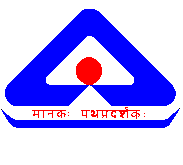
***FOR BIS USE ONLY***

****

**BUREAU OF INDIAN STANDARDS**

**(MECHANICAL ENGINEERING DEPARTMENT)**

***MINUTES***

|  |  |
| --- | --- |
| **PUMPS SECTIONAL COMMITTEE, MED 20**  *in joint session with*  **AGRICULTURE AND DOMESTIC PUMPS SUBCOMMITTEE, MED 20:5**  **UTILITY AND INDUSTRIAL APPLICATION PUMPS SUBCOMMITTEE, MED 20:6** | **24th Meeting**  **17thMeeting**  **17th Meeting** |

|  |  |
| --- | --- |
| **DATE, DAY & TIME**  **24th January 2023**  **Wednesday**  **10:00 h** | **VENUE**  Physical mode at SIEMA office, Coimbatore, Tamil Nadu |

**Chairperson:**Shri A K Nijhawan in Personal Capacity

**Member Secretary:**Shri Aman Dhanawat, Scientist ‘B’, MED

**Attendance of the meeting is enclosed in Annex**1.

#### ITEM 0 GENERAL

* 1. Member Secretary during the meeting informed the Committee that he has been informed by Shri AK Nijhawan, Chairman of the Committee MED 20 that due to some unavoidable circumstances he won’t be able to Chair the today’s meeting. It was proposed during the meeting that in absence of Shri AK Nijhawan, Shri Abdul Rahiman, Scientist E, Central Water and Power Research Station, Pune may act as Chairman for this meeting. Committee unanimously agreed to the proposal and appointed him as an acting Chairman of the Committee for this meeting.

#### 0.1 Welcome by Head (MED)

Due to some prior engagement, Shri R.R Singh, Head (MED)didn’t join the meeting.

#### 0.2 Opening remarks by Chairperson, MED 20

Shri Abdul Rahiman extended a hearty welcome to members of the Committee present and requested them to actively participate in the deliberations during the meeting so that decisions can be taken on all the issues. He hoped that committee will have good, fruitful and unbiased technical deliberations during the meeting on various agenda items.

ITEM 1 CONFIRMATION OF THE MINUTES OF THE LAST MEETING

**1.1**There being no comments, the committee confirmed the minutes of the **23rd** Meeting of Pumps Sectional Committee, MED 20, held in joint session with **16th**Meeting of Agriculture and Domestic Pumps Sub Committee, MED 20:5 &**16th** Meeting of Utility and Industrial Application Pumps Sub Committee, MED 20:6 on 09th August 2023 in virtualmode.

**1.2** The committee noted the information given in the agenda and approved the TOR on submersible sewage pump, and asked the Member Secretary to proceed further as given in the BIS guidelines.

**ITEM 2 REFORMS IN THE PROCESS OF STANDARDISATION**

*The committee noted the information as given inthe agenda.*

**ITEM 3 THE ROLLING ANNUAL ACTION PLAN FOR THE YEAR 2023-24**

The committee noted the information as given inthe agenda and requested Conveners of MED 20:5 and MED 20:6 to review standard due for review and the pre 2000 standard and decide accordingly if the standard is to be withdrawn, or archived or may be taken up for revision and allocate to the members of the Committee by the end of February 2024.

