical papers have been received.

World Steel's Short Range Outlook for Steel Demand

The World Steel Association (WSA) released its October 2010 Short Range Outlook (SRO) for 2010 and 2011. World steel forecasts that apparent steel use will increase by 13.1% to 1,272 Mt in 2010 after contracting by -6.6% in 2009. This represents an improvement of 35Mt over the April SRO for 2010 exceeding the pre-crisis peak of 1,222 Mt in 2007. In 2011, it is forecast that world steel demand will grow by 5.3% to reach a record 1,340 Mt.

Despite the better than expected forecast for 2010, WSA are still cautious. Steel demand in the developed economies in 2011 will still be well below the pre-crisis peak level. The recovery so far has been mainly driven by the inventory cycle and government stimulus packages whose effects are now fading out. But, whether consumer and corporate spending will now pick up and continue the recovery momentum is yet to be seen. Recent economic indicators are sending mixed signals and developments during early next year will be watched carefully.

China's apparent steel use in 2010 is expected to increase by 6.7% to 579 Mt. after the strong increase of 24.8% in 2009. While China showed an increase of 9.2% in apparent steel use during the period of January to August in 2010, it is forecast that China's apparent steel use growth will slow considerably in the remaining part of this year due to the Chinese government's effort to cool down the real estate sector and ongoing steel production control. In 2011, the growth rate will further slow to 3.5% with a weak real estate sector and the phasing out of stimulus packages.

While the forecast for China is for a fairly low growth rate compared to other countries, its apparent steel use in 2011 will be 42% above the 2007 level. China will account for about 45% of world apparent steel use in 2011.

India's steel demand grew 7.5% during the crisis and is expected to grow by 8.2% and 13.6% in 2010 and 2011, respectively. With 68 Mt. of apparent steel use in 2011, India will become the third largest steel using country in the world after China and the US. India's steel use will be 32% above its 2007 level.

In the NAFTA region, the US had a 36.2% reduction in apparent steel use in 2009. Aided by stock building activities and a recovery in manufacturing, apparent steel use in the US is expected to grow by 32.9% in 2010 and then 9.4% to 86.1 Mt. in 2011, bringing it back to 79.7% of the 2007 level. For NAFTA as a whole, apparent steel use will grow by 31.3% and 8.7% in 2010 and 2011 respectively.

In Central and South America, apparent steel use recorded a -23.6% fall in 2009, but the region's steel demand is coming back strongly thanks to recovering commodity prices, exports and renewed capital inflows. The region's apparent steel use will grow by 28.2% in 2010 aided by a strong rebound of 34.6% in Brazil. In 2011, the region's apparent steel use will grow by 9.1% to reach 47.6 Mt., a historical high for the region and 14% higher than the 2007 level.

The EU economies had a -35.7% reduction in their apparent steel use in 2009 with Spain, Italy and the UK especially hard hit due to the collapse of their construction sectors. The recovery in the EU is turning out to be stronger than expected as the region's manufacturing exports, especially

Germany's, gets a boost from the global recovery. In 2010, the region will see an increase of 18.9% in its apparent steel use on the back of inventory rebuilding and strength in the export sector. In 2010, increase in real use is expected to drive the region's steel demand to grow by 5.7% to reach 147.4 Mt., bringing it back to 75% of the 2007 peak.

Japan, which experienced a fall of -32.3% in apparent steel use in 2009, will see its steel use increasing by 19.1% in 2010, much higher than expected, due to the fiscal stimuli and strong export growth. But in 2011, its steel demand is expected to retreat by -1.4% due to tight fiscal policy, strong Yen, and weakening of its major steel using sectors. This bring Japan's apparent steel use in 2011 to 62.0 Mt, 76% of 2007 level.

The recovery in the CIS region is surprisingly robust. Apparent steel use in the region fell -28.3% in 2009 with a fall of -43.0% in Ukraine. In 2010, apparent steel use in the CIS region is expected to grow by 26.5% and then by 11.1% in 2011. This brings the region's apparent steel use in 2011 to 89% of the 2007 peak.

Turkey, which experience a -16% decline in apparent steel use in 2009, will see a strong recovery of 20.5% in 2010, followed by a further 10.7% growth in 2011 to reach 24.1 Mt, which will bring its apparent steel use back to the 2007 peak level.

Apparent steel use in 2009, 2010 and 2011 along with the growth rates in different regions are given in the table below:

Apparent Steel Use (ASU)

Million Tonnes

	ASU Mt	ASU Mt	ASU Mt	Growth Rates, %	Growth Rates, %	Growth Rates, %
Country/Region	2009	2010e	2011e	2009	2010e	2011e
European Union(27)	117.2	139.4	147.4	-35.7	18.9	5.7
Other Europe	23.9	28.7	31.4	-17.3	20.1	9.5
C I S	35.8	45.3	50.3	-28.3	26.5	11.1
N A F T A	82.7	108.5	118.0	-36.2	31.3	8.7
Central & South America	34.1	43.6	47.6	-23.6	28.2	9.1
Africa	26.6	28.0	30.0	9.7	5.1	7.1
Middle East	42.2	45.6	47.6	-7.5	7.9	4.4
Asia & Oceania	762.8	833.1	867.4	8.9	9.2	4.1
China	542.4	578.7	599.0	24.8	6.7	3.5
World	1125.3	1272.2	1339.7	-6.6	13.1	5.3

