

BUREAU OF INDIAN STANDARDS**AGENDA**

National Building Code Sectional Committee, CED 46 : Tenth Meeting

Friday, 12 December 2024 : 1030 h

In Hybrid Mode from

BMS Institute of Technology and Management, Yelahanka, Bengaluru
(at its Board Room, Ground Floor, Academic Block)

Meeting Link:

<https://bismanak.webex.com/bismanak/j.php?MTID=mff6e4c8044f77c382abadb67e0a23e3f>

Meeting Number: 2518 210 4532

Password: Nbc@2025

Chairman: Shri V. Suresh

Member Secretary: Shri Arunkumar S, Sc 'E'
NBC Officers: Shri Abhishek Pal, Sc 'D'
Shri Abhishek Sharma, Sc 'B'
Shri Shubham Chaudhary, Sc 'B'

Item 0 OPENING REMARKS**Item 1 CONFIRMATION OF THE MINUTES OF THE LAST MEETING**

1.1 The Minutes of the last (ninth) meeting of the Sectional Committee held (in joint session with fifth meeting of the Panel for Administration, Development Control Rules and General Building Requirements, CED 46:P1) on 31 October 2023 were circulated vide BIS DG letter No. CED 46/A-2.9 dated 17 January 2023. No comments have been received on the Minutes.

The Committee may **CONFIRM**.

Item 2 COMPOSITION OF THE SECTIONAL COMMITTEE AND PANELS

2.1 The present composition of the National Building Code Sectional Committee, CED 46 as reconstituted by the Civil Engineering Division Council, CEDC in its last (twenty eighth) meeting held on 03 July 2024, is given at **Annex 1**.

The Committee may **CONSIDER**.

2.2 The composition of the 22 Expert Panels and the Adhoc Group for Part 0 of NBC, under the Committee, are given at respective Annexes (including the date of their last 3 meetings) as per the following. Also, in the last meeting, the Committee had authorized the Panels to review their respective composition. Based on the quantum of work involved in the revision of the various chapters of NBC, the Panels constituted certain experts working groups, whose details are also listed below the Annexes indicated hereunder:

SI No.	Name of the Panel	Reference to Annex for Composition
a)	Panel for Administration, Development Control Rules and General Building Requirements, CED 46:P1	Annex 2
b)	Panel for Fire and Life Safety, CED 46:P2	Annex 3
c)	Panel for Building Materials, CED 46:P3	Annex 4
d)	Panel for Loads, Forces and Effects, CED 46:P4	Annex 5
e)	Panel for Soils and Foundations, CED 46:P5	Annex 6
f)	Panel for Timber and Bamboo, CED 46:P6	Annex 7
g)	Panel for Masonry, CED 46:P7 <i>Request for co-option has been received from MoU Partner Institutes of BIS namely:</i> <i>Dr Hemant Kaushik, IIT Guwahati</i> <i>Dr Vaibhav Singhal, IIT Patna</i> <i>Dr K.V.L Subramanian, IIT Hyderabad</i>	Annex 8
h)	Panel for Plain, Reinforced and Prestressed Concrete, CED 46:P8 <i>Request for co-option has been received from:</i> <i>Shri S. K. Arora who has since superannuated from MES Indian Geotechnical Society, New Delhi</i>	Annex 9
j)	Panel for Steel, CED 46:P9	Annex 10

SI No.	Name of the Panel	Reference to Annex for Composition
k)	Panel for Prefabrication and Systems Building, CED 46:P10	Annex 11
m)	Panel for Constructional Practices and Safety, CED 46:P11 <i>Request for co-option has been received from:</i> <i>Indian Geotechnical Society, New Delhi</i>	Annex 12
n)	Panel for Lighting and Natural Ventilation, CED 46:P12	Annex 13
p)	Panel for Electrical Installations, CED 46:P13	Annex 14
q)	Panel for Air-conditioning, Heating and Mechanical Ventilation, CED 46:P14	Annex 15
r)	Panel for Acoustics, Sound Insulations and Noise Control, CED 46:P15	Annex 16
s)	Panel for Installation of Lifts and Escalators, CED 46:P16	Annex 17
t)	Panel for Plumbing Services, CED 46:P17	Annex 18
u)	Panel for Landscaping, Signs and Outdoor Display Structures, CED 46:P18	Annex 19
w)	Panel for Sustainability, CED 46:P19 <i>Request for co-option has been received from:</i> <i>CSIR – SERC</i> <i>Indian Geotechnical Society, New Delhi</i>	Annex 20
y)	Panel for Glass and Glazing, CED 46:P20	Annex 21

SI No.	Name of the Panel	Reference to Annex for Composition
z)	Panel for Information and Communication Enabled Installations, CED 46:P21	Annex 22
aa)	Panel for Asset and Facility Management, CED 46:P22 <i>Request for co-option has been received from</i> <i>M/s AEON Integrated Building Design Consultants LLP, Noida</i>	Annex 23
bb)	Adhoc Group for Part 0 of NBC, CED 46:AG	Annex 24

The Committee may **NOTE** and **REVIEW**.