**ITEM 4 ACTIONS ARISING OUT OF THE LAST MEETING**

**4.1** The summary of Committee decisions taken during the 24thmeeting held dated**24.01.2024**are given below:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Sl No** | **\*Item No.** | **Action Taken on Minutes of 22nd** | **Decision taken during 23rd Meeting** | **Action Taken on Minutes of 23rd** | **Decision taken during 24TH Meeting** |
|  | **Item no. 2.2 Sl no. 2** | As decided by the Committee the modified draft amendments to IS 8034: 2018, IS 9079: 2018, IS 14220: 2018, IS 6595 (Part 1): 2018 as received from Dr. C Murugesan were sent for publication with prior approval of Chairperson MED 20.  During the process of publication, the standards with any active license are to be sent to CMD III, to review the changes in the standards for its implications during certification process.  In view of the above, the amendments were sent to CMD III, and CMD III have provided their comments enclosed below, and circulated to all the Committee members dated 24 July 2023.    Committee may consider and decide. | During the meeting Committee discussed each comment in length. After subsequent discussion held with the CMD 3 and Panel members, the comment wise decision of the Committee for each amendment is enclosed as **Annex 1**. | The amendments of IS 6595-1, IS 9079, IS 8034, and IS 14220 are under publication process. | Committee noted the information given in the agenda. |
|  | **Item 2.3, S No 1** | From the record of minutes of the previous meetings, it was found out that following members were nominated by the Committee in various ISO subcommittees and working groups:  1) nominations for ISO/TC 115/SC 2/WG 4 - Rotodynamic pumps - Hydraulic performance acceptance tests using a model pump :  Shri Chidambar Deshpande, KBL, and Shri G. Rajendran, CRI Pumps/ Shri Nirmal Tiwari  2) Shri I C Jain for ISO/TC 115/SC 3/WG 2 - Joint ISO/TC 115/SC 3 - ISO/TC 67/SC 6 WG: Positive displacement pumps for petroleum and natural gas industries  3) Dr. Ravindra S Birajdar, Convener, MED 20:6 for ISO/TC 115/SC 3/WG 6 - Joint ISO/TC 115/SC 3 - ISO/TC 67/SC 6 WG: Shaft sealing systems for centrifugal and rotary pumps  4) Shri Uttkarsh Chhaya, M/s IPMA has been registered as ‘Expert’ in ISO/TC 115/SC 2/WG 2 - Rotodynamic pumps test codes.  The Committee may go through the scope, program of work of ISO/TC 115, its Subcommittees and Working Groups ate **Item 10.4** and decide.  BIS higher authorities have also directed that Committees shall increase their participation in International Committee work.  Committee may go through the following BIS guidelines ‘Guidelines for Payment of TA/DA to Members of BIS Technical Committees under BIS Funds’: | Committee noted the information and decided that a separate Panel may be constituted for commenting on ISO ballots.  Committee further decided that the Conveners MED 20:5 and MED 20:6 may discuss this agenda point in the upcoming meeting for pruning of Composition of Committee and its Subcommittees and propose the members for above Panel and for nominating in different ISO working groups. | A Panel meeting was held dated 11.12.2023 to discuss the composition of MED 20, MED 20:5, MED 20:6 and the ISO related work. The minutes of the meeting are enclosed below for kind perusal:    Committee may note. | The Committee noted the information and approved the recommendations given by the Panel. |
|  |  | Some queries have been received from Ministry regarding the comparison of our Indian Standards with ISO or IEC standards. Accordingly, BIS higher authorities have directed the following:  a) If any ISO or IEC standard exist corresponding to our Indian Standard, then provide the detailed comparison and reason for formulating our Indian Standard, instead of adopting the corresponding ISO or IEC standard.  b) If no ISO or IEC standard exist corresponding to our Indian Standard, then same may be proposed as NWIP in ISO or IEC.  The Committee may consider and decide. | Committee noted the information and requested Conveners of Subcommittees MED 20:5 and MED 20:6 to constitute different Panels and allocate the standards to Panels pertaining to their respective Subcommittees, for analysis as given in the Agenda. | To be discussed. | Committee noted the information and decided that, for the time being this agenda point may kept be at abeyance. |
|  |  | BIS to reconstitute technical committees having members who have served more than 5 years of their tenure in their personal capacity or belonging to any private institutions. | Conveners were requested to consider the same during the review of composition. | Please see action at **Item 4.1 Sl no 2**. | Please see decision at **Item 4.1 Sl no 2**.  No further action required on this agenda point. |
|  | **Item 2.1**  **Sl No. 2** | The meeting will be convened in due course of time to review the composition of MED 20 and its subcommittees MED 20:5 and MED 20:6. | Due to paucity of time, the Committee decided to discuss this agenda point in the next Committee meeting. | Please see action at **Item 4.1 Sl no 2**. | Please see decision at **Item 4.1 Sl no 2**.  No further action required on this agenda point. |
|  | — | 1) Revision drafts of IS 12225 and IS 6595 (Part 2) are still under publication.  2) Editable soft copy of IS 11346 and the comments were circulated to ERDA and REA dated 20 Jan 2023 and 14 June 2023.  Revision draft is awaited. | Due to paucity of time, the Committee decided to discuss this agenda point in the next Committee meeting. | 1) The revision of IS 12225 and IS 6595 (Part 2) are still under publication. | Committee noted the information given in the agenda. |
|  |  |  |  | The decision taken by BIS in accordance with the instructions issued by the Director General, BIS, in respect of those Committee members who have not attended the last two consecutive meetings shall be terminate from the Committee, guidelines are attached below.    In view of above, the following members have been terminated from the committee:   1. Tata Consulting Engineers,Bangalore 2. Projects &Development India Ltd., Vadodara 3. Mangalore Refinery andPetrochemicals Ltd, Mangalore 4. Delhi Jal Board, New Delhi 5. Petroleum Conservation Research Association, New Delhi 6. North India Pump Manufacture Association, Phagwara 7. Kirloskar Ebara Pumps Ltd., Pune | Committee noted the information and agreed for the withdrawal of the organizations given in the Agenda due to their no participation.  During the meeting, Member Secretary informed that an email dated 30.11.2023 was received from Shri CL Garg from M/s North India Pump Manufacture Association (NIPMA), Phagwara stating the following:  “Respected Sir With due apologize, I would like to say that as mentioned in the above email I could not attend the above meetings due to some personal and health issues but I am firmly associated with the NIPMA. Considering my past active involvement in the meetings, I request you to kindly not terminate my duties towards BIS. I shall be very thankful to you and promise to attend meetings in future.”  Committee noted the information and decided that NIPMA to be retained in the Committee. |
|  |  |  |  | M/s Grundfos Pumps India Private Limited, Chennai have sent the revised nomination, as follows:  A) Shri Sanjeev Chaudhary is nominated as a principal member.  B) Shri Amitrup Dutta, Sr. Product Specialist is nominated as a alternate member. | Committee noted the information and requested Member Secretary to update the composition accordingly. |
|  |  |  |  | A new work item proposal (NWIP) was received on ‘Methods for testing and performance of turbomolecular pump with backing pump’, details of the proposal is enclosed as Annex B in the email.  The Committee may consider and decide. | Committee noted the information and requested Conveners to go through the NWIP and provide their recommendations by 20.03.2024 to the Committee. |
|  |  |  |  | M/s International copper association, India has sent a nomination seeking membership in 20:05 subcommittee. Accordingly ICA has sent following nominations as a principal member for Subcommittee MED 20:5.  Shri Sanjay Kumar Namdeo  Designation : Director – Clean Energy Transition  General Interest : pump selection, energy efficiency, standards and labelling, markettransformation  ICA further requested to add the same member as an Alternate member under MED 20 Committee.  The Committee may consider and decide. | The Committee noted the information and accepted the revised nominations of M/s International Copper Association, India. |

