

BUREAU OF INDIAN STANDARDS**MINUTES**

Panel for Administration, Development Control Rules and General Building Requirements, CED 46:P1 : **Sixth Meeting**

Thursday, 18 January 2024 : **1030 h to 1430 h**

Venue: In Hybrid Mode from Mimaansa (White room), Manak Bhavan, Bureau of Indian Standards, 9 Bahadur Shah Zafar Marg, New Delhi 110 002

Present:

Convener: Shri V. Suresh

Member Secretaries: Shri Arun Kumar S
Smt Madhurima Madhav

Members

NAME	ORGANIZATION	MODE OF PARTICIPATION
Shri Narendra Dev	Rep. Airport Authority of India, New Delhi	Virtual
Shri Mahesh Warbhe	Rep. Airport Authority of India, New Delhi	Virtual
Shri Avinash D. Shirode	Association of Consulting Civil Engineers India, Bengaluru	Virtual
Prof R. Pradeep Kumar	CSIR – Central Building Research Institute, Roorkee	Virtual
Dr S. R. Karade	Rep. CSIR – Central Building Research Institute, Roorkee	Virtual
Shri Manohar Lal	Delhi Development Authority, New Delhi	Virtual
Prof Mahesh Tandon	Engineering Council of India, New Delhi and Indian Association of Structural Engineers, New Delhi	Virtual
Ms Pooja Nandy	Housing and Urban Development Corporation Limited, New Delhi	Virtual
Smt Nirmal Batra	Housing and Urban Development Corporation Limited, New Delhi	Virtual
Md. Ishteyak Alam	Housing and Urban Development Corporation Limited, New Delhi	Virtual
Shri Manoj K. Mittal	Indian Association of Structural Engineers, New Delhi	Virtual
Shri Rajeev Kumar Gupta	Indian Buildings Congress, New Delhi	Physical
Shri S. K. Kulshrestha	Institute of Town Planners (India), New Delhi	Physical

Dr Sandeep Raut	Rep. Institute of Town Planners (India), New Delhi and Town and Country Planning Organization, New Delhi	Physical
Shri Prashant Kamat	Rep. Municipal Corporation of Greater Mumbai, Mumbai	Virtual
Shri U G Palande	Municipal Corporation of Greater Mumbai, Mumbai	Virtual
Shri P. N. Ojha	National Council for Cement and Building Materials, Ballabgarh	Virtual
Shri Amit Trivedi	National Council for Cement and Building Materials, Ballabgarh	Virtual
Col Savyasachi Marwaha	National Monuments Authority, New Delhi	Physical
Dr Ruchita Gupta	School of Planning and Architecture, New Delhi	Physical
Shri Yatin Choudhary	Rep. The Energy and Resources Institute, New Delhi	Virtual
Shri Akshaya Kumar Beuria	The Indian Institute of Architects, Mumbai	Virtual
Ms Envita Das	The Indian Institute of Architects, Mumbai	Virtual
Ms Dhanashri Bhosale	The Indian Institute of Architects, Mumbai	Virtual
Shri Ashok Kumar Basa	The Institution of Engineers (India), Kolkata	Virtual
Shri Shashikant L. Jadhav	In Personal Capacity, Mumbai	Physical
Dr V. S. Naidu	In Personal Capacity, Visakhapatnam	Virtual
Shri Subhash Chandra Vashishth	In Personal Capacity, New Delhi	Virtual

Invitees

NAME	ORGANIZATION	MODE OF PARTICIPATION
Shri Rajpal Kaushik	In personal capacity, New Delhi	Physical
Shri R. Srinivas	In personal capacity	Physical

BIS Directorate General:

Shri Dheeraj Dhamachya, Scientist 'B'/Assistant Director (Civil Engineering)
 Shri Abhishek Sharma Scientist 'B'/Assistant Director (Civil Engineering)

Regrets:

Shri Divya Kush	Council of Architecture, New Delhi
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Item 0 OPENING REMARKS

0.1 Welcoming the Chairman and Members to the Sixth meeting of the Panel for Administration, Development Control Rules and General Building Requirements, CED 46:P1, Smt Madhurima Madhav, Member Secretary highlighted the historical genesis of the National Building Code from the first version in 1970 till date and indicated the

national importance of the document for use by the construction industry. She also referred to the subsequent developments after the publication of NBC 2016 and efforts made by BIS for implementation of the NBC in all States and various stakeholders.

As a part of the large implementation efforts, the work on preparation of Standardized Development and Building Regulations, as a model for states and local bodies, was indicated by Smt Madhurima Madhav. She also briefed the members that as per the decision taken during the last meeting of the Panel, the above document prepared under the NBC Promotion Project of BIS has been published and released as Special Publication, SP 73:2023 'Standardized Development and Building Regulations, 2023' on 06 January 2024. She added that the document is based on Parts 2 and 3 of NBC 2016 and other best practices adopted globally. She indicated that this will be a useful document for building upon provisions of NBC 2025. She invited Shri V Suresh, Chairman of CED 46 and the Convenor of CED 46:P1.

0.2 Shri V Suresh, Chairman CED 46 and Convener of CED 46:P1 welcomed the members of the Panel for Administration, Development Control Rules and General Building Requirements, CED 46:P1 and shared the important role played by Parts 2 and 3 of NBC in the building regulatory media of States and Cities. He emphasized importance in the context of the rapid demographic growth increasing from 100 crores to 142 crores in just over two decades as well as large scale urbanization in small, medium and large cities which is likely to be of the order of 60 crores by 2030. The complexities of development in urban and rural areas for the built environment has been posing challenges with many emerging technologies and applications. Therefore, the 2025 version of NBC on which the Panel is working, has to take care of the critical issues after the publication of the NBC 2016. He added that it is equally important to address the requirements for the different geo-climatological zones as well as hilly areas (10 percent) and 6000 km coastal areas of India. The country is also exposed to large number of natural calamities like earthquakes, floods, cyclones, landslides, tsunamis, etc and the NBC has to deal with all situations to ensure resilient built environment. The environmental issues, as a result of climate change and the work under SDG 2030, dictates the need for practical provisions for sustainable development in Part 3 over and above the provisions of Part 11 on 'Approach to Sustainability'.