Item 3 REVISION OF THE NATIONAL BUILDING CODE OF INDIA

3.0 Under the project of revision of NBC, by 30 November 2024, the following Preliminary Drafts were issued to all members of CED 46, its 22 Panels and all the expert Working Groups under them.

SI No.	Part / Sec	Developed by the Panel	Document Number	Title	Date of issue of the P-draft	Last Date for Comments of the P-draft
1)	Part 0	CED 46	CED 46 (27027)	Part 0 Integrated Approach Prerequisite for Applying Provisions of the Code	30 November 2024	21 December 2024
2)	Part 2	P1	CED 46 (26990)	Part 2 Administration	28 November 2024	19 December 2024
3)	Part 3	P1	CED 46 (26991)	Part 3 Development Control Rules and General Building Requirements	28 November 2024	19 December 2024
4)	Part 4	P2	CED 46 (26992)	Part 4 Fire and Life Safety	30 November 2024	21 December 2024
5)	Part 5	P3	CED 46 (26776)	Part 5 Building Materials	17 October 2024	07 November 2024
6)	Part 6/ Section 1	P4	CED 46 (26932)	Part 6 Structural Design Section 1 Loads Forces and Effects	13 November 2024	05 December 2024
7)	Part 6/ Section 2	P5	CED 46 (26840)	Part 6 Structural Design Section 2 Soils and Foundations	25 October 2024	15 November 2024

SI No.	Part / Sec	Developed by the Panel	Document Number	Title	Date of issue of the P-draft	Last Date for Comments of the P-draft
8)	Part 6/ Section 3/3A	P6	CED 46 (26944)	Part 6 Structural Design Section 3 Timber and Bamboo: 3A Timber	14 November 2024	05 December 2024
9)	Part 6/ Section 3/3B	P6	CED 46 (26947)	Part 6 Structural Design Section 3 Timber and Bamboo: 3B Bamboo	20 November 2024	11 December 2024
10)	Part 6/ Section 4	P7	CED 46 (26653)	Part 6 Structural Design Section 4 Masonry	27 September 2024	18 October 2024
11)	Part 6/ Section 6 6A	P9	CED 46 (27022)	Part 6 Structural Design Section 6 Steel	29 November 2024	20 December 2024
12)	Part 6/ Section 6 6B	P9	CED 46 (26396)	Part 6 Structural Design Section 6 Steel and Composite Construction: 6B Composite Construction in Structural Steel and Concrete	21 August 2024	11 September 2024
13)	Part 6/ Section 7	P10	CED 46 (27021)	Part 6 Structural Design Section 7 Prefabrication Systems Building and Mixed Composite Construction	30 November 2024	21 December 2024
14)	Part 6/ Section 8	P20	CED 46 (27020)	Part 6 Structural Design Section 8 Glass and Glazing	29 November 2024	20 December 2024
15)	Part 7	P11	CED 46 (26876)	Part 7 Construction Management Practices and Safety	01 November 2024	22 November 2024
16)	Part 8/ Section 1	P12	CED 46 (26704)	Part 8 Building Services Section 1 Lighting and Natural Ventilation	9 October 2024	30 October 2024
17)	Part 8/ Section 2	P13	CED 46 (27026)	Part 8 Building Services Section 2 Electrical and Allied Installations	30 November 2024	21 December 2024
18)	Part 8/ Section 3	P14	CED 46 (26999)	Part 8 Building Services Section 3 Air Conditioning Heating and Mechanical Ventilation	29 November 2024	20 December 2024

