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| **Our ref:**  **MTD-13/A-2.25** | **Dated:**  **11-11-2024** |

**BUREAU OF INDIAN STANDARDS**

**(Metallurgical Engineering Department)**

**Subject**: 25th meeting of Ores and Feed Stock for Iron and Steel Industry Sectional Committee, MTD13.

**To,**

**The Chairperson and Members of MTD 13** **Ores and Feed Stock for Iron and Steel Industry Sectional Committee,**

Dear Sir,

Please find enclosed the minutes of the **Ores and Feed Stock for Iron and Steel Industry Sectional Committee, MTD 13** held on 20th September 2024 via **Hybrid mode** (Virtual + Physical) **(through WebEx for VC).** The minutes have been approved by Shri Rajan Kumar, Chairman, MTD 13.

Last date for comments is 26-11-2024**.**

Comments if any, confined to the accuracy of recording, may please be mailed to the undersigned. If no reply is received by the last date, we shall consider your consent to approve the minutes as recorded.

Thanking you,

Yours faithfully

**(Saaqib Raahi)**

**Scientist ‘C’ /Deputy Director**

**& Member Secretary, MTD-13**

**E-mail:** [**mtd13@bis.gov.in**](mailto:mtd13@bis.gov.in)

**BUREAU OF INDIAN STANDARDS**

**MINUTES OF MEETING**

**25TH MEETING OF ORES AND FEED STOCK FOR IRON AND STEEL INDUSTRY SECTIONAL COMMITTEE, MTD 13**

**MEETING DATE:** 20th September 2024, (Friday)

**VENUE:** Mimaansa (White room), Manak Bhawan, Bureau of Indian Standard, New Delhi, India.

**Chairman:** Shri Rajan Kumar

**Member Secretary:** Shri Saaqib Raahi

**Members Present:**

|  |  |  |  |
| --- | --- | --- | --- |
| **S.No.** | **Organization** | **Member** | **Member type** |
| 1 | National Mineral Development Corporation, Hyderabad | Shri Rajan Kumar | Chairperson |
| 2 | Agni Steel Private Limited, Erode | Shri A. Rajasekaran | Principal Member |
| 3 | Alex Stewart International India Private Limited, Visakhapatnam | Shri Debasish Pal | Principal Member |
| 4 | Arcelor Mittal and Nippon Steel India Limited, Vishakapatnam | Dr. Atanu Ranjan Ojha | Principal Member |
| 5 | Fomento Resources Private Limited, Panaji | Shri Uday Ramdas Naik | Principal Member |
| 6 | Indian Bureau of Mines, Nagpur | Shri Santosh Pani | Alternate Member |
| 7 | Indian Bureau of Mines, Nagpur | Shri L.B. Toal | Principal Member |
| 8 | Indian Ferro Alloy Producers Association, Mumbai | Shri Tanmaya Kumar Pattnaik | Principal Member |
| 9 | JSW Steel Limited, Mumbai | Shri Mrittik Roychowdhury | Principal Member |
| 10 | Mitra SK Private Limited, Kolkata | Dr Arijit Goswami | Alternate Member |
| 11 | National Mineral Development Corporation, Hyderabad | Shri Vibhuti Roshan | Principal Member |
| 12 | Rashtriya Ispat Nigam Limited, Visakhapatnam | Shri M K Sharma | Principal Member |
| 13 | Rashtriya Ispat Nigam Limited, Visakhapatnam | Shri M Venkateswara Rao | Alternate Member |
| 14 | Steel Authority Of India Limited (SAIL), Research & Development Centre for Iron & Steel, Ranchi | Shri S. Acharya | Alternate Member |
| 15 | Steel Authority of India, Centre for Engineering and Technology, Ranchi | Shri Brajesh Kumar | Principal Member |
| 16 | Tata Steel Limited, Jamshedpur | Dr. A. K. Mukherjee | Principal Member |
| 17 | Tata Steel Long Products Limited, Jamshedpur | Shri Gyanaranjan Pothal | Alternate Member |
| 18 | IN PERSONAL CAPACITY | Dr Krishna Kant Prasad | Personal Capacity |
| 19 | FEDERATION OF INDIAN MINERAL INDUSTRIES, NEW DELHI | Shri Abhishek | Representative |

# ITEM 0 GENERAL

1. **Opening Remarks by the Chairperson**

Shri Rajan Kumar, Chairperson, MTD-13 welcomed all the committee members present to the 25th meeting of Ores And Feed Stock For Iron And Steel Industry Sectional Committee, MTD 13. He requested all the committee members to actively participate in all the meetings of the committee. Sir mentioned that the committee should work in a manner that the associated industry get maximum benefits out of it. Sir emphasize to focus more to align Indian standard rather old or new with ISO standards to align our industrial practices with the international practices which will result in the increase of globalization.

**ITEM 1 CONFIRMATION OF MINUTES OF LAST MEETING**

# Since, there were no comments received till the last date of receiving the comments on the minutes of the 24th meeting of Ores and Feed Stock for Iron and Steel Industry Sectional Committee, MTD-13 held on 11th August 2023 via WebEx (VC) circulated vide our letter No. MTD-13/A-2.24 dated 19-09-2023 through BIS portal, hence the committee during its meeting confirmed the minutes of its previous(24th) meeting.

# ITEM 2 SCOPE AND COMPOSITION OF SECTIONAL COMMITTEE, MTD 13

1. The Committee noted the information given in Item **2.1** to **2.3** of the Agenda of the Meeting.
2. The Committee noted the information given in Item **2.4** of the Agenda of the meeting and after deliberation requested all the members to participate actively in the committee meetings to avoid any termination of his/her membership. In case of any emergency, if any member unable to attend the committee meeting, member should inform the same to the chairperson. Further the committee requested the members who had not yet submitted the self - declaration (either principal or alternate member) to submit the same to the member secretary at the earliest in the format enclosed below.



The committee furtherdecided that the organization listed below is not participating in the committee meetings consequently and are also not responding to the multiple active participation request, hence decided to send them termination notice and shall be withdrawn from the committee if not responded to the same within 1 month as per the office order No. PNC09/18/2023-PNC-BIS dated 05-09-2023. Afterward the committee decided to **withdraw the nominations** of Young Professionals/2nd Alternate members of the member organization **having more than two representatives.**

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| **Sl No** | **Organization Name** |
|  | M.N. Dastur & Co. Ltd (Kolkata) Wb |
|  | National Institute Of Secondary Steel Technology(Nisst), Mandi, Gobindgarh,Kolkata |

As per the request received from the Prof SankaraRaman Sankaranarayanan from NIT Trichi, the committee after deliberation agreed to **Co-opt** him into the committee and Panel-3.

1. The Committee noted the information given in Item **2.6.1 to** Item **2.6.2** of the agenda of this meeting with respect to the composition of the previously formulated panels and after deliberation decided to formulate few new panels along with its working group and subsequently modify and disband some of the previously constituted panels the details regarding the scope and the composition of which are as follows:

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| **Scope of Work of Panels/WG’s:**  The scope of the work of the Panel so formulated are as follows:   1. To do comparative analysis of Indian standards visa-vies ISO standards and give recommendations regarding the adoption of ISO standard in the case of not having any Indian standard for the particular subject, harmonizing of our Indian standard with the ISO standard existing on the same subjects and the revision of Indian standard in case of not feasible to adopt ISO standard or to raise views to revise ISO standard as per Indian standard or as per our current industrial practices/requirement and also propose new subjects to ISO from our existing Indian Standards or New subjects. 2. Review of the existing Indian standard and suggest which standard becomes out dated as per our current industrial practices/requirement and needs revision/withdrawal/archive/reaffirmation. 3. To review the ballots received from ISO and give our comments as per the scope of the panel. Further if required or recommended by the panel formulated mentioned above, the working groups under each panel may be formulated in sync with ISO WG’s which will assist the corresponding panel for its assigned work. |

**FORMULATION OF NEW PANEL**

1. **Panel on Terminology:**
2. **Panel 1**: Panel on Terminology of Iron Ore (Lump and processed ore) and DRI.

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| **Sl. No.** | **Organization** | |
|  | Agni Steel Private Limited, Erode | Shri A. Rajasekaran **(Convener)** |
|  | Indian Bureau of Mines, Nagpur | |
|  | Tata Steel Limited, Jamshedpur | |
|  | JSW Bellary | |
|  | Sponge Iron Manufacturers Association, New Delhi | |
|  | Pellet Manufacturers Association of India, New Delhi | |
|  | National Mineral Development Corporation, Hyderabad | |
|  | Steel Authority Of India Limited (SAIL), Research & Development Centre for Iron & Steel, Ranchi | |
|  | Steel Authority of India, Centre for Engineering and Technology, Ranchi | |
|  | CSIR - Institute of Minerals and Materials Technology, Bhubaneswar | |

The committee requested the members of the above organization to share details of head of the organization to be contacted to get the nominations for the panel. Further the committee also requested members that they could also self-nominate themselves for the same.

1. **Panels for Lump Iron Ore and Processed Iron Ore (Feedstock for DRI and Blast Furnace):**
2. **Panel 2**: Panel for the sampling of feed stock for blast furnace and DRI ― Lump ore; processed ore (sinter and pellets) and slurries.