He referred to the whole issue of the administrative aspects of the building regulatory framework for issue of development permit as well as building permit. The innovative aspects for building plan approval with association of all right and competent professionals to deal with various facets of building construction activity has to be built upon to deal with various specializations over the current provisions in Part 2. The additional facets to deal with the renewal of permit during the occupancy stages due to various changes over the years. He added that the good work done in SP 73 would be appropriately made use of.

The importance of Part 3 dealing with development control rules and general building requirements was referred including the use of mixed-use development in zoning as well as buildings. He added that this would require to be opened up. The requirements of the housing for low income and poor covered in NBC 2016 and latest version of IS 8888 becomes important in the context of large scale initiatives for housing for all. With

the advent of e-vehicles the requirements of parking for e-vehicles and charging points and related infrastructure in the buildings and public areas need to be opened out.

With the intensity of development increasing and advent of tall buildings, the detail provisions and control mechanism need expansion in contents. All cities have large historical background of its structures and this have to be covered from the point of view of the resilience and safety of structures as well as from the heritage conservation point of view. This also brings in the issue of planned demolition of buildings and use of construction and demolition waste and appropriate provisions from administration and technical point of view.

After his detailed opening remarks highlighting the pertinent aspects/issues to be incorporated/addressed, he invited members for briefly introducing themselves.

After the round of introductions, he invited Member Secretary for taking up the Agenda item wise.

Item 1 CONFIRMATION OF MINUTES OF THE LAST MEETING

1.1 The Panel confirmed the Minutes of the last (fifth) meeting as circulated vide BIS DG letter No. CED 46/A-2.9 and CED 46:P1/A-2.5 dated 17 January 2024 considering that the main item in the same relating to publication of Standardized Development and Building Regulations, 2023 has since been completed and the document has been released as SP 73 : 2023. It was further decided that in case any comments are still received on the recording of the minutes of the last meeting, the same would be considered in the next meeting of the Panel.

Item 2 COMPOSITION OF THE PANEL CED 46:P1

2.1 The Panel reviewed its composition and noted/decided as below:

- a) Shri Narendra Dev and Shri Mahesh Warbhe who were attending the meeting from Airports Authority of India, were requested to send their nominations for the Panel at the earliest.
- b) To write to the following organizations for their continued interest and revised nominations, if any:
 - 1) Consulting Engineers Association of India;
 - 2) Corporation of Chennai;
 - 3) Council of Architecture; and
 - 4) West Bengal Housing Infrastructure Development Corporation Limited, Kolkata.
- c) As requested by Dr S. R. Karade and considering his contribution in the various technical committees of BIS, it was decided to give him representation on the Panel as second alternate member from CSIR-CBRI.
- d) It was decided to withdraw Ghaziabad Development Authority in view of non-participation and interest.
- e) As informed by Shri Rajeev Kumar Gupta, Indian Buildings Congress will henceforth be represented by him and Shri V. R. Bansal as their Principal and

- Alternate member, respectively. He informed to delete the name of Shri Naval Kishor Singh, who was representing them as their Alternate member.
- f) To write at the highest level of Ministry of Environment, Forest and Climate Change for their nominations considering that provisions of NBC are always made use of for compliance for EIA clearance, and also the current need for detailed integration of EIA clearance (NOC) in NBC.
 - g) To write to President, National Real Estate Development Council (NAREDCO) to send their nominations at the earliest as they represent the builders and developers, and provisions of NBC are always used for compliance by implementing agencies and regulatory agencies.
 - h) As informed by Smt Ruchita Gupta, it was noted that consequent upon superannuation of Prof Mandeep Singh, School of Planning and Architecture would henceforth be represented by Prof P. S. N. Rao as Principal Member and Smt Ruchita Gupta as their Alternate Member.
 - j) Considering the merger of all the four zonal municipal corporations of Delhi as Municipal Corporation of Delhi, it was decided to modify the representation of South Delhi Municipal Corporation to Municipal Corporation of Delhi and seek their nominations.
 - k) Absence in participation of Svayam in two consecutive meetings of the Panel was noted. It was decided to give one more opportunity for participation in the Panel work, and review will be taken in the next meeting.
 - m) Shri Yatin Choudhary informed that he will represent The Energy and Resources Institute (TERI) on the Panel. He was requested to send a formal communication in this regard.
 - n) Dr Sandeep Raut informed that he will represent Town and Country Planning Organization on the Panel. He informed that he was also representing Institute of Town Planners India during the meeting and their revised nominations will be sent shortly.

2.1.1 The Panel considered the request for co-option as given in the Agenda as well as the suggestions received in the meeting, and decided to co-opt the following:

- a) Shri R. Srinivas, In Personal Capacity, New Delhi [Technical Advisor to High Level Committee (HLC) on Urban Affairs under Ministry of Housing and Urban Affairs];
- b) Shri Rajpal Kaushik, In Personal Capacity, New Delhi;
- c) Ministry of Housing and Urban Affairs, New Delhi;
- d) New Okhla Industrial Development Authority, Noida;
- e) Indian Geotechnical Society, New Delhi;
- f) Indian Society of Landscape Architects (ISOLA), Ahmedabad;
- g) Institute of Urban Designers India, New Delhi;
- h) Delhi Metro Rail Corporation, New Delhi;
- j) Uttarakhand Town and Country Planning Department, Dehradun (with a request for nomination and participation of Chief Town Planner); and
- k) Maharashtra Fire Services, Mumbai (with a request for nomination and participation of Shri Santosh Warrick, Director and CFO, Maharashtra Industrial Development Corporation).