\* The Item number refers to the proceedings of the last meeting of MED 20.

4.2The summary of decision taken during 17th Meeting of Agricultural and Domestic Pumps Sub Committee, MED 20:5 held dated 24.01.2024 are given below:

| **Sl No** | **\*Item No.** | **Action Taken on Minutes of 15th Meeting** | **Decision taken during 16th Meeting** | **Action Taken on Minutes of 16th Meeting** | **Decision taken during 17th Meeting** |
| --- | --- | --- | --- | --- | --- |
|  | **Item no. 2.2 Sl no. 1** | To be wide circulated | Need to update based on revised draft | The amendment no. 1 of IS 17292: 2020 was wide circulate for 30 days, no comments received. | The Committee noted the information and decided that as no comments received till date, the amendment is finalized and may be sent for publication. |
|  | Item no. 6.1 | 3) An invitation letter to Roto Pumps and Tushaco Pumps (Circor) requesting them to become the Committee members and provide their nominations for MED 20 and its subcommittees has been sent, their response is awaited. | Due to paucity of time, the Committee decided to discuss this agenda point in the next Committee meeting. | No response received till date. | The Committee noted the information and decided that a reminder letter may be sent to M/s Roto Pumps and M/s Tushaco Pumps (Circor).  Shri KV Karthik, SIEMA informed that he will share the contact details of the concerned members from M/s Roto Pumps and M/s Tushaco Pumps (Circor).  M/s HPCL also suggested that they will provide the details of some organizations working in the field of positive displacement pumps.  Committee agreed for the same. |

\* The Item number refers to the proceedings of the last meeting of MED 20:5.