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| **Sl. No** | **ORGANIZATION** | **MEMBER** |
|  | Mitra SK Private Limited, Kolkata | Shri P L Bose **(convener)** |
|  | Arcelor Mittal and Nippon Steel India Limited, Vishakapatnam | DR A. R. OJHA |
|  | National Mineral Development Corporation, Hyderabad | Shri Vibhuti Roshan |
|  | JSW Steel Limited, Bellary | Shri Mrittik Roychowdhury |
|  | CSIR - National Metallurgical Laboratory, Jamshedpur | Dr Manoj Kumar Mohanta to provide details of the persons to be nominated/details of the higher authorities to get the nominations in the panel. |
|  | Pellet Manufacturers Association of India, New Delhi | Shri. Depak Bhatnagar to provide details of the persons to be nominated/details of the higher authorities to get the nominations in the panel. |
|  | Steel Authority of India, Centre for Engineering and Technology, Ranchi | Shri Brajesh Kumar |
|  | Agni Steel Private Limited, Erode | Shri A. Rajasekaran |
|  | Tata Steel (Sponge Iron Dvision) Ltd, Joda | Shri Gyanarajan Pothal |

The committee after deliberation decided to formulate working groups under this panel which are as follows:

**WG-1-** For reviewing ISO 3084 (**Quality Variation**) and ISO 3085 (**Precision of Sampling**) for adoption. Further the committee nominatedDr Vibudhi Roshan as an expert in ISO WG-5 for revision of ISO 3084 and ISO 3085 at ISO level.

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| **Sl No.** | **ORGANIZATION** | **MEMBER** |
|  | National Mineral Development Corporation, Hyderabad | Dr Vibudhi Roshan (Convener) |
|  | Steel Authority Of India Limited (SAIL), Research & Development Centre for Iron & Steel, Ranchi | Shri S. Acharya to provide details of the persons to be nominated/details of the higher authorities to get the nominations in the panel. |
|  | Steel Authority of India, Centre for Engineering and Technology, Ranchi | Shri Brajesh Kumar to provide details of the persons to be nominated/details of the higher authorities to get the nominations in the panel. |
|  | Tata Steel Limited, Jamshedpur | Dr. A. K. Mukherjee to provide details of the persons to be nominated/details of the higher authorities to get the nominations in the panel. |
|  | JSW Steel Limited, Bellary | Shri Mrittik Roy Chowdhury to provide details of the persons to be nominated/details of the higher authorities to get the nominations in the panel. |
|  | Mitra SK Private Limited, Kolkata | Shri P L Bose |
|  | CSIR - National Metallurgical Laboratory, Jamshedpur | Dr Manoj Kumar Mohanta to provide details of the persons to be nominated/details of the higher authorities to get the nominations in the panel. |

**WG-2:** The committee after deliberation decided to discuss and formulate WG-2 For revision of ISO 16742: 2014 (Sampling of Slurries) already adopted by India (BIS) as IS 16750: 2018 in the next committee meeting and further nominated Dr. Atanu Ranjan Ojha of M/s Arcelor Mittal and Nippon Steel India Limited, Vishakapatnam as convener for this WG-2 and as an expert for the ballot issued by ISO.

**b) Panel 3**: Panel for the Physical test methods of feed stock for blast furnace and DRI in the form of Iron oxides i.e. lump ore and processed ore (sinter and pellets).

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| **Sl No.** | **ORGANIZATION** | **MEMBER** |
|  | JSW Steel Limited, Bellary | Shri Mrittik Roychowdhury **(Convener)** |
|  | Agni Steel Private Limited, Erode | Shri A. Rajasekaran |
|  | Indian Bureau of Mines, Nagpur | Shri Santosh Pani to provide details of the persons to be nominated/details of the higher authorities to get the nominations in the panel. |
|  | Arcelor Mittal and Nippon Steel India Limited, Vishakapatnam | Dr. Atanu Ranjan Ojha |
|  | CSIR - National Metallurgical Laboratory, Jamshedpur | Dr Manoj Kumar Mohanta to provide details of the persons to be nominated/details of the higher authorities to get the nominations in the panel. |
|  | Mitra SK Private Limited, Kolkata | Shri P.L. Bose |
|  | Pellet Manufacturers Association of India, New Delhi | Shri. Deepak Bhatnagar |
|  | Alex Stewart International India Private Limited, Visakhapatnam | Shri Debashish Pal |
|  | National Institute of Technology Tiruchirappalli | Shri SankaraRaman Sankaranarayanan |

**WG-1** The committeeafter deliberation decided to **modify** previously constituted **Panel 4** Panel for the revision of IS 14795 “Method for determination of clustering of iron oxide feedstock for direct reduction processes” **as working group WG-1** **under this panel for the review of IS 14795** “Method for determination of clustering of iron oxide feedstock for direct reduction processes” **and IS 11284** “Method Of Rotary Tube Test for Iron Bearing Materials for the Manufacture of Sponge Iron direct Reduced Iron DRI” .

The composition of the **WG -1** are as follows:

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| **Sl No.** | **Organization** | **Member Name** | **Member Email** | **Member Phone** |
| 1 | Arcelor Mittal and Nippon Steel India Limited, Vishakapatnam | Dr. Atanu Ranjan Ojha | [atanu.ojha@amns.in](mailto:atanu.ojha@amns.in) | 7381007054 |
| Shri CH V S ND Hariprasad | [chvsnd.hariprasad@amns.in](mailto:chvsnd.hariprasad@amns.in) | 7381009534 |
| 2 | CSIR - National Metallurgical Laboratory, Jamshedpur | Dr Manoj Kumar Mohanta | [mohanta@nmlindia.org](mailto:mohanta@nmlindia.org) | 9431382068 |
| 3 | JSW Steel Limited, Ballary | Shri Mrittik Roychowdhury | [mrittik.roychowdhury@jsw.in](mailto:mrittik.roychowdhury@jsw.in) | 9480694098 |
| 4 | Jindal Stainless Limited, New Delhi | Shri Ashish Goyal | [ashish.goyal@jindalstainless.com](mailto:ashish.goyal@jindalstainless.com) | 9717444656 |
| 5 | Kudremukh Iron Ore Company Limited, Bengaluru | Shri P. Palani | [magmp@kioclltd.com](mailto:magmp@kioclltd.com) | 9449861685 |
| Mr. M. A. Salam | [msmpt@kioclltd.com](mailto:msmpt@kioclltd.com) | 9449871538 |
| 6 | National Mineral Development Corporation, Hyderabad | Shri Vibhuti Roshan | [vibhutiroshan@nmdc.co.in](mailto:vibhutiroshan@nmdc.co.in) | 9490760042 |
| 7 | Pellet Manufacturers Association of India, New Delhi | Shri. Depak Bhatnagar | [deepas1949@gmail.com](mailto:deepas1949@gmail.com) | 9910018504 |
| Shri Vijay Dwivedi | [pmaioffice@pmai.co.in](mailto:pmaioffice@pmai.co.in) |  |
| 8 | Agni Steel Private Limited, Erode | Shri A. Rajasekaran | [rajsekra@rediffmail.com](mailto:rajsekra@rediffmail.com) |  |
| 9 | Tata Steel (Sponge Iron Dvision) Ltd, Joda | Shri Gyanarajan Pothal | [gpothal@tatasteellp.com](mailto:gpothal@tatasteellp.com) | 9238883282 |

**WG-2 -**Further the committee after deliberation decided to **modify** previously constituted **Panel 3** “Panel to review IS 2109 “Methods of sampling , dolomite, limestone and other allied materials (First Revision)” and Formulation of new standard on measurement of angle of repose” **as working group WG-2 under this panel** with the title of “**Formulation of new standard on angle of repose**” ,the composition of this working group as decided by the committee are as follows:

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| **Sl No.** | **Organization** | **Member Name** | **Member Email** |
|  | Mitra SK Private Limited, Kolkata | Shri P.L. Bose (Convener) | [plbose@mitrask.co.in](mailto:plbose@mitrask.co.in) |
|  | CSIR - National Metallurgical Laboratory, Jamshedpur | Dr Manoj Kumar Mohanta | [mohanta@nmlindia.org](mailto:mohanta@nmlindia.org) |
|  | National Mineral Development Corporation, Hyderabad | Shri Vibhuti Roshan | [vibhutiroshan@nmdc.co.in](mailto:vibhutiroshan@nmdc.co.in) |
|  | Agni Steel Private Limited, Erode | Shri A. Rajasekaran | [rajsekra@rediffmail.com](mailto:rajsekra@rediffmail.com) |
|  | Ex-BHU, Personal Capacity | Prof R. C Gupta | [rcgupta.bhu@gmail.com](mailto:rcgupta.bhu@gmail.com)  [rcgupta@iitbhu.ac.in](mailto:rcgupta@iitbhu.ac.in) |

**c) Panel 4**: Panel for the Classification/specification of lump ore and processed ore (sinter and pellets) for blast furnace.