SI No.	Part / Sec	Developed by the Panel	Document Number	Title	Date of issue of the P-draft	Last Date for Comments of the P-draft
19)	Part 8/ Section 4	P15	CED 46 (26921)	Part 8 Building Services Section 4 Acoustics Sound Insulation and Noise Control	12 November 2024	02 December 2024
20)	Part 8/ Section 5 5A	P16	CED 46 (26651)	Part 8 Building Services Section 5 Installation of Lifts Escalators Moving Walks and Parking Systems 5A Lifts	27 September 2024	18 October 2024
21)	Part 8/ Section 5 5B	P16	CED 46 (26227)	Part 8 Building Services Section 5 Installation of Lifts Escalators and Moving Walks 5B Escalators and Moving Walks	25 July 2024	26 August 2024
22)	Part 8/ Section 5 5C	P16	CED 46 (26491)	Part 8 Building Services Section 5 Installation of Lifts Escalators Moving Walks and Parking Systems 5C Parking Systems	03 September 2024	24 September 2024
23)	Part 8/ Section 6	P21	CED 46 (26914)	Part 8 Building Services Section 6 Information and Communication Enabled Installations	11 November 2024	03 December 2024
24)	Part 9/ Section 1	P17	CED 46 (27002)	Part 9 Plumbing Services Section 1 Water Supply	29 November 2024	20 December 2024
25)	Part 9/ Section 2	P17	CED 46 (27004)	Part 9 Plumbing Services Section 2 Drainage and Sanitation	29 November 2024	20 December 2024
26)	Part 9/ Section 3	P17	CED 46 (27005)	Part 9 Plumbing Services Section 3 Solid Waste Management	29 November 2024	20 December 2024
27)	Part 9/ Section 4	P17	CED 46 (27006)	Part 9 Plumbing Services Section 4 Gas Supply	29 November 2024	20 December 2024
28)	Part 10/ Section 1	P18	CED 46 (27023)	Part 10 Landscape Development Signs and Outdoor Display Structures Section 1 Landscape Planning Design and Development	30 November 2024	21 December 2024

SI No.	Part / Sec	Developed by the Panel	Document Number	Title	Date of issue of the P-draft	Last Date for Comments of the P-draft
29)	Part 10/ Section 2	P18	CED 46 (27024)	Part 10 Landscape Development Signs and Outdoor Display Structures Section 2 Signs and Outdoor Display Structures	30 November 2024	21 December 2024
30)	Part 11	P19	CED 46 (27025)	Part 11 Approach to Sustainability	30 November 2024	21 December 2024
31)	Part 12	P22	CED 46 (26829)	Part 12 Asset and Facility Management	24 October 2024	14 November 2024

The Committee may **NOTE** the above details.

3.1 Preliminary Draft of Revision of NBC 2016 – Part 0 ‘Integrated Approach Prerequisite for Applying Provisions of the Code’ - Doc: CED 46(27027)P

3.1.1 Vide BIS letter numbered CED 46/T- 23 dated 30 November 2024, the above draft was sent to the members of the National Building Code, CED 46 and its 22 Panels & all the Working Groups (under the Panels) for their comments until 21 December 2024. Responses received in the form of agreement / comments (as in **Annex 25, attached separately**) are placed/being placed for consideration of High-Level Group, CED 46:AG. The recommendations on the comments will be shared with CED 46 separately.

The Committee may **NOTE** and also **AUTHORIZE** for issuing the document in wide circulation for public commenting.

3.2 Preliminary Draft of Revision of NBC 2016 – Part 2 ‘Administration’ - Doc: CED 46(26990)P

3.2.1 Vide BIS letter numbered CED 46/T- 2 dated 28 November 2024, the above draft was sent to the members of the National Building Code, CED 46 and its 22 Panels & all the Working Groups (under the Panels) for their comments until 19 December 2024. Responses received in the form of agreement and the comments (as in **Annex 26, attached separately**) are placed/being placed for consideration of the Panel for Administration, Development Control Rules and General Building Requirements, CED 46:P1. The recommendations on the comments will be shared with CED 46 separately.

The Committee may **NOTE** and also **AUTHORIZE** for issuing the document in wide circulation for public commenting.

3.3 Preliminary Draft of Revision of NBC 2016 – Part 3 ‘Development Control Rules and General Building Requirements’ - Doc: CED 46(26991)P

3.3.1 Vide BIS letter numbered CED 46/T- 3 dated 28 November 2024, the above draft was sent to the members of the National Building Code, CED 46 and its 22 Panels & all the Working Groups (under the Panels) for their comments until 19 December 2024. Responses received in the form of agreement and the comments (as in **Annex 27**, attached separately) are placed/being placed for consideration of the Panel for Administration, Development Control Rules and General Building Requirements, CED 46:P1. The recommendations on the comments will be shared with CED 46 separately.