Item 3 PROJECT OF REVISION OF NBC

3.1 The Panel noted the information as given in the Agenda.

3.2 The Panel noted the information as given in the Agenda.

3.3 Utilization of SP 73:2023 'Standardized Development and Building Regulations, 2023' for Revision of Part 2 and Part 3 of NBC 2016

Smt Madhurima Madhav referred to the background behind the publication of SP 73 : 2023 'Standardized Development and Building Regulations, 2023' based on provisions of Parts 2 and 3 of NBC 2016 and other best practices adopted globally. She highlighted the salient aspects in SP 73 : 2023 as applicable to Parts 2 and 3 of NBC as follows:

a) As applicable to Part 2 of NBC:

- 1) Issues related to Ease of Doing Business including process flow charts and check lists;
- 2) Structural Design Basis Report;
- 3) Planned demolition and permit process for the same;
- 4) Timelines for various stages of permit process;
- 5) Third party audit;
- 6) List of all NOCs;
- 7) Heritage conservation committee;
- 8) Qualification and competence of structural engineers;
- 9) Mechanism of proof checking of structural designs and qualification of competence of proof checkers; and
- 10) Periodic evaluation of buildings for structural safety.

b) As applicable to Part 3 of NBC:

- 1) Land use zones including mixed-use developments;
- 2) Buffer zones and green belts;
- 3) TOD;
- 4) TDR, CFAR, PFAR;
- 5) Open spaces and setbacks;
- 6) Parking spaces;
- 7) Block of buildings;
- 8) Urban design features;
- 9) Fire tender movement access;
- 10) Accessibility for persons with disabilities and the elderly;
- 11) Development in hilly areas;
- 12) Coastal Zone Regulations; and
- 13) Special requirements for developments and buildings.

The Panel noted the above significant aspects/features added in SP 73:2023 and decided to suitably utilize these provisions in the work for revising NBC as NBC 2025.

Item 4 COMMENTS RECEIVED ON PART 2 'ADMINISTRATION' OF SP7 : 2016

4.1 The Panel considered the comments received on Part 2 of the Code, and the highlights of discussions held and decisions taken are given at **Annex 1**.

4.2 Col Sabyasachi Marwah of National Monuments Authority highlighted the provisions in Ancient Monuments Archaeological Sites and Remains Act brought out in 1958 and revised in 2010 regarding the prohibited and regulated area around heritage buildings/monuments, and that every heritage building must have its own heritage bye-laws prescribing heritage controls as applicable to the developments around them. He mentioned that there are 3695 Central Protected Monuments. There are 7 heritage byelaws and 11 more are underway. He also clarified that World Heritage Sites have different requirements for clearances to be maintained around them. Shri Kaushik and Col Marwah suggested that these locations must be indicated in Master Plans as well as Revenue Maps. One more critical area is related to the reference point around the protected monument area for deciding the zone of prohibition/regulation. He added that the above aspects need to be clearly brought out in the revision of NBC along with the inclusion of Heritage Conservation Committee in cities.

4.3 Prof Mahesh Tandon brought out that as Metros are coming up in a big way in many prominent cities and there are issues of planning, design and stability of metro structures, on ground, overhead and underground which has implications for the metro structures but also for the existing built environment.

This also has linkage with multi-modal transport hubs with integrated and mixed-use development and the type of approval process, which needs to be suitably addressed in Part 2 and Part 3.

4.4 Shri Manoj Mittal suggested to utilize the provisions of IS 18229 on structural design and proof checking consultancy services for fixing responsibilities. While agreeing, Shri V. Suresh added that Part 2 of NBC 2016 has provided differentiated responsibilities in Annex J and Annex K for professional services for design and supervision of buildings.

4.5 Shri R. Srinivas suggested to incorporate provisions for latent defect liability, which was agreed by the Panel, also linking with views of RERA.

4.6 While considering the qualification and competence of professionals, Smt Madhurima Madhav shared the information available in Part 0 of NBC 2016 for integration and coordination among all professionals. In this connection, Shri V. Suresh indicated that while detailed qualifications and competence levels are provided for leading professionals, there has been a felt need from all states for expanding the coverage for all utility services including MEPF and ICT. In particular, there has been a request for opening out the requirements of Fire Engineers. **This was discussed in detail and it was decided that a Core Group comprising of Fire Advisor to Govt. of India, Ministry of Home Affairs, Institute of Fire Engineers India, Fire Safe India Foundation (FSIF) and National association of Fire Officers (NAFO) would come**

up with the proposal for qualification and competence of Fire Engineers in line with the established professional practice.

4.7 Shri Yatin Choudhary referred to the application of ECBC and Eco-Niwas Samhita provisions in NBC. Shri V. Suresh highlighted that Part 11 of NBC 2016 covers all sustainability related criteria including energy efficiency for passive and active design. Further, in many states, where state level ECBC norms are legislated, it has become compulsory for buildings beyond certain area and also power load to have compliance to the State Energy Conservation Building Rules in addition to the urban building rules and rural building rules. Therefore, compliance for energy conservation has become an important NOC for building plan approval by local bodies, which will be reflected in NBC Part 2. Shri Ashok Basa also referred to the provision of renewable energy in buildings and to make it increasingly adoptable and interested by the builders and individuals. He felt that it will be desirable for renewable energy generated in buildings should not be a burden, and be utilized partly for the buildings and the additional energy generated to be linked to the grid so that energy storage cost may be avoided and incentives are provided to the builders.

4.8 Considering the nature of changes to be made in Part 2 in the light of deliberations as given in **3.3** and in **4.1** to **4.7**, the Panel constituted the following Working Group to prepare the draft revision for Part 2 of NBC:

SI No.	Name
1)	Shri V. Suresh (Chairman)
2)	Shri R. Srinivas
3)	Shri Shashikant Jadhav
4)	Shri Rajpal Kaushik
5)	Shri Santosh Warrick
6)	Shri Manoj Mittal

The Working Group was requested to complete the draft and provide the same by the mid of April 2024 so that the next meeting of the Panel may be held in May, first half, to consider the document for wide circulation.

Item 5 COMMENTS RECEIVED ON PART 3 ‘DEVELOPMENT CONTROL RULES, AND GENERAL BUILDING REQUIREMENTS’ OF SP 7 : 2016

5.1 The Panel considered the comments received on Part 3 of the Code, and the highlights of discussions held and decisions taken are given at **Annex 2**.