The committee after deliberation decided to **modify** previously constituted **Panel 2** on “**Review of new Draft document on Iron Ore Pellets –Specification**” **into** **panel 4** the scope of which **covers** both the **Classification/specification of lump ore and processed ore (sinter and pellets) for blast furnace** the details of which are as follows:

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| **Sl.**  **No.** | **Organization** | **Member Name** | **Member Email** | **Member Phone** |
|  | National Mineral Development Corporation, Hyderabad | Shri Rajan Kumar (**Convener)** | [rajankr@nmdc.co.in](mailto:rajankr@nmdc.co.in) | 9490760017 |
| Shri Vibhuti Roshan | [vibhutiroshan@nmdc.co.in](mailto:vibhutiroshan@nmdc.co.in) | 9490760042 |
|  | CSIR – National Metallurgical Laboratory, Jamshedpur | Dr Manoj Kumar Mohanta | [mohanta@nmlindia.org](mailto:mohanta@nmlindia.org) | 9431382068 |
|  | Essar Steel India Limited, Mumbai | Shri Srinivasa Satya Prasad Koduri | [satyaprasad.koduri@essar.com](mailto:satyaprasad.koduri@essar.com) | 9885188011 |
|  | JSW Steel Limited, Bellary | Shri Mrittik Roychowdhury | [pramodkumar.chittor@jsw.in](mailto:pramodkumar.chittor@jsw.in) | 9480693875 |
|  | Jindal Steel and Power Limited, Raigarh | Shri Chakkirala N. V. V Prasad | [chakkirala.prasad@jindalsteelodisha.com](mailto:chakkirala.prasad@jindalsteelodisha.com) |  |
|  | Kudremukh Iron Ore Company Limited, Bengaluru | Shri P. Palani | [magmp@kioclltd.com](mailto:magmp@kioclltd.com) | 9449861685 |
| Mr. M. A. Salam | [msmpt@kioclltd.com](mailto:msmpt@kioclltd.com) | 9449871538 |
|  | Pellet Manufacturers Association of India, New Delhi | Shri Deepak Bhatnagar | [deepas1949@gmail.com](mailto:deepas1949@gmail.com) | 9910018504 |
|  | Steel Authority of India, Centre for Engineering and Technology, Ranchi | Shri Brajesh Kumar | [brajesh.kumar@sail.in](mailto:brajesh.kumar@sail.in) | 8986880534 |
| Shri Dilip Kumar Jagani | [dk.jagani@sail.in](mailto:dk.jagani@sail.in) | 8986880523 |

**d)** Since the panel MTD 13: Panel 6 - Panel for the revision of IS 2109, 2245 & 8562 is dealt by single person and the drafts are to be sent in WC the committee while deliberation decided to disband this panel.

**2.3.1** The committee noted the information given on item no **2.6.2** from Sl No **3** to Sl No **5** of the agenda of this meeting with respect to the formulation of the panel as mentioned below and after deliberation decided that these panels will be constituted at a later time, following the completion of the tasks assigned to the other panels.

1. **Panels for DRI/HBI/CBI:**

**Panel 5**: Panel for sampling of Direct reduced iron/ Hot briquetted iron(HBI)/ Cold briquette iron (CBI).

**Panel 6**: Panel for Physical Test Methods for Direct reduced iron/ Hot briquetted iron(HBI)/ Cold briquette iron (CBI)

“MTD 13 : P4 above may be reviewed and recomposed along with the modified scope as given”.

**Panel 7**: Panel for the specification of raw materials (lump ore/ pellets) for direct reduction processes.

1. **Panels for Raw Materials other than Iron Bearing Materials such as Dolomite, Limestone, Chromite, Wolframite etc**

**Panel 8**: Panel for the specification of raw materials other than iron bearing raw materials for use in iron and steel making

**Panel 9**: Panel for the sampling of raw materials other than sinter and pellets for use in iron and steel making

1. **Working Group for Mineralogy**

**WG1-** Review of IS 11897 “Guidelines for methods to be adopted for identifying the mineralogy of iron oxides; lump ores, sinters and pellets” and IS 12595 “Classification of terminology for exploration of mineral deposits”.

* 1. The committee noted the information given in item no **2.6.3** of the agenda of this meeting with respect to the Working Groups/Study Groups/Ad-hoc Groups in ISO (i.e in ISO TC 102/SC1 and SC3 ) as mentioned below and after deliberation decided as follows:

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| --- | --- | --- | --- | --- |
| **TC/SC** | **SG/WG** | **Title** | **Remarks** | **Decision of the committee during this meeting** |
| **SC1** | **WG3** | Revision of ISO 3082 (Sampling and sample preparation procedures) | ISO has re-established the working group in 2023 at Tokyo meeting and has decided to start the revision of ISO 3082 particularly wrt comments made by brazil (N 1204, N1213 and presentation by brazil)  India had abstained to the move via ballot received in January 2024 which had established 2 working groups WG 3 for ISO 3082 and WG 5 for revision of ISO 3084.  It was proposed to nominate at least one expert from the panel 2 constituted as above. | The committee after deliberation decided to nominate Shri Vibhuti Roshan of M/s National Mineral Development Corporation, Hyderabad and Shri P L Bose of M/s Mitra SK Private Limited, Kolkata as an expert to this working group from Panel-2. |
| **SC1** | **WG5** | Revision of ISO 3084 (Iron ores — Experimental methods for evaluation of quality variation) | Ms L Joncew (Brazil) presented a proposal (doc. SC 1 N 1208) for an early revision of ISO 3084 (Iron ores – Experimental methods for evaluation of quality variation) together with a Working Draft for the revision. The delegates present agreed to reestablish WG 5 to conduct the revision with Brazil as the Convenor. Australia, China, Canada, Netherlands, and Sweden agreed to participate in the revision, the target being to complete the revision in 24 months.  It was proposed to nominate at least one expert from the **Panel2: WG-1** constituted as above. | The committee after deliberation decided to nominate Shri Vibhuti Roshan of M/s National Mineral Development Corporation, Hyderabad as an expert to this working group from WG-1 of Panel 2. |
| **SC1** | **WG11** | Revision of ISO 16742 ((Iron ores— Sampling of slurries) | The delegates present agreed that comments provided by Brazil in 2019 (doc. SC 1 N1182) on ISO 16742 (Iron ores – Sampling of slurries) need to be taken into account during the forthcoming systematic review of the standard in June 2024. Brazil agreed to submit the comments to the SC 1 Committee Manager for circulation to SC 1 committee members. The delegates present agreed to reestablish WG 11 to conduct the revision with Mr R Novaes (Brazil) as the Convenor. Australia, Netherlands and Sweden agreed to participate in the revision.  In view of the same ISO circulated the SR ballot and we are to nominate at least one expert from **Panel 2 : WG-2** constituted as above in the WG 11 and comment whether the standard needs to be revised/withdrawn/confirmed. And India (BIS) has adopted this standard. | The committee after deliberation decided to nominate Dr. Atanu Ranjan Ojha of M/s Arcelor Mittal and Nippon Steel India Limited, Vishakapatnam as an expert to this working group from WG-2 of Panel 2. |
| **SC1** | **AHG1**  **(ISO 3087)** | Experimental study on moisture content Determination of iron ores ( lumps and processed) | The Convener of Study Group SG 8 (Experimental testing for iron ore moisture determination), Dr K Engstrom (Sweden), presented the findings of the international testwork program that had been conducted (doc. SC 1 N 1209), which indicated that there was a small but statistically significant positive bias between drying samples with combined water of 8% and above at 105 ± 5°C for 24 hours and drying the same samples at 105 ± 5°C to constant mass using criteria of less than both 0.05% and 0.025% of their initial mass.  Mr S Ishikawa (Japan) presented the results of a Japanese study on an alternative method  for **potential future revision of ISO 3087** (doc. SC 1 N 1210) indicating that the moisture content value obtained for samples with combined water content above 8% at a drying temperature of 115°C (not sample temperature but oven temperature) with a 0.05% constant mass criterion is equivalent to the value obtained for drying at 105°C for 24 hours at a sample layer thickness of 10 mm.  The delegates present agreed to establish an Ad Hoc Group (AHG1) to further study the Japanese results on using an oven temperature of 115°C as a reference method with Mr S Ishikawa (Japan) as the Convenor. Australia, China, Netherlands and Brazil agreed to participate in the work on ores containing more than 8% combined water following the test conditions in ISO/TC 102/SC 1 standards.  In response to same ISO had circulated a ballot on call for experts and voted and agreed to participate in the AHG 1 project. Also, we nominated Shri PL Bose of M/s Mitra SK Private Limited, Kolkata. | The committee after deliberation decided to nominate Shri Debasish Pal of M/s Alex Stewart International India Private Limited, Visakhapatnam in addition to already nominated Shri P L Bose of M/s Mitra SK Private Limited, Kolkata as an expert to this working group from Panel-3. |
| **SC3** | SG25  (ISO 8371) | Effect of the heating rate on decrepitation índex determination | The new standard of **ISO 8371** has been published on decrepitation index in 2024. The delegates present agreed to accept the convener´s report of SG25 - Effect of the heating rate for decrepitation index determination, doc. 3 N 1396.The proposed changes were voted and rejected by the subcommittee members.  The convener offered to re-evaluate the existing data. An interlaboratory trial with the proposed test conditions is necessary to introduce technical changes in the existing standard.  Mr. de Castilho (Brazil) offered to support the design of experiment to fulfil the requirements for the necessary statistical evaluation.  Mr Nobutoshi Sakahashi (Japan) is confirmed as the SG convener. Members are Australia, Brazil, Canada, China, Germany, Japan and South Africa.  Also the call for experts in April in SG25 was **abstained by India(BIS) and no experts were nominated**.  The committee may nominate the same. | The committee after deliberation decided to nominate Shri A. Rajasekaran of M/S Agni Steel Private Limited, Erode as an expert to this study group from Panel-3. |
| **SC3** | SG26 | Revision of ISO 3271 (Tumbler Test) to evaluate possible inclusion of new products, such as briquettes and extrudates | BIS had received ballot in April for call on experts a The delegates present agreed to create SG26 – Revision of ISO 3271 to evaluate possible inclusion of new products, such as briquettes and extrudates.  Mrs Simonny Guachalla (Brazil) is confirmed as the SG convener. Members are Australia, Brazil, Canada, China, Germany, Japan, South Africa and Sweden. A call forexperts shall be conducted by the CM so that members not present may indicate their experts and **BIS had nominated 3 experts** for the same in the ballot on call on experts.  1.Name: Mr Gyanaranjan Pothal  Organization- Tata Steel Sponge Iron Joda  Phone no- 9238883282  Email- [gyanaranjan.pothal@tatasteel](about:blank).com  2. Name: PL Bose  Designation : Executive Director  Organization; Mitra S.K. Private Limited  Shrachi Centre, 5th Floor, 74B AJC Bose Road,  Kolkata 700016, West Bengal, India.  Email: plbose@mitrask.co.in  Mob: +(91)9007002750  3. Name : Dr Vibhuti Roshan  DGM(M.P), NMDC Ltd  Email : vibhutiroshan@nmdc.co.in  Mobile no: +91-9490760042” | The committee requested the nominated members that in case of receiving any mails from the ISO share the same to the BIS. So that the same could be updated in the Global directory of ISO. |
| **SC3** | SG28 | Investigation of mass measurement methods in reducibility tests | The delegates present agreed to create SG 28 – Investigation of mass measurement during reduction. The convener is to prepare and conduct a survey on the performance of mass measurement in the reducibility tests. Dr Liming Lu (Australia) is confirmed as the SG convener. Members are Australia,Brazil, Canada, China, Germany, South Africa and Sweden. A call for experts shall be conducted by the CM so that members not present may indicate their experts.  **The ISO may soon issue a ballot asking for experts**. Committee may nominate some experts from **Panel 3** in a proactive approach.  The following ISO standards are involved in mass measurement:   * ISO4695 Determination of the reducibility by the rate of reduction index * ISO7215 Determination of the reducibility by the final degree of reduction index * ISO7992 Determination of reduction under load * ISO11258 Determination of the reducibility index, final degree of reduction and degree of metallization | The committee after deliberation decided to nominate Shri A. Rajasekaran of M/S Agni Steel Private Limited, Erode and Shri Mrittik Roychowdhury of M/s JSW Steel Limited, Bellary as an expert to this study group from Panel-3. |

