	भारतीय मानक ब्यूरो BUREAU OF INDIAN STANDARDS
	(PETROLEUM, COAL & RELATED PRODUCTS DEPARTMENT)
MINUTES	
2 August 2024, Friday, 1330 - 1700 h	
Petroleum and their Related Products of Synthetic or Biological or Natural Origin Sectional Committee	**52nd Meeting**
Chairperson: Dr. Harender Singh Bisht, Director, CSIR - IIP	**Member Secretary: Ms. Kreeti Das**

ITEM 0 WELCOME AND INTRODUCTORY REMARKS

0.1 Welcome by BIS

Shri Chinmay Dwivedi, Sc. E and Head, PCD, welcomed the Chairperson and all members to the 52nd meeting of PCD 03. He informed the Committee that he has taken over the responsibility of Head, PCD, from 1 July 2024. He stated that this meeting is very important as several important issues from national perspective will be tabled for discussion and requested everyone to work collaboratively to achieve solutions.

0.2 Opening Remarks by the Chairperson

Dr. Harender Singh Bisht, Chairman PCD 03, welcomed Shri Chinmay Dwivedi as the new Head, PCD, and welcomed all members to the meeting. He requested members to have constructive and positive discussion on the critical matters for discussion, with a focus on consumer welfare and improvement of standards.

0.3 The attendance of the meeting is given in **Annex I**.

ITEM 1 CONFIRMATION OF THE MINUTES OF THE 51st MEETING OF PCD 03

The minutes of the 51st meeting of PCD 03, held in hybrid mode on 22 February 2024, was circulated to all members through BIS portal and email on 14 March 2024. As no comments were received, the Committee ***CONFIRMED*** the minutes, as circulated.

ITEM 2 TITLE, SCOPE AND COMPOSITION OF PCD 03

2.1 The Committee ***NOTED*** the title and scope of the Committee as given in items **2.1** and **2.2** of the agenda.

2.2 Composition of PCD 03

2.2.1 The Committee ***NOTED*** item **2.3.1** and **2.3.2** of agenda about the composition of PCD 03 and its SCs and recommendations of last review of composition and ***DECIDED*** as follows:

a) Recommend co-option of FIPI in PCD 03
b) Co-option of INSA, Hyundai Motors, IIT Roorkee, IIT Kanpur in PCD 3:1
c) Withdrawal of CIMAC, IIT Delhi, ISMA, RDSO from PCD 3:1
d) Co-option of Nutzen Engineering Solutions LLP and MSIL in PCD 3:5

ITEM 3 REFORMS IN STANDARDIZATION

The Committee ***NOTED*** the parameters for Committee Efficiency Index and Dr. Rao pointed out that the current portal is not user friendly and members face several issues in login and submission of comments. BIS informed that process for development of new standards portal is already underway, to which Dr. Rao stated that till the new portal is developed, members should not be mandated to work exclusively with the existing portal.

Head PCD informed that BIS management is aware of the problems with the current portal and efforts are on to make the new portal more efficient and user friendly. In the meantime, it is the responsibility of BIS Sectt to inform the guidelines of BIS management, with respect to reforms in standardization, to the Committee. Nevertheless, any genuine problems faced by Committee members in accessing and submitting comments using the current portal will be considered by BIS.

ITEM 4 ACTIVITIES OF PCD 03

4.1 The Committee ***NOTED*** the program of work of PCD 03 as given in Annex II of the agenda.

4.2 Decision of Committee on recommendations of PCD 3:1 is given in **Annex II.**

4.3 Decision of Committee on recommendations of PCD 3:2 is given in **Annex III.**

4.4 Decision of Committee on recommendations of PCD 3:5 is given in **Annex IV.**

ANNEX I
Meeting Attendance
(Clause 0.3)

Committee Members

1. Dr. Harender Singh Bisht, Director, CSIR – IIP, (Chairperson)
2. Shri Faustino V, Ashok Leyland Limited, Chennai
3. Shri Yogesh. R. Mahajan, Bajaj Auto Limited, Pune
4. Shri R Subramanian, Bharat Petroleum Corporation Limited, Mumbai
5. Dr. Venkatesh R, Bosch Limited, Bengaluru
6. Dr. Anil Kumar Sinha, CSIR - Indian Institute of Petroleum, Dehradun
7. Shri Shekar Kulkarni, Centre for High Technology, New Delhi
8. Ms. Anumita Roychowdhury, Centre for Science and Environment, New Delhi
9. Shri Vivek Chattopadhyaya, Centre for Science and Environment, New Delhi
10. Shri M. Balaguru, Chennai Petroleum Corporation Limited, Chennai
11. Dr. Sitaram Dixit, Consumer Guidance Society of India, Mumbai
12. Shri R. Shanmugavel, DRDO - Centre for Military Airworthiness and Certification, Bengaluru
13. Shri Rakesh Kumar, Directorate General of Civil Aviation, New Delhi
14. Shri Dharmendra Singh Yadav, Directorate General of Civil Aviation, New Delhi
15. Shri Santosh Namdeo, Directorate General of Aeronautical Quality Assurance, New Delhi
16. Dr. Om Prakash Singh, Directorate General of Quality Assurance, Ministry of Defence, Kanpur
17. Shri K Swaminathan Iyer, Gulf Oil Lubricants India Limited, Mumbai
18. Shri Rakesh Sharma, Hero Motocorp Limited, New Delhi
19. Shri Shitanshu Pati Tripathi, Hindustan Petroleum Corporation Limited, Mumbai
20. Shri Raja K Barik, Hindustan Petroleum Corporation Limited, Mumbai
21. Dr. A. R. Shukla, Indian Biogas Association, Gurugram
22. Dr. Ajay Kumar Arora, Indian Oil Corporation (R and D Centre), Faridabad
23. Shri Manish Malhan, Indian Oil Corporation Limited, New Delhi
24. Shri A. S. Krishnamoorthy, Indian Oil Corporation Limited, New Delhi
25. Dr. YS Jhala, Indian Oil Corporation Limited, New Delhi
26. Shri R. Ramaprabhu, Mahindra and Mahindra Limited, Mumbai
27. Shri Yogeesha, Mangalore Refinery and Petro Chemical Limited, Mangalore
28. Shri Gururaj Ravi, Maruti Suzuki India Limited, Gurugram
29. Shri Rajesh Kumar, Maruti Suzuki India Limited, Gurugram
30. Shri Rajesh Manocha, Ministry of Petroleum and Natural Gas, New Delhi
31. Shri Pratik Shah, Nayara Energy Limited, Mumbai
32. Shri Milan Vasoya, Nayara Energy Limited, Mumbai
33. Shri Anand Bhanage, Nayara Energy Limited, Mumbai
34. Dr. Devkishan Chhimpa, Oil and Natural Gas Corporation Limited, New Delhi
35. Shri Balasubramanian K, Reliance India Limited, Mumbai
36. Shri Pramod mall, Reliance India Limited, Mumbai
37. Shri Sanjai Tiwari, Reliance India Limited, Mumbai
38. Shri Prashant Kumar Banerjee, Society of Indian Automobile Manufacturers (SIAM), Delhi
39. Dr. Sandeep Garg, Society of Indian Automobile Manufacturers (SIAM), Delhi
40. Shri Manish Gopal, TVS Motor Company Limited, Hosur
41. Shri N Arun, TVS Motor Company Limited, Hosur
42. Shri Sethuramalingam Tyagarajan , Tata Motors Limited, Pune
43. Shri Shailendra Dewangan, Tata Motors Limited, Pune
44. Shri N Arun, TVS Motor Company Limited, Hosur
45. Dr Y. P. Rao, IN PERSONAL CAPACITY

Invitees

1. Shri Dinesh Joshi, Skoda

BIS Secretariat

1. Shri Chinmay Dwivedi, Sc. E & Head, PCD
2. Ms. Kreeti Das, Sc. C, PCD

ANNEX II
(Clause 4.2)

	भारतीय मानक ब्यूरो BUREAU OF INDIAN STANDARDS
	(PETROLEUM, COAL & RELATED PRODUCTS DEPARTMENT)
MINUTES	
29 July 2024, Monday, 1100 - 1600 h, Virtual	
Automotive, Aviation and Industrial Fuels Subcommittee, PCD 3:1	**39th Meeting**
Convenor: Dr Y.P. Rao, In personal Capacity	**Member Secretary: Ms. Kreeti Das**

Item 0 OPENING OF THE MEETING

0.1 Welcome address

Shri Chinmay Dwivedi, Head, PCD, welcomed all Convenor and all members to the 39th meeting of PCD 3:1 and thanked everyone for attending the meeting. He introduced himself as the new Head of PCD, joined from 1 July 2024 after the superannuation of Smt Meenal Passi. Shri Dwivedi mentioned that there are several important items in the agenda related to alternate fuels for which MoPNG is following up with BIS; hence he requested the Subcommittee to expedite the relevant subjects as they have implications on sustainability.