* e – denotes estimates

Courtesy: Data compiled by
Shri S C Suri, Life Fellow, IIM from WSA 2010 Report

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Direct Reduced Iron (DRI) : Past, Present & Future

By: Shri Neeraj Gupta
Member:
Technical and Publication Committee, IIM DC

It is believed that the first patent for Sponge Iron making was filed in 1792 in UK, presumably using a rotary Kiln. However, the development of modern DR processes did not begin in a serious

manner until the middle of 19th century. Amazingly more than 100 DR processes have been discovered/invented and operated since 1920s.While most of these innovators closed shop and their processes got relegated to history, some survived or reemerged because of a mix of social/economical/political and technical factors.

Typical properties of sponge iron are:

Fe (M) : 80 %, Fe (T) : 90 %, Metallization : 88 %,P : 0.08 %, S :0.05 %, C : 0.25 %, Alumina, Silica: 5.5 % (max), CaO + MgO – 1 % (max), Non metallics (Char etc.) : 1 %(max), Size: 3-20mm for lumps and 0 – 4 mm for fines. Bulk density: 1.8 gm/cc for lumps and 1.75 gm/cc for fines.

The desired **raw material**s for this sector are:

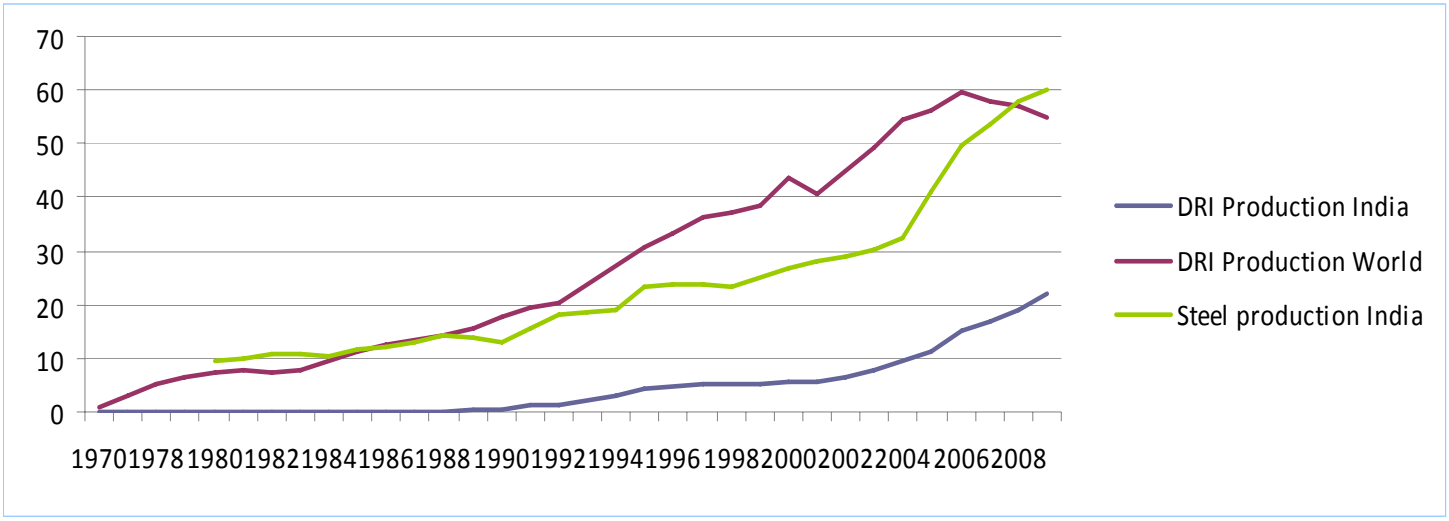
Iron ore -To avoid high generation of fines in the kiln and to have a reasonable kiln life, the iron ore should have high tumbler, shatter and abrasion indices. The iron ore also should have good reducibility. Since gangue cannot be removed in the process, iron ore should have high Fe content and low gangue content.

Non coking coal - As regards non coking coal, the main requirements are that the ashcontent should be less than 16 per cent, the ash melting deformation point more than 1400 Deg. C, the sulphur content less than 0.8 per cent and the coal reactivity as high as possible.

Dolomite – It acts as a desulphurizer during the reduction process and added in small quantity in the feed mix to the kiln.

Consider the following graphs (all quantities in Million Tons)

We immediately see that:



(1) The Indian DRI production has been maintaining a much healthier trend than the world figures.

(2) DRI contribution towards Indian steel production has been persistently upward of 30 %.