The Committee may **NOTE** and also **AUTHORIZE** for issuing the document in wide circulation for public commenting.

3.4 Preliminary Draft of Revision of NBC 2016 – Part 4 ‘Fire and Life Safety’ - Doc: CED 46(26992)P

3.4.1 Vide BIS letter numbered CED 46/T- 4 dated 30 November 2024, the above draft was sent to the members of the National Building Code, CED 46 and its 22 Panels & all the Working Groups (under the Panels) for their comments until 21 December 2024. Responses received in the form of agreement and the comments (as in **Annex 28**, attached separately) are placed/being placed for consideration of the Panel for Fire and Life Safety, CED 46:P2. The recommendations on the comments will be shared with CED 46 separately.

The Committee may **NOTE** and also **AUTHORIZE** for issuing the document in wide circulation for public commenting.

3.5 Preliminary Draft of Revision of NBC 2016 – Part 5 ‘Building Materials’ - Doc: CED 46(26776)P

3.5.1 Vide BIS letter numbered CED 46/T- 5 dated 17 October 2024, the above draft was sent to the members of the National Building Code, CED 46 and its 22 Panels & all the Working Groups (under the Panels) for their comments until 07 November 2024. Responses received in the form of agreement and the comments (as in **Annex 29**, attached separately) are placed/being placed for consideration of the Panel for Building Materials, CED 46:P3. The recommendations on the comments will be shared with CED 46 separately.

The Committee may **NOTE** and also **AUTHORIZE** for issuing the document in wide circulation for public commenting.

3.6 Preliminary Draft of Revision of NBC 2016 – Part 6 ‘Structural Design’/ Section 1 ‘Loads, Forces and Effects’ - Doc: CED 46(26932)P

3.6.1 Vide BIS letter numbered CED 46/T- 6 dated 13 November 2024, the above draft was sent to the members of the National Building Code, CED 46 and its 22 Panels & all the Working Groups (under the Panels) for their comments until 05 December 2024. Responses received in the form of agreement and the comments (as in **Annex 30**, attached separately) are placed/being placed for consideration of the Panel for Loads, Forces and Effects, CED 46:P4. The recommendations on the comments will be shared with CED 46 separately.

The Committee may **NOTE** and also **AUTHORIZE** for issuing the document in wide circulation for public commenting.

3.7 Preliminary Draft of Revision of NBC 2016 – Part 6 ‘Structural Design’/ Section 2 ‘Soils and Foundations’ - Doc: CED 46(26840)P

3.7.1 Vide BIS letter numbered CED 46/T- 7 dated 25 October 2024, the above draft was sent to the members of the National Building Code, CED 46 and its 22 Panels & all the Working Groups (under the Panels) for their comments until 15 November 2024. Responses received in the form of agreement and the comments (as in **Annex 31**, attached separately) are placed/being placed for consideration of the Panel for Soils and Foundations, CED 46:P5. The recommendations on the comments will be shared with CED 46 separately.

The Committee may **NOTE** and also **AUTHORIZE** for issuing the document in wide circulation for public commenting.

3.8 Preliminary Draft of Revision of NBC 2016 – Part 6 ‘Structural Design’/ Section 3A ‘Timber’ – Doc: CED 46(26944)P

3.8.1 Vide BIS letter numbered CED 46/T- 8 dated 14 November 2024, the above draft was sent to the members of the National Building Code, CED 46 and its 22 Panels & all the Working Groups (under the Panels) for their comments until 05 December 2024. Responses received in the form of agreement and the comments (as in **Annex 32**, attached separately) are placed/being placed for consideration of the Panel for Timber and Bamboo, CED 46:P6. The recommendations on the comments will be shared with CED 46 separately.

The Committee may **NOTE** and also **AUTHORIZE** for issuing the document in wide circulation for public commenting.

3.9 Preliminary Draft of Revision of NBC 2016 – Part 6 ‘Structural Design’/ Section 3B ‘Bamboo’ – Doc: CED 46(26947)P

3.9.1 Vide BIS letter numbered CED 46/T- 8 dated 20 November 2024, the above draft was sent to the members of the National Building Code, CED 46 and its 22 Panels & all the Working Groups (under the Panels) for their comments until 11 December 2024. Responses received in the form of agreement and the comments (as in **Annex 33**, attached separately) are placed/being placed for

consideration of the Panel for Timber and Bamboo, CED 46:P6. The recommendations on the comments will be shared with CED 46 separately.

The Committee may **NOTE** and also **AUTHORIZE** for issuing the document in wide circulation for public commenting.