0.2 Opening remarks by the Convenor

Dr. Y.P. Rao, Convenor, welcomed all members to the 39th meeting of PCD 3:1. He welcomed Shri Chinmay Dwivedi to PCDC. He requested the subcommittee members to deliberate the subjects by keeping the end consumers' interest in view. He also requested members to fulfil the responsibilities taken by them within the timeline decided and provide drafts/inputs to BIS as required. Dr. Rao also emphasized that whenever a standard is amended or revised, it has to be backed by data and empirical evidence. Hence, he requested members to provide adequate data for any proposed change in standard/working document. With these remarks, he requested BIS to proceed with the meeting.

0.3 Attendance of the meeting is given in **Annex I**.

Item 1 TITLE, SCOPE AND COMPOSITION OF PCD 03:1

1.1 The Subcommittee ***REVIEWED*** the title, scope, and composition of Automotive, Aviation and Industrial Fuels Subcommittee, PCD 3:1, as given in Annex I of agenda and ***RECOMMENDED*** the following:

a) Update name of Bharat Oman Refineries as BPCL Refinery, Bina
b) Seek fresh nomination from CPCL as Shri H Ramakrishnan has superannuated
c) Seek fresh nomination from Directorate of Indigenization as Gp Capt Asheesh Shrivastava has been transferred from the organization
d) Seek fresh nomination from Honda Cars, Noida
e) Update name of Mahindra & Mahindra, Mumbai as Mahindra & Mahindra Research Valley, Chennai
f) Seek fresh nomination from Numaligarh Refinery Limited, Golaghat

1.2 Panels and Working Groups under PCD 3:1

The Subcommittee ***NOTED*** the panels and working groups under PCD 3:1.

Item 2 ACTIVITIES OF AUTOMOTIVE, AVIATION AND INDUSTRIAL FUELS SUBCOMMITTEE, PCD 3:1

2.1 The Subcommittee ***NOTED*** the list of Indian Standards published under PCD 3:1 as given in Annex II of agenda.

2.2 Draft Standards/Amendments for Finalization

Sl. No.	Indian Standard/Document Number	Recommendation of Subcommittee
i.	**PCD 03(24139) WC** **First Revision of IS 11489: 1985** **Specification for heavy petroleum stock (Hps)**	• The Subcommittee ***NOTED*** that the document has been finalized and sent for printing.
ii.	**PCD 03(22730)WC** **Fourth Revision of IS 1593 : 2018** **Fuel Oils - Specification**	• The Subcommitee ***REVIEWED*** the MoEFCC notification dated 18 Mar 2008 and it was observed that the notification is for internal oil refineries only. Whereas this document prescribes fuel oil specification for industrial applications. • Dr. Jhala, IOCL, informed that states have set their own limits for the sulphur content which vary among states, e.g., Haryana has set a limit of max 1.8 percent by mass, for Delhi-NCR, it is max 1 percent, in Himachal Pradesh, it is max 1.8 percent. Hence, OMCs will have to comply to the state regulatory requirements while marketing the fuel. • As the MoEFCC notification dated 18 Mar 2008 is applicable only the emission and effluent control at refinery, it is not applicable to PCD 03(22730)WC. The Subcommittee ***RECOMMENDED*** BIS to check with CPCB if there is a notification with respect to sulphur limit in furnace oil for industrial use and put up to the Subcommittee in next meeting. **COMMITTEE DECISION**: The Committee ***ENDORSED*** the recommendation of the Subcommittee.
iii.	**PCD 03 (19658)WC2** **Seventh Revision of IS 1460 : 2017** **Automotive Diesel Fuel – Specification**	• The Subcommittee ***NOTED*** that the document has been finalized and sent for printing.
iv.	**PCD 03 (23723)WC** **Fifth Revision of IS 1459 : 2018**	• With respect to the comments on test methods received on the WC document, the Subcommittee ***RECOMMENDED*** BIS to first table the comments in the test method WG meeting and put up the recommendations of the WG to Subcommittee.

	Kerosene – Specification	
v.	**PCD 03 (24988)WC** **First Revision of IS 16861 : 2018** **High flash high speed diesel fuel - Specification**	• With respect to the comments on test methods received on the WC document, the Subcommittee ***RECOMMENDED*** BIS to first table the comments in the test method WG meeting and put up the recommendations of the WG to Subcommittee.
vi.	**PCD 03 (26244)F** **First Amendment to IS 17081 : 2019** **Aviation Turbine Fuel (Kerosene Type, Jet A-1) containing Synthesized Hydrocarbons — Specification**	• The Subcommittee ***NOTED*** that the document has been finalized and sent for printing.
vii.	**PCD 03 (22875)WC** **Amendment – 2 to IS 17021 : 2018** **E 20 fuel - Admixture of anhydrous ethanol and gasoline - As fuel for spark ignited engine powered vehicles - Specification**	• The Subcommittee ***NOTED*** that the document has been finalized and sent for printing. • Dr. Jhala informed that he had discussed regarding testing of ethanol in E20 with a Brazilian expert in ISO Committee. In ISO, one test method is available that is capable of testing 1-52% ethanol in ethanol-gasoline blends. He has shared this method with refineries to carry out testing and the results will be analyzed in the WG meeting, and if satisfactory, will be recommended for inclusion in next Subcommittee meeting. • Convenor thanked Dr. Jhala for bringing the new test method to the notice of the Subcommittee and also requested the WG to evaluate the test kits that are available for testing of ethanol in gasoline and invite representatives from Mahindra and Ultra Plus Lubricants to demonstrate test kit in WG and recommend to Subcommittee. **COMMITTEE DECISION**: The Committee NOTED and REQUESTED the test method WG to convene an early meeting to discuss all pending items.
viii.	**PCD3(17838)P** **Automotive fuels — Paraffinic diesel fuel from synthesis or hydrotreatment — Specification**	• The Subcommittee ***NOTED*** the status of the project.

2.3 Draft Standards/Amendments for Approval for Wide Circulation

Sl. No.	Indian Standard/Document Number	Recommendation of Subcommittee
1.	**Fifth Amendment to IS 1571 : 2018** **Aviation turbine fuels kerosene type jet - A - 1 - Specification**	• The Subcommittee ***THANKED*** Dr. Jhala for the draft Annexure to be issued as an amendment and briefly ***REVIEWED*** the contents of the Annexure. • Convenor highlighted the statement in the Annexure where it is mentioned "using a single feedstock for a single batch of ATF", and questioned whether it will cause problems in downstream storage locations where it's possible that more than one batch exists in the tanks at any given time. He recommended Dr. Jhala and other members to deliberate on this and provide their inputs. • With the above remarks, the Subcommittee ***RECOMMENDED*** to issue the draft amendment into WC for 30 days as the subject is of priority for MoPNG. **COMMITTEE DECISION**: The Committee ***ENDORSED*** the recommendation of the Subcommittee.
2.	**PCD 03 (23286)WC** **Amendment – 5 to IS 2796 : 2017** **Motor gasoline - Specification**	• The Subcommittee ***REVIEWED*** the communications sent by BIS to MoPNG and vice versa. • Shri P K Banerjee, SIAM, appreciated the efforts of the nation in achieving ethanol blending targets and informed that automotive industry has converted around 2 Cr vehicles annually to be compatible with E20 fuel. He referred to Hon'ble PM's report that cited two dates – 1 April 2023 (conversion of vehicles to be material compliant with E20) and 1 April 2025 (rollout of engine and material compliant vehicles for E20). Engine compliance with E20 means recalibration of engines to provide better spark ignition and more efficient combustion. It also involves hardware change with reduction in piston volume which will increase the compression ratio and improve thermal efficiency of engine. A vehicle with high compression ratio will suffer from knocking and engine failure if run on lower RON fuel. Hence, SIAM has time and again requested, keeping in view Govt's target to rollout E20 vehicles from April 2025, to remove RON 91 for E10 EBMG from IS 2796. He appreciated the efforts of the Committee that amendment was issued into WC after removal of the RON 91 grade. However, MoPNG's stance on need to retain RON 91 for E10 EBMG is a matter of grave concern for automotive industry. • Shri Banerjee further emphasized that in view of this stance of MoPNG and OMCs, automotive industry will not be able to execute engine redesign and hardware change to achieve engine compatibility with E20. If E20 fuel is used on current engines, there will be loss in fuel efficiency and country will lose out with respect to decarbonization. Hence, Shri Banerjee

