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**भारतीय मानक ब्‍यूरो**

**BUREAU OF INDIAN STANDARDS**



**AGENDA**

| Name of the Committee | Meeting No. | Day | | Date | Time | Mode of Meeting |
| --- | --- | --- | --- | --- | --- | --- |
| **Earth Moving Equipment and Material Handling Sectional Committee, MED 07** | 35th | Friday | | 20 December 2024 | 10:30 AM onwards | Hybrid\* |
| *\* Ways to join the Meeting:*  * **Through physical presence:**   **Venue:** Indian Institute of Technology Indore, Khandwa Rd, Simrol, Madhya Pradesh, 453552   * **Join from the Webex meeting link:**   VC Meeting URL:  Meeting ID :  Password : | | | | | | |
| **Chairperson:** Shri D B Naik  Dy Director Gen (Mech)  DGMS | | | **Member Secretary:** Shri Shubham Yadav  Scientist ‘C’  (Mech. Engg. Deptt), BIS | | | |

**ITEM 0 WELCOME AND OPENING REMARKS**

Welcome and opening remarks by the Head (MED), BIS.

Welcome and opening remarks by the Chairman.

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

The minutes from the 34th Meeting of the Earth Moving Equipment and Material Handling Sectional Committee (MED 07), held in hybrid mode on June 25, 2024, were circulated to committee members on the BIS portal.

*No* *comments* *have* *been* *received* on *the* *circulated* *minutes.* *Therefore, the* *committee* *may* *proceed to confirm the minutes of the meeting*.

**ITEM 2**

**2.1 Finalization of Documents in WC-Stage**

**2.1.1 Earth Moving Machinery**

| **Sl No.** | **Document No./IS No.** | **IS Title** | **Document Type** | **Document Stage** | **Remarks** |
| --- | --- | --- | --- | --- | --- |
|  | MED/07/19316  IS 10678: 1983 | DATASHEET FOR DESIGN SELECTION OF VACUUM PRODUCER | Revision | WC-Draft | No comments |
|  | MED/07/21445  IS 12137: 1987 | GENERAL REQUIREMENTS OF WAGON PULLER PUSHER First Revision | Revision | WC-Draft | No comments |
|  | MED/07/24665  (Identical To: ISO 10263-1: 2009) | EARTH-MOVING MACHINERY OPERATOR ENCLOSURE ENVIRONMENT PART 1 TERMS AND DEFINITIONS (Adoption of ISO 10263-1) | New | WC-Draft | No comments |
|  | MED/07/24667  (Identical To: ISO 10263-5: 2009) | EARTH-MOVING MACHINERY OPERATOR ENCLOSURE ENVIRONMENT PART 5 WINDSCREEN DEFROSTING SYSTEM TEST METHOD Adoption of ISO 10263-5 | New | WC-Draft | No comments |

***The documents mentioned above in the Sr. No. 1 to 4 table have completed their circulation period. No comments have been received on these documents. The committee is requested to approve them for printing.***