3.10 Preliminary Draft of Revision of NBC 2016 – Part 6 ‘Structural Design’/ Section 4 ‘Masonry’ – Doc: CED 46(26653)P

3.10.1 Vide BIS letter numbered CED 46/T- 9 dated 27 September 2024, the above draft was sent to the members of the National Building Code, CED 46 and its 22 Panels & all the Working Groups (under the Panels) for their comments until 18 October 2024. Responses received in the form of agreement and the comments (as in **Annex 34**, attached separately) are placed/being placed for consideration of the Panel for Masonry, CED 46:P7. The recommendations on the comments will be shared with CED 46 separately.

The Committee may **NOTE** and also **AUTHORIZE** for issuing the document in wide circulation for public commenting.

3.11 Preliminary Draft of Revision of NBC 2016 – Part 6 ‘Structural Design’/ Section 6A ‘Steel’ – Doc: CED 46(27022)P

3.11.1 Vide BIS letter numbered CED 46/T-11 dated 29 November 2024, the above draft was sent to the members of the National Building Code, CED 46 and its 22 Panels & all the Working Groups (under the Panels) for their comments until 20 December 2024. Responses received in the form of agreement and the comments (if any) will be informed/placed for consideration of the Panel for Steel, CED 46:P9. The recommendations on the comments will be shared with CED 46 separately.

The Committee may **NOTE** and also **AUTHORIZE** for issuing the document in wide circulation for public commenting.

3.12 Preliminary Draft of Revision of NBC 2016 – Part 6 ‘Structural Design’/ Section 6B Composite Construction in Structural Steel and Concrete - Doc: CED 46(26396)P

3.12.1 Vide BIS letter numbered CED 46/T-11 dated 21 August 2024, the above draft was sent to the members of the National Building Code, CED 46 and its 22 Panels & all the Working Groups (under the Panels) for their comments until 11 September 2024. Responses received in the form of agreement and the comments (as in **Annex 35**, attached separately) are placed/being placed for consideration of the Panel for Steel, CED 46:P9. The recommendations on the comments will be shared with CED 46 separately.

The Committee may **NOTE** and also **AUTHORIZE** for issuing the document in wide circulation for public commenting.

3.13 Preliminary Draft of Revision of NBC 2016 – Part 6 ‘Structural Design’/ Section 7 ‘Prefabrication Systems Building and Mixed Composite Construction’ - Doc: CED 46(27021)P

3.13.1 Vide BIS letter numbered CED 46/T-12 dated 30 November 2024, the above draft was sent to the members of the National Building Code, CED 46 and its 22 Panels & all the Working Groups (under the Panels) for their comments until 21 December 2024. Responses received in the form of agreement and the comments (if any) will be informed/placed for consideration of the Panel for Prefabrication and System Buildings, CED 46:P10. The recommendations on the comments will be shared with CED 46 separately.

The Committee may **NOTE** and also **AUTHORIZE** for issuing the document in wide circulation for public commenting.

3.14 Preliminary Draft of Revision of NBC 2016 – Part 6 ‘Structural Design’/ Section 8 ‘Glass and Glazing’ – Doc: CED 46(27020)P

3.14.1 Vide BIS letter numbered CED 46/T-25 dated 29 November 2024, the above draft was sent to the members of the National Building Code, CED 46 and its 22 Panels & all the Working Groups (under the Panels) for their comments until 20 December 2024. Responses received in the form of agreement and the comments (if any) will be informed/placed for consideration of the Panel for Glass and Glazing, CED 46:P20. The recommendations on the comments will be shared with CED 46 separately.

The Committee may **NOTE** and also **AUTHORIZE** for issuing the document in wide circulation for public commenting.

3.15 Preliminary Draft of Revision of NBC 2016 – Part 7 ‘Construction Management Practices and Safety’ – Doc: CED 46(26876)P

3.15.1 Vide BIS letter numbered CED 46/T-13 dated 01 November 2024, the above draft was sent to the members of the National Building Code, CED 46 and its 22 Panels & all the Working Groups (under the Panels) for their comments until 22 November 2024. Responses received in the form of agreement and the comments (*as in Annex 36, attached separately*) are placed/being placed for consideration of the Panel for Construction Management, Practices and Safety, CED 46:P11. The recommendations on the comments will be shared with CED 46 separately.

The Committee may **NOTE** and also **AUTHORIZE** for issuing the document in wide circulation for public commenting.