		requested the Subcommittee and OMCs to consider the report on "Feasibility of Production and Marketing of Ethanol Blended Gasoline – RON 95" prepared by Committee headed by Dr. S S V Ramakumar, Former Director IOCL R&D, and take a progressive decision for sake of consumer and to remove RON 91 grade and retain only RON 95 for E10 EBMG. • Representatives from Mahindra & Mahindra, Renault-Nissan, Maruti-Suzuki, Dr. Mathew Abraham also supported the views of SIAM and requested for a final decision on the subject as it has been pending for a long time. • Shri Rajesh Manocha, MoPNG, referred to letter from MoPNG and emphasized that Ministry has asked to retain RON 91 for a limited period only, i.e., till pan India implementation of RON 95. So, retaining RON 91 will not be a regressive decision as already 15000 outlets are dispensing E20 and soon India will be able to roll-out E20 throughout the country. • SIAM enquired whether MoPNG can guarantee a time frame upto which RON 91 is to be retained, to which Shri Manocha replied that time frame can only be decided by the Govt. SIAM mentioned that unclarity in terms of timeframe is creating problem for automotive industry as they are not able to determine regarding engine redesign and hardware change. • Convenor listened to the viewpoints of members and emphasized that by April 2025, automotive industry has to attain both material and engine compatibility. Redesigned engines used on RON 91 will lead to knocking and engine damage which will be detrimental to consumers. He also highlighted that Govt is pushing for CAFÉ 3 norms that are expected by 2027. All these initiatives are interrelated with the overall objective being reduction of carbon footprint. In view of this, the unclarity in terms of timeframe cannot be accepted as OEMs have to roll out engines compatible with E20. Hence, there has to be a clear time frame and it has to be till April 2025 as specified in the "Roadmap for Ethanol Blending Program" issued by Niti Aayog. • He also considered the letter from MoPNG citing instances of shortage of ethanol leading to OMCs blending 9% ethanol, in which case RON 95 cannot be met. For such instances, he recommended that instead of keeping RON 91, RON 94 should be kept as even with 9% blending of ethanol with base gasoline having RON 91.5, RON 94 is achievable. Hence, RON 94 grade may be kept for E10 EBMG, however, only upto 31 March 2025 as the Niti Aayog Roadmap mentions roll-out of E20 from April 2025. From 1 April 2025 onwards, only RON 95 grade will be applicable. • SIAM conceded that if OMCs and MoPNG concerns of ethanol shortage cannot be allayed, the automotive industry may be willing to accept the introduction of RON 94 grade till 31 March 2025 only and after that only RON 95 will be applicable.

		• Shri Rajesh Manocha, MoPNG, raised concern with the deadline of 31 March 2025 and mentioned that instead of giving a date, it should mention "as per directives issued by Govt. from time to time". He enquired whether BIS has the authority to prescribe a date. • Shri Chinmay Dwivedi, Head PCD, informed the Subcommittee that BIS is not empowered to prescribe a date upto which a grade of fuel may be applicable or removed. This is a policy matter and outside the purview of BIS. Hence, in absence of an official notification of Govt., BIS cannot prescribe a date, such as 31 Mar 2025. The "Roadmap for Ethanol Blending Program" issued by Niti Aayog is an expert committee report and cannot be treated as an official notification or order. Instead, he suggested that the Subcommittee may record in the minutes that "RON 94" that is introduced now for E10 EBMG will be again reviewed by Subcommittee in March 2025 OR the Subcommittee may recommend to write to MoPNG with the proposal of introducing RON 94 for E10 EBMG with the condition that the grade is applicable only till 31 March 2025 and seek comments. • SIAM countered that if a fixed timeline in the form of a date is not mentioned till which period the proposed RON 94 grade will be applicable, SIAM cannot support the proposal. • Dr. Jhala informed that as MoPNG, being the regulator, has communicated to BIS for retaining RON 91 for E10 EBMG, OMCs are currently not able to comment on the proposal by Convenor to introduce RON 94 instead of RON 91. He mentioned that OMCs will deliberate with their management and MoPNG and inform their viewpoints on the proposal. Convenor requested OMCs to come back with their view point in PCD 3 meeting. **COMMITTEE DECISION**: The Committee was informed of the letter received from MoPNG dated 15 April 2024 and 19 June 2024, where it is mentioned to retain RON 91 grade for E10 EBMG considering instances of shortage of ethanol. The Committee also went through the deliberations of PCD 3:1 meeting as given above. Chairperson invited discussion on proposal for removing RON 91 for E10 EBMG and introducing RON 94 for E10 EBMG with a fixed timeline. Dr. Jhala, IOCL, Shri Subramanian, BPCL, informed that they stand by the communication sent by MoPNG for retention of RON 91 for E10 EBMG. OMCs do not support introduction of RON 94. Shri P K Banerjee, SIAM, pointed out that thorough deliberations took place in PCD 3:1 for introduction of RON 94 for a given period of time to accommodate instances of ethanol shortage and the Subcommittee had requested OMCs to evaluate this proposal from technical point of view and inform their opinion. However,

		OMCs are still sticking to retention of RON 91 with the MoPNG letter as justification rather than providing a technical justification as to why RON 94 is not acceptable to them. Chair PCD 03 enquired from OMCs that if they are in agreement that the base gasoline from refineries have RON 91.5 and it is a technical fact that 9% ethanol blending with base gasoline having RON 91.5 will yield minimum RON 94, then why OMCs are not in support of introducing RON 94 in place of RON 91. Shri Manish Malhan, IOCL, enquired whether E20 compatible engines can be run on RON 94 E10 EBMG. If not, then introducing RON 94 is not going to solve the concern of OEMs but will end up in confusing consumers with multiple octane grades. Hence, OMCs are of the view that, as in current spec, RON 91 and RON 95 should remain for E10 EBMG. Shri P K Banerjee, SIAM, informed the Committee that if decision to do away with RON 91 is not taken, OEMs will not be able to do necessary engine upgrade and the country will lose heavily with respect to fuel efficiency. He referred to the report on "Feasibility of Production and Marketing of Ethanol Blended Gasoline – RON 95" prepared by Committee headed by Dr. S S V Ramakumar, Former Director IOCL R&D and mentioned that SIAM approached MoPNG to remove RON 91 for E10 EBMG, however MoPNG referred them to BIS to make the necessary changes in the standard. However, the issue has been under discussion for last one year and still no solution has come out for removal of RON 91. Shri R Ramaprabhu, M&M, supported the views of SIAM and informed that OEMs had previously accommodated request of OMCs to modify the ethanol blending quantity to 9 – 11 % from previous 9.75 ± 0.25 % to achieve RON 95. However, even when there is a roadmap to implement E20 pan Indian from April 2025 and OEMs are required to upgrade their engines, there is no support from OMCs in this progressive direction. Shri Subramanian, BPCL, informed that ethanol blending is taking place throughout India at 15% and as far as E20 is considered, 5% of total gasoline sold is in the form of E20 and compliant with IS 17021. So, OMCs are not going back on ethanol blending. Shri Manish Malhan, IOCL, informed that IOCL is already dispensing E20 at 6000 retail outlets pan India and the number is gradually increasing. So, OEMs need not be apprehensive that RON 95 fuel is not available in the country. Shri Sitanshu Tripathi, HPCL, also expressed the same views that RON 95 fuel is already available in the market and OMCs are striving for increasing the availability of the fuel further. He further stated that introducing RON 94 is not required at the moment as OMCs are already blending 11%

		ethanol for majority cases, only for some instances of shortfall, 9% has to be blended for which RON 91 will suffice. Shri Rajesh Manocha, MoPNG, informed that E20 is being sold at around 15000 retail outlets across country. Hence, consumers can go to these retail outlets if their vehicles have E20 compliant engines. He also highlighted the MoPNG letter dated 19 June 2024, wherein it is mentioned that RON 91 and RON 95 grades of E10 can be differentiated by different colour coding and labelling of dispensing units for benefit of consumers. Hence, there will be RON 95 fuel available for E20 compliant vehicles. Shri P K Banerjee, SIAM, informed that engine recalibration and roll out of around 2 Cr E20 compliant vehicle cannot be done on the basis of only 15000 ROs dispensing E20 fuel. Hence, he requested that if decision to remove RON 91 grade for E10 cannot be taken in PCD 3 due to resistance from OMCs, SIAM will take it up with MoPNG and related govt. departments for necessary action. Shri Ramaprabhu, M&M, further stated that the ethanol availability is not stable in the country. If at some point of time there is shortage of ethanol and E20 is not available, consumers with E20 compliant vehicle can use E10 RON 95. However, maintaining RON 91 for E10 is not technically justifiable as E0/E5 with RON 91 is already there in the standard. Also, practically, it is not feasible that a consumer with E20 compliant vehicle will go searching for a RO that dispenses E20 fuel as only 15000 outlets are dispensing the fuel in a country as big as India. Shri Sethuramalingam, Tata Motors, informed that they have recalibrated their engines and plan to roll out E20 compliant vehicles from April 2025. The vehicles will be sold in multiple cities throughout India. As only 15000 ROs are dispensing E20, where will the customer go if there is no RO dispensing E20 fuel in their city. Hence, there is urgent need for guaranteed E10 RON 95 grade throughout the country. Shri P K Banerjee, SIAM, informed that this is not only the case with Tata Motors but several other vehicle manufacturers have done the recalibration with more than 3 years of R&D and investment. BIS pointed out there is no discussion yet on the proposal of introducing RON 94 instead of retaining RON 91 for E10 EBMG. Hence, it was suggested by BIS that communication may be sent to MoPNG with technical justification for introducing RON 94 (till defined time period - as per directions of GoI) instead of retaining RON 91 for E10 EBMG. Shri Subramanian, BPCL, requested that the base gasoline RON should be clearly communicated with MoPNG as well, to which BIS informed that draft amendment is shared with MoPNG with each communication and in draft amendment it is clearly mentioned that "*base gasoline without ethanol having RON 91.5….*". Dr. Jhala

