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| **(PETROLEUM, COAL & RELATED PRODUCTS DEPARTMENT)** | |
| **MINUTES** | | |
| **17thMay 2024, Friday, 1030 – 1400 h** | | |
| **Test Methods for Lubricants, Greases, Speciality Products and Additives Subcommittee, PCD 1:6** | | **7thMeeting** |
| **Convener: Dr G.D. Thakre, CSIR-IIP** | | **Member Secretary: Shri Hari Mohan Meena** |

**ITEM 0 WELCOME AND INTRODUCTORY REMARKS**

* 1. **Welcome by BIS**

Shri Hari Mohan Meena, Scientist' C', PCD, welcomed the members to the 7th meeting of the Test Methods for lubricants, greases, speciality products and additives Subcommittee, PCD 1:6.

* 1. **Opening Remarks by the Convener**

Dr G D Thakre, Convenor PCD 1:6, welcomed the members to the meeting. He urged the members to actively participate in all the subcommittee deliberations, which would help resolve the issues and decide on the agenda items that have been pending for a long time.

**ITEM 1 CONFIRMATION OF THE MINUTES OF THE 6TH MEETING OF PCD 1:6**

The Subcommittee CONSIDERED Item 1 of the agenda and observed that no comments have been received on the Minutes of the 6th meeting of PCD 1:6 and CONFIRMED the Minutes as circulated.

**ITEM 2 TITLE, SCOPE AND COMPOSITION OF PCD 1:6**

**2.1** The Subcommittee **CONSIDERED** and **CONFIRMED** Item 2.1 of the agenda about the Title of the Subcommittee.

**2.2** The Subcommittee **CONSIDERED** and **CONFIRMED** Item 2.2 of the agenda about the scope of the Subcommittee.

**2.3**The Subcommittee**CONSIDERED**Items 2.3 and 2.3.1 of the agenda about the composition of the Subcommittee as given below. The members' attendance is given in Annex I.



i) Shri N. R. Bhoopatkar has been superannuated from Apar Industries Limited, Mumbai. Dr T C S M Gupta, Apar Industries Limited, informed to provide fresh nominations.

ii) Shri Sanjay Kumar and Shri M Ashok Kumar have been superannuated from [Gulf Oil Lubricants India Limited, Mumbai](javascript:;). The member secretary informed that the organization has already been requested to provide fresh nominations. Nominations are yet to be received.

iii) The subcommittee noted that [Indian Additives Limited, Chennai](javascript:;), did not respond to nominate an expert. However, Mr. Senthil Kumar, QM, informed that their management is unwilling to join the subcommittee. The subcommittee **recommended** dropping the co-option of [Indian Additives Limited, Chennai](javascript:;). Further, the subcommittee recommended to co-opt the following organizations:

a) Afton Chemical

b) Infineum India Additives Private Limited (IIAPL), Mumbai

**2.4** The Subcommittee**NOTED** Item 2.4 of the agenda about the Co-option of Balmer Lawrie & Co. Ltd.

**ITEM 3 ACTIVITIES OF THE SUBCOMMITTEE PCD 1:6**

**3.1** The Subcommittee**NOTED** Item 3.1 of the agenda about the program of work of the PCD 1:6.

**3.2** The Subcommittee **NOTED** Item 3.2 of the agenda about the Published/Under Publication documents.

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| **SI No.** | **Doc No./ Title** | **Current Status** |
|  | IS 1447 (Part 5): 2023/ISO 23572:2020 Methods of sampling of petroleum and its products Part 5 Sampling of grease  Doc No. PCD 01 (19176) | Published |
|  | IS 1448: Part 51: 2023 Methods of test for petroleum and its products Part 51 Copper strip corrosion test for lubricating greases  Doc No. PCD 01 (18991) | Published |
|  | IS 1448 (Part 60): 2023/ ISO Methods of test for petroleum and its products Part 60 Consistency of lubricating greases by cone penetrometer  Doc No. PCD 01 (19168) | Published |
|  | IS 1448 (Part 61): 2023 Methods of test for petroleum and its products Part 61 Determination of the leakage tendencies of automotive wheel bearing greases | Published |
|  | IS 1448 (Part 62): 2023 Petroleum and its Products - Methods of Test Part 62 Heat stability of greases  Doc No. PCD 01 (19634) | Published |
|  | IS 1448 (Part 68): 2023 Petroleum and its Products - Methods of Test for Part 68 Determination of Evaporation Loss of Lubricating Greases (22-hour drying) (First Revision)  Doc No. PCD 01 (19208) | Published |
|  | IS 1448: Part 89: 2023 Methods of test for petroleum and its products Part 89 Test for thermal stability of lubricating greases  Doc No. PCD 01 (18725) | Published |
|  | IS 1448 (Part 191): 2023/ISO 13737: 2004 Methods of test for petroleum and its products Part 191 Determination of low-temperature cone penetration of lubricating greases  Doc No. PCD 01 (19025) | Published |
|  | IS 1448 (Part 192): 2023/ISO 22285: 2018 Methods of test for petroleum and its products Part 192 Determination of oil separation from grease Pressure filtration method  Doc No. PCD 01 (19170) | Published |
|  | IS 1448 (Part 193): 2023/ISO 22286 Methods of test for petroleum and its products Part 193 Determination of the dropping point of grease with an automatic apparatus  Doc No. PCD 01 (19175) | Published |
|  | IS 1448 (Part 194): 2023/ISO 11007-1: 2021 Petroleum and its Products - Methods of Test Part 194 Determination of Rust - Prevention Characteristics of Lubricating Greases Dynamic Wet Conditions  Doc No. PCD 01 (19820) | Published |
|  | Methods of test for petroleum and its products part Determination of the leakage tendencies of automotive Wheel bearing greases  Doc No. PCD 01 (18454) | Under Publication |

**3.3 Documents completed wide circulation stage/ under wide circulation stage**

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| Sl No. | Doc No./Title | Recommendations of the Subcommittee |
|  | IS 1448: Part 101: 1980 Methods of test for petroleum and its products: Part 101 Colorimetric determination of phosphorus in lubricating oils  Doc. No. PCD 01 (25456)WC | The Subcommittee **NOTED** that the document is under wide circulation and the end date for comments is 25th June 2024.  Further, Comments received from Dr. Ashutosh Mishra, IOCL, were **CONSIDERED** and **RECOMMENDED** to finalize the document with the incorporation of agreed changes for printing with approval of the Chairman of PCD 01 if further no comments are received during the wide circulation period. |

**3.4Documents completed P-Draft circulation stage/ under P-Draft circulation stage**

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| Sl No. | Doc No./Title | Recommendations of the Subcommittee |
|  | Determination of wear preventive characteristics of Lubricants (Four-Ball Method)  Doc. No. PCD 01 (25637) P | The Subcommittee **NOTED** that the document is under circulation as a P-Draft, and the end date for comments is 14th June 2024.  Further, the Subcommittee **RECOMMENDED** issuing the document into wide circulation with the approval of the Chairman of PCD 01 if no comments were received from members during the circulation period. |