3.16 Preliminary Draft of Revision of NBC 2016 – Part 8 ‘Building Services’/ Section 1 ‘Lighting and Natural Ventilation’ – Doc: CED 46(26704)P

3.16.1 Vide BIS letter numbered CED 46/T-14 dated 09 October 2024, the above draft was sent to the members of the National Building Code, CED 46 and its 22 Panels & all the Working Groups (under the Panels) for their comments until 30 October 2024. Responses received in the form of agreement and the comments (as in **Annex 37**, attached separately) are placed/being placed for consideration of the Panel for Lighting and Natural Ventilation, CED 46:P12. The recommendations on the comments will be shared with CED 46 separately.

The Committee may **NOTE** and also **AUTHORIZE** for issuing the document in wide circulation for public commenting.

3.17 Preliminary Draft of Revision of NBC 2016 – Part 8 ‘Building Services’/Section 2 ‘Electrical and Allied Installations’ – Doc: CED 46(27026)P

3.17.1 Vide BIS letter numbered CED 46/T-15 dated 30 November 2024, the above draft was sent to the members of the National Building Code, CED 46 and its 22 Panels & all the Working Groups (under the Panels) for their comments until 21 December 2024. Responses received in the form of agreement and the comments (as in **Annex 38**, attached separately) will be informed/placed for consideration of the Panel for Electrical Installations, CED 46:P13. The recommendations on the comments will be shared with CED 46 separately.

The following has been received from Shri D Goswami, Schneider Electric India, Member, CED 46:P13:

I am submitting some comments in individual doc which will be sent online or in mail separately. However, I have following comments for your consideration on General aspect of NBC revision:

- 1. Bring section on Electrical Part 8-Sec 2 as Main Part 5 (after Part 4) -**
There are 12 Parts covering various aspects. Building code should cover in detail the structural aspect no doubt. But after structural design, the next most important aspect is electrical installation and its safety requirements. Fire safety is also important which is covered in part 4 but Electrical part is relegated to Part 8 as a service which is not correct. Electrical is not a service but it is an essential requirement without which no building can operate. Electrical system is responsible for providing all needed aspects of operation, comfort and it interacts with user at every step. Moreover, electrical installation is a living thing would require continuous attention and its is a safety hazard require compliance as per safety regulation. Another important factor, in most cases Architect/Builders do not provide necessary importance/resources required for its correct installation thereby neglecting

safety aspects. Keeping it inside Part 8, does not even find their attention as of necessary importance. In most cases fire and associated loss of lives happen due to electrical spark/short circuit which in many ways related to electrical system design, selection of right quality of products and installation practice followed. Keeping it inside a service chapter will only result in relegation of this important aspect from the attention of all those including Building Authorities/Planner/Builder/Architect/electrical.

Hope you will consider above for developing NBC as a better document for reference.

The Committee may **NOTE** and also **AUTHORIZE** for issuing the document in wide circulation for public commenting.

3.18 Preliminary Draft of Revision of NBC 2016 – Part 8 ‘Building Services’/Section 3 ‘Air Conditioning Heating and Mechanical Ventilation’ – Doc: CED 46(26999)P

3.18.1 Vide BIS letter numbered CED 46/T-16 dated 29 November 2024, the above draft was sent to the members of the National Building Code, CED 46 and its 22 Panels & all the Working Groups (under the Panels) for their comments until 20 December 2024. Responses received in the form of agreement and the comments (if any) will be informed/placed for consideration of the Panel for Air-conditioning, Heating and Mechanical Ventilation, CED 46:P14. The recommendations on the comments will be shared with CED 46 separately.

The following has been received from Shri D Goswami, Schneider Electric India, Member, CED 46:P13:

I am submitting some comments in individual doc which will be sent online or in mail separately. However, I have following comments for your consideration on General aspect of NBC revision:

1. A lot of aspects related to BMS, EMS, Automatic control, IoT, Computerized management system etc are very nicely covered in HVAC section. Though all these aspects are directly associated with HVAC but these are also in a way separately required for many other aspects of Building services. It would be appropriate if we can create a separate section e.g Building automation and control where all these can be shifted as many other services may not refer HVAC section when their need comes. HVAC section still can add specific requirements and also refer that section so that the whole activity is rightly reflected in the doc. BMS/EMS is some form are covered in Asset and facility management but that section is covering the Maintenance and Upkeep. All these aspects need to be designed in building system and be part of installations in building.

Hope you will consider above for developing NBC as a better document for reference.

The Committee may **NOTE** and also **AUTHORIZE** for issuing the document in wide circulation for public commenting.