**2.5** The committee noted the information given in item no **2.6.4** of the agenda of this meeting with respect to already nominated experts in ISO TC WG/SG/AHG and after deliberation post facto approved the nominations of expert to ISO.

The details of which are as follows:

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| --- | --- | --- | --- | --- | --- |
| **Sl No.** | **Ballot type** | **ISO Ballot reference** | **Title** | **Question Asked** | **Vote casted and comments approved by the committee** |
| **1.** | ISO/TC 102/SC 1  CIB  (Date over ) | TC102\_SC1\_AHG1\_PP and WS\_N1225 | TC 102/SC 1/AHG 1\_Call for experts In accordance with the resolution 7 of the Tokyo meeting below, the convener created a project plan and work schedule for AHG 1 (N 1225). SC 1 members are invited to actively participate in the project. If you wish to participate, please nominate an expert(s) and provide their email address. | Do you wish to participate actively in the AHG 1 project? | We agreed to participate in the AHG 1 project. Also we nominate Shri PL Bose of M/s Mitra SK Private Limited, Kolkata having mobile no : +91 9007002750 and Email ID: plbose@mitrask.co.in as an expert to participate in this project. |
| **2.** | ISO TC102 / SC3  CIB | ISO TC102 / SC3 / SG26 | - ISO TC102 / SC3 / SG26 – Call for experts – SG26 – Revision of ISO 3271 Iron ores for blast furnace and direct reduction feedstocks – Determination of the tumble –nd abrasion indices to evaluate possible inclusion of new products. |  | “Yes, and We are nominating 3 experts and their details are enclosed below:  **1.** Name: Mr Gyanaranjan Pothal  Organization- Tata Steel Sponge Iron Joda  Phone no- 9238883282  Email- [gyanaranjan.pothal@tatasteel](about:blank).com  **2.** Name: PL Bose  Designation : Executive Director  Organization; Mitra S.K. Private Limited  Shrachi Centre, 5th Floor, 74B AJC Bose Road,  Kolkata 700016, West Bengal, India.  Email: plbose@mitrask.co.in  Mob: +(91)9007002750  **3.** Name : Dr Vibhuti Roshan  DGM(M.P), NMDC Ltd  Email : vibhutiroshan@nmdc.co.in  Mobile no: +91-9490760042” |
| **3.** | ISO/TC 102/SC 1  SR | ISO 4701:2019 (Ed 5) | Iron ores and direct reduced iron — Determination of size distribution by sieving |  | “Confirm and nominated expert from Panel-3.  Name : Mr. P.L. Bose  Organization : Mitra SK Private Limited, Kolkata  Email : plbose@mitrask.co.in  Mobile : 9007002750  Designation : Director” |

* 1. The committee noted the information given in Item no **2.6.5** of the agenda of this meeting with respect to the ISO ballots received and after deliberation decided as follows:-

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| Sl No. | Ballot type and ISO Ballot reference | Question Asked | Decision of the committee |
| 1 | **SR**  ISO/TC 102/SC 1; ISO 3085:2019 (Ed 5)  Iron ores — Experimental methods for checking the precision of sampling, sample preparation and measurement | | [**No.**](about:blank) | [**Questions**](about:blank) | [**Possible Ansers**](about:blank) | | --- | --- | --- | | 1 | Recommended action | Withdraw  \* Revise/Amend  \* Confirm Abstain due to lack of consensus Abstain due to lack of national expert input | | 2 | Has this document been adopted or is it intended to be adopted in the future as a national standard or other publication? | Yes  \* No  \* | | 3 | Is the national publication identical to the document or was it modified? | Identical Modified  \* | | 4 | If this document has not been nationally adopted, is it applied or used in your country without national adoption or are products/processes/services used in your country based on this document? | Yes  \* No | | 5 | Is this document, or its national adoption, referenced in regulations in your country? | Yes  \* No | | 6 | If the committee decides to revise or amend, do you propose an expert and/or project leader for the development of that project? | Yes (name(s) and proposed role(s): expert or project leader)  \* No | | (\*) A Comment is required for this answer value. | | | | The committee noted the information given in Item no 2.6.5 Sl.no 1 of the agenda of this meeting and after deliberation decided to cast the vote as “confirm” to the SR ballot received .The committee further decided to nominate Dr Vibhuti Roshan of M/s NMDC Ltd from Panel 2 WG-1 as an expert to ISO WG-5. Subsequently committee also decided that members of Panel 2 WG-1 could further nominate more expert to ISO WG-5. |
| 2. | **SR**  ISO/TC 102/SC 1  WG 11;  ISO 16742:2014 (vers 2)  Iron ores — Sampling of slurries | ----Do---- | As this ISO standard is already adopted as Indian standard, hence the committee after deliberation decided to cast the vote as “confirm” to this SR ballot received .The committee further decided to nominate Dr. Atanu Ranjan Ojha of M/s Arcelor Mittal and Nippon Steel India Limited, Vishakapatnam as an expert to this working group WG 11 of ISO in case ISO decides to revise this ISO standard. |

# ITEM 3 ACTION TAKEN REPORT

1. The committee noted the information given in Item no **3** of the agenda of this meeting with respect to action taken report and after deliberation decided as follows:

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| Sl. No. | Subject | Decision of the committee in its previous meetings /Action taken | Decisions taken by the committee in its previous meeting | Decision of the committee during this meeting |
|  | Revision of **IS** **8562:1977** Methods of sampling chrome ore. | The committee in its 19th meeting held on 6 January 2017 requested Shri P.L.Bose of M/s Mitra.S.K.Pvt.Ltd. and Dr. A. K. Mukherjee of M/s Tata Steel Limited to prepare the document for the revision of the standard keeping in view the comments of the 18th Meeting agenda and requested them to submit their recommendation by 15th April 2017.  The Committee again in 20th meeting held on 14th Mar 2019 had prepared a panel with M/s TATA steel ltd. – (Convenor), M/s FACOR Alloys, M/s Indian Metals and Ferro Alloys (IMFA), M/s Mitra S K Pvt Ltd and requested to submit their recommendations within 3 months.  In the 21st meeting, decided to continue with existing panel, which will submit their recommendation within one month.  The Panel Meeting is held on 15-03-2022. The panel Finalized their suggestions and proposed for revisions including the finalized changes. Based on the changes proposed, a draft document has been prepared by BIS and shared to conveynor vide email dated 4th April 2022 for his views/suggestions.  The Draft prepared by BIS is as follows:    The decision of the conveyner is still awaited.  In 22nd TC Meeting, The committee decided to circulate the document as P-draft among the members for one month for their views/comments.  In 23rd TC Meeting, The committee decided to send the document for wide Circulation for their views/ comments for one month. If no comments were received, it can be sent for printing.  **Action Taken:**  The Draft was prepared by BIS based on the comments received from Shri P.L. Bose of M/s Mitra S.K. Pvt. Ltd. is Placed below:    Accordingly, a panel meeting was held on 12/07/2023 and resolve the doubts related to IS 8562. Further, changes are included and mentioned in the foreword. | The committee after detailed deliberation decided to circulate the document as **Wide Circulation for views/ comments**. If no comments were received within one month, it can be sent for printing.  **Action taken:**  It is to inform to the committee that as per the decision of the committee in its previous meeting the WC draft was prepared along with certain comments and remarks raised in the revised draft enclosed below by the member secretary and was shared with Shri P.L.Bose of M/s Mitra.S.K. Pvt. Ltd to discuss and address the same vide email dated 5-09-2024. However reply is awaited. | The committee noted the information given in **Item 3.1 Sl No 1 of the agenda** of this meeting after deliberation requested Shri P.L.Bose of M/s Mitra.S.K. Pvt. Ltd to address the comments raised by the member secretary and give inputs/justification/submit the final draft to the BIS. Further the committee decided that the finalized draft submitted will be sent for wide circulation for a period of one month with the permission of the chairperson. |
|  | Revision of **IS 2109:1982** Method of sampling of dolomite. | The committee in its 19th meeting held on 6 January 2017 requested Dr.A.K.Mukherjee of M/s Tata Steel Limitedand Shri P.L.Bose of M/s Mitra.S.K.Pvt.Ltd. to prepare the document for the revision of the standard and submit the same by 15th April 2017.  The Committee again in 20th meeting held on 14th Mar 2019 requsted meber secretary to refer the subject to Light Metals and alloys Sectional Committee, MTD 7.  In 21st meeting, The Committee after deliberation decided to keep the Standard in MTD 13 TC and further decided that again request Shri P.L.Bose of M/s Mitra.S.K.Pvt. Ltd. and Dr.A.K.Mukherjee of M/s Tata Steel Limited to submit their recommendation on the subject within 2 months.  The committee decided that, a word file of IS 2109 will be provided by BIS to Shri P.L.Bose of M/s Mitra S.K.Pvt.Ltd. and Dr. A.K.Mukherjee of M/s Tata Steel Ltd.  Further, committee requested the panel to submit their views/recommendations in the Draft provided within 2 months.  In 23rd Meeting, The committee decided to send the document for wide Circulation for their views/ comments for one month. If no comments were received, it can be sent for printing.  **Action taken :-**  The Draft prepared by BIS based on the comments received from Shri P.L.Bose of M/s Mitra S.K. Pvt.. Ltd. is Placed below:    Accordingly, panel meetings were held on 12-07-2023 and 20-07-2023 to resolve the doubts related to IS 2109.  The draft finalized by panel is placed below: | The committee after detailed deliberation and decided to circulate the document as **Wide Circulation for views/ comments.** If no comments were received within one month, it can be sent for printing.  **Action taken:**  It is to inform to the committee that as per the decision of the committee in its previous meeting, the draft was sent for WC on 18 Oct. However certain comments and remarks were raised in the revised draft enclosed below by the member secretary and was shared with Shri P.L.Bose of M/s Mitra.S.K. Pvt. Ltd to discuss and address the same vide email dated 5-09-2024. However reply is awaited. | The committee noted the information given in **Item 3.1 Sl No 2 of the agenda** of this meeting andafter deliberation requested Shri P.L.Bose of M/s Mitra.S.K. Pvt. Ltd to address the comments raised by the member secretary and give inputs/justification/submit the final draft to the BIS. Further the committee decided that the finalized draft submitted will be sent again for WC for a period of one month with the permission of the chairperson. |
|  | Revision of IS 2245:1962 Methods of sampling of Quartz/Quartzite. | The committee in its 19th meeting held on 6 January 2017 requested Shri P.L.Bose of M/s Mitra. S.K.Pvt.Ltd. and Dr. A. K. Mukherjee of M/s Tata Steel Limited to prepare the document for the revision of the standard keeping in view the comments of the 18th Meeting agenda and requested them to submit their recommendation by 15th April 2017.  The Committee again in 20th meeting held on 14th Mar 2019 had prepared a panel with M/s Mitra S K Pvt Ltd. – (Convenor), M/s Tata steel, M/s NMDC & M/s IBM and requested to submit their recommendations within 3 months.  In 21st meeting, The Committee after deliberation decided to prepare a draft based on the comments received by Shri P.L.Bose of M/s Mitra.S.K.Pvt.Ltd. Further it is decided that member secretary is requested to submit the word file to Shri P.L. Bose and request to submit the draft within 2 months.  In 22nd TC Meeting, The committee decided to incorporate the comments received and circulate among the members for their views/comments for one month.  In 23rd TC Meeting, The committee decided for little change in the title of IS 2245 as Method of sampling of quartzite to Method of sampling of quartz/quartzite and The committee decided to send the document for wide Circulation for their views/ comments for one month. If no comments were received, it can be sent for printing.  **Action taken:-**  The Draft prepared by BIS based on the comments received from Shri P.L.Bose of M/s Mitra S.K. Pvt. Ltd. and Dr. A. K. Mukherjee of M/s Tata Steel Limited is Placed below:    Accordingly, a panel meeting held on12-07-2023 to resolve the doubts related to IS 2245.  Panel after detail deliberation and requested to member secretary to check the sizes mentioned in Fig. 2. **IS Sieve 320, 160, 80 and 15** should be check respective sizes to be in co-operated into the standard. | The committee after detailed deliberation requested PL Bose to give the IS Sieve Size in Fig 2 Stages in reducing in gross sample and further requested the MS to incorporate the same in the standard and circulate the document as **Wide Circulation for views/ comments.** If no comments were received within one month, it can be sent for printing.  **Action taken:**  It is to inform to the committee that certain comments and remarks were raised in the revised draft enclosed below by the member secretary and was shared with Shri P.L.Bose of M/s Mitra.S.K. Pvt. Ltd to discuss and address the same vide email dated 5-09-2024. Further he was requested to modify IS sieve size data in Fig 2 as per the new IS 460 parts. However the reply is awaited. | The committee noted the information **given in Item 3.1 Sl No 3 of the agenda** of this meeting and after deliberation requested Shri P.L.Bose of M/s Mitra.S.K. Pvt. Ltd to address the comments raised by the member secretary and give inputs/justification/submit the final draft to the BIS. Further the committee decided that the finalized draft submitted will be sent for wide circulation for a period of one month with the permission of the chairperson. |
|  | Revision of **IS 12595:1989** Classification of terminology for exploration of mineral deposits. | The committee in the 19th meeting held on 06 January 2017 at New Delhi advised following Panel to submit their recommendation for revision of the standard by 30th April 2017.  1.Shri Vibhuti Roshan of M/s NMDC-Convener  2.M/s Indian Bureau of Mines  3.M/s Geological Survey of India  4.M/s Federation of Indian Mineral Industries  5. M/s Tata Steel Limited  6. M/s Mineral Exploration Corporation Limited.  7.M/s M.N. Dustur and Co. ltd.  8.M/s NML, Jamshedpur.  The Committee again in 20th meeting, decided to again request the existing panel to submit their recommendation within 3 Months.  In 21st meeting, The Committee decided to include M/s M.N. Dustur and Co. ltd. into the panel. Further decided that to again request the existing panel to submit their recommendation and Draft within 3 Months.  In 22nd TC Meeting, The committee after detailed deliberation requested the panel to submit their views/recommendations within 2 months.  In the 23rd TC meeting, the committee requested member secretary to prepare the draft and share with the panel for their views /comments and the panel meeting should be conducted within 2 months.  **Action taken:-**  Working Draft has been circulated among the panel member on 16 March 2023 and also send the remainder on 31 July 2023 vide email. However, recommendation is still awaited. | The committee after detail deliberation decided to include the Dr Manoj Kumar Mohanta of NML Jamshedpur in the panel and hold the panel meeting and finalize the draft within 2 months.  Further, once again P-circulate the document among the committee members  **Action taken:**  The document is proposed to be dropped at this stage take this standard for review in next AAP (2025-2026). | The committee noted the information **given in Item 3.1 Sl No 4 of the agenda** of this meeting and after deliberation **decided to drop the revision** of the standard as of now and take up this standard for review in next AAP (2025-2026). |
|  | Indian Standard on method of determination of angle of repose for Iron ores fines in bulk. | The committee in its 19th meeting held on 06 January 2017 at New Delhi decided to circulate the document as Preliminary Draft by changing the title of the document to ‘Indian Standard on method of determination of angle of repose of ores in bulk’.  The Committee again in 20th meeting held on 14th Mar 2019 had prepared a panel with M/s NML –(Convenor), M/s Mitra S K Pvt Ltd, M/s NMDC and requested to submit their recommendations within 3 months.  The Committee again in 21st meeting decided to continue with the existing panel and requested to submit their recommendation on the final draft within 3 months:  i) M/s NML – Convenor  ii) M/s Mitra S K Pvt Ltd.  iii) M/s NMDC.  Further, it is decided that the title of the standard has to be “**Indian Standard on method of determination of angle of repose for Iron ores fines in bulk**”. Also, the Final draft will be circulated among the committee members for their comments.  In 22nd TC Meeting, the committee after detailed deliberation requested the panel to submit the final Draft document within 3 months.  In 23rd TC meeting, the committee after detailed deliberation, requested the panel to submit the final draft document within 3 months.  **Action taken:-**  An email was sent on 15 June 2023 to the panel and requesting them to submit the final draft document. However, the recommendations are still awaited.    It is observed by the member secretary that, there is need for requirement of additional data and clarity in the standard before publishing the Indian standard.  It is to inform that, this new draft standard is a part of SNAP 2022-2027. | The committee after detail deliberation, requested the panel to submit the R&D proforma for funding the R&D work. The proforma will be reviewed by screening committee and the finalized document can be submitted with 12 months along with supporting data as per the guidelines. | **The committee noted the information given in Item 3.1 Sl No 5 of the agenda** of this meeting and after deliberation decided to formulate WG-2 under panel 3 as mentioned above in Item no 2.3 of this minutes and assign the task to discuss on the formulation of this new standard on method of determination of angle of repose for Iron ores fines in bulk. The committee further informed the panel about the international document (International Maritime Solid Bulk Cargoes Code, 2023) in which this method has been explicitly described. The committee requested Shri Debasish Pal of M/s Alex Stewart International India Pvt LTD, Vishakhapatnam to share the complete procedure/book with BIS secretariat. The committee further requested **the WG-2 of Panel 3** to take assistance from this code and modify the already existing draft accordingly and submit the same to BIS within 2 months period of time. The draft so received will be discussed in the next committee meeting. The **committee further decided to drop the proposal from R&D as the international document is readily available** and well accepted. The R&D project may be later initiated for conducting robin round testing for determining the repeatability and reproducibility of the test method procedure.  The WG is also requested to provide a brief importance significance of this standard to BIS secretariat. |
