

# **STRATEGIC ROAD MAP OF METALLURGICAL ENGINEERING DIVISION COUNCIL, MTDC**

## **1. EXECUTIVE SUMMARY**

**1.1** Bureau of Indian Standards (BIS) Act of 2016 has positioned BIS as the National Standards Body (NSB) of India. BIS is entrusted with leading the task of ‘Standards’ work in India through multiple potential partners available in the quality space.

**1.2** Metal industry is a key sector in the Indian economy, as it meets the requirements of a wide range of key industries. The metal industry comprises of two major segments: ferrous metals and non-ferrous metals. Ferrous metals, primarily consist of different varieties of steel products. India is the Second largest producer of steel in the world contributing around 6 % to the world steel production. The National Steel Policy (NSP-2017) of Ministry of Steel, Government of India, envisages to achieve **300 Mt** steel capacity by 2030-31 and India could achieve only 144Mt production by 2020-21 leaving less than a decade to double the production. Standardization in the field of steels and associated segment such as testing, jointing and coating should augur well to identify the needs of Industry and consumers and address the gaps in the field of standards to augment the efforts of the industry to become more productive and competitive.

**1.3** Non-ferrous metals, which consists of Aluminium, Copper, Zinc, Lead, Nickel, Tin, etc., are used to produce products of castings, forgings, extrusions, wires, cables and pipes. Securities and Exchange Board of India, SEBI, regulatory body of commodity exchanges envisages that the trade involving non-ferrous metals should ensure compliance with Indian Standards. To facilitate the same, it is indispensable to update or formulate Indian Standards at par with International grades or other customary grades.

**1.4** Also, the standards should facilitate optimal utilization of recycled metal as it being one of the chief source as input material for both ferrous and non-ferrous metals, given the dwindling availability of natural resources.

## **2. INTRODUCTION**

**2.1** The Strategic Road Map of the Council has been developed as a document which would reflect the vision of national standardization in the field of Metals and Materials and provide a broad standardization roadmap with a five-year perspective.

**2.2** The aim is to align the standardization work with expressed National steel policy 2017 and set trends to allow sectional committees to prioritize among different projects and to identify the benefits expected from the availability of Indian Standards, and to ensure adequate resources for their development. It also envisaged to formulate standards on auxiliary subjects relating to coating, jointing, NDT and mechanical testing.

**2.3** Also, with recent thrust of Government to make India self-reliant under “Aatma Nirbhar

Bharat Abhiyan” programme, Indian Industry is playing a critical role in developing and producing products required for defence services within the country for the dual purpose of achieving self-reliance and reducing the burden of imports. To augment the thrust, it is evident that there is need for production of various metal products for strategic applications in India,

for instance abrasion resistant steel. As a result, it is speculated that standards would help inco-development and co-production in tandem with specifications of foreign companies to percolate the technical requirements to downstream units in manufacturing the equipment/goods.

**2.4** Further, the standards developed for various Ferrous and Non-ferrous metal products should facilitate optimal utilization of scrap of end products under the Recycling policy of Government of India and may also be used as guideline to regulate imports of metal scraps thereby avoiding preventable risks involved in handling of scrap.

**2.5** The Sectional Committees MTD 4, MTD 16 and MTD 19 is entrusted with formulating standards on steel in various forms including alloy and specialty steels. MTD 3, MTD 11, MTD21, MTD 22 , MTD 24 and MTD 34 is catering the needs of facilitating auxiliary standards ranging from mechanical testing jointing, coatings, NDT, characterization and testing.

**2.6** MTD-9, the Committee on non-ferrous metals other than Aluminium, copper and precious metals laid emphasis on covering grades traded across commodity exchange platform. The Committees MTD-7 and MTD 8 dealing with Aluminium and copper, laid emphasis on drafting standards as code of practice for handling scraps of these metals as these metals are used extensively for the production of electrical products. The committee MTD 10 are overseeing standards on precious metals and is aimed at facilitating seamless implementation of mandatory hallmarking through BIS schemes.

**2.7** Further, it is envisaged that Standards of MTD could be the basis for regional trade among SAARC countries. Giving due weightage to regional trade, MTD is in the process of adopting/ formulating SAARC standards on steel and steel products on the basis of Priority Trade Products in SAARC Countries, a region which is home to about one and a half billion people or 23% of the world population.

### **3. BUSINESS ENVIRONMENT OF THE DIVISION COUNCIL**

The following political, economic, technical, regulatory, legal and social dynamics describe the business environment of the industry sector, products, materials, disciplines or practices related to the scope of MTDC, and they may influence how the relevant standards development processes are conducted and the content of the resulting standards:

#### **3.1 National Steel Policy of India**

**3.1.1** The new steel Policy 2017 formulated by the Government of India is aimed at developing in the country a competitive steel sector which is modern, sustainable and inclusive.