**3.5Drafts under preparation by the expert/ under consideration in the Committee**

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| Sl No. | Doc No. / Title | Recommendations of the Subcommittee |
|  | IS 1448 Part 57: 1964 Methods of test for petroleum and its products Part 57 Consistency of Greases at Various Temperatures | The subcommittee noted that DGAQA, CQAPP, IOCL, and BPCL do not use the test method. It was pointed out that despite repeated reminders (vide email dated 17th May 2022, 30th May 2022, 12th December 2022, 14th January 2024, 1st May 2024 & 14 May 2024), no inputs were received from IAF.  After detailed deliberation, the subcommittee recommended dropping the proceedings of withdrawing the standard and instead **archiving** the standard. |
|  | IS 1448 part 98:1981 "Determination of emulsion stability of emulsifiable cutting oils | The subcommittee noted that the draft is yet to be received from Balmer Lawrie & Co. Ltd. Shri S Murali has been superannuated from Balmer Lawrie Pvt ltd.  After detailed deliberation, the subcommittee recommended reaffirming **and revising** the standard.  Mr. M C Dash from Balmer Lawrie & Co. Ltd agreed to provide the draft for WC by the end of June 2024. |
|  | IS 1448: Part 99: 1981 Methods of Test for Petroleum and its Products – Part 99: Determination of Frothing Characteristics of Emulsifiable Cutting Oils | The subcommittee noted that the draft from Mr MC Das Balmer Lawrie is based on IP 312, which had already been superseded by IP 580.  After detailed deliberation, the subcommittee recommended reaffirming **and revising** the standard. Mr. M C Dash, Balmer Lawrie & Co. Ltd, was requested to review the standard and provide the draft, taking necessary assistance from IP 580 for WC by the end of June 2024. |
|  | IS 1448: Part 100: 1980 "Methods of test for petroleum and its products: Part 100 Determination of thermal stability of emulsifiable cutting oils" | The subcommittee noted that the draft for revising the standard has yet to be received from Shri S Murali, Balmer Lawrie, and Dr Gupta, APAR Industries.  After detailed deliberation, the subcommittee recommended reaffirming **and revising** the standard. Mr M C Das agreed to provide the draft for WC by the end of June 2024. |
|  | IS 1448: Part 103: 1981 Methods of test for petroleum and its products: Part 103 Barium, calcium, phosphorus and zinc in lubricating oils by direct reading emission spectrographic method | The subcommittee noted that in the formulation of IS 1448 (Part 172):2020 Methods of Test for Petroleum and its Products [ P: 172 ] ICP-AES Method for Determination of Trace Elements in Petroleum Products, the necessary assistance was taken from ASTM D 5185-Standard Test Method for Multielement Determination of Used and Unused Lubricating Oils and Base Oils by Inductively Coupled Plasma Atomic Emission Spectrometry (ICP-AES). This standard is also applicable to lubricating oils.  The scope of the IS 1448 (Part 172) is given below:  "This test method is applicable for the determination of trace elements in petroleum products, namely, crude oil, naphtha, middle distillate, vacuum gas oil, residual fuel oils, vacuum residue, lubricating oils and base oils by inductively coupled plasma optical emission spectrometry (ICP-OES)."  After detailed deliberation, the subcommittee recommended reaffirming **and revising** the standard and not merging the ASTM 5185 with the IS 1448 part 103. Further, Dr E Ramu, IOCL, agreed to provide the draft without merging ASTM 5185 for WC by the end of June 2024. |
|  | IS 1448 (Part 136): 1991 Methods of test for petroleum and its products: Part 136 Determination of loss of lubricating oils (Noak's Method) | The subcommittee noted that Mr. Sanjay Kumar has been superannuated, and BIS is in contact with Mr Mayuresh Godbole to provide the draft. He said the ASTM D 5800: 2004 – Noack Volatility has been revised to ASTM D5800 – 21 Standard Test Method for Evaporation Loss of Lubricating Oils by the Noack Method.  The draft based on the revised version of ASTM is being prepared.  After detailed deliberation, the subcommittee recommended reaffirming **and revising** the standard.  The Committee requested Shri CT Chidambaram, Gulf Oil Lubricants India Limited, to provide the draft for WC by the end of June 2024. |
|  | IS 1448: Part 146: 1998 Methods of test for petroleum and its products: Part 146 Determination of yield stress and viscosity of engine oils at low temperature | The subcommittee noted that Mr. Sanjay Kumar has been superannuated, and BIS is in contact with Mr Mayuresh Godbole to provide the draft. He informed that the ASTM D 3829: 2002 has been revised to ASTM D 3829: 2020. The draft based on the revised version of ASTM is being prepared.  After detailed deliberation, the subcommittee recommended reaffirming **and revising** the standard.  Shri CT Chidambaram, Gulf Oil Lubricants India Limited, was requested to provide the draft for WC by the end of June 2024. |
|  | NWIP  Determination of load-carrying capacity of lubricating grease Timken Method | The subcommittee noted that the draft has been received from IIP Dehradun.  After detailed deliberation, The subcommittee requested Dr GD Thakre to incorporate reliability, reproducibility & bias statements in the draft. Further, Dr Thakre has agreed to provide the working draft by the end of June 2024. |

**3.6Revision/Reaffirmation of Standards**

As per BIS Rules, all published Indian Standards must be reviewed once every five years to determine the need for revision/reaffirmation/withdrawal/archive. The present directives indicate that the standards fall under the above category shall be reviewed thoroughly, and while reviewing, the following points should be considered:

i) Does the standard meet the present demand of the industry and the consumers?

ii) Is it compatible with the available international standards?

iii)Whether these standards are required to be continued or not?

iv)Prospective implementation of the standard.