(3) As India surges ahead to produce 110 Million tons of steel by 2019-20 (For a quick reference: Readers may refer to the article: **Indian Steel Scenario,** by the same author in the last IIM DC newsletter). Even by the historical growth rate, the sponge iron units are expected to increase their production by more than70% in next 9 years. **The actual growth may be higher, 100% or more! This sector should therefore be of immense interest to Metallurgists, Industrialists, Distributors and Indian Policy makers.**

The author feels that while rapid growth in domestic steel demand shall help the growth of DR/EAF, IF route as well as BF/BOF route, there are some factors that will allow dominance of the former over the later in not too distant future; these are

(a) Low Entry level Investments (the minimum viable size being much lower than BF/BOF mills.)

(b) Good availability of mineral resources especially the use of non coking coal compared to high quality coking coals required for BF/BOF path.

(c) The preference of IF/EAF units for DRI over steel scrap for the reasons of availability, consistent quality and lesser exposure to international fluctuations

(d) Although the control of pollution is as much desired in DRI units as in the integrated mills and the author like every other member of the Metallurgical community feels strongly about it, still the fact remains that these units do not have to bear as much heat from Media and NGOs as their senior cousins BF/BOF. The reason may be their large number and scattered locations.

Fortunately, the DRI technology is well established and the man power- both skilled and unskilled- is generally available, this sector is bound to lend the destined support in bringing the steel production and consumption in India to a respectable level (100 Kg per capita per annum, Developing countries norm: 50-250 Kg per capita per annum).

The rise in the coal based production has continuously beaten the same for the gas based units but the average production from coal based units is around 6500Tones per annum only!. If the few bigger units are removed from this calculation the average is closer to 5000 Tons per annum only. The capacity utilization has increased but still hovers around 80%. Most of the units have Electrostatic Precipitator or some other form of pollution control facility. These units employ- directly and indirectly- around 62,000 workmen today.

The major issues being faced by these units today are:

(a) The raw materials required are quite abundant within the country but because of the small capacities of most of the units they cannot afford and do not have captive or leased mines and depend totally on market procurements which lower their raw material security.

(b) The captive power generation is by 13% units only and therefore they are low on energy security.

(c) Downstream integration- using an IF/EAF to convert to steel is practiced only by about 25% units resulting in tremendous loss of energy- as the DRI produced is allowed to cool rather its sensible heat being utilized inside an electric furnace- and a pressure on their operating margins. The author feels that these issues are to be immediately looked into and resolved by constituting a committee of representatives from the Industry, Government Officials and Industry Experts.

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Grain Silos in Stainless Steel : A Loss Proof Solution

By: **Shri Deepak Vaidya,**
Cluster Head, Outokumpu India Pvt., Ltd.

Clips from News in 2010 :

- 4.5 Lakh Sacks of Wheat in UP, estimated to be worth Rs. 25 Crores were damaged due to rains at the FCI Godown in Ghaziabad.

- 3 Lakh Sacks of Wheat in Haryana were destroyed in Sirsa warehouse due to floods.
- 56,000 Sacks of grain in Gondia district of Maharashtra are left to rot in the open.

and there have been many more news clips like these ……

The government also acknowledged that there is a lack of proper infrastructure to store the grains. This problem is not new. In 2003, Central ware Housing Corporation had a covered storage capacity of 48 million tonnes of food grains in spite of the fact that that a year before, in 2002, India had 63 million tonnes of food grains in buffer stock i.e. 15 million tonnes of more than what could be stored. To overcome the storage problem, the grain was sold in the international market at a price less than the procurement price and the reasons remains simple, unavailability of storage space.

The situation remains same even after 7 years. We lack adequate storage space and facilities for the food grains. The government data shows that grains worth Rs.60,000 crores are destroyed every year due to insufficient storage facilities. To add to the injury, Rs.2.6 crores is being spent to get rid of rotten food grains. Can we not avoid this loss?

The answers are not so simple. It's a complex situation for any government and there is an urgent need to have adequate storage arrangements for grains as soon as possible. Being adequate means, sufficient, accessible & most important hygienic. In many places, the grains are stored in open by covering them simply with plastic sheet. Even in the warehouses, grain is stored inside sheds in gunny bags which is also not a loss-proof solution. Rains and Dampness destroys these grains. Once the moisture creeps, the bags become wet leading to fungus and unhygienic grains.

Adequate warehousing is required but then the storage in the gunny bags is not a good solution in many aspects. Firstly, the hygiene part and secondly since the bags are kept one above the other, the first to go in is not the first to come out. There is a need to build "Grain Silos" which can overcome these problems. It's not a new concept that we are talking about in India. Some villages in Eastern India are using it for long to store foods. In 19th century or even earlier, these silos were used to stock food grains during famine.

The Silos is a vertical structure of steel in which the grain can be poured from the top and then taken out from lower end. It's a lifted structure above ground level that takes care of problems due to rain-water clogging. To date, silos for wheat flour meant for human consumption have been built out of paint-coated carbon steel. It's a good solution for storage but not very hygienic and environmental friendly. Paints add to the atmospheric solution in many ways and then there is a repetitive maintenance required which adds to the cost. Today, when we are building the world-class infrastructure, the considerations must be long life, low maintenance cost and good aesthetics. The solution is "**Stainless Steel – The GREEN METAL**".