**2.1.2 Material Handling**

| **Sl No.** | **Document No./IS No.** | **IS Title** | **Document Type** | **Document Stage** | **Comment on the Draft** | **Name of the Commenter** |
| --- | --- | --- | --- | --- | --- | --- |
| **1.** | MED/07/19314  IS 10463: Part 6: 1983 | GLOSSARY OF TERMS FOR BULK HANDLING EQUIPMENT PART 6 CYCLIC LOOSE BULK HANDLING EQUIPMENT NON-STATIONARY | Revision | WC-Draft | No comments | **NA** |
| **2.** | MED/07/19315  IS 10463: Part 2: 1985 | GLOSSARY OF TERMS FOR BULK HANDLING EQUIPMENT PART 2 STACKING LOADING AND RECLAIMING EQUIPMENT | Revision | WC-Draft | No comments | **NA** |
| **3** | MED/07/20952  IS 14704: 1999 | BULK HANDLING EQUIPMENT BAG STACKER CUM LOADER PORTABLE DESIGN AND CONSTRUCTION GENERAL REQUIREMENTS First Revision of IS 14704 | Revision | WC-Draft | No comments | **NA** |
| **4** | MED/07/21121  IS 13113: 1991 | BULK HANDLING EQUIPMENT WAGON MARSHALLING EQUIPMENT ENDLESS ROPE TYPE DATASHEET | Revision | WC-Draft | No comments | **NA** |
| **5** | MED/07/21122  IS 14418: 1996 | BULK HANDLING EQUIPMENT SHIP LOADER RAIL MOUNTED DESIGN MANUFACTURE AND ERECTION CODE OF PRACTICE | Revision | WC-Draft | No comments | **NA** |
| **6** | MED/07/21447  IS 11738: Part 1: 1993 | BULK HANDLING EQUIPMENT CRAWLER TRACTORS DATA SHEET PART 1 INFORMATION TO BE SUPPLIED BY PURCHASER (Second Revision) | Revision | WC-Draft | [**Comment Detail.pdf**](https://drive.google.com/file/d/1Z-atXZvwpg-X4dj4UTPGicJW4Koh_nef/view?usp=drive_link) | Shri K. Reji Jose |
| [**IS 11738 (Part 1).pdf**](https://drive.google.com/file/d/10GVSde1N4D0MeuO9WHeYuVV8R7mNB-YC/view?usp=drive_link) |
| **7** | MED/07/21449  IS 11738: Part 2: 1993 | BULK HANDLING EQUIPMENT CRAWLER TRACTORS DATA SHEET PART 2 INFORMATION TO BE SUPPLIED BY MANUFACTURERS SUPPLIER (Second Revision) | Revision | WC-Draft | [**Comment Detail 2.pdf**](https://drive.google.com/file/d/1nRJKzeJ1zveAv1DX0zlNJUFAvxjFqByv/view?usp=drive_link) | Shri K. Reji Jose |
| [**IS 11738 (Part 2).pdf**](https://drive.google.com/file/d/1RonbuNHTykv0EMMcAekYnMsMI7T7LVqw/view?usp=drive_link) |

***The documents listed from Sr. No. 1 to 5 have completed their circulation period, and no comments have been received on these drafts. Additionally, the documents were assigned to the panel, but again, no feedback has been provided. The committee is requested to approve these documents for printing.***

***Furthermore, for Sr. Nos. 6 and 7, the committee is asked to discuss the comments received from Shri Reji Jose and finalize the documents for printing.***

**2.2 Documents in Printing-Stage**

| **Sl No.** | **Document No./IS No.** | **Is Title** | **Document Type** | **Document Stage** |
| --- | --- | --- | --- | --- |
|  | MED/07/23268(Identical To: ISO 21815-1 : 2022) | EARTH-MOVING MACHINERY COLLISION WARNING AND AVOIDANCE PART 1: GENERAL REQUIREMENTS | New | MED/07/23268(Identical To: ISO 21815-1 : 2022) |
| 2. | MED/07/23239(Identical To: ISO 19014-5:2021) | EARTH-MOVING MACHINERY FUNCTIONAL SAFETY PART 5: TABLES OF PERFORMANCE LEVELS | New | MED/07/23239(Identical To: ISO 19014-5:2021) |
| 3 | MED/07/21833IS/ISO 6165: 2012(Identical To: ISO 6165:2022) | EARTH MOVING MACHINERY BASIC TYPES IDENTIFICATION AND VOCABULARY ( Second Revision ) | Revision | MED/07/21833IS/ISO 6165: 2012(Identical To: ISO 6165:2022) |
| 4 | MED/07/23269(Identical To: ISO 19014-4:2020) | EARTH-MOVING MACHINERY FUNCTIONAL SAFETY PART 4: DESIGN AND EVALUATION OF SOFTWARE AND DATA TRANSMISSION FOR SAFETY-RELATED PARTS OF THE CONTROL SYSTEM | New | MED/07/23269(Identical To: ISO 19014-4:2020) |
| 5 | MED/07/23238(Identical To: ISO 19014-2:2022) | EARTH-MOVING MACHINERY FUNCTIONAL SAFETY PART 2: DESIGN AND EVALUATION OF HARDWARE AND ARCHITECTURE REQUIREMENTS FOR SAFETY-RELATED PARTS OF THE CONTROL SYSTEM | New | MED/07/23238(Identical To: ISO 19014-2:2022) |
| 6 | MED/07/23270(Identical To: ISO 10263-6:2009) | EARTH-MOVING MACHINERY OPERATOR ENCLOSURE ENVIRONMENT PART 6: DETERMINATION OF EFFECT OF SOLAR HEATING | New | MED/07/23270(Identical To: ISO 10263-6:2009) |
| 7 | MED/07/23240(Identical To: ISO 24410:2020) | EARTH-MOVING MACHINERY COUPLING OF ATTACHMENTS TO SKID STEER LOADERS | New | MED/07/23240(Identical To: ISO 24410:2020) |