5.2 Shri Shashikant Jadhav referred to the amended provisions of use of TDR as in Greater Mumbai DCR. Shri V. Suresh added that CED 51 has already formulated detailed TDR norms which would shortly be finalized. Smt Madhav informed that detailed provisions on TDR are also included in SP 73. It was decided to suitably utilize the provisions as far as NBC Part 3 is concerned.

5.3 Shri Akshay Kumar Beuria referred to a major area of concern related to urban flooding and how this can be taken care of in land use planning as well as in the design of the surface and underground drainage facilities linked with hydraulic paths. Shri Basa also mentioned that the issue has also become critical due to heavy intense rainfalls in short periods which will not be catered by the carrying capacity of the drainage systems. Shri V. Suresh agreed with Shri Basa and stressed upon the need for climate change responsive planning and design. He also clarified that while the infrastructure needed for drainage will be covered in Part 9/Section 2 on Drainage, the planning aspects at layout level and building level has to be covered in Part 3 of the Code. It is also desirable to incorporate suitable provision in Part 2 to ensure that development/building permit is only given when detailed drainage plans are made available. Shri Arunkumar S. suggested to incorporate provisions of flood tunnels as solutions for such spontaneous flooding situations.

5.4 While discussing the provisions for affordable housing needs for the low income and poor, Shri V. Suresh indicated that separate provisions are being added to cover the needs in Part 3 based on provisions of IS 8888 which has been increasingly appreciated in the implementation of Housing for All. In this connection, Shri Akshay Kumar Beuria felt that large scale adoption of *Pucca Ghar* in rural areas, has brought in a major transformation in the rural landscape with brick and concrete structures, which are not in line with the sensitivity of using traditional/vernacular construction practice and locally available materials. Shri V. Suresh clarified that with the aspirational demand of rural households to have permanent durable houses based on the information revolution reaching far corners of rural areas, it becomes extremely difficult to suggest that only traditional construction practices and local materials be used. However, it was felt that a reference can always be made for using materials with low embodied energy and also intermediate and cost effective technologies and maintain sensitivity to local architectural styles, possibly public buildings of the Government, like *Panchayat Ghar*, *Anganwadi*, village offices, village schools, village health centres, *samudayak kendras*, which could show a way for this for adoption by villagers for their own new homes.

5.5 Shri Yatin Choudhary queried about the desirability of standardizing plot sizes and also linking the application of sustainability features. Shri Srinivas felt that plot sizes cannot be a prescriptive policy as large variations of plot sizes exist for different applications of poor, low income, middle income and high income as well as other plots and also depending upon nature of cities where land values vary very largely. However, there is merit in adopting application of sustainability parameters for certain types of developments with larger plot/building area.

5.6 Considering the nature of changes to be made in Part 3 in the light of deliberations as given in **3.3** and in **5.1** to **5.5**, the Panel constituted the following Working Group to prepare the draft revision for Part 3 of NBC:

SI No.	Name
1)	Shri Rajpal Kaushik (Chairman)
2)	Shri R. Srinivas
3)	Shri Shashikant Jadhav
4)	Shri Santosh Warrick
5)	Dr V. S. Naidu
6)	Dr Sandeep Raut
7)	Shri Akshaya Kumar Beuria
8)	Smt Ruchita Gupta

Convener, Shri V. Suresh volunteered to provide the guidance for the work of Part 3 to the above Working Group, where needed.

The Working Group was requested to complete the draft and provide the same by the mid of April 2024 so that the next meeting of the Panel may be held in May, first half to consider the document for wide circulation.

Item 6 DATE AND PLACE OF THE NEXT MEETING

Considering the planned schedule and progress made under Item 4 and Item 5 for preparing the drafts for Part 2 and Part 3, **it was decided that the next meeting of the full Panel will be held in the first half of May 2024. It was also suggested that the drafts as above should be circulated towards end April 2024.**

Item 7 ANY OTHER BUSINESS

7.1 There being no other business to transact the meeting ended with a hearty vote of thanks to the Chair for excellently conducting the meeting and to the members for their active participation.

ANNEX 1*(Item 4.1)***HIGHLIGHTS OF DISCUSSIONS HELD AND DECISIONS TAKEN ON THE COMMENTS RECEIVED ON
PART 2 'ADMINISTRATION' OF SP 7 : 2016**

SL NO.	NAME OF THE COMMENTATOR	SUBJECT MATTER	BRIEF OF COMMENTS	HIGHLIGHTS OF DISCUSSIONS HELD AND DECISIONS TAKEN
1	Superintending Engineer (TAS) Central Public Works Department, New Delhi	List of items pertaining to MoHUA for Annual Action Plan 2024-25 of BIS towards standards development.	List of items used in works and requiring BIS codes. 1) Municipal Grievance redressal knowledge standards released by MoHUA in 2022 2) Building plan approval knowledge standards	1) The Panel noted that the concept is already covered in Board of Appeals and in various State Building Byelaws. However, it was decided to make use of the important areas of action as contained in the MoHUA document on Municipal Grievance Redressal Knowledge Standards. 2) The Panel noted that the concept of information sharing in online/physical approval process, is available in NBC. However, it was decided to make use of the important areas of action as contained in the MoHUA document on Building plan approval knowledge standards.
2	Association of Consulting Civil Engineers,(India), Bengaluru	Clarification w.r.t Competence of Civil Engineers of Specialized Post	The term "Engineer" means Civil Engineer or Graduate Civil Engineer whose competence is well defined under Clause A-2.2 ENGINEER.	It was noted that the comment was already addressed during the last meeting of the Panel and the clarification was also provided. It