|  | IRON ORE PELLETS FOR FEEDSTOCK OF BLAST FURNACE ─ SPECIFICATION | A proposal is received from M/s NMDC on 04 Feb 2020.The Proposal for the draft document is given below :    Member secretary after discussion with Chairman of the committee has decided to prepare a panel with the following organizations and requested them to give their recommendations on the draft within one month:  1) M/s NMDC (convener)  2) M/s Pellet Manufacturer's Association of India  3) M/s KIOCL  4) M/s Arcelor Mittal Nippon Steel  5) M/s Jindal steel and power ltd.  6) M/s JSW Steel.  7) M/s NML  8) M/s Essel Mining & Industries Ltd.  9) M/s SAIL-CET  In the 22nd TC Meeting, The committee after detailed deliberation decided to include M/s Essel Mining & Industries Ltd. and M/s SAIL-CET in Panel. Further, the committee requested the panel to submit their views/suggestion before next TC meeting.  In 23rd TC Meeting, the committee after detailed deliberation requested the panel to submit their views/suggestions within two months.  **Action taken:**  An email was sent to panel on 31 July 2023 requesting them to review the comments and give their views or comments at the time of MTD13 TC meeting or via email. However, reply is still awaited.  A BIS-intern from IIT Kharagpur had also collected data related to Iron ore pellets manufacturing in India.  The Draft Document is attached below: | Committee after detailed deliberation, decided to make the guideline standard and after few modifications the document can be circulated as the P-circulation among the members.  **Action taken:**  It is to inform the committee that BIS is already having following standard for iron ore pellets:  **IS 11336: 1985** - Guidelines for heat-hardened iron ore pellets for iron making in blast furnaces.  However we are formulating a new standard on Iron Ore Pellets for feedstock of blast furnace- Specifications. Since we already have a standard on pellets specification it is **proposed to drop the formulation of new standard and instead revise the existing standard**. Further, the document was sent for P circulation on 23-08-2022 for a period of 30 days inviting comments till 22-09-2023 stage and **we have received comments from Pellet Manufacturers Association of India (PMAI) vide letter dated 20th March 2024**. It has been stated that there is a wide variation in the chemical composition as well as mineralogy of Iron Ores in the mines in different states of India. Thus have recommended to not have a mandatory specification which is applicable to whole country. The comments and the P-draft are enclosed below:    In lieu of the above it was **proposed to drop the revision and instead formulate a guideline standard and revise the IS 11336**.  Further it is to add that the specification will not be mandatory unless notifies by the Govt. And also the standard has also specified the other compositions and moisture content can be as agreed between the contracting parties.  Also the IBM have given the **approximate chemical composition of various companies producing pellets in its Iron and Steel Vision-2020**. And have also given the acceptable properties of pellets.  **Also the china has published GB/T 27692 : 2024 *Iron pellets for blast furnace* from which assistance can** be taken in revision of IS 11336. This document specifies the classification and grade, technical requirements, test methods, inspection rules, packaging, transportation, storage and quality of iron ore pellets for blast furnaces. This document applies to iron pellets for blast furnaces produced from iron concentrate or iron ore fines (referred to as "iron pellets"):This document does not apply to special iron pellets produced from vanadium, titanium, rare earths, chromium, etc  In view of this the committee is requested to allocate the task of studying the current draft of iron ore pellets and GB/T standard to **newly constituted Panel 4**. The panel would study the GB/T standard and try to come with recommendation whether we can formulate the revised draft on the similar lines as that of GB/T standard and submit the same to BIS before the next committee meeting. Further the current document number allocated to the standard may be dropped. | The committee noted the  information **given in Item**  **3.1 Sl No 6 of the agenda**  **of this meeting** and after deliberation requested Panel 4 formulated during this meeting as mentioned above in Item 2.3 of this minutes to review and compare IS 11336: 1985 - Guidelines for heat-hardened iron ore pellets for iron making in blast furnaces along with GB/T 27692 : 2024 Iron pellets for blast furnace and give their recommendation/revised draft before next committee meeting. The recommendation/revised draft so received will be discussed in the next committee meeting. The committee further requested member secretary to share the GB/T 27692: 2024 standard with the panel members for reviewing the same. |
|  | **IS 5632 : 1970** Specification for wolframite concentrate | As a part of Action Research Project, BIS officer Shri Pyla Deshick has reviewed IS 5632 and submitted following observation:    In 23rd TC meeting, The committee after detailed deliberation decided to circulate the document as the P draft for 21 days, if no comments were received the document will be circulated as Wide Circulation.  **Action taken:**  The document was circulated as Wide Circulation on 30-05-2023 with the approval of chairman. However, no comments were received. | The committee after detailed deliberation decided to send the draft standard for printing.  **Action taken:**  It is to inform to the committee that comments were received from RDCIS SAIL regarding the marking clause and the draft incorporating the same is enclosed below. | The committee after deliberation agreed to the comments received from RDCIS SAIL to include a)Net weigh of each package b)  Percentage of tungsten oxide (WO3) in the concentrate in the marking clause and further decided to send the revised draft as modified by member secretary by incorporating the comments for printing as the changes are only editorial in nature. |
|  | IS 9959 : 1981 Guidelines for iron ore sinters for iron making in blast furnaces | As a part of Action Research Project, BIS officer Ashish Wakle has reviewed IS 9959 and submitted following observation:    In 23rd TC meeting, The committee after detailed deliberation decided to circulate the document as the P draft for 21 days.  Action taken:  The Draft prepared by BIS is Placed below:    The document is circulated among member as P-draft on 29 May 2023. | The committee after detailed deliberation decided to circulate the document as Wide Circulation for their views/ comments. If no comments were received within one month, it can be sent for printing.  **Action taken:**  It is to inform to the committee that as per the decision of the committee in its previous meeting the WC draft is prepared by the member secretary and sent for wide circulation on 23-09-2023 for a period of 30 days inviting comments till 23-10-2023.However no comments were received till the last date for receiving the comments. Hence accordingly as per the decision of the committee the same is sent for printing on 17-11-2023.Further it is also to inform to the committee that the revised IS 9959 : 2024 is published. | The committee noted the information regarding the gazette of the revised standard. |
|  | **IS 12668: 1989**  Melting characteristics of sponge iron/direct reduced iron DRI First Revision | As a part of Action Research Project, Member secretary has reviewed IS 12668 and submitted following observation:    **Action taken:**  The Draft prepared by BIS is Placed below:    The document is circulated among member as P-draft on 26 May 2023. | The committee after detailed deliberation requested to re-circulate the document as P- Circulation for their views/ comments. If no comments were received within 21 days, it can be circulate as WC for period of 1 month.  **Action taken:**  It is to inform to the committee that as per the decision of the committee in its previous meeting the draft was recirculated as P circulation on 22-09-2023 for a period of 21 days inviting comments till 13-10-2023.**However no comments were received**. Hence it was proposed to send the draft for wide circulation for a period of 1 month. | As no comments were received on the P circulated draft, the committee after deliberation **decided to send the revised draft for wide circulation** for a period of 1 month. |
|  | **IS 11284: 1985**  Method Of Rotary Tube Test For Iron Bearing Materials For The Manufacture of Sponge Iron direct Reduced Iron DRI | As a part of Action Research Project, Member secretary has reviewed IS 11284 and submitted following observation:    **Action taken:**  The Draft prepared by BIS is Placed below:    The document is circulated among member as P-draft on 26 May 2023. | The committee after detailed deliberation and requested to re-circulate the document as **P- Circulation** **for their views/ comments**. If no comments were received within 21 days, it can be circulate as WC for a period of 1 month.  **Action taken:**  It is to inform to the committee that as per the decision of the committee in its previous meeting the draft was recirculated as P circulation on 27-09-2023 for a period of 21 days inviting comments till 18-10-2023.**However no comments were received**.  The standards covers low temperature disintegration index and reducibility determinations. Only editorial changes have been done in the standard. It is proposed to drop the revision of the standard for the reasons listed in **Item** **C-16.1.1 of Annex C** of the agenda of this meeting. | The committee after deliberation decided **to drop the revision of the standard** as of now since only the editorial changes have been done in the standard and requested newly formulated working group WG-1 under Panel 3 as mentioned above in Item 2.3 of this minutes to review IS 11284: 1985 vis-à-vis ISO standard ISO 11257:2022 “Iron ores for shaft direct-reduction feedstock’s — Determination of the low-temperature reduction-disintegration index and degree of metallization “ and ISO 11258:2015 “Iron ores for shaft direct-reduction feedstock’s — Determination of the reducibility index, final degree of reduction and degree of metallization” and give recommendations on the adoption of ISO standards/revision of IS 11284: 1985 before next committee meeting. The recommendations so **received will be discussed** in the next committee meeting. |
|  | **ISO/DIS 8371**: Iron ores for blast furnace feedstocks — Determination of the  Decrepitation index. | The committee in its 23rd TC meeting decided to adopt the ISO/DIS 8371.  **Action taken:**  National foreword is prepared by BIS and is placed below:    National foreword has been sent for Wide Circulation | The committee noted the information given in Item 2.1 ATR Sl. No 17 of the agenda.  **Action taken:**  It was being proposed to drop the revision of the standard for the reasons listed [in **Item** **C-2.1 of Annex C of the agenda of this meeting.**](#bookmark=id.49x2ik5) | The committee, after discussing the request from Dr. Krishnakant Prasad and Shri A. Rajasekaran of M/S Agni Steel Private Limited, Erode, has tasked them with reviewing the following standards:   * IS 10823:2018 – Methods for determining the Thermal Degradation Index (TDI) and Reduction Degradation Index (RDI) of iron ores (lump ores, sinter, and pellets) * ISO 8371:2024 – Iron ores for blast furnace feedstocks: Determination of the decrepitation index (specific to lump ores for blast furnaces) * ISO 4696-1:2015 – Determination of low-temperature reduction-disintegration indices (using CO, CO2, H2, and N2) by static method * ISO 4696-2:2015 – Determination of low-temperature reduction-disintegration indices (using CO and N2) by static method * ISO 13930:2015 – Determination of low-temperature reduction-disintegration indices by dynamic method   The committee has requested a comparative report on IS versus ISO standards, along with recommendations on whether to adopt or modify the ISO standards, before the next meeting. The committee also requested Dr. Prasad and Mr. Rajasekaran to continue their review and provide recommendations on whether the TDI and RDI procedures in IS 10823 can be harmonized with the ISO standards or if modifications are needed or they are different altogether. Furthermore, they should consult relevant industry stakeholders and laboratories to determine whether IS or ISO procedures are being followed in laboratories and industries  Additionally, after further discussions, the committee acknowledged that the procedure in ISO 8371 for TDI differs from IS 10823 in respect that, the tumbler test after thermal shock, is required in IS 10823, is used to disintegrate weak particles and apart from that the other parameters are almost same along with formula for decrepitating index. Given this, the committee has decided to proceed withhold the publication of the draft till the recommendation from the above members are received. |