***The documents are currently in the printing stage. The committee will be informed when the printing is complete.***

**ITEM 3 REVIEW AND REAFFIRMATION OF INDIAN STANDARDS**

**3.1 Revision of standards for 2024-2025**

| **Sl No.** | **IS No** | **Title** | **Due Date** | **Status** |
| --- | --- | --- | --- | --- |
| 1 | IS 11113: 1999 ISO 5353:1995 | Earth-moving machinery, and tractors and machinery for agriculture and forestry - Seat index point (*second revision*) | March, 2025 | No changes in ISO standard. |
| 2 | IS 12645: 1993 ISO 9246:1988 | Earth - Moving machinery - Crawler and wheel tractor dozer blades - Volumetric ratings (First Revision) | March, 2025 | No changes in ISO standard. |
| 3 | IS/ISO 10968: 2020 | Earth-Moving Machinery - Operator’s Controls ( First Revision ) | March, 2025 | No changes in ISO standard. |
| 4 | IS/ISO 7135: 2009 | Earth - Moving machinery - Hydraulic excavators - Terminology and commercial specifications | March, 2025 | No changes in ISO standard. |
| 5 | IS/ISO 7096: 2020 | Earth-Moving Machinery — Laboratory Evaluation of Operator Seat Vibration ( First Revision ) | March, 2025 | No changes in ISO standard. |
| 6 | IS/ISO 13766-1: 2018 | Earth-Moving and Building Construction Machinery - Electromagnetic Compatibility (EMC) of Machines with Internal Electrical Power Supply Part 1 General EMC Requirements Under Typical Electromagnetic Environmental Conditions | October, 2024 | No changes in ISO standard. |
| 7 | IS/ISO 13766-2: 2018 | Earth-Moving and Building Construction Machinery - Electromagnetic Compatibility (EMC) of Machines with Internal Electrical Power Supply Part 2 Additional EMC Requirements for Functional Safety | October, 2024 | No changes in ISO standard. |
| 8 | IS/ISO 19014-1: 2018 | Earth-Moving Machinery - Functional Safety Part 1 Methodology to Determine Safety-related Parts of the Control System and Performance Requirements | October, 2024 | No changes in ISO standard. |
| 9 | IS/ISO 19014-3: 2018 | Earth-Moving Machinery - Functional Safety Part 3 Environmental Performance and Test Requirements of Electronic and Electrical Components Used in Safety-Related Parts of the Control System | October, 2024 | No changes in ISO standard. |
| 10 | IS/ISO 4250-3: 2020 | Earth mover tyres and rims- Part 3: Rims Adoption of ISO 4250 Part 3:2020 First Revision | March, 2025 | No changes in ISO standard. |
| 11 | IS 16479: 2020 | Performance Requirements and Test Procedures of Braking Systems for Wheeled or High-Speed Rubber Tracked Earth Moving Machines and Construction Equipment Vehicles ( First Revision ) | March, 2025 |  |
| 12 | IS 17055 (Part 11): 2020 | Earth-Moving Machinery — Safety Part 11 Requirements for Earth and Landfill Compactors ( Second Revision ) | March, 2025 |  |
| 13 | IS 17055 (Part 8): 2020 | Earth-Moving Machinery — Safety Part 8 Requirements For Graders ( Second Revision ) | March, 2025 |  |
| 14 | IS 17055 (Part 9): 2020 | Earth-Moving Machinery — Safety Part 9 Requirements for Pipelayers ( Second Revision ) | March, 2025 |  |
| 15 | IS 17055 (Part 10): 2020 | Earth-Moving Machinery — Safety Part 10 Requirements for Trenchers ( Second Revision ) | March, 2025 |  |
| 16 | IS 17055 (Part 12): 2020 | Earth-Moving Machinery — Safety Part 12 Requirements for Cable Excavators ( Second Revision ) | March, 2025 |  |
| 17 | IS 17055 (Part 13): 2020 | Earth-Moving Machinery — Safety Part 13 Requirements for Rollers ( Second Revision ) | March, 2025 |  |
| 18 | IS 17055 (Part 4): 2020 | Earth-Moving Machinery — Safety Part 4 Requirements for Backhoe Loaders ( Second Revision ) | March, 2025 |  |
| 19 | IS 17055 (Part 7): 2020 | Earth-Moving Machinery — Safety Part 7 Requirements for Scrapers ( Second Revision ) | March, 2025 |  |
| 20 | IS 17055 (Part 2): 2020 | Earth-Moving Machinery - Safety Part 2 Requirements for Tractor Dozers (second revision) | March, 2025 |  |
| 21 | IS 17055 (Part 15): 2020 | Earth-Moving Machinery â€” Safety Part 15 Requirements for Compact Tool Carriers | March, 2025 |  |