SL NO.	NAME OF THE COMMENTATOR	SUBJECT MATTER	BRIEF OF COMMENTS	HIGHLIGHTS OF DISCUSSIONS HELD AND DECISIONS TAKEN
		Graduate Qualifications	<p>Where as to practice as Structural Design Engineer it is specified to have a 3-Years of experience in structural designs for Graduate Civil Engrs, 2- Years for Post Graduates in Civil Structural Engineering & 1-Year for Doctorates in Structural Engg, etc & it goes on, for other areas of specialisation like Geotechnical Engineers, Town Planners, Plumbing Engineers, etc.</p> <p>However, the Authorities like BBMP in Bengaluru, are not allowed to practice the competence of Engineer or Civil Engineer as per A-2.2 who are registered as Structural Engineers, Plumbing Engineers, Town Planners, etc.</p> <p>This point was asked to BIS during one of the webinars and it was clarified that Structural Engineers Competence is “All the Competence of Civil Engineer + the Structural Competence and similarly for other Civil Engg. Specialisations”.</p> <p>In spite of our clarifications, the Authorities are not heeding and are preventing the registered Structural, Geotechnical & Plumbing Engineers to practice the competence of a Civil Engineer (defined under clause A-2.2).</p> <p>It has become extreme necessary to clarify this point from BIS side so that the authorities will take note of the same & allow the specialised Civil Engineers to practice their mother profession of Civil Engg freely without hindrances.</p>	was agreed to suitably clarify the same in Part 2 of the Code.


SL NO.	NAME OF THE COMMENTATOR	SUBJECT MATTER	BRIEF OF COMMENTS	HIGHLIGHTS OF DISCUSSIONS HELD AND DECISIONS TAKEN
			<p><u>In the last (fifth) meeting of the Panel held in joint session with CED 46 on 31 October 2023, the following were observed /decided:</u></p> <p><i>The Committee considered the comments received from Association of Consulting Civil Engineers (India), Bengaluru seeking clarification in respect of provisions of Part 2 'Administration' of the Code in view of the practices adopted by some of the Building Authorities who are preventing the registered Structural, Geotechnical and Plumbing Engineers to practice the competence of a Civil Engineer. In response, the Committee clarified that a structural/geotechnical engineer is also a civil engineer and the same can be true for plumbing engineer who is a civil engineer by qualification and may be duly registered as engineer. The Committee therefore, reiterated its decision as taken during the last meeting of the Panel, CED 46:P1 during which it was clarified that structural/geotechnical/plumbing engineers, by virtue of their qualification, are competent to do all the works as per the competence prescribed for the engineers, that is, civil engineers It was also clarified that it would depend upon how the above professionals are registered with the local body, namely, as engineer or as structural engineer or as geotechnical engineer or as a plumbing engineer, and accordingly, they would be competent to carry out the works as prescribed against the same. It was further clarified that in order to practice as both Civil Engineer and Structural Engineer/Geotechnical Engineer/Plumbing Engineer, they will have to register themselves as both the building professionals.</i></p>	

ANNEX 2*(Item 5.1)***HIGHLIGHTS OF DISCUSSIONS HELD AND DECISIONS TAKEN ON THE COMMENTS RECEIVED ON PART 3
'DEVELOPMENT CONTROL RULES, AND GENERAL BUILDING REQUIREMENTS' OF SP 7 : 2016**

SL NO.	NAME OF THE COMMENTATOR	SUBJECT MATTER	BRIEF OF COMMENTS	HIGHLIGHTS OF DISCUSSIONS HELD AND DECISIONS TAKEN
1	Shri Hanish Arora Dormakaba India Pvt. Ltd.	Dormakaba comments on IS 4963 (Requirement for accessibility in built environment for older adults and persons with disabilities)	The details are given in Annex 6A (4 pages), sent as a separate PDF.	It was decided to consider the comments in the revision of IS 4963 which will also be later incorporated in NBC (Part 3).
2	Superintending Engineer (TAS) Central Public Works Department, New Delhi	List of items pertaining to MoHUA for Annual Action Plan 2024-25 of BIS towards standards development.	List of items used in works and requiring BIS codes. 1) Design standards for planning and development for hilly and eco sensitive regions 2) Development codes/norms for city core area development 3) Norms standards for developing of TOD's on zones within cities 4) Planning norms and standards for high rising developments: efficient use of land flexibility of use i.e. local area planning and town planning	The Panel agreed to address the suggested areas through special codes in addition to coverage in Part 3 of NBC. It was decided to actively associate MoHUA in this exercise.

SL NO.	NAME OF THE COMMENTATOR	SUBJECT MATTER	BRIEF OF COMMENTS	HIGHLIGHTS OF DISCUSSIONS HELD AND DECISIONS TAKEN
			<p>schemes</p> <p>5) Planning and norms for green field construction</p> <p>6) Design and standards for station area/Airport/Bus station/ Metro station or major multi model transport interchange</p>	
3	Shri Ashok B Lal Architects	Draft White Paper: Healthy Affordable Housing in India	<p>For more details on White Paper following url can be accessed</p> <p>https://library.gbpn.org/resource/white-paper-healthy-affordable-housing-india-prioritising-well-being-occupants-design-and</p>	<p>The Panel considered the White paper and decided to address the same in the Part 3 in low income housing and IS 8888. The Panel also considered their comments on the chapter which were placed during the meeting and are given at Annex 3 of the Minutes, and agreed to suitably consider the same in the draft.</p>
4	Shri H R Ranganath, MAPLE Engg-Design Services (India) Pvt. Ltd	Fire Driveway specifications	<p>1) Clause no 4.6(c) and 4.6.1.4 (c) –fire driveway - width& turning radius for different building height to be included. The distance of dive way from building line/edge to be mentioned.</p> <p>2) Clarity to be indicated for building Entrance area canopy height for movement of fire tender.</p>	<p>1) The Panel agreed to the suggestions for increasing the width and turning radius for increasing heights. It was also decided to discuss this in CED 46:P2 dealing with Fire and Life Safety.</p> <p>2) It was noted that 4.5 m clearance is already provided for gates. It was agreed that extending this requirement for canopy will be considered along with CED 46:P2.</p>

SL NO.	NAME OF THE COMMENTATOR	SUBJECT MATTER	BRIEF OF COMMENTS	HIGHLIGHTS OF DISCUSSIONS HELD AND DECISIONS TAKEN
5	Shri Aditya Kumar, Consumer, Hyderabad	Minimum clear width	<p>Kindly provide the guideline or specification to be followed in case of minimum clearance to be provided for the door for balcony. I had purchased one apartment in Hyderabad wherein a sliding door was provided to commute to the balcony attached to the room and the space for commuting is very narrow (picture is enclosed).</p> <p>The matter was taken up with the builders several times but we didn't receive any written communication, however they verbally told us that the same can't be changed.</p> <p>Please provide the guideline/regulation if any w.r.t minimum clear door width so that the same may be quoted to the builder and also guide me if the same is not resolved then the appropriate authority to lodge my grievance.</p>	It was decided to provide necessary clarification.