4.3The summary of decision taken during 17thMeeting of Utility and Industrial Application Pumps Sub Committee, MED 20:6 held dated 24.01.2024 are given below:

| **S No** | **\*Item No.** | **Action Taken on Minutes of 14th Meeting** | **Decision taken during 15th Meeting** | **Action Taken on Minutes of 15th Meeting** | **Decision taken during 16th Meeting** |
| --- | --- | --- | --- | --- | --- |
|  | **Item 2.3, S No 4** | Panel meeting is yet to be convened, Convener MED 20:6 to update for revision of IS 5120. | Convener MED 20:6 informed that the requirements of horizontal split case pumps are have been covered in IS 5120. Committee noted the information and decided that Shri KV Karthik, SIEMA may go through the revision draft of IS 5120 to check the requirements of horizontal split case pumps covered under revision draft of IS 5120, and provide his comments/suggestions.  If no technical comment received the above draft may be circulated as wide circulation for the period of 30 days. | The draft revision of IS 5120 was circulated to Shri KV Karthik dated 3 April 2023 for comments.  Comments are awaited. | Committee noted the information and discussed in length.  Committee decided that the draft revision of IS 5120 to be modified, such that except the product standards which have been amalgamated with IS 5120, requirements for other type of pumps (like horizontal splitcase pumps) to be removed. Subcommittee MED 20:6 to expedite and do the needful.  Further Committee decided that Shri KV Karthik, IPMA to provide the draft for standard on horizontal split case pump and put up to the Committee for their consideration. |

**ITEM 5 SCOPE AND COMPOSITION OF COMMITTEE**

The committee noted the information given in the agenda, and decided no change required in the scope of the Committee.

5.1 During the meeting Shri KV Karthik proposed for the inclusion of a consumer organization in the field of pumps, he suggested M/s Indian Water Association, a consumer organization may be included in the Committee. Committee noted and agreed for the same, and requested Shri KV Karthik to provide contact details of the concerned person for further necessary action.

5.2 Further, IPMA, SIEMA, SITARC proposed their revised nominations for MED 20, MED 20:5, MED 20:6 and MED 20:7, as given below:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Sl No.** | **Organization** | **MED 20** | **MED 20.5** | **MED 20.6** | **MED 20.7** |
|  | **Indian pump Manufacturers Association (IPMA), Ahemdabad** | Shri MilindAlwekar  Shri Lalit Kumar Patel(*Alt*) | Shri Prabhudas Patel | Shri MilindAlwekar | Shri S. Arunkumar  Shri Lalit Kumar Patel |
|  | **Scientific and Industrial Testing and Research Centre (SITARC), Coimbatore** | Shri Ma Sendilkumar  Mr. Dr. K Ulaganathan(*Alt*)  Shri Surendran(*Alt 2*) | Shri Mohan Senthilkumar  Shri R Karthikeyan | Shri S. Arunkumar  Shri M. Udaya Kumar | Shri Surendran |
|  | **Southern India Engineering Manufacturers Association (SIEMA), Coimbatore** | Shri K.V. Karthik  Shri D. Vignesh(*Alt*) | Shri MithunRamdas  Shri R. Arun | Shri K.V. Karthik  Shri A Prabhakaran | Shri K.V. Karthik |

Committee noted and accepted the revised nominations.

5.3 Committee further decided that an email may be sent to all the members requesting them to update their composition and nominate alternate member and young professional if not yet nominated.

**ITEM 6COMMENTS ON PUBLISHED STANDARDS**

6.1 During the meeting Member Secretary informed that the Panel meeting was held dated 18.01.2024 to discuss the comments and revised draft received from the members on IS 8418, IS 12699, IS 9542, IS 11346. Committee discussed the recommendations of the Panel and agreed for the same. Committee decided the following:

1) After incorporation of comments and recommendations of the Panel in the respective drafts, IS 8418, IS 12699 may be send for wide circulation for the period of 30 days.

2) SITARC to provide the modified revision draft for IS 11346.

3) Conveners of MED 20:5 and MED 20:6 to consider IS 9542 for amalgamation with IS 9079.

6.2Member Secretary informed that the revised draft of IS 10596 (Part 1 to 4) was received (with highlighted comments) from Shri Anil Akole vide email date 21.01.2024. Committee discussed the comments/suggestions provided by Shri Anil Akole on IS 10596 (Part 1 to 4) in length and decided that after incorporation of the comments/suggestions as discussed the revision draft of IS 10596 (Part 1 to 4) to be circulated as wide circulation for the period of 30 days.