***The standards listed from Sr. No. 1 to 10 are the ISO adoptions with their latest revisions, meaning there have been no changes to the ISO base standard as of this date. The committee is requested to make a decision regarding the revision of the standard using the ARP method assigned to the member secretary and other members. The ARP will be circulated to all members on the BIS portal for a duration of 15 days. If no comments are received, the standard will be reaffirmed on the portal.***

***For the revision of the standard mentioned from 11 to 21, the following panel has been created:***

1. Shri V. Bhaskaran, Caterpillar India Private Limited, Chennai,
2. Shri K. Reji Jose, Caterpillar India Private Limited, Chennai,
3. Shri Vikrant Sharma, Komatsu India Private Limited, Bengaluru,
4. Shri Vivek Rawat, JCB India Limited, New Delhi
5. Shri Karthik Kaliappan, John Deere India Private Limited, Mumbai
6. Representation from Tata Steel and Coal India
7. Shri Shubham Yadav (Member Secretary, BIS)

***The panel is requested to submit their recommendations.***

**ITEM 3.2 Archiving of the Standards**

**The following standards have been identified for archiving. The committee may please discuss and decide;**

| **Sr. No.** | **IS Number** | **IS Title** | **Last Reaffirmation/Revision Year** | **Due for Review ( Put last date of the month i.e 31 December 2025)** | **Remarks** |
| --- | --- | --- | --- | --- | --- |
| 1 | IS 4616: 1968 | Specification for sheepsfoot roller | 2022 | 31-Mar-2027 | License : 0 |
| 2 | IS 10689: 1993  ISO 2860:1992 | Earthmoving machinery - Minimum access dimensions (first revision) | 2021 | 28-Feb-2026 | License : 0 |
| 3 | IS 11249: 1985 | Datasheet for selection of front-end loaders | 2023 | 31-Mar-2028 | License : 0 |
| 4 | IS 11496: 1985 | General and performance test requirements of pallet truck and stillage truck | 2022 | 31-Mar-2027 | License : 0 |
| 5 | IS 12140: 1987 | Datasheet for selection of dumpers | 2023 | 31-Mar-2028 | License : 0 |
| 6 | IS 13076: 1991 | Hand trolley for carrying mail bags - Specification | 2023 | 31-Mar-2028 | License : 0 |
| 7 | IS 13081: 1991 | Earthmoving machinery - Symbols - Guidelines for development and evaluation | 2022 | 31-Mar-2027 | License : 0 |
| 8 | IS 13652: 1993 | Bulk Handling Equipment - Dumper - Supplier's Data Sheet | 2023 | 31-Mar-2028 | License : 0 |
| 9 | IS 13685 (Part 1): 1993 | Bulk handling equipment - Ship loader - Rail mounted - Datasheet for selection: Part 1 information to be supplied by purchaser | 2023 | 31-Mar-2028 | License : 0 |
| 10 | IS 13685 (Part 2): 1993 | Bulk handling equipment - Ship loader - Rail mounted data sheet for selection: Part 2 information to be supplied by manufacturer/supplier | 2023 | 31-Mar-2028 | License : 0 |
| 11 | IS 14417: 1996 | Bulk handling equipment - Single boom slewable stacker - Rail mounted - Design, manufacture and erection - Code of practice | 2022 | 31-Mar-2027 | License : 0 |
| 12 | IS 10506: 1996 | Trolley for carrying jute bales - Specification (First Revision) | 2022 | 31-Mar-2027 | License : 0 |
| 13 | IS 12359: 1988 | Guide for selection of wheels and castors | 2022 | 31-Mar-2027 | License : 0 |
| 154 | IS 13951: 1994 | Heavy item lift platform for aircraft/airport operations - General requirements | 2022 | 31-Mar-2027 | License : 0 |