Accordingly, ARPs of 26 Indian Standards formulated by PCD 01/ PCD 1:6 published/reaffirmed during or before 2018-2019 were circulated to the committee members to solicit their comments.

The Subcommittee **CONSIDERED** Item 3.6 of the agenda and **RECOMMENDED** as given in Annex IV.

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**3.7New Subjects for Standardization**

The Subcommittee **NOTED** Item 3.7 about the new subjects for standardization that must be submitted through the BIS standardization portal.

Further, the NWIP to adopt ISO 9950 deliberated as given below:

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| **Sl. No.** | **New Subject** | **Proposal Details** | **Status** |
|  | Adoption of ISO 9950: 1995 Industrial quenching oils — Determination of cooling characteristics — Nickel-alloy probe test method | **Proposer: Lubricants and its Related Products Sectional Committee PCD25**  Proposal Details 1642\_202404041010\_110520Apr 10, 2024 | The proposal was circulated to members on 10 April 2024, but no comments were received from them.  After detailed deliberation, the **subcommittee recommended adopting the ISO becausethe test for determining the** cooling characteristic analysis of quenching oils is required in PCD 25 standards on quenching oils. The test is mentioned in Annexures of standard IS 2664 or IS 4543 (under WC). A proper test method needs to be developed. Therefore, ISO 9950 may be adopted.  Further, the BIS secretariat was requested to prepare the National Forward and issue it for wide circulation. |

**ITEM 4DATE AND PLACE FOR THE NEXT MEETING**

The date and place of the next meeting will be decided in consultation with Convener PCD 1:6.

**ITEM 5 ANY OTHER BUSINESS**

1. Request from PCD 25 to adopt the ISO 9950 deliberated and recommended as given in Item 3.7

**ITEM 6 VOTE OF THANKS**

The meeting ended with a vote of thanks to the members and Convenor of the Subcommittee PCD 1:6.

**ANNEX I**

**Attendance of the 7th Meeting of the PCD 1:6**

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| **Sl**  **No.** | **Organization** | **Member Name** | **Role** | **Member Email** |
| **1.** | [CSIR - Indian Institute of Petroleum, Dehradun](javascript:;) | Dr G.D. Thakre | Convenor | gdthakre@iip.res.in |
| Dr Sailesh Kr. Singh | Alternate Member | sk.singh@iip.res.in |
| **2.** | [Apar Industries Limited, Mumbai](javascript:;) | Dr T C S M Gupta | Alternate Member | tcsm.gupta@apar.com |
| **3.** | [Balmer Lawrie and Company Limited, Kolkata](javascript:;) | Shri Madhab Chandra Dash | Principal Member | dash.mc@balmerlawrie.com |
| Dr Somnath Chattopadhyay | Alternate Member | chattopaddhyay.s@balmerlawrie.com |
| **4.** | [Bharat Petroleum Corporation Limited, Mumbai](javascript:;) | Shri Tarunendra Singh | Principal Member | singhtarun@bharatpetroleum.in |
| **5.** | [Gulf Oil Lubricants India Limited, Mumbai](javascript:;) | Shri CT Chidambaram | Alternate Member | chidambaram.cp@gulfoil.co.in |
| **6.** | [Hindustan Petroleum Corporation Limited, Mumbai](javascript:;) | Shri Lokender Singh Tevathiya | Alternate Member | lokender@hpcl.in |
| **7.** | [Indian Oil Corporation Limited, New Delhi](javascript:;) | Dr M Sithanathan | Alternate Member | sithananthanm@indianoil.in |
| **8.** | Bureau of Indian Standards | Shri Hari Mohan Meena | Member Secretary | pcd1@bis.gov.in |
| **INVITEES** | | | | |
| **9.** | [Indian Oil Corporation Limited - Refineries and Pipelines Division, New Delhi](javascript:;) | Dr Ashutosh Mishra | - | mishraashutosh@indianoil.in |
| **10.** | [Indian Oil Corporation (R and D Centre), Faridabad](javascript:;) | Dr E Ramu | - | emmandir@indianoil.in |