

BUREAU OF INDIAN STANDARDS

MINUTES

Panel for Plumbing Services, CED 46:P17

: Fifth Meeting

Wednesday, 20 December 2023

: 1030 h to 1300 h

In HYBRID Mode from

Samvaad (Green Room), Manak Bhavan, Bureau of Indian Standards, 9 Bahadur Shah Zafar Marg, New Delhi 110 002

Convener: Shri B.S.A. Narayan

Member Secretaries: Shri Arunkumar S.
Smt Madhurima Madhav

Members Present Physically:

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| 1) | Shri B. M. Shah | Brihan Mumbai Licensed Plumbers Association, Mumbai |
| 2) | Shri H. C. Gandhi | Rep. Brihan Mumbai Licensed Plumbers Association, Mumbai |

Members Present Virtually:

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| 3) | Shri Sandeep Goel | Prion Consultants, New Delhi |
| 4) | Shri Deepak Daiya | Rep. Brihan Mumbai Licensed Plumbers Association, Mumbai |
| 5) | Dr Ajay Chourasia | CSIR - Central Building Research Institute, Roorkee |
| 6) | Dr Chandan Swaroop Meena | CSIR - Central Building Research Institute, Roorkee |
| 7) | Dr Veena Chaudhary | CSIR - Central Building Research Institute, Roorkee |
| 8) | Dr Papiya Mandal | Rep. CSIR - National Environmental Engineering Research Institute, Nagpur |
| 9) | Dr Sanjeev Agrawal | Central Pollution Control Board, New Delhi |
| 10) | Shri Dinesh Kumar Ujjainia | Central Public Works Department, New Delhi |
| 11) | Shri Pankaj Verma | Delhi Development Authority, New Delhi |
| 12) | Shri H. R. Ranganath | Indian Plumbing Association, New Delhi |
| 13) | Shri Amit | Rep. Indraprastha Gas Limited, New Delhi |
| 14) | Shri M. K. Gupta | MKG Consultants, New Delhi |
| | Shri Himanshu Parihar | MKG Consultants, New Delhi |

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| 15) | Shri Deepak Nagarsoge | Rep. Municipal Corporation of Greater Mumbai, Mumbai |
| 16) | Shri Dheeraj Kaushik | Tata Consulting Engineers Limited, Navi Mumbai |
| 17) | Shri Ganesh Kumar Singh | Rep. Tata Consulting Engineers Limited, Navi Mumbai |
| 18) | Ms Swopnadutta Mohanty | The Indian Institute of Architects, New Delhi |
| 19) | Shri Raj Kumar Prajapati | The Indian Institute of Architects, New Delhi |
| 20) | Prof D. Elango | The Institution of Engineers (India), Kolkata |

From BIS:

Shri Abhishek Sharma, Scientist 'B' (Civil Engg, BIS)

Invitee:

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| Shri Vinay Gupta | Bathline India Private Limited, New Delhi |
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Item 0 OPENING REMARKS

0.1 Convener, Shri B.S.A. Narayan extended a warm welcome to all the members present in the online and offline mode to initiate the exercise of revision of this important Part of NBC which is cross-referred in the various building byelaws in the country. Shri Narayan expressed his gratitude to the National Building Code Sectional Committee, CED 46 for having once again reposing faith in him to revise the four chapters of the Code relevant to this Panel. He mentioned that the mandate set by BIS and CED 46 for this revision is possible to be accomplished with the contribution and support of inputs from all the members of this Panel, and for the same, he solicited both commitment and significant inputs in penning down the provisions of this Part of the Code.

0.2 The Convener emphasized the importance of following the provisions of this Part of the Code that address the health safety aspects of the users of the buildings and the built facilities. Citing the learnings from the recent pandemic, as well as his close association with the World Plumbing Council as one of its Directors, Shri Narayan consented to share the best practices followed and being considered across the globe for deliberation in the revision of the NBC. He cited the example of poor plumbing practices in a multi-stored apartment in Hong Kong that led to the spread of harmful virus to most inmates of the apartment; and thus emphasized the need for not only efficient plumbing design but also the correct installation procedures and practices.