		informed that though the report on "Feasibility of Production and Marketing of Ethanol Blended Gasoline – RON 95" prepared by Committee headed by Dr. S S V Ramakumar had initially recommended RON of base gasoline as 92, it was reviewed again with all refineries and changed to 91.5. Convenor PCD 3:1 mentioned that Subcommittee deliberations are already recorded in details in the minutes. He emphasized that end consumer interest should be paramount in BIS Committee decisions. If RON 91 for E10 is retained, OEMs will not be able to roll out E20 compliant vehicles due to lack of guarantee for availability of RON 95 fuel and all end consumers and thereby the nation will lose out on fuel economy and carbon footprint reduction. This is a technical committee and decisions should focus on logical and technical justifications based on facts and empirical data. Logically and empirically, it is evident that if 9% ethanol is blended with base gasoline of RON 91.5, RON 94 is achievable. Hence, there is no logical reason why RON 94 cannot be introduced in place of RON 91 for E10. OEMs have also agreed that they are willing to accept RON 94 for a defined period of time as transition. Chair PCD 03 agreed and mentioned that to be future ready, higher octane (RON 95) is required otherwise the benefit of ethanol blending will be lost. He supported the views of Convenor PCD 3:1. Hence, the Committee ***DECIDED*** to send communication to MoPNG stating that the Committee recommends introduction of RON 94 instead of RON 91 for E10 EBMG in view of justification that in instances of ethanol shortage, if 9% ethanol is blended with base gasoline of RON 91.5, RON 94 is achievable. As OEMs have agreed that they are willing to accept RON 94 for a defined period of time as transition, the Committee proposes mentioning a timeline (31 Mar 2025 in line EBP Roadmap) or refer to directives from GoI for time to time for the validity of RON 94 grade.
3.	**IS 2796 : 2017** **Motor gasoline - Specification**	• BIS informed that as per BIS Standard Formulation Manual, a revised draft of Indian Standard may be circulated directly into WC, without circulation within Committee/Sub-Committee/Panel (equivalent to P-draft). • However, the Subcommittee ***RECOMMENDED*** that revised drafts provided by experts should be first reviewed in panel and Subcommittee before being put up to Committee for circulation into WC to ensure that quality draft goes for wider circulation after incorporating the suggestions/ changes, if any, from the experts. **COMMITTEE DECISION**: The Committee ***DECIDED*** that revised drafts for automotive fuels and aviation fuels will be discussed in respective panels first then put up to Subcommittee and main Committee for WC recommendation as it has been observed that several comments are received on these drafts and it is advisable

		to address concerns of stakeholders before WC itself to reduce standard development time.
4.	**IS 16731 : 2019 / ISO 8217 : 2017** **Petroleum products - Fuels Class F - Specifications of marine fuels**	• The Subcommittee ***RECOMMENDED*** that the latest ISO 8217 : 2024 may be circulated into WC for adoption and revision of IS 16731. **COMMITTEE DECISION**: The Committee ***ENDORSED*** the recommendation of the Subcommittee.

2.4 Comments on Published Indian Standards

Sl. No.	Indian Standard	Recommendation of Subcommittee
1.	**IS 1460 : 2017** **Automotive Diesel Fuel – Specification**	• The Subcommittee ***REVIEWED*** the requirements specified for winter grade diesel and compared them with EN 590 • The Subcommittee ***AGREED*** with the recommendations of the panel to issue an amendment for incorporation of clause and Annexure for winter grade diesel in IS 1460 after the necessary data for lubricity and 10% v/v recovery and wording for clause for winter grade diesel is discussed and resolved in panel. The WC to be circulated for a period of 60 days • The Subcommittee also ***REQUESTED*** MoPNG representative to kindly expedite the reply from Ministry for the guidance sought for marking clause of the standard. **COMMITTEE DECISION**: The Committee ***ENDORSED*** the recommendation of the Subcommittee.
2.	**IS 17021 : 2018** **E 20 fuel - Admixture of anhydrous ethanol and gasoline - As fuel for spark ignited engine powered vehicles - Specification**	• The Subcommittee ***REVIEWED*** the deliberations and recommendation of panel with respect to changing E70 recovery to 10-60 vol% for all months and ***AGREED*** with the same. • For oxygen content, the Subcommittee observed that oxygen content was revised from 7.4% to 7.6% in the past. Now, panel further recommended, as requested by OMCs, to revise it to max 7.7%. The Subcommittee ***AGREED*** with the recommendation. • For water content in E20 samples, the Subcommittee ***NOTED*** that data is awaited from OMCs and ***REQUESTED*** OMCs to provide the data within the given timeline to enable the panel to conclude on the limit of water content. • For the comment from OMCs to change the colour from "Red" to "Orange" for MG95 E20 in the standard, the panel and Subcommittee could not reach a consensus as OEMs highlighted colour as a visual differentiating parameter between different varieties of motor gasoline and OMCs insisted that use of red dye is giving problem with filter paper test and customers do not see colour of fuel at the time of

		filling. OEMs desired a different colour for E20 other than the ones used for RON 91 grade and E10 grade. As there is no consensus, sub-committee referred the matter to PCD 3 for the advice/ decision. • Revised draft updated with agreed upon changes may be issued into WC once data on water content is discussed and resolved in panel. Approval for WC may be taken from PCD 3:1 and PCD 3 by email (timeline of reply to email to be one week). **COMMITTEE DECISION**: Shri Ramaprabhu, M&M, informed the Committee that no specific colour requirement is there, any colour that is suitable to OMCs may be used to differentiate. However, visual differentiation is necessary for OEMs as when complaint is received from consumer, it is easier to guide them. Shri Subramanian, BPCL, agreed that colour differentiation may be easy for consumers to identify the fuel however OMCs are receiving contrary feedback with respect to the red colour due to problems with filter paper test. He emphasized that colour coding and labelling of dispensing units is sufficient to differentiate between the different fuels and colour of the E20 ROM 95 fuel need not be kept red. Shri Manish Malhan referred to BIS visit to Panipat refinery wherein the officers witnessed the process of dye mixing with fuel at terminal. The dye is put in tankers and mixing takes place during transport due to vehicle movement. The mixing is uneven resulting in different shades of red, staining in filter paper test, and red dye stains remaining on injectors in engines. He also emphasized that labelling of dispensing units is adequate for consumer awareness and consumer does not see the colour of fuel being filled in the vehicle. Convenor PCD 3:1 informed that for past several years there have been two different colours for different grades of motor gasoline and the colours were decided by OMCs themselves and executed without any issue. Now OMCs are stating that one colour is ideal for all fuel grades whereas OEMs are stating that three different colours are ideal for three different grades of motor gasoline (E0/E5, E10, and E20). To avoid complexity, OEMs have agreed to stick with 2 colours – one for 91 octane and one for 95 octane – as two colours have been the practice earlier as well. Convenor recommendation is also to maintain two different colours for RON 91 and RON 95. Dr. Jhala, IOCL, agreed that two colours have been existing for different grades of motor gasoline for several years, however, practical problems, which were not faced earlier, are being faced now with red dye as volume of E20 is increasing. Hence, as MoPNG letter also clarifies that OMCs are mandated to clearly label