Outokumpu has an experience in this field and have supplied Stainless Steel for Flour Silos in Spain and other locations. Referring to a case study, when a silo fabricator Metal Alimentaria, S.L. of Barcelona began to design a new wheat flour silo in early 2005 to be built in Ávila, Spain, Outokumpu informed the advantage of using Stainless Steel for the product. After some rounds of discussions, the manufacturer of silos was convinced on advantages of using stainless steel for the application. They got convinced that using stainless not only would guarantee un-compromised sanitary standards – a must in the foodstuffs industry, it is practically maintenance free and avoids the electrical insulation that coating produces – a problem in flour silos where electrostatic induction should be avoided. Metal Alimentaria decided to implement a pioneering concept, using stainless steel for the silo walls. To save upon the cost and as well using a superior grade of Stainless, Duplex LDX 2101 was selected for the application.

LDX 2101 (EN 1.4162) is a lean duplex in stainless steel family having mechanical strength almost double than austenitic grade SS304L and corrosion resistance properties much better than SS304L. The higher strength gives an advantage in thickness reduction, thus reducing the overall consumption of material with same strength and saving the money. In most applications, the material saving could be 30 to 40%. There are additional savings in welding cost due to less material being used and of course, the duplex grades can be used in combination with austenitic grades.

Here are a few cases where Outokumpu has helped the Silos manufacturers to select the right material for the product.

Case 1

Location	:	Avila, Spain
Fabricator	:	Metal Alimentaria, S.L., Barcelona, Spain
Completion	:	2007
Materials	:	LDX 2101 (EN 1.4162) and SS304 EN 1.4301
Tonnage	:	260 t

Case 2

Location	:	Barcelona, Spain
Fabricator	:	Desarrollo Agroindustrial del Silo, S.L., Barcelona, Spain
Completion	:	2007/2008
Materials	:	LDX 2101 (EN 1.4162)
Tonnage	:	500t

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MODERN TIMES AND NISHKAMA KARMA (DESIRELESS ACTION)

By **Shri P. R. Chandna**
E C Member IIM,DC

The modern era - often said these are testing times; of extreme materialism, wrenching changes, contradictions and despondency all around is wielding psychological and physical pressures and leading us to delusions, continual physical sufferings and mental agonies – there is a need to heed the call of *"Nishkama Karma" – "Be intent on action not on the fruits of action; avoid attraction to the fruits and attachment to inaction."*

kmR{yevaixkarSte ma)ale;u kdacn ,
ma kRm)lhetu_aURmaR te s~gae=STvkmRi[.

– Bhaagvt glta 2. 47

TRANSLATIONS

"You have a right to perform your prescribed duty, but you are not entitled to the fruits of action. Never consider yourself the cause of the results of your activities, and never be attached to not doing your duty."

– Swami Prabhupada

"To action alone hast thou a right and never at all to its fruits; let not the fruits of action be thy motive; neither let there be motive in thee any attachment to inaction."

— S Radhakrishnan

"Thy right is to work only, but never to its fruits; let not the fruit-of-action be thy motive, nor let thy attachment be to inaction."

— Swami Chinmayananda

"Your right is to work only; but never to the fruits thereof. Be not the producer of the fruits of [your] actions; neither let your attachment be towards inaction."

— Swami Swarupananda

"Your right is to work only and never to the fruits thereof. Do not be the cause of fruit of action; nor let your attachment be to inaction."

— Geeta Press

"Be intent on action not on the fruits of action; avoid attraction to the fruits and attachment to inaction."

— Barbara Stoler Miller

The primary 'Hindu' scriptures; *Vedas*; four in numbers — *Rig Veda, Yajur Veda, Sama Veda* and *Atharva Veda* — the treasure trove of *Hindu religion*, tradition and culture containing codes of *Dharma,* has implied acknowledging one's righteous duty and acting resolutely accordingly, were taught by God *Brahma* (*Nabhija* – One born from the Vishnu's navel) Himself thousands of years ago and have been preserved carefully and handed over to us.

These scriptures contain directives to make a man's life happy and urge him to abide by the 'Law of Virtue'. The message therein provides the inner strength making a person adopt a positive attitude. They are absolutely essential for building moral integrity and being eternal, the norms are applicable to all persons even to this day and shall do so time immemorially. The study of them is absolutely indispensable, would cleanse the mind and make it pure, help mould character and aid achieve mental equanimity and humanity's happiness and prosperity will be assured.

The contents in the *Vedas* have been broadly divided into three branches (*Kanda*); namely, path of action (*Karma*), knowledge (*Gnana*) and devotion (*Upasana*), following which one can reach the ultimate goal. The *Karma* prescribed the conducts one should do and explains how by observing them, materialistic tendencies can be wiped out. Their performance will bring prosperity not only for individual but the entire universe. These righteous conducts alone can keep society in a disciplined manner.

The '*Nishkama Karma'* or 'disinterested action' or 'work for work sake/Duty for duty's sake' –the moral insight has been reemphasized in "*Shri Bhagvad Gita*". It counsels about the **"duty to act, but not the right to claim personal fruits from it".** When an act has been performed by an individual for the sake of one's duty rather than for a personal reward from it, the person is likely to do the right thing – act as per his *Dharma*, and thus develop tremendous character.