3.19 Preliminary Draft of Revision of NBC 2016 – Part 8 ‘Building Services’/Section 4 ‘Acoustics Sound Insulation and Noise Control’ - Doc: CED 46(26921)P

3.19.1 Vide BIS letter numbered CED 46/T-17 dated 12 November 2024, the above draft was sent to the members of the National Building Code, CED 46 and its 22 Panels & all the Working Groups (under the Panels) for their comments until 02 December 2024. Responses received in the form of agreement and the comments (as in **Annex 39**, attached separately) are placed/being placed for consideration of the Panel for Acoustics, Sound Insulation and Noise Control, CED 46:P15. The recommendations on the comments will be shared with CED 46 separately.

The Committee may **NOTE** and also **AUTHORIZE** for issuing the document in wide circulation for public commenting.

3.20 Preliminary Draft of Revision of NBC 2016 – Part 8 ‘Building Services’/Section 5A‘Lifts’ - Doc: CED 46(26651)P

3.20.1 Vide BIS letter numbered CED 46/T-18 dated 27 September 2024, the above draft was sent to the members of the National Building Code, CED 46 and its 22 Panels & all the Working Groups (under the Panels) for their comments until 18 October 2024. Responses received in the form of agreement and the comments (as in **Annex 40**, attached separately) are placed/being placed for consideration of the Panel for Lifts, Escalators, Moving Walks and Parking Systems, CED 46:P16. The recommendations on the comments will be shared with CED 46 separately.

The Committee may **NOTE** and also **AUTHORIZE** for issuing the document in wide circulation for public commenting.

3.21 Preliminary Draft of Revision of NBC 2016 - Part 8 ‘Building Services’/Section 5B ‘Escalators and Moving Walks’ – Doc: CED 46(26227)P

3.21.1 Vide BIS letter numbered CED 46/T-18 dated 25 July 2024, the above draft was sent to the members of the National Building Code, CED 46 and its 22 Panels & all the Working Groups (under the Panels) for their comments until 26 August 2024. Responses received in the form of agreement and the comments (as in **Annex 41**, attached separately) are placed/being placed for consideration of the Panel for Lifts, Escalators, Moving Walks and Parking Systems, CED 46:P16. The recommendations on the comments will be shared with CED 46 separately.

The Committee may **NOTE** and also **AUTHORIZE** for issuing the document in wide circulation for public commenting.

3.22 Preliminary Draft of Revision of NBC 2016 - Part 8 'Building Services'/ Section 5C 'Parking Systems' – Doc: CED 46(26491)P

3.22.1 Vide BIS letter numbered CED 46/T-18 dated 03 September 2024, the above draft was sent to the members of the National Building Code, CED 46 and its 22 Panels & all the Working Groups (under the Panels) for their comments until 24 September 2024. Responses received in the form of agreement and the comments (as in **Annex 42**, attached separately) are placed/being placed for consideration of the Panel for Lifts, Escalators, Moving Walks and Parking Systems, CED 46:P16. The recommendations on the comments will be shared with CED 46 separately.

The Committee may **NOTE** and also **AUTHORIZE** for issuing the document in wide circulation for public commenting.

3.23 Preliminary Draft of Revision of NBC 2016 - Part 8 'Building Services'/ Section 6 'Information and Communication Enabled Installations' – Doc: CED 46(26914)P

3.23.1 Vide BIS letter numbered CED 46/T-26 dated 11 November 2024, the above draft was sent to the members of the National Building Code, CED 46 and its 22 Panels & all the Working Groups (under the Panels) for their comments until 03 December 2024. Responses received in the form of agreement and the comments (as in **Annex 43**, attached separately) are placed/being placed for consideration of the Panel for Information and Communication Enabled Installations, CED 46:P21. The recommendations on the comments will be shared with CED 46 separately.

The Committee may **NOTE** and also **AUTHORIZE** for issuing the document in wide circulation for public commenting.

3.24 Preliminary Draft of Revision of NBC 2016 - Part 9 'Plumbing Services'/ Section 1 'Water Supply' – Doc: CED 46(27002)P

3.24.1 Vide BIS letter numbered CED 46/T-19 dated 29 November 2024, the above draft was sent to the members of the National Building Code, CED 46 and its 22 Panels & all the Working Groups (under the Panels) for their comments until 20 December 2024. Responses received in the form of agreement and the comments (if any) will be informed/placed for consideration of the Panel for Plumbing Services, CED 46:P17. The recommendations on the comments will be shared with CED 46 separately.