# ITEM 4 LIST OF INDIAN STANDARDS OF MTD-15

* 1. The committee noted the updated list of Indian standards formulated by MTD-13 given in Item **4.1** of the agenda of this meeting.

# ITEM 5 COMMENTS ON PUBLISHED STANDARDS

* 1. The committee noted the information given in Item **5.1** and **5.2** of the agenda of this meeting and after deliberation decided as follows:

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| Sl no. | Indian Standard | Comments | Action taken | Decision of the committee in this meeting |
| 1. | IS 11282 : 2000 Laboratory Pot-Grate Sintering Tests For Iron Ore Fines - Guidelines | Comment was received from Shri S. Acharya of M/s SAIL-RDCIS, Ranchi vide portal dated 10 Oct 2023. Comment is given below: | Member Secretary of MTD 13 had circulated the comments among the committee member. | It is not properly mentioned what is to be replaced with the existing standard in the comment so received. Hence the committee after deliberation requested RDCIS to give proper inputs which needs to be replaced with the existing content in the standard. The committee further deliberated that the inputs so received from RDCIS will discussed in the next committee meeting.  For more details please refer to the Item no 6.2 Sl no 1 of this minutes. |
| 2. | IS 8604: 1977 Determination Of Compression Strength Of Iron Ore Pellets After Reduction - Method (First Revision) | Comment was received from Shri S. Acharya of M/s SAIL-RDCIS, Ranch vide portal dated 09 Oct 2023. Comment is given below: | Member Secretary of MTD 13 had circulated the comments among the committee member. | The committee after deliberation requested Panel 3 so formulated as mentioned above in Item no 2.3 of this minutes to address the comment so received from RDCIS SAIL to replace the 10 kN with 5kN and give final suggestions/recommendation.  For more details please refer to the Item no 6.2 Sl no 3 of this minutes. |
| 3. | IS 5632: 1970 Specification For Wolframite Concentrate (First Revision) | Comment was received from Shri S. Acharya of M/s SAIL-RDCIS, Ranch vide portal dated 09 Oct 2023. Comment is given below: | Member Secretary of MTD 13 had circulated the comments among the committee member. | The committee after deliberation agreed to the comments received from RDCIS SAIL to include a)Net weigh of each package b)Percentage of tungsten oxide (WO3) in the concentrate in the marking clause.  For more details please refer to the Item no 3.1 Sl no 7 of this minutes. |

# ITEM 6 REVIEW OF INDIAN STANDARDS

* 1. The committee noted the information given in Item **6.1 and 6.2** of the agenda of this meeting and after detailed deliberations on Item **6.2** with respect to the standardswhich is due for review this FY year (i.e 2024-2025) as mentioned below decided to **reaffirm these standards** as of now and take up for review at later stage and further decided to send IS 9663 to ISO for formulation of new standard. (**Also refer to Item 7.3 of the minutes of this meeting)**

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| SL. No. | IS Number | IS Title | Last Reaffirmation Year | Due Date |
| 1 | IS 9963 : 1981  Reviewed In : 2020 | Determination of shatter index of iron ore lumps, sinters and pellets | 2020 | March, 2025 |
| 2 | IS 16182 : 2014  Reviewed In : 2020 | Magnetics in char from coal based sponge iron (DRI) - Methods of determination | 2020 | March, 2025 |

**6.2** The committee noted the information given in Item **6.3** of the agenda of this meeting with respect to the ARPs Submitted by BIS officers/members and deliberation decided as follows:

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| **Sl. No.** | **Indian Standard** | **ARP report** | **Decision of the committee in its previous meeting / Action Taken** | **Decision of the committee during this meeting** |
|  | IS 11282 : 2000 Guidelines for laboratory Pot - Grate sintering tests for iron ore fines (First Revision) | As a part of Action Research Project, Member secretary of MTD 13 has reviewed IS 11282 and submitted following observation:    **Action Taken:**  The document is circulated among member on 26 July 2023. | The committee after detailed deliberation and decided to circulate the document as Wide Circulation for their views/ comments. If no comments were received within 30 days, it can be sent for printing.  **Action taken/Remarks:**  The document was sent for wide circulation. However, comments were received from RDCIS SAIL. It was requested to SAIL to give the complete comments that what actual replacement is required in the standard. | The committee noted the information given in Item **6.3** Sl no 1 of the agenda of this meeting and after deliberation requested RDCIS to give proper inputs what needs to be replaced with the existing content in the draft circulated standard. The decision for sending the revised draft for printing will be taken in the next meeting after discussing the inputs so received from RDCIS. |
|  | IS 11283: 1985 Method for determination of softening point of iron oxides (In Powder Form); lump ore, sinter and pellets. | As a part of Action Research Project, Member secretary of MTD 13 has reviewed IS 11283 and submitted following observation:    **Action Taken:**  The document is circulated among member on 27July 2023. | The committee after detailed deliberation and decided to circulate the document as Wide Circulation for their views/ comments. If no comments were received within 30 days, it can be sent for printing.  **Remarks:**  The committee is requested to drop the revision and withdraw the standard on the basis of explanation given in **[Item C-3 of Annex C of this agenda.](#bookmark=id.2p2csry)** | As the determination of softening point of iron oxide in powdered form is now not relevant and obsolete, also this standard gets merged with IS 9660:2001 and gets superseded. **Hence the committee after deliberation decided to drop the revision and withdraw the standard** and supersede with IS 9660. |
|  | IS 8604: 1977  Method for determination of compression strength of iron ore pellets after reduction | As a part of Action Research Project, Member secretary of MTD 13 has reviewed IS 8604 and submitted following observation:    **Action Taken:**  The document is circulated among member on 04 Aug 2023. | The committee after detailed deliberation and decided to circulate the document as Wide Circulation for their views/ comments. If no comments were received within 30 days, it can be sent for printing.  **Remarks:**  The document was sent for wide circulation. Comments were received from RDCIS SAIL to replace the 10 kN with 5KN. The committee is requested to drop the revision on the basis of explanation given in **[Item C-4.1 of Annex C of the agenda of this meeting.](#bookmark=id.147n2zr)** | The committee noted the information given in **Item 6.3 Sl no 3 of the agenda of this meeting** and after deliberation requested Panel 3 so formulated as mentioned above in Item no 2.3 of this minutes to address the comment so received from RDCIS SAIL to replace the 10 kN with 5kN and give final suggestions/recommendation. The committee further deliberated that the finalize revised draft so formulated will be sent for printing with the permission of the chairperson. Further the committee requested Panel 3 to find, if there is any related Indian standard to **ISO 7992:2022 “**Iron ores for blast furnace feedstocks — Determination of reduction under load” to do a comparative study between them and submit recommendations/comparative report on the adoption of this ISO standard. |
|  | IS 8625 : 1986  Determination of crushing strength of iron ore pellets (First Revision) | As a part of Action Research Project, Member secretary of MTD 13 has reviewed IS 8625.  **Action Taken:**  The initial review has been conducted by the member secretary, and a working draft has been prepared as follows: | The committee after detailed deliberation and decided to P-circulate the document once again for their views/ comments. Further, member secretary may take views from Shri Vibuthi roshan of M/s NMDC.  **Remarks:**  The committee is requested to drop the revision on the basis of explanation given in **[Item C-4.1 of Annex C of the agenda.](#bookmark=id.147n2zr)** | The committee noted the information given in **Item 6.3 Sl no 4 of the agenda of this meeting** and after deliberation decided to drop the revision of the standard as of now and requested Panel 3 so formulated as mentioned above in Item no 2.3 of this minutes to do a comparative study of this standard vis-à-vis **ISO 4700 : 2015 “Iron ore pellets for blast furnace and direct reduction feedstocks — Determination of the crushing strength”** and submit the comparative report along with final recommendations on the adoption of this ISO standard**.** |
|  | IS 9101 : 1979 Methods of sampling iron ore pellets | As a part of Action Research Project, Member secretary of MTD 13 has reviewed IS 9101.  **Action taken:**  The initial review has been conducted by the member secretary, and a working draft has been prepared as follows: | The committee after detailed deliberation and decided to P-circulate the document once again for their views/ comments.  **Remarks:**  The committee is requested to drop the revision on the basis of explanation given **in** **[Item C-9.2 of Annex C.](about:blank)** | The committee noted the information given in Item 6.3 Sl no 5 of the agenda of this meeting and after deliberation decided to drop the revision of the standard as of now as no change has been done except for bringing it out in latest format of BIS in its P draft so formulated. The committee further decided to assign the task to Panel-2 so formulated as mentioned above in Item no 2.3 of this minutes to review the three IS standards IS 1405, IS 9101, IS 11607 vis-à-vis ISO 3082 and submit their comparative report on between these IS and ISO 3082 and recommendations on ISO adoption/modification |