The *Nishkama Karma* (disinterested action) approach to action can prevent unethical motives on one hand and promote the ethical ones on other. Simultaneously, this process dovetails seamlessly into the *Karmic* theory — egoless, disinterested action will be ethical, a good cause, and hence a productive of wholesome effect. The mix of three '*Gunas'* could influence one's ability for *Nishkama Karma* but preponderance of *Rajas* or *Tamas* hinders rightful actions or

distract one from his/her *Dharma*. The ethical quality of decisions tends to be endangered when the desire driven lower self clamors for its gratification from duty. These insistence clouds one's sense of right and wrong, of balance, of proportions breeds unethicality and inefficiency.

The *Nishkama Karma* embodies a process of alignment of human action with that of *Prakiti* (Nature) performing *Karma* ordained by one's *Swadharma*. *Nishkama Karma*, by restraining self-aggrandizing ego and greed restores the lost kernel of *Dharma*. It trains and guides the exercise of prudence in favour of higher calls beyond one's egocentric self. This ensures one's ascent along the ethical scale, leading to cleansing of heart and holistic development. The *Nishkama Karma* helps realization of self, equanimity of mind – the cornerstones of *Vedantic* ethics. Distinctively, the person empowered thus attains '*Karma Yoga*' and achieve the distinction of being called a '*Karma Yogi*''. Mother Teresa, Mahatma Gandhi, and Martin Luther King, are revered for their selfless services toward mankind and are commonly referred to as '*Karma Yogis*' of modern times.

Across the very rich and diverse religious and philosophical history of India throughout the past thousands of years, *Nishkama Karma* has been interpreted more or less as an immutable way of life. Likewise, there is enough for our present day leaders in all walks of life to learn from these ancient scriptures, which have as much relevance today as it would have been two millennium years ago.

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National / International News

Centre Should Stop Iron Ore Exports: Essar Steel CEO

Essar Steel is literally firing on all cylinders. While it is close to achieving a capacity of 10 million tonnes in Hazira, the six mtpa greenfield palletisation plant at Paradip, Orissa goes on stream by March.

Mr Malay Mukherjee, Chief Executive Officer, has had stints at ArcelorMittal and SAIL's Bhilai Steel Plant in his four-decade long career in the industry. His experience will come in handy as Essar scouts for a joint venture partner to produce high grade automobile steel.

Excerpts from an interview:

Do you think the industry will realize the target of 124 mtpa set for the 11th Plan ending 2012?
It is absolutely impossible to achieve the target. All the capacity additions being made are through brownfield expansions. At present, the industry produces about 64 mtpa and will be able to inch towards the target only if efforts are made to push greenfield projects struck at various levels.

What's your view on iron ore availability?
The Centre should discourage export of iron ore. It is a scarce commodity and should be made available only to the industry that can add value. Nearly half the 200 million tonnes of ore produced are exported. The steel industry has to buy ore in the domestic market at the price NMDC supplies to Japan. By exporting iron ore, we are also losing out an opportunity to create employment in the country. China, for instance, imports iron ore from India and dumps steel here at unrealistic prices.

What then is the solution to get over the iron ore shortage?
Most of the problems will be solved if the Government replicates the NELP (new exploration licensing policy) experience in the iron ore sector. The transparency NELP brings is

commendable. A major portion of investments in the steel industry is held back due to lack of clarity in allocation of iron ore mines. If we do not take corrective measures, we would find it difficult to find employment for 350 million young students due to graduate in the coming years.

When Indian steel companies are among the most cost-competitive, how does China manage to offer lower prices?

Our production costs are lower as we have the best technology and low employment costs. Typically, in the West, the salary of an engineering graduate would be about $5,000 (Rs 2,25,000) a month while it is Rs 20,000 (a month) in India. However, other overheads are higher here. For instance, power costs just six cents overseas while it is nine cents in India.

In China, the government encourages exports and offers special incentives.

Besides, the cost of finance is very high here. While we get funds between 10-12 per cent, it is just one per cent in Japan. The iron ore shipment from India to Japan cost between $15 and $20 (Rs 675-900) depending on the size of the vessel.

Here, it is $13 (Rs 600) for transport of raw material from Bailadilla and Chhattisgarh through the nearest sea port Vishakhapatnam in Andhra Pradesh to Hazira. It costs another Rs 200-400 from the seaport to the factory.

Courtesy: The Hindu-Business Line (8.12.2010)

Curb reckless export of minerals, illegal mining, says House panel

A House panel has drawn attention to the "menace of reckless export of minerals and illegal mining" across the country by urging States to ensure that the national wealth of natural resources does not fall into the hands of "unscrupulous free booters".

In a comprehensive examination of Rashtriya Ispat Nigam Ltd (RINL), tabled in Parliament by the Committee of Public Undertakings (COPU) on Tuesday, the Committee's Chairman, Mr V. Kishore Chandra S. Deo, said that while focusing on RINL-specific issues, the committee has found it "relevant and expedient to dilate upon the broader issue of conservation of natural resources of the country".

