

## Health and Safety in Indian iron and steel industry

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*Health and safety is the achilles' heel of the Indian steel sector. The fatality rate of this sector is one of the highest in the world.*

Employee health and safety is one of the top risks impacting the metal industries in India, particularly the iron and steel industry which is largest ferrous metal sector and key to Indian economy. Historically, steelmaking was a dangerous process and accidents were inevitable. But that world changed long back. Today many steel industries across the world have achieved no lost time injuries and zero fatality marks. However, Indian iron and steel industry is still a death-trap. Poor health and safety conditions at work places also reflect overall poor performance of the sector. The outdated equipments, below standard operation & maintenance and compromised pollution control measures ultimately risk health & safety of lives. It is only with the increasing number of people killed and injured at work that the significance of the problem has been realised. *Perhaps we forget the 'Directive Principles of State Policy' as enshrined in the Indian constitution which lays down that the government is expected to regulate all economic activities within the country, with a view to ensuring that every working employee is provided with safe and healthy working conditions.*

Ensuring safety and health of all workers is a fundamental duty for any company management and owner, so a proper management system for handling health and safety issues is of paramount importance. After all, excellence in health and safety also produces superior business performance. The most successful steel companies are also the safest.

*As per a 2004 safety investigation report of Steel Authority of India Limited (SAIL)- "About 23% of fatal accidents were traffic accidents, around 22 % due to fall from height, 26% caused by being caught/crushed/pressed/hit by machinery, while 16 per cent due to burns/fires. The remaining was mainly due to suffocation, electrocution and gas poisoning. Analysis of the accidents also indicated that the 15% of fatal accidents had taken place in coke oven areas, 12% in blast furnaces, 22 % in the steel melting shop and 14% in mills area".*

### **Health and safety is the achilles' heel of the Indian steel sector**

Steel manufacturing is complex, so the hazards are also many and diverse. Workers are exposed to excessive heat, high pressure, radiation, height, heavy equipments and toxic pollutants which make them vulnerable to accidents and occupational health issues. Fatalities, severe accidents, musculoskeletal injuries, respiratory diseases, allergies, hearing loss are majorly reported risks in the sector.

*At least 50 workers dies every year in just 13 large scale steel plants producing around 50 per cent of total steel production in India. The coal based sponge iron plants and government owned steel manufacturing units are the worst among them. Notably, these numbers are only those formally registered. Non-reported fatalities and deaths especially of contract or daily wage workers are unaccountable.- Green Rating Project, Centre for Science and Environment, New Delhi, 2012)*

Contractual workers which account for nearly half of the manpower employed in Indian steel sector are more susceptible to accidents and occupational diseases as they are unskilled, not so educated, and unaware of hazards. Insecurity of job compels them to work often in hazardous working areas such as raw material handling, coke oven and coke oven gas recovery areas, hot slag handling, waste handling etc. In spite of that, the proper personal protection equipments, trainings, medical facilities and welfare facilities are not ensured to them. In case of any mishap, plant management and owner wash their hands and leave the liability to the contractor.

On an average, 1500 fatal injuries are reported (grossly underestimated) every year across 2.7 lakh working factories in India (Directorate General of Factory Advice Service & Labour Institutes, DGFASLI, 2009), out of which 50 fatalities have been noted just in 13 large iron and steel manufacturers in India (Green Rating Project, 2012). Let's imagine if the large scale industries which do possess some infrastructure for health and safety at work place are having such poor performances what would be the status of medium and small ones. Including two dozens of large scale integrated steel industries, nearly 3,700 iron and steel

manufacturers are operating in India. Around 70 per cent of the total steel production is contributed by large scale industries and remaining by medium and small scale ones. The medium and small units are highly unsafe working conditions due to lack of infrastructure, closer scrutiny, monitoring and control. Therefore, mishaps are inevitable and often go unreported.