| 15 | IS 13989: 1994 | Bulk handling equipment - Bagging machines (Mechanical Type) - Design and construction - General requirements | 2023 | 31-Mar-2028 | License : 0 |
| 16 | IS 13992: 1994 | Bulk handling equipment - Bagging machines (Electronic Type) - Design and construction - General requirements | 2023 | 31-Mar-2028 | License : 0 |
| 17 | IS 14416: 1996 | Bulk handling equipment - Boom type bucket wheel reclaimer - Rail mounted - Design, manufacture and erection - Code of practice | 2022 | 31-Mar-2027 | License : 0 |
| 18 | IS 10303: 1993 | Earthmoving machinery - Preservation and storage (First Revision) | 2022 | 31-Dec-2027 | License : 0 |

**ITEM 4 INTERNATIONAL ACTIVITIES**

**4.1** India is having membership on the following ISO committees related to MED 07:

The list of the Working Groups of ISO/TC 127 and its SCs are as under:

| **Sl No.** | **Reference** | **Title** | **Type** | **Nomination of expert for the SCs/working group** |
| --- | --- | --- | --- | --- |
| 1) | [ISO/TC 127/SC 1](https://www.iso.org/committee/52176.html) | Test methods relating to safety and machine performance | Subcommittee |  |
| 2) | [ISO/TC 127/SC 2](https://www.iso.org/committee/52180.html) | Safety, ergonomics and general requirements | Subcommittee | Shri Reji Jose has already requested to update his nomination and was accepted by the committee. |
| 3) | [ISO/TC 127/SC 3](https://www.iso.org/committee/52188.html) | Machine characteristics, electrical and electronic systems, operation and maintenance | Subcommittee | Shri Reji Jose has already requested to update his nomination and was accepted by the committee |
| 4) | [ISO/TC 127/SC 4](https://www.iso.org/committee/52192.html) | Terminology, commercial nomenclature, classification and ratings | Subcommittee |  |
| 5) | ISO/TC 127/AHG 3 | Investigation regarding the differences between block handlers and wheel loaders | Working group |  |
| 6) | ISO/TC 127/CAG | Chair's Advisory Group | Working group |  |
| 7) | ISO/TC 127/SG 1 | ISO Off-Road Mobile Work Machine | Working group |  |
| 8) | ISO/TC 127/WG 8 | Sustainability | Working group |  |
| 9) | ISO/TC 127/WG 17 | Rechargeable Energy Storage System (RESS) application for EMM (ISO 5757) | Working group |  |

**Point of Action:**

1. ***Committee members are requested to update their nominations for experts on the ballots, provide comments on the draft at various stages, and nominate conveners etc, for ISO/TC 127. It is mandatory to nominate an expert for ballots classified as medium and high priority.***
2. Demo of IRD Portal.
3. **The nomination has been received from Ms Christina Ebenezer from Caterpillar India Private Limited for working group ISO/TC127/SC3/JWG16 Secure high-speed mobile data communication. The committee is requested to accept the nomination.**

**4.2 Finalization of Indian Delegation for ISO/TC 127 Plenary Meeting scheduled from 17 March 2025 to 20 March 2025**

This is in reference to the forthcoming Plenary Meeting of ISO/TC 127, "Earth-moving machinery", scheduled from 17 March 2025 to 20 March 2025. The meeting will be conducted in a hybrid mode, allowing both virtual participation via Zoom and in-person attendance in Hamburg, Germany. As the Member Secretary of MED 07, I am forwarding herewith the details of the proposed Indian delegation for participation in the upcoming ISO/TC 127 Plenary Meeting and Subcommittees.