Against the bleak reality of depletion of precious resources such as minerals owing to injudicious export and illegal mining, the COPU emphasised upon the need to revisit the National Mineral Policy to effectively address these concerns.

It said the country's mineral wealth should not be frittered away for meagre sums which "are to be paid as royalty to fatten the purses of a few private individuals of our companies".

In a strongly-worded caution to the Government, it said "our country having just taken wings and still in a nascent stage of development, allowing unlimited exports for crass commercial interest certainly would not be a prudent policy which the Government, as a trustee to the national wealth, needs to comprehensively review".

In line with the apex court's ruling in RIL versus RNRL case treating mineral reserves as national resources, the Committee felt that the Government should take steps to declare all mineral resources, including iron-ore and coal, as national wealth.

Securing raw material

Stating that the primary challenge facing RINL today was securing of raw materials such as iron ore and coking coal, the primary inputs in the production of steel, it noted that RINL is the only integrated steel plant among public sector undertakings (PSUs) not having captive iron ore and coal mines.

Hence a via media must be found to ensure expeditious processing of application for mining blocks sought by PSUs from the States where these raw material inputs are located. It also urged the Centre to ensure a standardised procedure for processing mining lease applications in all States to make the process more transparent.

Noting that the company's applications have been set aside by the States on grounds such as it is not contributing to any value addition in the States with mining blocks, it urged the company to make serious efforts at fulfilling the criterion laid down by States. It also urged the States to give due weightage to macro value additions to be achieved through preferential allocations of resources to PSUs, "which is for the nation as a whole a compared with value additions to be had locally".

The Committee also suggested that RINL should draw up a plan to go into pelletisation in enhanced capacities to supplement its supply of iron and urged the Government to provide "incentives for pelletisation plants to prevent the dumping of precious natural resources in the export market at throwaway prices and enhance the supply chain of raw materials for steel producers in the country.

In this regard, the COPU cited the deposition by the Ministry of Mines before it when it said: "In a situation where the percentage of iron ore fines vis-à-vis iron ore lumps produced in Indian iron ore is increasing, Indian companies whether in the public or private sector must also explore ways of converting the available surplus of fines into an opportunity by acquiring pelletisation processes or technology directly to use fines for steel making.

These companies must also invest in exploration rather than compete for what is generally termed the 'low hanging fruit' of resources already explored at public expense by the Geological Survey of India (GSI)".

The COPU also urged RINL to spend on research and development and develop a strong unit to serve the country's needs over and above meeting the needs of the company.

Courtesy: The Hindu-Business Line (8.12.2010)

SAIL ties up with Swiss firm to develop high strength steel

For the development of high strength steel, the Steel Authority of India Ltd (SAIL) said it has tied up with the Geneva-based CBMM (Companhia Brasileira de Metalurgia e Mineracao of Brazil) Technology Suisse SA.

The agreement, which is for a period of two years, was signed between Mr A.S. Mathur, Executive Director of SAIL's Research & Development Centre for Iron & Steel (RDCIS) and Mr Marcos Stuart, Director (Technology), CBMM Technology Suisse SA.

API X-80 grade steel

The public sector steelmaker aims to increase its share of special steel products by developing API X-80 grade steel at its plants in Bhilai and Bokaro. The high strength steel is used in line pipe applications for transportation of oil and natural gas. According to the company, API grades of line pipe steel has a huge market in India, with annual demand being estimated to be 1 million tonnes (MT) in the coming years.

"The agreement is a step towards enhancing SAIL's market share in the special steels segment. RDCIS has been working towards this goal in consonance with the five integrated steel plants of SAIL. Earlier, RDCIS had initiated and successfully completed collaborative programmes with CBMM for development of API X-60 & 70 grade steel plates and HR coils at Bhilai and Bokaro Steel Plants," said the company.

Global demand

The international demand for API grades of steel is projected at 8 million tonne per annum, generating a large untapped market for Indian steel producers. Production of API X-80 from SAIL plants is expected to commence within one year. With CBMM as its ally in this project, SAIL will be able to substantially reduce the development time of its new product.

CBMM is a major producer of niobium in the world and supports research collaborations with leading R&D organisations and institutes to promote usage of niobium for the development of new products.

Courtesy: Business Line (12.11.2010)

World crude steel production on the rebound in 2010

World crude steel production for the 66 countries reporting to the World Steel Association (worldsteel) was 112 million tonnes in September, which was 0.9 per cent higher on an annual basis.

China's crude steel production during the month was 47.9 million tonnes (-5.9 per cent). Japan produced 9.2 million tonnes of crude steel (+11.7 per cent) and South Korea 4.7 million tonnes (+3.2 per cent). India produced 5.64 million tonnes (+6.4 per cent), Brazil 2.7 million tonnes (- 1.2 per cent), and Russia 5.6 million tonnes (+3.3 per cent).

In the EU, Germany manufactured 3.3 million tonnes (+4.1 per cent) and Italy 2.3 million tonnes (+19.8 per cent). USA produced 6.6 million tonnes of crude steel (+15 per cent).