SL NO.	NAME OF THE COMMENTATOR	SUBJECT MATTER	BRIEF OF COMMENTS	HIGHLIGHTS OF DISCUSSIONS HELD AND DECISIONS TAKEN
				
6	Shri Priyadarshan Dixit	Limit of layout planning	<p>Why there is limit of layout planning for civil engineers up to 1 ha in urban area and 2 ha in rural area.</p> <p>It is really an injustice.</p> <p>Civil engineers are the professional, who deeply know the surveying and how to the land can be best used.</p>	<p>NBC has rightly recognized differentiated responsibilities for layout planning among architects, engineers as well as town planners, as town planners have full competence to deal with unlimited areas.</p>

SL NO.	NAME OF THE COMMENTATOR	SUBJECT MATTER	BRIEF OF COMMENTS	HIGHLIGHTS OF DISCUSSIONS HELD AND DECISIONS TAKEN
			<p>Please remove the barrier of planning for civil engineers.</p> <p>Civil engineers have no statutory body doesn't mean that, other professionals forcefully make the code in their fevour.</p> <p>Please remove the barrier if it is same as draft in final copy.</p>	
7	Ministry of Social Justice and Empowerment	Minimum Proposed standards for Senior Citizen Homes (Old Age Homes)	MoSJ&E has shared the draft guidelines for old age homes for BIS' comments with the guidelines which are given in Annex 6B may be utilized by the Panel for consideration for incorporating requirements for such amenities in the Code.	It was decided to consider inclusion of requirements for senior citizens homes making use of provisions of Draft Guidelines prepared by MoSJ&E, Model Guidelines of MoH&UA and SP 73.
8	DR. U.S. CHHILLAR Director General Institution of Fire Engineers (India)	4.6 of Part 3	Please see the details below	
<u>COMMENTS OF IFE</u>				
<i>Clause No.</i>	<i>Existing provisions</i>	<i>Proposed provisions/ amendments</i>	<i>Justification</i>	
4.6	<i>For high rise buildings and special buildings (see Part 4 'Fire</i>	<i>For high rise buildings and "plots having set back 6m (Front,</i>	<i>Special buildings mentioned in clause 1.2 of NBC part-IV, starts from 500m². In such buildings while providing 6m wide road around the buildings, it will require more</i>	<p>1) The area 500m² is floor area of the building and not plot area.</p> <p>2) Norms for fire tender movement</p>

SL NO.	NAME OF THE COMMENTATOR	SUBJECT MATTER	BRIEF OF COMMENTS	HIGHLIGHTS OF DISCUSSIONS HELD AND DECISIONS TAKEN
	<p><i>and Life Safety' the following additional provisions of means of access shall be ensured.</i></p>	<p><i>Rear and sides) and above”</i> the following additional provisions of means of access shall be ensured.</p> <p><i>In hilly areas where one or two sides of the buildings sticks with the slope of the hill, the fire engine road should be provided with turning or reverse provisions from the dead end point.</i></p> <p><i>Similarly in costal or lakes areas where one or two</i></p>	<p><i>than 540m² area.</i></p> <p><i>Plots having 6001m² area are allowed 6m set back as per NOIDA building bye laws.</i></p> <p><i>Therefore the fire engine road can be provided in the buildings having plot area 6001m² and above.</i></p> <p><i>In hilly areas one side of the building is always sticks with the hill slope and in this case there is no scope to provide the fire engine road around the building.</i></p> <p><i>A special note for buildings in hilly areas facing back side to the slope of the hill should also be added in the NBC. This can be for three or two sides and there should also be a provision to back or turn the vehicle from dead end.</i></p> <p><i>Similarly in costal or lakes areas where the buildings are facing one or sides towards the water sides the provision of fire engine road should be as per the provisions proposed for hilly areas.</i></p>	<p>path for hilly areas will be reviewed as already attempted in SP 73.</p> <p>3) Such norms for development near water bodies will be considered along with CED 46:P2.</p>

SL NO.	NAME OF THE COMMENTATOR	SUBJECT MATTER	BRIEF OF COMMENTS	HIGHLIGHTS OF DISCUSSIONS HELD AND DECISIONS TAKEN
		<p><i>sides of the buildings are facing the water, the fire engine road should be provided with turning or reverse provisions from the dead end point.</i></p>		
<p>4.6 c)</p>	<p><i>The approach to the building and open spaces on all its sides shall be not less than 6m in width and a turning radius of minimum 9 m shall be provided for fire tender movement of fire tenders weighting up to 45 t minimum. For heavier fire tenders the minimum width turning radius and the hard surface capable of taking the fire tender loads shall be as per the</i></p>	<p><i>The approach to the building and open spaces on all its sides shall be not less than 6m in width and a turning radius of minimum 9 m shall be provided for fire tender movement of fire tenders weighting up to 45 t minimum.</i></p> <p><i>“The width of road for the buildings above 60m in height shall be 7.5m with 12m</i></p>	<p><i>Provision of minimum and maximum distance of Fire Tender path from face of the wall needs to be specified clearly in NBC as is done in case of Podium vide clause 4.6.1.4 b). For podium It is taken as 11m and therefore we should also follow such provision for fire tender path with a maximum of 11 m.</i></p> <p><i>Spacing/distance of yard hydrants from the face of wall minimum 2m and maximum 15m has been mentioned in IS: 13039 vide clause 4.15.</i></p> <p><i>Similarly the spacing/ distance of fire engine road is also required to be specified. The width of road is specified as 6m.</i></p> <p><i>Increase in width should also be mentioned in this clause keeping in view the chassis of different</i></p>	<p>It was decided to consider these comments along with CED 46:P2.</p>