The nominations received from members of MED 07 are as follows:

| Sl. No. | Member Name | Organization | Email | Sectional Committee | Mode of Participation |
| --- | --- | --- | --- | --- | --- |
| 1 | Shri Karthik Kaliappan | John Deere India Private Limited | kaliappankarthik@johndeere.com | MED 07 | **Physically** |
| 2 | Shri Raj Anand | John Deere India Private Limited | rajanand@johndeere.com | MED 07 | Virtual |
| 3 | Shri Sudarshan Prasad | Central Mine Planning and Design Institute | sudarshan.prasad@coalindia.in | MED 07 | Virtual |
| 4 | Shri Shubham Yadav | BIS (Mechanical Engineering Department) | y.shubham@bis.gov.in | MED 07 | **Physically** |
| 5 | Shri Reji Jose K | Caterpillar India Private Limited | Jose\_k\_reji@cat.com | MED 07 | Virtual |
| 6 | Shri Bhaskaran Venkataramani | Caterpillar India Private Limited | Venkataramani\_Bhaskaran@cat.com | MED 07 | Virtual |
| 7 | PRAKASH GORE | Epiroc Mining India Pvt. Ltd. | prakash.gore@epiroc.com | MED 07 | Virtual |

***The nominations have been received from the committee members and reviewed by the committee circulated by email. No negative feedback or additional suggestions have been provided by the members.***

***The chairman of the committee is requested to approve the proposed delegation so that we can proceed with the necessary administrative actions for the confirmed participants.***

***Further, the above panel is requested to create India’s viewpoint for further action.***

**ITEM 5 SCIENTIFIC JOURNALS AND PERIODICALS TO BE SUBSCRIBED**

BIS has taken a new initiative to subscribe to scientific journals and periodicals relevant to committee work. It is also envisaged that relevant articles from these journals and periodicals are shared with members of the sectional committee.

The following magazines have been subscribed for MED 07 committee;

| Construction World |
| --- |
| Equipment times |
| NBM&CW (New Building Material & Construction World) |

**ITEM 6 DATE AND PLACE FOR THE NEXT TC MEETING**

*The Committee may please decide the date and place for the next meeting.*

**ITEM 7 ANY OTHER BUSINESS**

*The Committee may discuss and decide*

**ANNEX-A**

(*See Item* **5.4**)

**Composition of Earth Moving Equipment and Material Handling Sectional Committee, MED 07**

| **Meeting Number** | **Date** | **Place** |
| --- | --- | --- |
| 34th Meeting | 25th June 2024 | Hybrid Meeting  (BIS, HQ New Delhi) |
| 33th Meeting | 26 Sept 2024 | New Delhi (WebEx) |
| 32nd Meeting | 27 June 2023 | New Delhi (WebEx) |