**ITEM 7 OTHER DISCUSSION ITEMS**

* 1. The committee noted the information given in Item **C-3.1**of **ANNEXURE**-**C** of the agenda of this meeting and after deliberation decided to withdraw and drop the revision of IS 11283 : 1985- “Method for determination of softening point of iron oxides (In Powder Form); lump ore, sinter and pellets” as the determination of softening point of iron oxide in powdered form is now not relevant and obsolete, also this standard gets merged with and superseded by IS 9660:2001. Please refer to Item **6.2** Sl No **2** of this minutesfor more details.
  2. The committee noted the information given in Item **C-4.1**of **ANNEXURE**-**C** of the agenda of this meeting and after deliberation decided to drop the revision of the standard IS 8625: 1986 - Determination of crushing strength of iron ore pellets (First Revision) as of now and take up for review at later stage upon receiving the recommendation from Panel 3 so formulated as mentioned above in Item no **2.3** of this minutes. For more details please refer to Item **6.2** Sl no **4** of this minutes. Further with respect to IS 8604: 1977 Determination of Compression Strength of Iron Ore Pellets After Reduction - Method (First Revision) the committee after deliberation requested Panel 3 so formulated as mentioned above in Item no 2.3 of this minutes to address the comment so received from RDCIS SAIL and give final suggestions/recommendation. The committee further deliberated that the finalize revised draft so formulated will be sent for printing with the permission of the chairperson, please refer to Item **6.2** Sl no **3** of this minutes for more details.
  3. The committee noted the information given in Item **C- 6** of **ANNEXURE**-**C** of the agenda of this meeting and after deliberation requested newly formulated Panel-1 {Panel on Terminology of Iron Ore (Lump and processed ore) and DRI} as mentioned above in Item 2.3 of this minutes to study the standard ISO 11323 : 2010 “Iron ore and direct reduced iron — Vocabulary” , JIS M 8700 and GB/T 20565-2022, and submit their report/recommendation to the committee whether to adopt or to modify the ISO standard before the next committee meeting.
  4. The committee noted the information given in Item **C-7.1** and **C-8.1** of **ANNEXURE**-**C** of the agenda of this meeting and after deliberation requested newly formulated panel Panel-2 as mentioned above in Item 2.3 Sl no 2 of this minutes to review **IS 12250 : 1988** “Methods of determining particle size distribution of iron ore fines” vis-à-vis **ISO 4701:2019** “Iron ores and direct reduced iron — Determination of size distribution by sieving” and submit the comparative report/recommendation/suggestion on the adoption of this ISO standard. The committee further requested Panel-2, also to review **IS 11690 : 1986** “Method of moisture determination of iron ore lot” vis-à-vis **ISO 3087 : 2020** “Iron ores — Determination of the moisture content of a lot” and submit the comparative report/recommendation/suggestion on the adoption of this ISO standard harmonizing it with the Indian standard.

**7.2** The committee noted the information given in Item **C-9** of **ANNEXURE**-**C** of the agenda of this meeting and after deliberation requested newly formulated working group WG-1 under Panel-2 as mentioned above in Item 2.3 Sl no 2 of this minutes to review **IS 13344: 1992** – “Methods for checking the bias of sampling of ores” along with **IS 15944 : 2011/ISO 3086 : 2006** “Iron ores - Experimental methods for checking the bias of sampling” and give suggestion/recommendations on the withdrawal of IS **IS 13344: 1992** as the assistant has already been derived from ISO 3086 :2006 during the formulation of this standard.

**7.3** The committee noted the information given in Item **C-11.1** of **ANNEXURE-C** of the agenda of this meeting and after deliberation decided to propose the formulation of standard at ISO on “Determination of shatter index of iron ore lumps, sinters, and pellets” as that of our indigenous Indian standard IS 9963: 1981 and nominated members from the committee listed below as an expert to ISO for the same. The committee further requested the nominated members to fill the form 4 enclosed below regarding its significance, users etc and send it to BIS for submitting it to ISO.



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| **Sl No.** | **Organization** | **Member** |
|  | Mitra SK Private Limited, Kolkata | Shri P.L. Bose(project leader) |
|  | National Mineral Development Corporation, Hyderabad | Shri Vibhuti Roshan (Convener) |
|  | Tata Steel Limited, Jamshedpur | Dr. A. K. Mukherjee |
|  | Arcelor Mittal and Nippon Steel India Limited, Vishakapatnam | Dr. Atanu Ranjan Ojha |

**7.4** The committee noted the information given in Item **C-12** of **ANNEXURE**-**C** of the agenda of this meeting and after deliberation decided to allocated the task to Panel 3 formulated during this meeting the details of which is mentioned above in Item 2.3 Sl no 2 of this minutes for reviewing of **IS 8167: 1989** “Method for determination of reducibility index of iron ore oxides: lumps, ore, sinter, and pellets (First Revision)” and **IS 11292 : 1985** “Method for determination of relative reducibility of iron oxides: lump ores, sinter and pellets” vis-à-vis **ISO 4695:2021** “Iron ores for blast furnace feedstocks — Determination of the reducibility by the rate of reduction index” and **ISO 7215:2015** “Iron ores for blast furnace feedstocks — Determination of the reducibility by the final degree of reduction index” respectively and submit the comparative report/recommendation/suggestion on the adoption of these ISO standards harmonizing it with the corresponding Indian standard.

**7.5** The committee noted the information given in Item **C-16** of **Annexure C** of the agenda of this meeting on test methods for raw materials for DRI which include **IS 11284: 1985** - Rotary tube test for iron bearing materials for the manufacture of sponge iron/direct reduced iron (DRI) and **IS 14795 : 2000** Method for determination of clustering of iron oxide feedstock for direct reduction processes and after deliberation decided to **allocate the task to WG-1 of Panel 3** (earlier constituted as Panel 4) as mentioned above at Item no **2.3** of this minutes.

With respect to **IS 11284: 1985** since only the editorial changes have been done in the standard hence the committee after deliberation decided to drop the revision of the standard as of now and **requested the working group -1 to review IS 11284: 1985** **vis-à-vis ISO standard ISO 11257:2022** “Iron ores for shaft direct-reduction feedstock’s — Determination of the low-temperature reduction-disintegration index and degree of metallization “ and **ISO 11258:2015** “Iron ores for shaft direct-reduction feedstock’s — Determination of the reducibility index, final degree of reduction and degree of metallization” and submit their comparative report on IS and ISO standards/recommendation on adoption of ISO standards. Please refer to Item No **3.1** **Sl No 10** of this minutes for more details.

The committee further accepted the recommendation given by previous panel (earlier constituted as Panel 4) on adoption of ISO 11256 : 2015 “Iron ore pellets for shaft direct-reduction feedstocks — Determination of the clustering index” and requested member secretary to prepare national foreword for adoption and sent it for Wide circulation for a period of one month. The comments if any received will be taken care by WG-1 of Panel 3.

**7.6** The committee noted the information given in Item **C-2, C-5, C-10, C-13, C-14 and C-15** of **ANNEXURE**-**C** of the agenda of this meeting and after deliberation decided to discuss it in the next years’s AAP and requested MS to prepare a plan for the same.

**7.7** The committee after deliberation decided to conduct the next committee meeting on the last week of January 2025 in Physical mode. The final date and venue will be decided with concurrence of the chairperson and the members of the committee.