SL NO.	NAME OF THE COMMENTATOR	SUBJECT MATTER	BRIEF OF COMMENTS	HIGHLIGHTS OF DISCUSSIONS HELD AND DECISIONS TAKEN
	<p><i>requirement laid down by the Fire Department. The layout for the open space for fire tender movement shall be done in consultation with the Chief Fire Officer of the city, which shall be kept free of obstructions and shall be motorable. The compulsory open spaces around the building shall not be used for parking.</i></p>	<p><i>turning radius.”</i></p> <p><i>The layout for the open space for fire tender movement shall be done in consultation with the Chief Fire Officer of the city, which shall be kept free of obstructions and shall be motorable.</i></p> <p><i>“The edge of the road should not be more than 11m from the face of the building.”</i></p> <p><i>The compulsory open spaces around the building shall not be used for parking.</i></p>	<p><i>type of chassis being used in Fire Service. Moreover such chassis should also be available with the particular Fire Service where these widths are applicable. The width of road is increased for the buildings above 60m in height as 7.5m with 12m turning radius. It will meet the requirement of all type fire engines.</i></p>	

**ANNEX 3
(SI No. 3 of Annex 2)**

COMMENTS OF ASHOK B. LAL ARCHITECTS ON PART 3 OF NBC 2016 AND IS 8888:2020

DETERMINANTS OF HEALTH	ACTIONS FOR HEALTHY BUILDINGS AND NEIGHBOURHOODS	NATIONAL BUILDING CODE (NBC)	
		Proposed Recommendations	Existing Provisions
A PHYSICAL HEALTH			
1 Thermal Comfort	Optimise the integration of climate-responsive passive design strategies and low-energy devices	Adherence to Eco Niwas Samhita (ENS) Energy Conservation Building Code (ECBC) (R) for thermal comfort – this could be made prescriptive, giving standard solutions for walling, windows, external shading and roofing, for ease of implementation.	<p>PART 11, NBC 2016</p> <p>3.2 This process emphasises the requirement of bottom up approach which invariably considers microclimatic and cultural conditions around.</p> <p>The bottom up approach concentrates more on how little is consumed; pursue deep understanding of sustainability, uses low technology innovations, materials and practices; recognizes performance to be more important than intent; and necessitates the use of common knowledge and common sense in design decisions.</p>
			<p>PART 11, NBC 2016</p> <p>11.2 Solar passive techniques that can be adopted in different climate zones of India are: a) landscaping (to reduce heat island effect); b) optimum building orientation; c) arrangement and shape of buildings; d) effective surface to volume ratio; e) location and size of openings on building facade and other elevation; f) glazing type and performance; and g) shading devices on windows and judicious selection of building materials.</p>
		Mandating roof construction with reflective coating and high insulation (Cool roof)	<p>PART 11, NBC 2016</p> <p>8.1.2 The overall thermal transmittance from the exposed roof should be kept as minimum as possible and under normal conditions, the desirable value should not exceed 0.58 W/(m²°C). The ceiling surface of floors which are not to be air conditioned may be suitably insulated to give an overall thermal transmittance not exceeding 1.16 W/(m²°C)</p>
		Provision for roof mounted Solar PV as a resilience measure	<p>PART 11, NBC 2016</p> <p>8.3.2 Building integrated photovoltaic (BIPV) system is the integration of photovoltaic (PV) and the building envelope. The PV modules can be designed and installed to serve the double purpose of both power generation and that of the building skin replacing conventional building envelope materials. By avoiding the cost of conventional materials, the incremental cost of photovoltaic is reduced and its life cycle cost is lower.</p>
2 Visual Comfort	Optimise availability of diffused daylight, enable its modulation with external shading systems	Provision for mechanically aided ventilation	<p>IS 8888: 2020 Requirements of Low Income Housing for Urban Areas</p> <p>5.5 The openings through windows, ventilators and other openings for lighting and ventilation, excluding the doors inclusive of frames shall be not less than: a) 1/16 of the room floor area for dry-hot climate; b) 1/6 of the room floor area for warm-humid climate; c) 1/8 of the floor area for temperate and composite climate; and d) 1/12 of the floor area for cold climate.</p>
3 Protection from Diseases and Pollutants	Ensure drainage of all exterior surfaces to avoid waterlogging.	Design of on-site drainage for no stagnant water.	<p>PART 11, NBC 2016</p> <p>10.4.2 a waste-water disposal, hence, the arrangements have to be made within the construction site. It is imperative that the opportunities are identified to reduce the water consumption and re-use treated waste-water. In the absence of appropriate waste-water disposal facilities, unhygienic and unsightly conditions may prevail which may cause water borne diseases and act as breeding ground for mosquitoes and develops unhealthy environment with bad odour and flies.</p>
	Indoor spaces will be protected from mosquitoes with netting.	Protection of homes from mosquitoes and vermin	<p>PART 11, NBC 2016</p> <p>8.1.3 Sliding/insect screens to allow fresh air without the inlet of mosquitoes and other insects through operable windows.</p>