0.3 Shri Narayan clarified that under his role as the Convener, he would extend all possible guidance and support along with the crucial and critical inputs from the members on the four main dimensions of this Part of the Code namely water supply, drainage and sanitation, solid waste management, and gas supply. Considering the changes prevalent in the country and the best practices followed in other countries, this revision of the Code should pave the way for innovative and forward-looking provisions to enable up-to-date and easy-to-implement requirements.

0.5 The Member Secretaries also welcomed the members and particularly the Convener for this meeting. They mentioned that a series of meetings of all the 22

Panels have been initiated to take up the exercise of mammoth revision of NBC including therein the provisions related to modern practices on plumbing covering water supply, drainage, sanitation, and gas supply: apart from solid waste management apart from other aspects.

Item 1 CONFIRMATION OF MINUTES OF THE LAST MEETING

1.1 There being no comments on the Minutes of the fourth meeting of the Panel held on 21 December 2015 in New Delhi which were circulated vide BIS DG letter No. CED 46:P17/A-2.4 dated 03 March 2016, the Panel confirmed the same.

Item 2 COMPOSITION

2.1 The Panel noted its present composition, as reconstituted by the National Building Code Sectional Committee, CED 46 and given at Annex 1 to the Agenda and decided/noted as follows:

- a) To withdraw the nomination of the following on the Panel given their continued non-participation/no response:
 - 1) Shri Subir Paul (in personal capacity)
 - 2) AECOM India Pvt Ltd, Noida
- b) To write to the following and co-opt on the Panel, based on their interest and response:
 - 1) Ministry of Jal Shakti, New Delhi
 - 2) Pratham Envirotech Solutions, Navi Mumbai (Shri Purshottam Yemul)
 - 3) Delhi Pollution Control Committee, New Delhi
 - 4) Envirotech Instruments Pvt Ltd (EIPL), New Delhi
 - 5) Dr Bharat Bhushan Nagar [now with Alliance for Water Stewardship (AWS) and in the recent past with GIZ]
 - 6) CSIR – CLRI, Chennai (Dr Srinivasan)
- c) To co-opt the Water Management & Plumbing Skill Council, New Delhi
- d) To write to the following organizations for their revised nominations on the Panel and continued membership:
 - 1) Central Ground Water Board, Faridabad
 - 2) Central Pollution Control Board, New Delhi
 - 3) Forum of Critical Utility Services (FOCUS), Bengaluru
 - 4) Gas Authority of India Limited, New Delhi
 - 5) Indian Institute of Technology Guwahati, Assam
 - 6) Indore Municipal Corporation, Indore
 - 7) Mahanagar Gas Limited, Mumbai
 - 8) Military Engineer Services, Engineer-in-Chief's Branch, Army HQ, New Delhi
 - 9) Nous Hospital Consultants Pvt Ltd, New Delhi.

- e) To coopt Shri S.L. Prasanna Kumar Director Maple Engg- Design Services India Pvt Limited Bangalore as member of CED 46 P:17

Item 3 PROJECT OF REVISION OF NBC

3.1 The Panel noted the information regarding the comprehensive exercise of revision of NBC 2016, being executed by the 22 Panels to bring updates to the various Parts/Sections of NBC 2016 (as at Annex 2 of the agenda), to bring out most modern and state-of-the-art revision of the Code.

3.2 The Panel noted the existing chapters covering Plumbing Services namely Water Supply, Drainage and Sanitation, Solid Waste Management, and Gas Supply that is, Part 9 of NBC 2016 and its contents as given in Annex 3 to the Agenda.

3.3 The Panel noted that the ongoing revision of the National Building Code (NBC) of India is a comprehensive and interconnected effort involving thirty-three chapters. The endeavor encompasses various facets of building regulations, with a special emphasis on Part 9 'Plumbing Services'. The revision process recognizes the interrelated nature of different chapters, particularly the Fire and Life Safety chapter, which addresses fire protection requirements apart from the sustainability aspects in Part 11 of the Code. Such interconnection underscores the importance of a thorough and holistic approach to the revision.