		dispensing units, colour differentiation of fuel is not required. Shri Manocha, MoPNG, also suggested that checking bills of consumers is also a method through which it can be traced what kind of fuel was filled from which petrol pump in case of engine issues due to fuel quality. Shri Ramaprabhu, M&M, informed it is not practical to ask for bills from customer to verify the fuel that was filled in the vehicle Chair enquired whether dye can be directly added in ethanol as ethanol blended fuel is high octane – 95. Dr. Jhala informed that adding dye in ethanol will not result in the required red colour in the blended fuel. BIS, in view of end consumer interest also supported differentiation of different octane fuel with different colour. Red colour is not a mandate and other colour options may be investigated and R&D proposal may also be put up to BIS for exploring other dye options. Chair agreed with views of Convenor PCD 3:1 and BIS. The Committee ***DECIDED*** that for now, the existing red colour for RON 95 (E20) has to be retained and ***REQUESTED*** OMCs to investigate the possibility of other dye options (may seek assistance from IIP or BIS through R&D projects) to alleviate the problems being faced with red dye. The Committee also ***DECIDED*** to create a WG comprising of OMCs and OEMs for discussion of the concerns and recommending a solution.
3.	**IS 17821 : 2022** **Ethanol as a fuel for use in positive ignition engine powered vehicles specification**	• The Subcommittee ***NOTED*** and ***REQUESTED*** automotive fuel panel to take up the comments received on the standard in next meeting.
4.	**IS 17586 : 2021** **E12 and E15 Fuel - Admixture of Anhydrous Ethanol and Motor Gasoline - For Positive Ignition Engine Powered Vehicles - Specification**	• The Subcommittee ***NOTED*** that the letter has not been sent to MoPNG yet and requested BIS to send the letter at the earliest.

5.	**IS 17076 : 2019** **M15 fuel - Admixture of anhydrous methanol and motor gasoline as fuel for spark ignited engines - Specification**	• SIAM confirmed that the study was completed and report was submitted to Niti Aayog based on which they decided not to pursue with use of this fuel in automotives. • The Subcommittee ***RECOMMENDED*** BIS to procure the study report from ARAI. • Based on inputs from SIAM, The Subcommittee ***RECOMMENDED*** to archive the standard. **COMMITTEE DECISION**: The Committee ***ENDORSED*** the recommendation of the Subcommittee.

2.5 New Subjects for Standardization

Sl. No.	New Subject	Recommendation of Subcommittee
1.	**Methanol/Ethanol Fuel for Cooking / Heating**	• The Subcommittee expressed concern that inputs are awaited from relevant experts of the panel for dye recommendation, density, boiling point range, and acidity whereas responsibility was taken by them to give the inputs within fixed timeline. • Head PCD informed that he had talked to the relevant experts over call and they have confirmed submission of relevant inputs within 2 weeks' time. • Hence, the Subcommittee ***REQUESTED*** the relevant experts to provide the required data within 2 weeks' time as this is a subject of priority under MoPNG. Dr. Ajay Arora, IOCL R&D, clarified that Dr. Jhala would be providing the data on behalf of IOCL. **COMMITTEE DECISION**: The Committee ***NOTED.***
2.	**Pyrolysis Oil**	• The Subcommittee ***NOTED*** that Terms of Reference (ToR) for R&D project on the subject is hosted on BIS website for seeking proposals. **COMMITTEE DECISION**: The Committee ***NOTED.***
3.	**MD 15 - Admixture of Methanol with Diesel fuel for compression ignition powered engine vehicles.**	• The Subcommittee ***NOTED*** and ***REQUESTED*** automotive fuel panel to take up discussion on the draft spec received in their upcoming meetings. **COMMITTEE DECISION**: The Committee ***NOTED.***
4.	**M85 Fuel Grade - Specification**	• SIAM informed they will get the input from Brazil on whether the existing flex fuel vehicles are able to use both E85 and M85 in the same engine/vehicle by end of week. • Dr. Abraham mentioned that he tried to get information from global contacts on M85, unfortunately no current information is received. In the absence of which, Dr. Abraham expressed difficulty in providing draft. • The Subcommittee ***RECOMMENDED*** to wait for inputs from SIAM and take this subject for discussion in next meeting.

		COMMITTEE DECISION: The Committee ***NOTED.***
5.	**MD95 Methanol**	• Considering that the MD95 spec has been developed by and exclusive to SCANIA and they are not willing to share the specs, test methods or additives details, the Subcommittee ***RECOMMENDED*** for dropping the project. **COMMITTEE DECISION**: The Committee ***ENDORSED*** the recommendation of the Subcommittee.
6.	**Reference E5, Reference E10 gasoline fuels and Reference B7 diesel**	• IOCL R&D informed that they will provide the working drafts by 15 Aug 2024. • SIAM informed that there is no requirement of Indian Standards on these reference fuels, as reference fuel standards are going to be used between test agencies, OEMs, and manufacturers of such reference fuels (OMCs). However, Convenor pointed out that PCD 3 and PCD 3:1 comprises of these stakeholders only. • Hence, Subcommittee ***RECOMMENDED*** that once the working draft is received from IOCL R&D, it is to be circulated in PCD 3 and PCD 3:1 and comments will be resolved. • The Subcommittee ***RECOMMENDED*** BIS to seek appropriate approval from Competent Authority of BIS for waiver of WC circulation. **COMMITTEE DECISION**: The Committee ***OBSERVED*** that the draft spec provided by IOCL needs to be discussed among OMCs, OEMs, and test agencies before submission to PCD 3:1 and PCD 3.

2.6 Technical Issues

Sl. No.	Subject	Action Taken/Current Status
1.	**Flash Point Studies of Diesel**	• The Subcommittee ***NOTED*** that workshop among OMCs was conducted on 26 June 2024 and report of workshop will be put up in next meeting of PCDC for consideration of the Council. **COMMITTEE DECISION**: The Committee ***DIRECTED*** BIS to share the report of workshop with PCD 3 and PCD 3:1.

Item 3 CREATION OF PANEL FOR MARINE FUEL

The Subcommittee ***NOTED*** items **3.1**, **3.2**, and **3.3** of the agenda and ***AGREED*** to the following composition of the panel for marine fuel:

- DG Shipping
- TERI
- GE Shipping
- Ambuja Shipping - Adani Cement
- INSA

- IOCL (Dr. Jhala)
- BPCL (Shri K Adalazaghan)
- HPCL (Shri Shitanshu Pati Tripathi)

COMMITTEE DECISION: The Committee ***ENDORSED*** the recommendation of the Subcommittee.

Item 4 ANY OTHER BUSINESS

4.1 Shri Ramaprabhu, M&M, drew the attention of Subcommittee to some MoPNG Notifications in which definitions of terms related to fuels is given which is not aligned with Indian Standards. Hence, he recommended that BIS should write to MoPNG informing them of the definitions given in Indian Standards and the standards should be referred in MoPNG notifications. He also informed that SIAM has written to MoPNG on this matter.

The Subcommittee ***REQUESTED*** SIAM to share the communications sent to MoPNG with BIS so that BIS can circulate to Committee for information and necessary recommendation.

COMMITTEE DECISION: The Committee ***ENDORSED*** the recommendation of the Subcommittee.

4.2 Bosch provided comments regarding importance of prescribing chloride and sulphate in ethanol to be blended with gasoline and the Subcommittee requested Dr. Venkatesh to send their comments on chloride and sulphate in IS 15464 to BIS. The automotive fuel panel requested to review and give recommendations.

4.3 For chloride content in E20, Shri R Ramaprabhu informed that chloride requirement has been included in revised draft of IS 17021 in similar lines with finalized PCD 03(19658) Seventh Revision of IS 1460, which is under publication.

COMMITTEE DECISION: The Committee ***NOTED***.

Item 5 VOTE OF THANKS

The meeting ended with a vote of thanks from the Convenor and BIS to all members.