The crude steel capacity utilisation ratio of the 66 countries, which slid from 82.3 per cent in April to 73.3 per cent in August, staged a mild recovery to 74.4 per cent in September 2010. The utilisation ratio was also 3.8 percentage points lower compared to September last year.

Total world crude steel production during the first nine months of calendar year 2010 was estimated at around 1,046 million tonnes, a 19.4 per cent increase over the first nine months of 2009. The latter, however, showed a 15.6 per cent decline compared with production in the corresponding period of 2008.

The EU countries, which suffered a sharp setback during January- September last year with 39 per cent decline in production, rebounded with a 33 per cent shoot-up in the first nine months of 2010.

World Crude Steel Production during January-September

	2010		2009	
	Million tonnes	% Increase	Million tonnes	% Increase
European Union	129.99	32.8	97.87	-38.9
C.I.S.	79.12	11.7	70.84	-25.7
North America	84.34	46.3	57.67	-44.3
South America	32.62	21.4	26.86	-28.8
Asia	663.24	15.5	574.18	-1.7
Total (including other regions)	1,045.94	19.4	876.29	-15.6

Likewise, USA also recorded 50 per cent rise in production that came after a 46 per cent decline during January-September 2009.

The CIS countries reported 12 per cent increase in production, which was only a partial recovery compared to the 26 per cent drop in production during January- September 2009.

Crude steel production in Japan shot up 34.5 per cent, which has to be apprised against a similar rot a year ago.

However, crude steel production in China was up by 12.7 per cent, speeding from 7.6 per cent in the first nine months of 2009, while that in India showed a 7.8 per cent increase, against 6.5 per cent a year ago.

According to October short range outlook released by World steel, apparent steel use was to increase by 13.1 per cent to 1,272 million tonnes in 2010 after contracting by 6.6 per cent in 2009. This represents an improvement of 35 million tonnes over the April SRO for 2010, exceeding the pre-crisis peak of 1,222 million tonnes in 2007.

Mr Arup Roy Choudhury CMD NTPC gets SCOPE Excellence award

Dr Manmohan Singh prime minister presented the SCOPE Excellence Award Gold Trophy in individual category to Mr Arup Roy Choudhury CMD of NTPC Limited at the SCOPE Excellence Award function held in New Delhi. He has been awarded for his outstanding contribution to the public sector.

Mr Roy Choudhury is a dynamic leader with proven abilities to achieve transformational changes in the sector. He seeks to position NTPC a Maharatna enterprise on course to become the largest and best power producer in the world. NTPC is the largest power generating company in India with an installed capacity of over 32694 MW operating 28 power stations across the country.

Illustrious career of Mr Arup Roy Choudhury spans over 32 years of outstanding contribution in the fields of engineering, general management, strategic management and business leadership. He is a graduate in civil engineering from Birla Institute of Technology Mesra and a post graduate in Management and Systems from IIT Delhi. A keen learner of the latest professional developments, he is currently pursuing a doctorate in 'Select Study of Project Performance Metrics in Indian Construction Industry' from IIT Delhi.

Source: Steel Guru

SAIL chairman Mr CS Verma receives prestigious Icon of the Year award

Mr CS Verma chairman of Steel Authority of India Limited received the prestigious 'Icon of the Year' award of the Institute of Cost and Works Accountants of India. Mr R Bandyopadhyay secretary ministry of corporate affairs presented the award on the inaugural day of the 52nd National Convention of ICWAI. The award honors professionals who have been a role model for the profession by achieving tremendous success in the business enterprises that they have been involved with in the capacity of chairman and managing director.

Source: Steel Guru

8th International Exhibition & Conference on
"INDIAN METALS INDUSTRY – SHAPING THE NEXT DECADE"

For Conference contact: iim.delhi@gmail.com
For Exhibition contact:shailendra.kumar@ite-india.com; pallavi.roy@ite-india.com

Fri 11th – Mon 14th Februry, 2011
Pragati Maidan, New Delhi, India

India of today is one of the fastest growing economies in the world, with consistent and impressive GDP growths for the last few years and the predictions by renowned policy planners & economists is that India may surpass the growth rate of China soon. Thus the 'Asian Drama' has well begun.

With massive investments in infrastructure, construction, power, telecom, automobiles, manufacturing, nuclear energy etc., the demand for steel, non ferrous metals, nuclear materials and emerging nano materials etc., is likely to see quantum jump growths in the coming years. And the forthcoming Conference will deliberate on the current and future demand, supply, production capacities, foreign trade, raw material constraints, Infrastructural bottlenecks, R&D, Sustainable Development, new materials and technologies etc., in the areas of metals, minerals and materials engineering. Conference will come out with appropriate actions plans and strategies to make India a global economic power house. The Conference will witness very thought-provoking and informative presentations by global and Indian experts, CEOs, policy planners and top notch scientists. The Panel Discussion Session is expected to come out with a set of concrete, blue print and action plan, so that India truly shapes the next decade and shows the way forward in metals and materials disciplines.

ABOUT THE CONFERENCE

The high level International Conference will be organized by The Indian Institute of Metals, Delhi Chapter. Eminent speakers from India and overseas will present technical papers. The conference will provide an excellent opportunity to interact with leading luminaries of the industry, academia, research bodies including "who's who" from the host country, India.