3.3.1 The approach emphasizes a methodical and consensus-driven methodology, leveraging the collective expertise of panel members. Therefore, the Panel noted that written suggestions, required discussions, and structured reviews from all the member organizations will be essential. Based on the discussions during the meeting, the following were noted/decided to be suitably included in the revision:

- a) In Section 1, to review the water demand (from 135 lpcd) in a building that is entirely fitted with water-efficient plumbing fixtures and fittings. To specifically include in this revision, the criteria (which can be verifiable) for use of water-efficient plumbing fixtures. In this context, members informed about the practices in a few cities where successfully reduced amount of per capita water is being supplied for quite some time now. Also, the Panel noted that the phenomena of 'Dry Drainage' should be avoided while using the reduced per capita supply to buildings.
- b) Feasibility of mandating water-saving technologies and recycling systems, aligning with sustainability goals.
- c) The discussions also delved into nuanced aspects, such as the exploration of measurement techniques for individual water usage in the case of apartments, even if there is a kitchen and more than 1 toilet requiring multiple water inlet points. The panel contemplated a balanced approach that considers both technical feasibility and practical implementation in the case of water inlet points in multistoried buildings.
- d) A few members raised about the disparity in water supply standards between urban and rural areas. While the NBC mandates 135 lpcd for urban areas, the practical implementation in rural regions has led to significantly lower quantities being supplied. Dr Sanjeev Agrawal highlighted the pressing problem of inadequate water supply in rural districts. Further, he mentioned that in most cases the minimum requirement of 55 lpcd, as stipulated in the various mission

guidelines is not met; and the challenges faced include pressure problems, fixture issues, and overall insufficient water delivery systems. Thus, he mentioned the effectiveness of the existing schemes and the need to address the rural-urban divide in water supply, including on drainage. The Panel informed that the provisions of the Code are non-discriminatory and can be used not only in the urban areas but also in the rural areas as per the stipulations in the Code.

- e) Regarding the suggestion to consider incorporating gender-neutral toilets in specific occupancies in Section 2, the Convener mentioned that the World Plumbing Council is also contemplating on the same.
- f) As regards the specific suggestion to add further clarity on the single stack system for drainage (particularly during the simultaneous flushing of water closes leading to air lock), it was decided to suitably do the needful.

For each of the 4 Chapters, the Panel requested the members to indicate their points/clauses to be revised along with other topics (preferably including the text) to be included (apart from revising the existing provisions).

Further, it was decided that responsibility shall be shared with all the members of the Panel; and for the same members were requested to send their specific interest so as to enable to involve them in the Expert Groups to be constituted (for each of the Section) for which, the Convener was authorized to.

Item 4 COMMENTS RECEIVED ON PART 9 'PLUMBING SERVICES (INCLUDING SOILID WASTE MANAGEMENT) OF SP7 : 2016

4.1 The Panel noted the comments received on the above 4 Chapters of NBC 2016 as referred in the Annex 4 to the agenda. It was decided to address the same through the respective expert groups to be constituted as decided above.

4.2 Expert Groups

Group -1 Water Supply Members

Shri H.R. Ranganath, Shri Sandeep Goel , Shri Deepak Daiya, Shri Dheraj Kaushik, Dr K.B. Sood, Dr Meena , Dr Vijaya Prakash ,Dr Deepak Nagarsoge

Group – 2 Drainage and Sanitation

Shri M.K.Gupta , Shri S.L. Prasanna Kumar ,Shri Subhir Paul, Shri N.K.Goel ,Shri H.C. Gandhi, Shri Dinesh Kumar Ujjainia ,Shri Raj Kumar Prajapati

Group -3 Solid Waste Management

Shri Dr Ramakanth, Shri Dr A.B.Akolkar, Shri A.P. Chaurasia, Dr Sanjeev Agarwal, Dr Elango, Dr Hariharn S Shankar

Group -4 Gas Supply

Shri Pankaj Sharma Shri A. S. Dubey ,Shri Vijaya Prakash , Ganesh Kumar Singh

Item 5 DATE & PLACE OF THE NEXT MEETING

Upon receipt of the inputs from the members in a week, it was decided to hold the next meeting of the Panel in February 2024/March 2024.

Item 6 ANY OTHER BUSINESS

6.1 Members thanked the Convener, Shri B.S.A. Narayan for ably conducting the meeting and providing leadership in the launching this revision of this important chapter on Plumbing Services which is widely implemented in the country.

6.2 BIS Secretariat also thanked the Convener and all the members for taking active interest during the meeting resulting in useful deliberations.