ANNEX I
Meeting Attendance
(Clause 0.3)

Subcommittee Members:

1. Dr. Y P Rao, In Personal capacity (***Convenor***)
2. Shri Senthil Kumar G, Ashok Leyland Limited, Chennai
3. Shri Faustino V, Ashok Leyland Limited, Chennai
4. Shri Yogesh. R. Mahajan, Bajaj Auto Limited, Pune
5. Shri Ramesh Goykar, Bajaj Auto Limited, Pune
6. Shri Adalazhagan K, Bharat Oman Refineries Limited, Bina
7. Shri R Subramanian, Bharat Petroleum Corporation Limited, Mumbai
8. Shri Mella Lokesh Kumar, Bharat Petroleum Corporation Limited, Mumbai
9. Dr. Venkatesh R, Bosch Limited, Bengaluru
10. Shri Nagesh A, Bosch Limited, Bengaluru
11. Dr. Srinivas Padala, CSIR - Indian Institute of Petroleum, Dehradun
12. Shri Shekar Kulkarni, Centre for High Technology, New Delhi
13. Shri M Abdul Kareem, Chennai Petroleum Corporation Limited, Chennai
14. Shri Dharmendra Singh Yadav, Directorate General of Civil Aviation, New Delhi
15. Shri Rakesh Kumar, Directorate General of Civil Aviation, New Delhi
16. Shri CT Chidambaram, Gulf Oil Lubricants India Limited, Mumbai
17. Shri Jencen Mathai Arivannoor, Gulf Oil Lubricants India Limited, Mumbai
18. Shrimati Pallavi , Hero Motocorp Limited, New Delhi
19. Shri Shitanshu Pati Tripathi, Hindustan Petroleum Corporation Limited, Mumbai
20. Shri A. S. Krishnamoorthy, Indian Oil Corporation (MKTG), Mumbai
21. Dr. Ajay Kumar Arora, Indian Oil Corporation (R and D Centre), Faridabad
22. Dr. Maya Chakradhar, Indian Oil Corporation (R and D Centre), Faridabad
23. Dr. Y S Jhala, Indian Oil Corporation Limited - Refineries and Pipelines Division, New Delhi
24. Shri Deep Malik, Indian Sugar Mills Association, New Delhi
25. Shri Anand Redkar, Lubrizol India Limited, Mumbai
26. Shri R. Ramaprabhu, Mahindra & Mahindra Research Valley, Chennai
27. Shri Karuppasamy Thangaraj, Mahindra & Mahindra Research Valley, Chennai
28. Shri R.M. Prakash, Mangalore Refinery and Petro Chemical Limited, Mangalore
29. Shri Ajay Kumar, Maruti Suzuki India Limited, Gurugram
30. Shri Nishant Sarna, Maruti Suzuki India Limited, Gurugram
31. Shri Vipin Dwivedi, Maruti Suzuki India Limited, Gurugram
32. Dr. S. R. Meena, Ministry of New and Renewable Energy, New Delhi
33. Shri Rajesh Manocha, Ministry of Petroleum and Natural Gas, New Delhi
34. Shri Pratik Shah, Nayara Energy Limited, Mumbai
35. Shri Arpan Shah, Nayara Energy Limited, Mumbai
36. Shri Bimlesh Kumar Gupta, Numaligarh Refinery Limited, Golaghat
37. Shri Srinivas K, Numaligarh Refinery Limited, Golaghat
38. Shri Ravishankar V Desai, Reliance BP Mobility Limited, New Delhi
39. Shri Balasubramanian K, Reliance Industries Limited, Mumbai
40. Shri Sanjai Tiwari, Reliance Industries Limited, Mumbai

41. Shri Rajendra Khile, Renault Nissan Technology and Business Centre India Private Limited, Chennai
42. Shri Gnanasekaran K, Renault Nissan Technology and Business Centre India Private Limited, Chennai
43. Shri Prashant Kumar Banerjee, Society of Indian Automobile Manufacturers (SIAM), Delhi
44. Dr. Sandeep Garg, Society of Indian Automobile Manufacturers (SIAM), Delhi
45. Shri Mukti Prasad, Society of Indian Automobile Manufacturers (SIAM), Delhi
46. Shri T. Sethuramalingam, Tata Motors Limited, Pune
47. Shri Shailendra Dewangan, Tata Motors Limited, Pune
48. Dr. Mathew Abraham, IN PERSONAL CAPACITY

BIS Secretariat

1. Shri Chinmay Dwivedi, Sc. E and Head, PCD
2. Ms. Kreeti Das, Sc. C, Member Secretary, PCD 3

ANNEX III
(Clause 4.3)

	भारतीय मानक ब्यूरो BUREAU OF INDIAN STANDARDS
	(PETROLEUM, COAL & RELATED PRODUCTS DEPARTMENT)
MINUTES	
11 June 2024 (Tuesday), 1000 – 1200 h, Virtual	
Aromatic Hydrocarbons, Petroleum Solvents and Preservatives Subcommittee, PCD 3:2	**23rd Meeting**
Convenor: Shri V Nandakumar, MRPL	**Member Secretary: Ms. Kreeti Das**

Item 0 OPENING OF THE MEETING

0.1 Welcome address

On behalf of BIS, Ms. Kreeti Das, Sc.C, PCD welcomed all members to the 23rd meeting of PCD 03:2.

0.2 Opening remarks by the Convenor

Convenor welcomed all members to the meeting and requested members to contribute actively in the discussion of comments.

0.3 Attendance of the meeting is given in **Annex I**.

Item 1 TITLE, SCOPE AND COMPOSITION OF PCD 03:2

1.1 The Subcommittee ***NOTED*** the title, scope, and composition of the Subcommittee as given in Annex I of the agenda.

Item 2 ACTIVITIES OF AROMATIC HYDROCARBONS, PETROLEUM SOLVENTS AND PRESERVATIVES SUBCOMMITTEE, PCD 3:2

2.1 The Subcommittee ***NOTED*** the list of Indian Standards published under PCD 3:2 as given in Annex II of agenda.

2.2 Draft Standards/Amendments for Finalization

Sl. No.	Indian Standard	Recommendation of Subcommittee
i.	**PCD 03(24410) WC** **Sixth Revision of**	• The Subcommittee ***DELIBERATED*** on the comments received on WC document and recommendations are attached:

	IS 534 : 2021 **Benzene - Specification**	Collated%20Comments_SC%20Recomme • As presently the manufacturers of benzene are using sulfolane as the solvent for extraction against previously used TTEG solvent, and it is understood that 1,4-dioxane is a contaminant from TTEG during the extraction process getting into the product. Hence, 1,4-dioxane is not a contaminant when sulfolanes are used and recommended to remove the corresponding requirement from the specification. • The Subcommittee ***OBSERVED*** that with respect to removal/retention of Type B Benzene in the specification, Aarti Industries, IOCL, and Reliance have recommended to remove Type B, while OPAL recommended to retain Type B. The Subcommittee ***RECOMMENDED*** to discuss the matter in PCD 3 for final decision • The Subcommittee has also ***REQUESTED*** certain data from OMCs and specialty companies (see attached comment file), following which necessary modifications may be done to the draft • The Subcommittee ***RECOMMENDED*** PCD 1 to include relative density in the scope of IS 1448 (Part 167) **COMMITTEE DECISION**: The Committee ***RECOMMENDED*** the Subcommittee to ensure participation of OPAL and HPL in their next meeting to take their view point on need for retention of Type B Benzene. Thereafter, the Subcommittee can deliberate and submit final recommendations to the Committee for decision. With respect to inclusion of test for relative density in scope of IS 1448 (Part 167), the Committee ***RECOMMENDED*** PCD 1 to examine the latest ISO 12185 : 2024 for revision of IS 1448 (Part 167) and check whether relative density can be included in the scope of the standard.

2.3 Revision/Amendment of Indian Standards

Sl. No.	Indian Standard	Recommendation of Subcommittee
ix.	**IS 1745 : 2018** **Petroleum hydrocarbon solvents - Specification Third Revision**	5. Dr. Jhala informed the Subcommittee that the matter of differentiation between various fractions (MTO, PCK, SKO) of petroleum solvents was discussed within IOCL, BPCL, HPCL, and IIP 6. For differentiation between MTO and SKO – sulphur can be an indicator. In MTO, sulphur limit is max. 50 ppm, whereas in SKO, sulphur limit is min. 50 ppm. 7. Dr. Jhala also stated that PCK is not available commercially and is used internally within OMCs, hence it is not required to identify a differentiation indicator between PCK and the other fractions (MTO & SKO). The Subcommittee ***AGREED*** to this observation. **COMMITTEE DECISION**: The Committee ***NOTED*** that the matter was initially raised by CRCL for differentiation of the fractions – MTO, PCK and SKO and brought to the Committee. After significant deliberations, since Committee observed that it is not possible to differentiate based on sulphur content, the Committee did not agree with subcommittee recommendation. The Committee, in view of recommendation of the panel, decided to close this subject and intimate to CRCL. Letter to CRCL to be vetted by panel Convenor – Dr. Y S Jhala.
x.	**IS 8502 : 2018** **Petroleum coke - Specification Second Revision**	8. The Subcommittee ***NOTED*** that the revised draft has been provided by Shri Venkatesh Krishnan and Shri Harshad Pandit and ***THANKED*** them. 9. The Subcommittee ***RECOMMENDED*** BIS to issue the revised draft into WC for a period of 60 days. **COMMITTEE DECISION**: The Committee ***ENDORSED*** the recommendation of the Subcommittee.

2.4 New Standards under Development

Sl. No.	New Subject	Recommendation of Subcommittee
10.	**Hexane, Industrial Grade – Specification**	11. The Subcommittee ***NOTED*** that no comments were received on the P-draft circulated and ***RECOMMENDED*** BIS to issue the document into WC for a period of 60 days. **COMMITTEE DECISION**: The Committee ***ENDORSED*** the recommendation of the Subcommittee.