CONFERENCE THEME

The conference "Indian Metals Industry – Shaping the Next Decade" will have the following technical sessions:

- Inaugural Session
- Raw Materials Security for Metal Industry
- Current and Futuristic Metal Technologies
- Value added Products for Strategic Applications
- Material Science Technologies including Nano-Structures
- Environmental Challenges and Nuclear Fuels
- Infrastructural Challenges
- Valedictory Session

REGISTRATION FEES

The applicable registration fees for participants are:

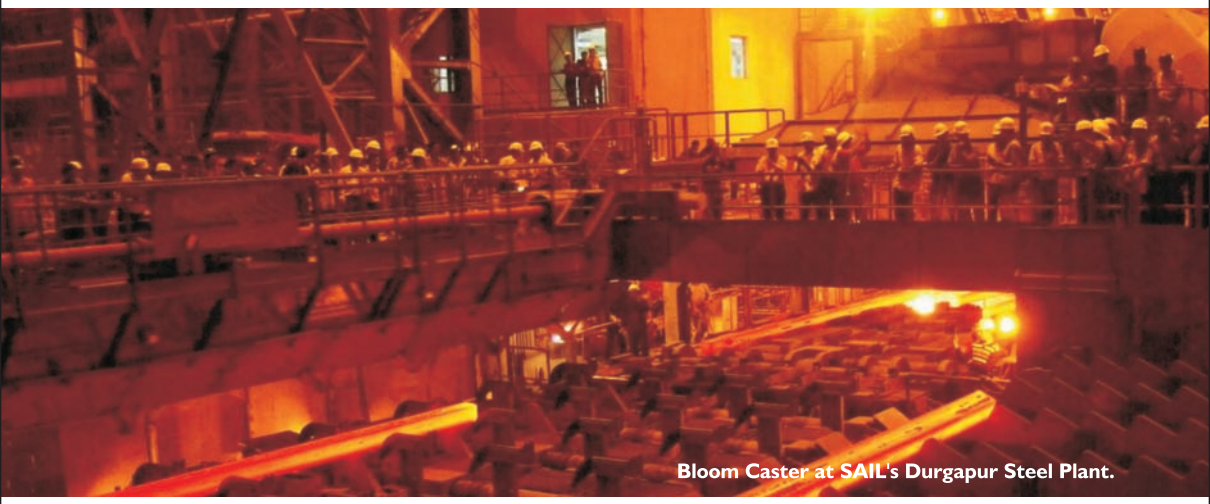
Registration Fees	Per Delegate*
IIM Members	Rs. 2,500
Non Members, IIM	Rs. 5,000
Retired IIM Members/Academia	Rs. 2,500
Student Members/Spouses	Rs. 1,000
Overseas delegates	USD 150

* Plus Service Tax @ 10.30% as per Govt. Rules

Cheque/demand draft may be drawn in favour of **"The Indian Institute of Metals-Delhi Chapter"**, payable at New Delhi.

SAIL - A Maharatna Company

सेल SAIL



Bloom Caster at SAIL's Durgapur Steel Plant.

Steel Authority of India Ltd. (SAIL), owns and operates five integrated steel plants at Bhilai, Durgapur, Bokaro, Rourkela and Burnpur and three special steel plants at Salem, Durgapur and Bhadravati. SAIL also produces iron-ore. It has its own captive mines that fulfil its iron ore requirements. A subsidiary at Chandrapur produces ferro alloys. SAIL has recently been awarded the prestigious status of a *Maharatna* by the Government of India.

- All its production units are ISO 9001:2000 certified.
- Current annual production of crude steel is around 14 Million Tonnes (MT). Produced over 350 million tonnes of crude steel since its inception.
- SAIL's product basket comprises Flat products, Long products and Pipes, including branded products such as SAIL TMT, SAIL JYOTI GP/GC Sheets.
- Supplier to strategic sectors like defense, atomic energy, power, infrastructure, heavy machinery, oil & gas, railways, etc.
- Supplier of rails to the Indian Railways.
- Major production units are ISO:14001 certified.

SAIL STEEL - Catering to Diverse Segments

Bandra-Worli Sea link

Windmills

Chandrayaan

Railways

Hydro Power

Construction

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Naval Warship

Power

Infrastructure

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CLIMATE ACTION Member worldsteel ASSOCIATION

Steel Authority of India Limited (the "Company") is proposing, subject to market conditions and other considerations, to make a further public offering of its equity shares in the near future and is in the process of filing a red herring prospectus with the Securities and Exchange Board of India and the Registrar of Companies, National Capital Territory of Delhi and Haryana, India. This material is not an offer of securities for sale in the United States or elsewhere. This advertisement is not to be released in the United States, Australia, Canada or Japan. The shares of the Company are not being registered under the Securities Act of 1933, as amended (the "U.S. Securities Act") and may not be offered or sold in the United States unless registered under the U.S. Securities Act or pursuant to an exemption from such registration. There will be no public offering of the shares of the Company in the United States.