6.3Member Secretary further informed that the comments were also received on IS 10804 (Part 1 & 2) from Shri Nirmal C Tiwari vide email dated 23.01.2024. Committee discussed the comments/suggestions provided by Shri Nirmal C Tiwari on IS 10804 (Part 1 & 2) in length. Committee agreed to the comments and decided that Shri Nirmal C Tiwari may be requested to draft the amendments in line with the comments along with the graphs for Committee’s further consideration.

**ITEM 7SELECTION OF SUBJECTS/NEW SUBJECTS**

Due to paucity of time, the Committee decided to discuss this agenda point in the next Committee meeting.

*The committee noted the information given in the agenda.*

**ITEM 8 INTERNATIONAL ACTIVITIES**

8.1*The committee noted the information given in the agenda.*

8.2*The committee noted the information given in the agenda.*

8.3*The committee noted the information given in the agenda.*

8.4*The committee noted the information given in the agenda.*

8.5*The committee noted the information given in the agenda.*

8.6*The committee noted the information given in the agenda.*

**ITEM 9 PROGRAMME OF WORK**

**9.1** *The committee noted the information given in the agenda.*

9.2 *The committee noted the information given in the agenda.*

**ITEM 10 LETTER OF APPRECIATION TO COMMITTEE MEMBERS**

*The committee noted the information given in the agenda.*

**ITEM 11 NATIONAL AND INTERNATIONAL LEVEL EVENTS TO BE PARTICIPATED IN**

*The committee noted the information given in the agenda.*

**ITEM 12 SCIENTIFIC JOURNALS AND PERIODICALS TO BE SUBSCRIBED**

*The committee noted the information given in the agenda.*

**ITEM 13 CREATION OF POOL OF EXPERTS**

*The committee noted the information given in the agenda.*

**ITEM 14 RESEARCH PROJECT TO BE TAKEN UP FOR INCLUSION OF EMPIRICAL DATA AND INSIGHTS**

*The committee noted the information given in the agenda.*

**ITEM 15 RECENT INITIATIVES IN THE STANDARD DEVELOPMENT PROCESS OF BIS**

15.1*The committee noted the information given in the agenda.*

15.2 *The committee noted the information given in the agenda.*

ITEM 16 GUIDELINES FOR MEMBERS OF TECHNICAL COMMITTEES

*The committee noted the information given in the agenda.*

**ITEM 17 NEW INITIATIVES IN STANDARDIZATION**

a) *The committee noted the information given in the agenda.*

b) *The committee noted the information given in the agenda.*

c)*The committee noted the information given in the agenda.*

d)*The committee noted the information given in the agenda.*

e) *The committee noted the information given in the agenda.*

**ITEM 18 UNECE GENDER RESPONSIVE STANDARDS DECLARATION**

*The committee noted the information given in the agenda.*

**ITEM 19SUSTAINABILITY PERSPECTIVE IN INDIAN STANDARDS**

*The committee noted the information given in the agenda.*

**ITEM 20 ACCESSIBILITY**

*The committee noted the information given in the agenda.*

**ITEM 21 DATE AND PLACE FOR THE NEXT MEETING**

The Committee noted the information and decided that the next meeting may be planned in consultation with Chairperson, MED 20.

**ITEM 22 ANY OTHER BUSINESS**

There being no other business, the meeting ended with a hearty note of thanks to the Chairperson, Convener and the Committee Members present.