Item 3 VOTE OF THANKS

As there were no other agenda points for discussion, the meeting ended with a vote of thanks from BIS to Convenor and all members of the Subcommittee.

ANNEX I
Meeting Attendance
(Clause 0.3)

Subcommittee Members:

1. Shri V Nandakumar, MRPL (***Convener***)
2. Shri C. Shanmuganathan, BPCL Mumbai
3. Dr Sanat Kumar, CSIR - Indian Institute of Petroleum, Dehradun
4. Shri Dinabandhu Gouda, Central Pollution Control Board, New Delhi
5. Shri M Abdul Kareem, Chennai Petroleum Corporation Limited, Chennai
6. Shri D. L. N. Sastri, Federation of Indian Petroleum Industry, New Delhi
7. Shri Sharique Hussain, Federation of Indian Petroleum Industry, New Delhi
8. Shri Shivam, Federation of Indian Petroleum Industry, New Delhi
9. Shri Anupam Misra, Goa Carbon Limited, Panaji
10. Shri Venugopala Naidu, Goa Carbon Limited, Panaji
11. Shri Krishnan Venkatesh, Hindalco Industries Limited, Mumbai
12. Shri Harshad Kumar Pandit, Hindalco Industries Limited, Mumbai
13. Shri Shitanshu Pati Tripathi, Hindustan Petroleum Corporation Limited, Mumbai
14. Dr. Ajay Kumar Arora, Indian Oil Corporation (R and D Centre), Faridabad
15. Dr. P. Madhusudhana Reddy, Indian Oil Corporation Limited - Refineries and Pipelines Division, New Delhi
16. Shri Manish Malhan, Indian Oil Corporation Limited, Mumbai
17. Shri A. S. Krishnamoorthy, Indian Oil Corporation Limited, Mumbai
18. Shri Yogeesha, Mangalore Refinery and Petro Chemical Limited, Mangalore
19. Shri Taruna Kumar Tripathy, National Aluminium Company Limited, Bhubaneswar
20. Shri Milan Vasoya, Nayara Energy Limited, Mumbai
21. Dr. Devkishan Chhimpa, Oil and Natural Gas Corporation Limited, New Delhi
22. Shri Pramod Mall, Reliance Industries Limited, Mumbai
23. Shri Vasant Warke, Reliance Industries Limited, Mumbai
24. Smt. Leena D Chaudhari, Reliance Industries Limited, Mumbai
25. Shri Rohan Thosar, Reliance Industries Limited, Mumbai
26. Shri Chetan Sedani, Reliance Industries Limited, Mumbai
27. Dr. Y S Jhala, IOCL Pipelines and Refinery Division, New Delhi

BIS Secretariat:

1. Kreeti Das, Sc. C, PCD – Member Secretary

ANNEX IV
(Clause 4.4)

	भारतीय मानक ब्यूरो BUREAU OF INDIAN STANDARDS
	(PETROLEUM, COAL & RELATED PRODUCTS DEPARTMENT)
DRAFT MINUTES	
24 July 2024, Wednesday, 1400 - 1600 h, Virtual	
Gaseous Fuels Subcommittee, PCD 3:5	**32nd Meeting**
Convenor: Dr. M O Garg, In personal capacity (Former Director CSIR-IIP)	**Member Secretary: Ms. Kreeti Das**

Item 0 OPENING OF THE MEETING

0.1 Welcome address
Ms. Kreeti Das, member secretary, PCD 3, welcomed Convenor and all members to the 32nd meeting of PCD 03:5 and thanked everyone for attending.

0.2 Opening remarks by the Convenor
Dr. M O Garg, Convenor, welcomed all members to the 32nd meeting of PCD 03:5. Dr. Garg emphasized the importance of the project on revision of IS 16087 Biogas (biomethane) – specification and encouraged participants to contribute constructively in the discussion on the document. Biogas is an important fuel which Govt. of India is targeting to substitute CNG and move towards Net Zero. The blending targets of CBG with CNG will be dependent on economics of production of CBG and availability of feedstock. From this point of view, the Indian Standard on Biogas has a very important role to play in achieving India's vision and helping producers in manufacturing and marketing the fuel. With these remarks, Convenor thanked the participants for attending and requested BIS to proceed with the meeting.

0.3 Attendance of the meeting is given at **Annex I**.

Item 1 TITLE, SCOPE AND COMPOSITION OF PCD 03:5

1.1 The Subcommittee ***NOTED*** the title and scope of PCD 03:5 as given in Annex I of the agenda.

Item 2 ACTIVITIES OF GASEOUS FUELS SUBCOMMITTEE, PCD 3:5

2.1 The Subcommittee ***NOTED*** the list of standards published under PCD 03:5 as given in Annex II of the agenda.

2.2 The Subcommittee ***NOTED*** that IS 15319 : 2020/ISO 13734 : 2013 "Natural Gas – Organic Components used as Odorants – Requirements and Test Methods" is a product specification standard for organic odorants that is currently under PCD 1 and ***RECOMMENDED*** to transfer the standard from PCD 1 to PCD 3.

COMMITTEE DECISION: The Committee ***ENDORSED*** the recommendation of the Subcommittee.

2.3 Draft Standards/Amendments for Finalization

Sl. No.	Indian Standard/Document No.	Recommendation of Subcommittee
i.	**PCD 03 (23073)WC** **20 percent Dimethyl ether (DME) blended liquefied petroleum gas (LPG) – Specification**	• The Subcommittee ***NOTED*** that the document has been finalized and sent for printing.
ii.	**PCD 03(25678)WC** **Second Revision of IS 16087 : 2016** **Biogas (Biomethane) - Specification**	• The Subcommittee ***DELIBERATED*** on the comments received on WC and recommendations are attached: Collated%20Comments%20-%20PCD%20(• PNGRB raised concern regarding the oxygen limit specified in IS 16087 : 2016 as well as the WC document, i.e., maximum 0.5 mol%. Schedule VI of PNGRB Notification dated 23 Nov 2020, which prescribes Threshold Limit for Gas Parameters on City or Local Natural Gas Distribution Network, sets a limit of 0.2 mol% for oxygen. CGD Access Code-Original Reg-2 • Reliance and IBA informed that currently technology is not mature enough to restrict the oxygen content to 0.2% and currently the blend targets are 1%, 3%, and 4% for FY2025-26, FY 2026-27, and FY2027-28, respectively, and 5% from FY 2028-29 onwards. Reliance further informed that with the maximum blend target of 5%, an oxygen content of 0.5 mol% in CBG will lead to an increase of only 0.01 ppm oxygen in the final blend, i.e., the blend will have 0.215 mol% oxygen. Making the requirement too stringent at this stage will lead of biogas production becoming economically unfeasible. • PNGRB informed that some CBG manufacturers have informed them that hydrogen content between 1 – 3 mol% was observed in biogas produced by them and hence hydrogen content may be included in the specification. However, Reliance, HPCL, and IBA informed that they have not come across any such instances and though the WC

		document was sent to around 20 CBG manufacturers and no comments have been received from them. Hence, no change in the WC document with respect to this comment can be made without proper data. PNGRB was requested to collate data in this respect, if available, and bring to the Subcommittee in upcoming meetings. • As the comments on WC were resolved without any changes in the WC document, the Subcommittee ***RECOMMENDED*** to finalize the document for printing. **COMMITTEE DECISION**: Dr. Y P Rao emphasized that H_2S is highly corrosive and there should be a separate requirement for H_2S and a limit shall be prescribed. Dr. Shukla pointed out that CNG standard IS 15958 also prescribes requirement for total sulphur and H_2S is not prescribed separately. However, Dr. Rao highlighted the difference between technology for production of CNG and biogas. For CNG, technology is well established and and industry is an organized sector, however, for biogas the technology is still evolving and industry is an unorganized sector. Hence, closer monitoring of biogas quality is required. Considering these comments, the Committee ***REQUESTED*** the Subcommittee to deliberate whether H_2S should be included as a separate requirement due to its corrosiveness and put up recommendation to Committee.

2.4 Comments on Indian Standards

Sl. No.	Indian Standard	Recommendation of Subcommittee
i.	**IS 14861 : 2000** **Liquefied petroleum gases (Lpg) for automotive purposes - Specification**	• The Subcommittee ***REVIEWED*** the comment received from IOCL regarding aligning the odorant requirement and test method prescribed in IS 14861 with that in IS 4576. • Dr. Jhala, IOCL, further informed the Subcommittee that IS 4576 was revised in 2021 whereas this standard was published in 2000. Hence, this standard may be revised by incorporating the odorant requirement and test method in line with IS 4576 and the amendment to the standard. • The Subcommittee ***REQUESTED*** Dr. Jhala to prepare the revised draft by end of August 2024 and ***DIRECTED*** BIS to provide the editable file to Dr. Jhala.