| **Sl**  **No.** | **Organization Representative** | **Principle/Alternate** | **32nd** | **33th** | **34th** | **Total** |
| --- | --- | --- | --- | --- | --- | --- |
|  | BEML Limited, Bengaluru | Shri Chakrapani Mandela  (***Chairman***)  Shri Hemant Kumar (Alt) | Y | Y | N | 2/3 |
|  | Automotive Research Association of India, Pune | Shri A. Akbar Badusha | Y | Y | N | 2/3 |
|  | Bharat Cooking Coal Ltd, Dhanbad | Shri Arun Nand Sahay  Shri Chandra Shekhar S. I. (Alt) | Y | Y | Y | 3/3 |
|  | Bharat Heavy Electricals Ltd, Noida | Shri G. Bhagchandani  Shri S. K. Bhaumik (Alt) | N | Y | N | 1/3 |
|  | Caterpillar India Pvt Ltd, Tiruvallur, Chennai | Shri K. Reji Jose  Shri V Bhaskaran (Alt) | Y | Y | Y | 3/3 |
|  | Central Mine Planning and Design Institute Ltd, Ranchi, Jharkhand | Shri Sudarshan Prasad  Shree P. Sandeep Naidu (Alt I)  Shri Ashish Agarwal (Alt II) | N | Y | N | **1/3** |
|  | Directorate General Factory Advice Service and Labour Institute, Mumbai | Shri Sumit Roy | Y | Y | N | 2/3 |
|  | Directorate General of Mines Safety, Dhanbad | Shri D. B. Naik  Shri Vijay Yadaorao Barapatre (Alt) | Y | Y | Y | 3/3 |
|  | Directorate General of Quality Assurance, Ministry of Defence, New Delhi | Lt Col Sidharth Khattri  Shri Raghubir Singh (Alt) | N | Y | Y | 2/3 |
|  | Epiroc Mining India Ltd, Nashik, Maharashtra | Shri Prakash Gore | Y | N | N | 1/3 |
|  | Heavy Engineering Corporation Limited, Ranchi, Jharkhand | Shri Aravind Doss  Shri Vijay Kumar (Alt)  Shri Amit Pal (Alt) | Y | Y | Y | 3/3 |
|  | Indian Construction Equipment Manufacturers’ Association, New Delhi | Shri K.V. Krishnamurthy  Dr Naveen Upreti (Alt) | Y | Y | Y | 3/3 |
|  | In Personal Capacity (*Engineering Officer Electrical Appliances Technology Division, Central Power Research Institute, P. Box. No.8066, Sadashiva Nagar (Post), Bangalore, Karnataka - 560080*) | Shri G.N. Venkatesh | Y | N | Y | 2/3 |
|  | Indian Institute of Technology (ISM), Dhanbad | Prof. L. A. Kumaraswamidhas | N | Y | Y | 2/3 |
|  | JCB India, New Delhi | Shri Saurabh Dalela  Shri Vivek Rawat (Alt) | Y | Y | Y | 3/3 |
|  | John Deere India Pvt Ltd, Mumbai, Maharashtra | Shri Karthik Kaliappan  Shri Raj Anand (Alt) | Y | Y | Y | 3/3 |
|  | Komatsu India Private Limited, Bengaluru | Shri Jayakumar C.  Shri Vikrant Sharma (Alt I)  Shri Naresh. T (Alt II) | Y | Y | Y | 3/3 |
|  | Manitou India Limited, Greater Noida, Uttar Pradesh | Shri Atul K. Singhal | Y | Y | N | 2/3 |
|  | Ministry of Heavy Industries and Public Enterprises Department of Heavy Industry, New Delhi | Shri Sushil Lakra | N | N | N | **0/3** |
|  | Ministry of Ports, Shipping and Waterways, New Delhi | Shri Anil Pruthi  Shri Ramji Singh (Alt) | Y | Y | Y | 3/3 |
|  | Mumbai Port Trust, Mumbai, Maharashtra | Shri Shri Anjan Kumar Mait  Shri Rajeev Kumar Yadav (Alt)  Shri Satish Kharche (Alt II) | N | Y | Y | 2/3 |
|  | National Council For Cement and Bldg. Material, Faridabad, Haryana | Shri Kapil Kukreja  Shri Saurabh Bhatnagar (Alt) | Y | Y | Y | 3/3 |
|  | National Mineral Development Corporation Ltd, Hyderabad | Shri S. J. Rao  Shri S.K. Roy (Alt) | Y | Y | N | 2/3 |
|  | National Thermal Power  Corpn. Ltd (NTPC), New Delhi | Shri Madhukar Anand  Shri P.S. Chatterjee (Alt) | N | N | N | **0/3** |
|  | Office of the Development Commissioner (MSME), New Delhi | Shri Susanta Kumar Som  Shri Suvankar Santra | Y | N | Y | 2/3 |
|  | Schwing Stetter (India) Private Limited, New Delhi | Shri Rajeev Shalia  Shri Varadharajan R. | - | - | N | 1/0 |
|  | Volvo Construction Equipment, Bengaluru | Shri V. R. Sai Prasad Polipalli  Shri K. Raghuraman (Alt) | Y | N | N | 1/3 |