Healthy and safe manpower is the asset for industry; regrettably, the most neglected asset in Indian steel sector. Numerous cases of accidents, fatalities and prevalent occupational health diseases are evident. ***It has been more than a century since India marked commercial beginning of steel production; still we are insensitive and incapable to control occupational health and safety concerns.*** So where is the problem? Is this the nature of operations or lax policies, or poor implementation, or illiteracy or the cheap labour which make health and safety an issue in the sector? All of these may have roles but the fundamental problem is the unfitting mentality of the industry management and owner who recognize health & safety system as a hurdle in profit making business. So, when stress is laid on quick profits, safety and health aspects are generally ignored.

#### **Sloppy policies and pitiable infrastructure**

The laissez-faire policy and its implementation have made the situation even worse. Surprisingly no government agency or department deals exclusively with health and safety matters in India. DGFASLI, a technical arm of Union Ministry of Labour & Employment, assists the ministry in the various aspects of occupational health & safety in industries and ports. It assists in policy formulation, research, consultancy, trainings and safety audits under the Factories Act, 1948. The ministry and labour departments of states and union territories are responsible for the safety & health of the workers. But the inadequate capacity and infrastructure availability for policy implementation are big problems. Whether it is manpower shortage or lack of funds & facilities for training, researches and audits, all lead to inadequate implementation of the laws making the policy formulation meaningless.

*“Indian legislations fail to reflect the importance of attitudes, efficiency of the organizational system and the capacities or performance of working people. The present state of Indian industry does not provide any incentive to the employers/ entrepreneurs to invest in safety measures”.*  
- A report from Department of Science and Technology, Government of India.

To ensure the health and safety at work places, the National Policy on Safety, Health and Environment was passed in the year 2009. The policy provides general guidelines to provide safety culture and environment at work places, preparedness of statutory framework, administrative & technical support, incentive systems, prevention strategies,

monitoring and environment, health and safety related inclusions in other related policies. However the national policy was passed 3 years back, it is yet to be implemented on the ground because of missing occupational health & safety regulations and strategy for implementation.

*The national fugitive emission limit in sinter making area in steel plant is 2,000 microgram per cubic meter whereas, under Factories Act, 1948 general norm for fugitive emission at work place is five folds at 10,000 microgram per cubic meter. Due to the ambiguity, steel plant keeps no concern for high fugitive dust emission in work-zone area which has serious health impact on workers deployed.*

The Factories Act which covers occupational health and safety in organized sectors including metal industries is now 65 years old. At many instances it lacks relevance to the present industrial scenario. Therefore, it needs amendments to make stringent in the present scenario.

In industries, health and safety infrastructure is wretched. Generally, environment, health and safety (EHS) department also looks after health and safety system in the plant. ***This department has negligible power and decision making capacity vested in it. It reports to production department of the plant and is quite low in management hierarchy.*** Therefore, it remains just for regulatory compliance of the plant. In-fact, as health and safety are quite different aspects, it should be dealt by specialized department and officials. Independent department, proper training and awareness of employee and high stature of the head of the department which have important implications for the work performance are missing.

#### **Poor disclosure and dubious awards**

The trashy health and safety practices in Indian steel sector are accentuated by poor monitoring and disclosure specifically in coal based DRI plants and most medium and small scale units. Needless to say, majority of the accidents and fatalities here goes unreported.

For the sector, the safety awareness, statistics and coordination is done under a Joint Committee on Safety, Health and Environment in the Steel Industry (JCSSI). This is an industry-owned association therefore hardly has any credibility for independent or strict monitoring. Steel industry associations give numerous safety awards to their members companies, including some of the plants having an appalling safety record. For example SAIL Rourkela had a major blast furnace gas leak incident in January 2010, yet the plant was awarded with Ispat Puraskar in the same year. Even the government-owned safety body DGFASLI is found to give dubious awards. For instance, JSPL Raigarh was awarded the national safety award for 2008, even when the company reported 6 fatalities in the same year. The poor state of affairs and lack of public pressure on the sector can be gauged by the fact that despite of all the claims from

JCSSI and DGFASLI, there were nearly 150 deaths in 17 large steel industries in India during the three years period from 2008 to 2010 (Green Rating Project, CSE, 2012).