#### **3.2 PLI Scheme**

**3.2.1** The Union cabinet introduced production-linked incentive (PLI) scheme for specialty steel with an aim to enhance domestic production from 18Mt to 44Mt.

**3.2.2** As per World steel Association, the crude steel production in the world in 2020 was 1878

Mt with China alone producing over 56% of the global production. India, though second in

steel Production, remains way behind China, with a share of only 5.3%. The reasons for our lack of cost competitiveness in higher grades of steel was addressed by incentivize the domestic steel industry to move up the value chain by focusing on increasing production of ‘Specialty Steel’. As a result, with increase in production of specialty steels, it is desired to update the standards on steel at par with the standards on components used in various sectors.

### **3.3 Regional Trade among SAARC Countries**

The Member States of SAARC have had strong economic, trade and cultural ties; but its share in world gross domestic product remains at barely 2.3%. Within the region, the persistence of trade barriers has led to low levels of intra-regional trade. Existence of high levels of non-tariff barriers and overall protection bears a critical factor in liberalizing trade in SAARC with standards forming the basis for such regulatory framework.

### **3.4 Quantitative Indicators of the Business Environment**

Continual examination of quarterly report of imports in SIMS portal of Ministry of Steel against mentioning of Indian Standards for corresponding HS codes could be an Indicator of business environment for steels. Similarly, applicability of Indian Standards on grades traded on commodity exchange platforms would be indicators of business environment for non-ferrous metals. Exports, imports, trade statistics and trade volume of Member States of SAARC could be an indicator on progress achieved through SARSO Standards adopted/published.

## **4. BENEFITS EXPECTED FROM THE WORK OF DIVISION COUNCIL**

**4.1** Standards developed by MTDC are primarily specifications and test methods which provide the means to enable objective assessment of process and product. The standards assist the liberalization of trade in Metal commodities.

**4.2** Standards impose exacting demands on industry in terms of quality, environmental management, energy saving, fire safety, consumer protection, metrology, the accurate calibration of measuring equipment and the performance of the newly developed products. The results from the testing used those standards give the requisite information to the consumers as well. The diversity of the published standards includes these demands and all the indications are relevant to the continued prosperity of the market.

**4.3** Non-ferrous metals, due to their inherent characteristics like excellent thermal and electrical conductivity, high recyclability, high strength-to-weight ratios, form the backbone of a growing economy like that of India. However, there are many critical challenges which are affecting robust growth of the sector in India, especially the underdeveloped scrap recycling sector. The Standards to be developed in the filed should aim at augmenting the policy framework to address the challenge of underdeveloped scrap recycling in the non-ferrous metal sector in general and Aluminium and Copper in particular.

## **5. STAKEHOLDER REPRESENTATION**

### **5.1 Strengthening of the Technical Committees**

**5.1.1** Standards formulation activity requires extensive stakeholder consultations involving policy makers, academia, industry, industry associations, Research and Development institutes, government bodies, etc. to develop standards and for giving due consideration to government policies and priorities of national socio-economic requirements. Accordingly, efforts to be made so that Sectional Committees would adequately be represented by all important stakeholders in a balanced way. They include manufacturers, consumers, organized buyers, scientific and technical organizations, academic and research institutions, government and regulatory bodies etc. In some cases, eminent scientific persons with established credentials would also be given representation in personal capacities. The composition of each sectional committee is to be reviewed every year by the Division Council based on their participation in the work of the committee.

**5.1.2** In order to encourage participation in the committee meetings, it is ensured that meetings are organized in hybrid mode and in every quarter to ensure maximum participation and to get maximum output from the members of the technical committees.

### **5.2 Capacity Building of the Technical Committee members**

**5.2.1** Undertaking capacity building of experts in standardization work and organizing regular training programmes for technical committee members on standardization processes (national & international).

### **5.3 Standardization Cells**

**5.3.1** For ensuring availability of timely inputs on standardization including identification of new subjects for standardization, identification of relevant experts, enhancing implementation of standards BIS have facility for creation of Standardization Cells in Ministries/ Departments/ Industry Association through BIS portal. So far more than 10 organizations including Govt Departments such as CSIR, Min of Steel, Min of Commerce, DST pertinent to subject of MTDC had registered with BIS.