Annex 1

**Members Presents (MED 20)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **SL. NO.** | **ORGANISATION** | **MEMBER** | **E-MAIL** | **MOBILE NO.** |
|  | Aquasub Engineering, Coimbatore | Dr. C. Murugesan | cmurugesan@aquagroup.in | 9952122290 |
| Shri P. Ramesh | pr@aquagroup.in | 9488168021 |
| Shri G. Prasath | gprasath@aquagroup.in | 9715588088 |
|  | Best Engineers Pumps India Private Limited, Coimbatore | Shri T. Parthiban | beppltesting@gmail.com | 9944499942 |
|  | Bharat Petroleum Corporation Limited, Mumbai | Shri Santosh N. Kale | kalesn@bharatpetroleum.in | 9769721156 |
|  | Central Water and Power Research Station, Pune | Shri Abdul Rahiman | rah4uin@yahoo.co.in | 9960351426 |
|  | [Grundfos Pumps India Private Limited, Chennai](javascript:;) | Shri Amitrup Dutta | amitrup@grundfos.com | 9650772227 |
|  | [Havells India Limited, Noida](javascript:;) | Shri Anil Sukumar Akole | anil.akole@havells.com | 9766358333 |
|  | Hindustan Petroleum Corporation Limited, Mumbai | Shri Sourabh Sharma | sourabhsharma@hpcl.in | 9833152286 |
|  | [International Copper Association India, Mumbai](javascript:;) | Shri Sanjay Namdeo | Sanjay.namdeo@copperalliance.org | 9915593898 |
|  | [Kirloskar Brothers Limited, Pune](javascript:;) | Dr. Ravindra Birajdar | [ravindra.birajdar@kbl.co.in](mailto:ravindra.birajdar@kbl.co.in) | 9850965670 |
| Shri Sudhir Mali | sudhir.mali@kbl.co.in | 9922918420 |
|  | National Bank for Agriculture and Rural Development, Mumbai | Shri Sukanta K. Sahoo | sukanta.sahoo@nabard.org | 9414029140 |
|  | Scientific And Industrial Testing And Research Centre, Coimbatore | Dr. K Ulaganathan  Dr. R. Subhramaniam  (*Representative*) | director@sitarc.com  rama.swami@gmail.com | 9487740473  9843325903 |
|  | Southern India Engineering Manufacturers Association, Coimbatore | Shri K.V. Karthik | karthik@deccanindustries.com | 9894296960 |
|  | Waterman Industries Private Limited, Ahmedabad | Shri Utkarsh Chaya | be@watermanpump.com | 9978900506 |
|  | BIS Secretariat | Shri Aman Dhanawat | med@bis.gov.in | 2323 8423 |

**Members Present MED 20.5**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **SL. NO.** | **ORGANISATION** | **MEMBER** | **E-MAIL** | **MOBILE NO.** |
|  | Aquasub Engineering, Coimbatore | Shri C. Murugesasn  Shri P. Ramesh  Shri G. Prasath | cmurugesan@aquagroup.in  pr@aquagroup.in  gprasath@aquagroup.in | 9952122290  9488168021  9715588088 |
|  | Best Engineers Pumps India Private Limited, Coimbatore | Shri T. Parthiban | beppltesting@gmail.com | 9944499942 |
|  | CSIR - Central Mechanical Engineering Research Institute, Durgapur | Shri Subrata Kumar Mandal | subrata.mandal72@gmail.com | 9434592007 |
|  | Havells India Limited, Noida | Shri Anil Sukumar Akole | anil.akole@havells.com | 9766358333 |
|  | Kirloskar Brothers Limited, Pune | Dr. Ravindra Birajdar  Shri Sudhir Mali | ravindra.birajdar@kbl.co.in  sudhir.mali@kbl.co.in | 9850965670  9922918420 |
|  | Scientific And Industrial Testing And Research Centre, Coimbatore | Dr. K Ulaganathan  Dr. R. Subhramaniam  (*Representative*) | director@sitarc.com  rama.swami@gmail.com | 9487740473  9843325903 |
|  | The Southern India Engineering Manufacturers' Association, Coimbatore | Shri Mithun Ramdas | mithunramdas@mahendraoumos.in | — |
|  | Waterman Industries Private Limited, Ahmedabad | Shri Utkarsh Chaya | be@watermanpump.com | 9978900506 |

**Members Present MED 20.6**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **SL. NO.** | **ORGANISATION** | | **MEMBER** | **E-MAIL** | **MOBILE NO.** |
|  | | Kirloskar Brothers Limited, Pune | Dr. Ravindra Birajdar | ravindra.birajdar@kbl.co.in | 9850965670 |
|  | | Best Engineers Pumps India Private Limited, Coimbatore | Shri T. Parthiban | beppltesting@gmail.com | 9944499942 |
|  | | Hindustan Petroleum Corporation Limited, Mumbai | Shri Sourabh Sharma | sourabhsharma@hpcl.in | 9833152286 |
|  | | Southern India Engineering Manufacturers Association, Coimbatore | Shri K.V. Karthik  Shri A Prabhakaran | karthik@deccanindustries.com  prabhakaran@deccanindustries.com | 9894296960  9865896960 |
|  | | Scientific And Industrial Testing And Research Centre, Coimbatore | Shri A. M. selvaraj  Shri R Kartikeyan | jd@sitarc.com  omipumps@gmail.com | 9487600473  9360070093 |