### Mockery of Certifications and Commitments

It has become marketing gimmick among industries to adopt policies and achieve certifications to display their commitments for health and safety of the workers. But the implementation remains pathetic. It's shocking to realise that 70-80 per cent of the large scale steel plants where fatalities are so high, had Environment health and safety policies in place. Nearly equal numbers of the plants had been certified for ISO-14001 (Environment management System certification) and OSHAS-18001 (Occupational Health and Safety Advisory Services) certification. Some of the plants also had SA-8000 certification which is a social accountability standard for assurance of decent working conditions and managing human rights at workplace. Without clear organisational vision, policies, objectives and action plans, achieving desired tasks are difficult. This philosophy is as much applicable to production, quality and environmental performance as it is to occupational health and safety.

### Both the government and industry need to muscle-up for improvement in health and safety at work place.

*"Today, many steel companies across the world recognise that accidents, fatalities and occupational diseases are no longer appropriate for a modern steel industry. Several steel producers have pursued this challenge and are now demonstrating that it is achievable- Worldsteel".*

### The government has to strengthen the health and safety regulation, monitoring and policy implementation.

Capacity building for enforcement officials is foremost priority. It also needs an independent regulatory body comprising representatives from different stakeholder groups to supervise, enhance disclosure and improve the overall health and safety performance in the industries. As contractual manpower is the soft corner for health and safety mishaps, stringent regulations need to be formulated and enforced. To make the National Policy on Safety, Health and Environment really effective, the government has to formulate legislations, develop strategies to ensure its implementation and up-grade older norms. Involvement of independent research & training institutions and NGOs working in this field may assist the government in developing effective legislation, implementation strategies and capacity building for enforcement official and industries through research and trainings.

**Safety and health requires a permanent full commitment from everyone. It is not just the legal requirement; it is also a moral imperative.** The industry has to strengthen its health and safety system by empowering more independency to the acting department,

investing more on capacity building, enforcing policies and commitments on the ground. Adoption of more in-house health and safety audits, enhanced monitoring of compliance to safety procedures by all workers and better infrastructure for medical facilities can improve the health and safety status in the industry. Nothing is more important than the safety and health of the people at work. It requires a strong commitment from senior managements who should integrate safety and health in all business-management processes to make it the top priority and must not be compromised for any other objective.

No doubt, the maintenance of high health and safety standards requires adequate financial resources, but accidents and damage to equipment also cost money. **It is easy to calculate the costs incurred on health and safety but is not so easy to calculate the costs of an accident to the victims and their families, especially those that cannot readily be quantified in monetary terms.** Management should have human resource considerations and regard people as an important asset to the business that must be protected against harm. A sound health and safety management should be the foundation for managing the business. It is only possible when management starts believing that excellence in health and safety supports excellent business results as well. It requires knowledge and wisdom of management and employees that not only strives to eliminate accidents and control the risks, but also is responsive to the needs of a business.

## UPCOMING EVENTS

### Oilfield Minerals Outlook 2014 Middle East

27 Jan 14 - 29 Jan 14

Dusit Thani Abu Dhabi, Abu Dhabi, United Arab Emirates

### 19th Mexican Steel Forum

28 Jan 14 - 29 Jan 14

Westin Resort and Spa, Cancun, Mexico

### 11th Steel Success Strategies Turkey

18 Feb 14 - 20 Feb 14

Renaissance Istanbul Bosphorus Hotel, Istanbul, Turkey

### China Iron Ore 2014

24 Feb 14 - 26 Feb 14

Grand Millennium Hotel, Beijing, China

### 20th Bauxite & Alumina Conference

24 Feb 14 - 26 Feb 14

Conrad Hotel, Miami, USA

### AMM's 7th Steel Tube + Pipe Conference

03 Mar 14 - 04 Mar 14

JW Marriott, Houston, TX, USA

### 27th Int'l Copper Conference

10 Mar 14 - 12 Mar 14

Mariott Hotel, Milan, Italy

### Aluminium Alloys and their Applications

24 Mar 14 - 25 Mar 14

Sheraton Arabella Park, Munich, Germany