## **6. OBJECTIVES OF THE STRATEGIES**

### **6.1 Defined Objectives of Metallurgical Engineering Council, MTDC**

- a) To elaborate standards within the scope of committee.
- b) To develop Indian Standards on products keeping in mind the usage of them by downstream units comprising of manufacturing sector such as defence, automobile, etc.
- c) To make standards more relevant to the needs of the industries as well as of the consumers and concerned parties by ensuring timely delivery.
- d) To continue working in close liaison with various ISO TCs and the other liaison committees to avoid repetition and conflict.

## **6.2 Identified Strategies to achieve the defined objectives of MTDC**

**6.2.1** MTDC to employ the following strategies to achieve the objectives defined.

- a) Establish the priority of work items within Sectional Committees and Panels.
- b) Continuous monitoring of the activities of the Technical Committees by the Division Council and suggesting the committees that requires change in the work programme of the committees to suit to the needs of the industries as well as the consumers and all the concerned stakeholders.
- c) Give priority to the timely circulation of documents and adherence to target dates.
- d) Limit meetings to when necessary and encourage further use of virtual meetings and the electronic distribution of documents.
- e) Continue close liaison with ISO TCs and other liaison committees.

## **7. IMPLEMENTATION OF THE STRATEGIC ROAD MAP**

**7.1** The strategic road map of MTDC shall be implemented in the next five years and the progress to be monitored periodically in terms of measurable parameter identifiable against each item. Keeping in view the above broad objectives, it is necessary to give emphasis on its implementation strategy that will enable to work out plans, programmes, projects etc with clearly defined tasks, resources and time targets for arriving at the desired benefits. The implementation of this Road Map should address the following points to achieve the targeted benefits. This will enable India to establish itself as a major international player.

### **7.2 One Nation One Standard**

There should be one standard for a product or service including its method of test and/or conformity assessment. Standards on Metals in India for use in Railways are developed RDSO. BIS had signed MoU with RDSO. Standards developed by RDSO will be taken up by the Sectional Committees under MTDC for updating Indian Standards by following due process. Good coordination and exchange of information would be ensured for improvising standards to cater the needs of Railways. Also, it helps in synergizing the efforts in developing standards.

### **7.3 Harmonization of Indian Standards with International standards**

**7.3.1** The adoption of international standards is envisaged to stay relevant in the global market place, as a basic necessity of trade. But total harmonization may not be possible, specifically on Product standards given the variation and availability of resources, skills and technology as the requirement under Indian conditions may differ say more stringent requirements for certain parameters.

**7.3.2** Wherever total harmonization is not possible, the aim should be to see that the Indian standard incorporates the requirements of international/regional or other standards without giving rise to any conflict. Suitable steps may be followed for complete harmonization or alignment so that there does not arise any conflict with the requirements of the International/regional/overseas standard.

#### **7.4 System for awareness of standards across the supply chain**

Metals are one of the main input materials used in manufacturing, construction and various industries and as such it vouches for awareness among downstream units and in addition it needs information from them so that changes in technological advancements can be captured standards on metals to ensure their prevalence all through the chain in manufacturing industry. Accordingly, it is desired to establish an effective national alert system and a resource pool of stakeholders would be developed to disseminate the documents in circulation to ensure wide outreach and seeking inputs/ contribution from them. Such steps would also be helpful in curbing technological obsolescence and delay in leveraging the current opportunities.

#### **7.5 New Subjects**

**7.5.1** The Division Council should identify the broad areas of priority in which standardization work need to take place, linking this to the trends in business, technologies, innovations, government policies, environmental and social aspects and the market needs and the need for involvement in international/regional standardization. The potential areas where new subjects are identified are include defence, automobile and energy sector.

#### **7.6 Review of Standards**

**7.6.1** MTD had identified 720 standards, published before 1990 and had taken up the task of reviewing them with help of sectional committees in coming two years starting since Jan 2021. Also, utilizing the opportunity created by BIS top management to engage officers of BIS by allotting action research projects for the review of those standards, so far 100+ standards were allotted to BIS officers of Metallurgy background. It is speculated that 100 more standards to BIS officers as part of action research would be allotted during the Year 2022. So far, working drafts received on 54 standards and those were circulated among sectional committees and the task for reviewing them would be completed with help of panel of experts in due course.

### **8. REVIEW OF PLAN**

The Strategic Road Map of the MTDC shall be approved by the Council. The plan be reviewed from time to time systematically as it helps you dialing our strengths and gaps so that we can leverage on strengths and evaluate the progress to deal with new challenges. It shall also be reviewed in every meeting of MTDC which is normally held once in a year. Any changes proposed shall be discussed in the meeting and approval of the Council shall be obtained before incorporation. All stakeholders shall also recommend appropriate actions required for further progress.