DETERMINANTS OF HEALTH	ACTIONS FOR HEALTHY BUILDINGS AND NEIGHBOURHOODS	NATIONAL BUILDING CODE (NBC)	
		Proposed Recommendations	Existing Provisions
	Enable good ventilation in habitable spaces, avoid causes of dampness in indoor spaces and provide means of flushing out or removal of humidity.	Provision for mechanically aided ventilation	<p>PART 8, NBC 2016</p> <p>5.4.3 A building need not necessarily be oriented perpendicular to the prevailing outdoor wind; it may be oriented at any convenient angle between 0° and 30° without losing any beneficial aspect of the breeze. If the prevailing wind is from East or West, building may be oriented at 45° to the incident wind so as to diminish the solar heat without much reduction in air motion indoors.</p> <p>The air motion in the working zone is maximum when window height is 1.1m.</p> <p>Windows of living rooms should open directly to an open space. In places where building sites are restricted, open space may have to be created in the buildings by providing adequate courtyards.</p> <p>In the case of rooms with only one wall exposed to outside, provision of two windows on that wall is preferred to that of a single window.</p> <p>Provision of horizontal sashes inclined at an angle of 45° in appropriate direction helps to promote the indoor air motion. Sashes projecting outward are more effective than projecting inward.</p>
	To be segregated from heavy traffic arteries, minimise the intrusion of air polluting vehicles within the residential zones.	Minimum buffer between land for affordable housing and major transportation arteries to minimise pollution	<p>PART 10, NBC 2016</p> <p>7.5.3 Air pollution shelterbelts maybe used to protect sensitive land uses from air pollution. For instance school playgrounds, children play area and residential estates close to major roads may be so protected.</p>
	Protected from loud noise of traffic or other sources of loud noise.		<p>PART 8, NBC 2016</p> <p>5.2.1 The most desirable method is to locate the residential buildings in a quiet area away from the noisy sources like the industrial areas, rail tracks, aerodromes, roads carrying heavy traffic, etc.</p> <p>5.2.1.1 To minimise ground reflection, the dwellings should be surrounded by the maximum amount of planting and grassed areas and the minimum amount of hard surfacing. This applies particularly to high density areas. Where for maintenance reasons a large amount of hard paving is necessary, it should be broken up by areas of planting and grassing. Narrow hard paved courts should be avoided between adjacent tall buildings.</p>
B SOCIAL HEALTH			
4 Social Interaction	Promote social health by designing outdoor and common shared spaces for social interaction, group activities and recreation.	Minimum standard for accessible shared space, sheltered or open, adjacent to homes as compensation for small dwelling units with high occupancy	<p>IS 8888: 2020 Requirements of Low Income Housing for Urban Areas</p> <p>4.7.1 Community open spaces - as far as possible be provided in one place or planned out for the use of the community in clusters or pockets. Community open spaces for low income housing, minimum 15 percent of the area of the layout, or 0.3 hectares/ 1000 persons.</p>
5 Gender equity, provisions for vulnerable populations	Provide space for recreation of children and youth, and sheltered spaces for group activities	Minimum standard for accessible shared space, sheltered or open, adjacent to homes as compensation for small dwelling units with high occupancy	<p>IS 8888: 2020 Requirements of Low Income Housing for Urban Areas</p> <p>4.7.2 No recreational space shall generally be less than 450 m². In such recreational spaces, a single storeyed structure as pavilion or gymnasium up to 25 m² in area may be permitted; such area may be excluded from FAR calculations.</p>
	Access to community health and resilience centres equipped for protection and care for the most vulnerable residents during pandemics and heat waves.	Provision of sheltered resilience centres	

DETERMINANTS OF HEALTH	ACTIONS FOR HEALTHY BUILDINGS AND NEIGHBOURHOODS	Proposed Recommendations	NATIONAL BUILDING CODE (NBC)	
			Existing Provisions	
	Meet the special concerns and needs of women residents with respect to hygiene, facilities for health care and workspaces for income generation.	Facilities for home-based work and health care		
	Engage women as equal stakeholders in the operation, management and maintenance of the shared community assets.	Inclusion of women in post-occupancy management of community assets as changemakers for sustainable lifestyles.		
8 Adequate space - limits to crowding and densities	Meet minimum standards for space per person in homes, in the common spaces within buildings and as 'habitable' outdoors and terraces.	Limit to densities of housing (DU/hectare of land) to avoid overcrowding;	IS 8888: 2020 Requirements of Low Income Housing for Urban Areas	4.4 Density norms for Plotted development: 65 - 120 plots/ Ha Mixed development: Small towns - 75 - 100 DU/ Ha Cities - 100 - 125 DU/ Ha Metropolitan cities - 125 - 150 DU/ Ha For DU of 15 m ² , four storeyed walk ups without future incremental growth with maximum densities of 500 DU/ Ha
			IS 8888: 2020 Requirements of Low Income Housing for Urban Areas	5.7 Circulation area on any floor including staircase shall not exceed more than 8 m ² per DU.
			IS 8888: 2020 Requirements of Low Income Housing for Urban Areas	4.5 The height of building shall not exceed 15 m. Building for housing beyond 15 m in height should be resorted to in exceptional circumstances and it should be governed by provisions laid down in SP 7.
C PSYCHOLOGICAL HEALTH				
7 Limits to overcrowding; privacy, safety	Observe limits to occupant density to avoid overcrowding, offer occupants the means of balancing their needs for community and for privacy	Prohibit FAR incentives that contradict social and cultural appropriateness and environmental sustainability.	IS 8888: 2020 Requirements of Low Income Housing for Urban Areas	4.3 The minimum plot size with ground coverage not exceeding 75 percent, shall not be less than 40 m ² in small and medium town and not less than 30 m ² in metropolitan cities. Plot sizes below 30 m ² but not less than 15 m ² may be permitted in case of cluster planning, however, in such cases the ground coverage and FAR shall be 100 percent and 2, respectively. A minimum of 25 percent of the plot size shall be left open without adversely affecting light and ventilation for habitable spaces and toilet. It shall not be made mandatory to leave set back on any side.
			IS 8888: 2020 Requirements of Low Income Housing for Urban Areas	5.3 Every dwelling unit to be provided should have at least two habitable rooms. Even if one room house is provided initially it should be capable of adding a new second room in future. However, in case single room tenements are required to be provided where future additions are not possible, the carpet area of the multi-purpose single room, should be at least 12.5 m ² . In a house of two rooms, first room shall not be less than 9.0 m ² with minimum width of 2.5 m and second room shall be not less than 6.5 m ² with a minimum width of 2.1 m provided the total area of both the rooms is not less than 15.5 m ² .
8 Access to nature	Integrate positive open green and provide places, terraces and balconies	Review of fire tender access rules to optimise green open space.	PART 3, NBC 2016	4.7 Minimum 6.0 m driveway width and 9.0 m width at turning shall be available for fire tender movement all around the podium.