**ANNEX-B**

Mr Karthik K. of M/s John Deere has proposed the adaptation of the following ISO standard in **MED 07**:

| **Sl No.** | **ISO Standards** | **Description** | **IS Standard** | **Adoption** | **Justification** | **Functional** | **Remarks** |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | ISO 6165:2022 | Earth-moving machinery — Basic types — Identification and vocabulary | IS/ISO 6165:2012 | Revision | Latest 2022 version published. This standard is used for regulation. IS 17055-1 referenced and CMVR | Design(WC Done in January) |  |
|  | ISO/TR 6750-2:2022 | Earth-moving machinery — Operator's manual — Part 2: List of references | — | New | IS/ISO 6750-1 already published. Part 2 added for Manual reference. This standard is used for operator manual creation | Design |  |
|  | ISO 10261:2021 | Earth-moving machinery — Product identification numbering system | — | New | Need for off-highway products sold in India. Industry is already following this standard. Referenced IS 17055 -1 | Design |  |
|  | ISO 12117:1997 | Earth-moving machinery — Tip-over protection structure (TOPS) for compact excavators — Laboratory tests and performance requirements | — | New | Referenced IS 17055 -5 | Safety |  |
|  | ISO 16417:2020 | Earth-moving machinery — Hydraulic breakers — Terminology and commercial specifications | — | New | Design standard. Hydraulic breaker attachment is commonly in India | Design |  |
|  | ISO 19014-2:2022 | Earth-moving machinery — Functional safety — Part 2: Design and evaluation of hardware and architecture requirements for safety-related parts of the control system | — | New | IS/ISO 19014-1 and 3 already published. This standard is very important for machine safety controls functional safety. New parts added for more controls systems and reference in IS/ISO 19014-1 | Safety |  |
|  | ISO 19014-4:2020 | Earth-moving machinery — Functional safety — Part 4: Design and evaluation of software and data transmission for safety-related parts of the control system | — | New | IS/ISO 19014- 1 and 3 already published. This standard is very important for machine safety controls functional safety. New parts added for more controls systems and reference in IS/ISO 19014-1 | Safety |  |
|  | ISO/TS 19014-5:2021 | Earth-moving machinery — Functional safety — Part 5: Tables of performance levels | — | New | IS/ISO 19014-1 and 3 already published. This standard is very important for machine safety controls functional safety. New parts added for more controls systems and reference in IS/ISO 19014 -1 | Safety |  |
|  | ISO 21815-1:2022 | Earth-moving machinery — Collision warning and avoidance — Part 1: General requirements | — | New | This is critical standard for Indian Mines and India was part of this WG. | Safety |  |
|  | ISO 24410:2020 | Earth-moving machinery — Coupling of attachments to skid steer loaders | — | New | Design standard. Coupling attachment is commonly in India | Design |  |
|  | ISO 10263-1:2009 | Earth-moving machinery — Operator enclosure environment — Part 1: Terms and definitions | — | New | IS/ISO 10263 2, 3 and 4 published by BIS. Adoption needed for remaining parts. Referenced IS 17055-1 and IS/ISO [10263 2,3, 4](about:blank) | Design |  |
|  | ISO 10263-5:2009 | Earth-moving machinery — Operator enclosure environment — Part 5: Windscreen defrosting system test method | — | New | IS/ISO 10263 2, 3 and 4 published by BIS. Adoption needed for remaining parts. Referenced IS 17055-1 and IS/ISO [10263 2,3, 4](about:blank) | Design |  |
|  | ISO 10263-6:2009 | Earth-moving machinery — Operator enclosure environment — Part 6: Determination of effect of solar heating | — | New | IS/ISO 10263 2, 3 and 4 published by BIS. Adoption needed for remaining parts. Referenced IS 17055-1 and IS/ISO [10263 2,3, 4](about:blank) | Design |  |