		• The Subcommittee ***RECOMMENDED*** that the revised draft provided by Dr. Jhala may be circulated into WC for a period of 60 days. **COMMITTEE DECISION**: The Committee ***ENDORSED*** the recommendation of the Subcommittee.

2.5 New Subjects

Sl. No.	New Subject	Recommendation of Subcommittee
i.	**Piped Natural Gas (PNG)**	• The Subcommittee ***REQUESTED*** PNGRB to provide the characteristic list for piped natural gas for domestic and industrial purposes that are to be included in the PNG working document from Schedule VI of the PNGRB Notification dated 23 Nov 2020 and IS 15958. BIS may prepare working document based on the characteristic list provided by PNGRB. • The Subcommittee also ***REQUESTED*** PNGRB to examine if there are temperature dependent specifications for natural gas in other parts of the world as Schedule VI of the PNGRB Notification dated 23 Nov 2020 prescribes maximum and minimum temperature to be maintained for the gas. **COMMITTEE DECISION**: The Committee ***ENDORSED*** the recommendation of the Subcommittee.

Item 3 ANY OTHER BUSINESS

3.1 NWIP on Biomethane Specification

The Subcommittee ***REVIEWED*** the Form 4 for proposal of "Biogas (biomethane) – Specification" as NWIP in ISO/TC 255, attached with the agenda and ***RECOMMENDED*** submission of the Form 4 to ISO through proper channel in BIS.

COMMITTEE DECISION: The Committee ***ENDORSED*** the recommendation of the Subcommittee.

3.2 Nomination of Experts in ISO/TC 193 and ISO/TC 255

3.2.1 The Subcommittee ***NOTED*** the nominations received for ISO/TC 193 and its WGs and ***RECOMMENDED*** registration in ISO/TC 193 and its WGs as given below:

Sl. No.	ISO Committee and Working Groups	Recommended Registration of Committee Member/Expert
i.	ISO/TC 193 Natural Gas	Shri S K Mishra, GM(O&M), GAIL – Committee Member Shri Pankaj Gupta, DGM(O&M), GAIL – Committee Member Kreeti Das, Member Secretary, PCD 3 – Committee Member Head, PCD – Committee Member
ii.	ISO/TC 193/WG 2 Quality Designation	Shri V Saravanan, DGM(O&M), GAIL – Expert Kreeti Das, Member Secretary, PCD 3 – Document Monitor
iii.	ISO/TC 193/WG 4 Vocabulary	Shri Krishan Kumar, CM(O&M), GAIL – Expert Kreeti Das, Member Secretary, PCD 3 – Document Monitor
iv.	ISO/TC 193/WG 5 Odorization	Shri Nitin Jain, CM(O&M), GAIL – Expert Kreeti Das, Member Secretary, PCD 3 – Document Monitor
v.	ISO/TC 193/WG 7 Energy Determination	Shri Pankaj Gupta, DGM(O&M), GAIL – Expert Kreeti Das, Member Secretary, PCD 3 – Document Monitor
vi.	ISO/TC 193/WG 8 Knock Resistance	Shri Mritunjay Kr Tejswi, CM(O&M), GAIL – Expert Kreeti Das, Member Secretary, PCD 3 – Document Monitor

COMMITTEE DECISION: The Committee ***ENDORSED*** the recommendation of the Subcommittee.

3.2.2 The Subcommittee ***NOTED*** that in 51st meeting of PCD 3, the Committee had requested IOCL to provide nomination of experts for ISO/TC 255, however no nominations were received. Hence, the Subcommittee ***RECOMMENDED*** registration in ISO/TC 255 and its WGs as given below:

Sl. No.	ISO Committee and Working Groups	Recommended Registration of Committee Member/Expert
i.	ISO/TC 255 Biogas	Shri Debasis Sarma, Reliance – Committee Member Kreeti Das, Member Secretary, PCD 3 – Committee Member Head, PCD – Committee Member **COMMITTEE DECISION**: The Committee ***ENDORSED*** the recommendation of the Subcommittee. IOCL nominated Dr. Manoj Uppreti, Chief Research Manager, IOCL R&D, as Committee Member for ISO/TC 255 during the meeting, hence the Committee ***REQUESTED*** BIS to circulate the CV of Dr. Uppreti to PCD 3 via email for 1 week and seek approval. If no objections received, the approval for registration as Committee member may be taken from Chair PCD 3.
ii.	ISO/TC 255/AHG Extension of ISO/TC 255 scope	Shri Debasis Sarma, Reliance – Expert Kreeti Das, Member Secretary, PCD 3 – Document Monitor **COMMITTEE DECISION**: The Committee ***ENDORSED*** the recommendation of the Subcommittee. IOCL nominated Dr. Manoj Uppreti, Chief Research Manager, IOCL R&D, as expert
iii.	ISO/TC 255/WG 1 Terms, definitions and classification scheme for the production, conditioning and utilization of biogas	

iv.	ISO/TC 255/WG 4 Safety and environmental aspects	for WGs of ISO/TC 255 during the meeting, hence the Committee ***REQUESTED*** BIS to circulate the CV of Dr. Uppreti to PCD 3 via email for 1 week and seek approval. If no objections received, the approval for registration as expert may be taken from Chair PCD 3.
v.	ISO/TC 255/WG 6 Biomass gasification	

3.3 Development of Indian Standard on CBG – CNG Blends

Dr. Sandeep Garg, SIAM, requested the Subcommittee that in view of the CBG-CNG blending targets, the Subcommittee may consider development on standards for CBG-CNG blends in line with the ethanol blend standards developed for E10/E12/E15/E20. Convenor appreciated the comment however the development of standard can happen when the industry starts blending and the blended fuel is put to use for domestic and automotive purposes. If issues are faced by industry with the performance of the blended fuel, the Subcommittee will have data which can be used for revision of CBG/CNG standard or for development of standard for CBG-CNG blend. Moreover, though the current blend targets are set at 1%, 3%, 4%, 5%, it is not clear what the ground reality will be considering the economics of biogas production and availability of feedstock. Hence, the possibility of blending needs to stabilize before this subject can be taken up by Subcommittee.

COMMITTEE DECISION: The Committee ***NOTED*** the discussions.

Item 4 VOTE OF THANKS

The meeting ended with a vote of thanks from the Convenor and BIS to all members.

Annex I
(Item 0.3)
Attendance

Subcommittee Members:

1. Dr. Madhukar Garg, In personal capacity (***Convenor***)
2. Shri Debjyoti Bandyopadhyay, Automotive Research Association of India, Pune
3. Dr. Soumen Dasgupta, CSIR - Indian Institute of Petroleum, Dehradun
4. Shri Shekar Kulkarni, Centre for High Technology, New Delhi
5. Shri Ajit Kumar Jha, GAIL (India) Limited, New Delhi
6. Shri Sharique Hussain, Federation of Indian Petroleum Industry, New Delhi
7. Shri S N Sheshachala, Hindustan Petroleum Corporation Limited, Mumbai
8. Shri A. R. Shukla, Indian Biogas Association, Gurugram
9. Shri S Bhar, Indian Oil Corporation Limited - Refineries and Pipelines Division, New Delhi
10. Shri R.M. Prakash, Mangalore Refinery and Petro Chemical Limited, Mangalore
11. Shri Subramanaya Prabhu, Mangalore Refinery and Petro Chemical Limited, Mangalore
12. Shri Pratik Shah, Nayara Energy Limited, Mumbai
13. Shri Arpan Shah, Nayara Energy Limited, Mumbai
14. Dr. Devkishan Chhimpa, Oil and Natural Gas Corporation Limited, New Delhi

15. Shri Gagan Aggarwal, Petroleum and Natural Gas Regulatory Board, New Delhi
16. Shri Debasis Sarma, Reliance Industries Limited, Mumbai
17. Shri S.R. Udayan, Reliance Industries Limited, Mumbai
18. Dr Sandeep Garg, Society of Indian Automobile Manufacturers (SIAM), Delhi
19. Shri D.S. Kulkarni, Tata Motors Limited, Pune
20. Shri Shailendra Dewangan, Tata Motors Limited, Pune

Invitees:

1. Ms. Asawari Kelkar, BPCL Refinery, Bina
2. Shri Adalazhagan K, BPCL Refinery, Bina
3. Dr. Y S Jhala, Indian Oil Corporation Limited - Refineries and Pipelines Division, New Delhi
4. Shri Gnanasekaran K, Renault Nissan Technology and Business Centre India Private Limited, Chennai
5. Shri Gowtham Viswanathan, Renault Nissan Technology and Business Centre India Private Limited, Chennai

BIS Secretariat

1. Ms. Kreeti Das, Sc. C, Member Secretary, PCD 3