The Committee may **NOTE** and also **AUTHORIZE** for issuing the document in wide circulation for public commenting.

3.25 Preliminary Draft of Revision of NBC 2016 - Part 9 'Plumbing Services'/ Section 2 'Drainage and Sanitation' – Doc: CED 46(27004)P

3.25.1 Vide BIS letter numbered CED 46/T-20 dated 29 November 2024, the above draft was sent to the members of the National Building Code, CED 46 and its 22 Panels & all the Working Groups (under the Panels) for their comments until 20 December 2024. Responses received in the form of agreement and the comments (if any) will be informed/placed for consideration of the Panel for Plumbing Services, CED 46:P17. The recommendations on the comments will be shared with CED 46 separately.

The Committee may **NOTE** and also **AUTHORIZE** for issuing the document in wide circulation for public commenting.

3.26 Preliminary Draft of Revision of NBC 2016 - Part 9 'Plumbing Services'/ Section 3 'Solid Waste Management' – Doc: CED 46(27005)P

3.26.1 Vide BIS letter numbered CED 46/T-27 dated 29 November 2024, the above draft was sent to the members of the National Building Code, CED 46 and its 22 Panels & all the Working Groups (under the Panels) for their comments until 20 December 2024. Responses received in the form of agreement and the comments (if any) will be informed/placed for consideration of the Panel for Plumbing Services, CED 46:P17. The recommendations on the comments will be shared with CED 46 separately.

The Committee may **NOTE** and also **AUTHORIZE** for issuing the document in wide circulation for public commenting.

3.27 Preliminary Draft of Revision of NBC 2016 - Part 9 'Plumbing Services'/ Section 4 'Gas Supply' – Doc: CED 46(27006)P

3.27.1 Vide BIS letter numbered CED 46/T-21 dated 29 November 2024, the above draft was sent to the members of the National Building Code, CED 46 and its 22 Panels & all the Working Groups (under the Panels) for their comments until 20 December 2024. Responses received in the form of agreement and the comments (if any) will be informed/placed for consideration of the Panel for Plumbing Services, CED 46:P17. The recommendations on the comments will be shared with CED 46 separately.

The Committee may **NOTE** and also **AUTHORIZE** for issuing the document in wide circulation for public commenting.

3.28 Preliminary Draft of Revision of NBC 2016 - Part 10 'Landscaping, Signs and Outdoor Display Structures'/Section 1 'Landscape, Planning and Design' – Doc: CED 46(27023)P

3.28.1 Vide BIS letter numbered CED 46/T-22 dated 30 November 2024, the above draft was sent to the members of the National Building Code, CED 46 and its 22

Panels & all the Working Groups (under the Panels) for their comments until 21 December 2024. Responses received in the form of agreement and the comments (if any) will be informed/placed for consideration of the Panel for Landscaping, Signs and Outdoor Display Structures, CED 46:P18. The recommendations on the comments will be shared with CED 46 separately.

The Committee may **NOTE** and also **AUTHORIZE** for issuing the document in wide circulation for public commenting.

3.29 Preliminary Draft of Revision of NBC 2016 - Part 10 'Landscaping, Signs and Outdoor Display Structures'/Section 2 'Signs and Outdoor Display Structures' – Doc: CED 46(27024)P

3.29.1 Vide BIS letter numbered CED 46/T-23 dated 30 November 2024, the above draft was sent to the members of the National Building Code, CED 46 and its 22 Panels & all the Working Groups (under the Panels) for their comments until 21 December 2024. Responses received in the form of agreement and the comments (if any) will be informed/placed for consideration of the Panel for Landscaping, Signs and Outdoor Display Structures, CED 46:P18. The recommendations on the comments will be shared with CED 46 separately.

The Committee may **NOTE** and also **AUTHORIZE** for issuing the document in wide circulation for public commenting.

3.30 Preliminary Draft of Revision of NBC 2016 - Part 11 'Approach To Sustainability' – Doc: CED 46(27025)P

3.30.1 Vide BIS letter numbered CED 46/T-24 dated 30 November 2024, the above draft was sent to the members of the National Building Code, CED 46 and its 22 Panels & all the Working Groups (under the Panels) for their comments until 21 December 2024. Responses received in the form of agreement and the comments (*as in Annex 44, attached separately*) are placed/being placed for consideration of the Panel for Sustainability, CED 46:P19. The recommendations on the comments will be shared with CED 46 separately.

The Committee may **NOTE** and also **AUTHORIZE** for issuing the document in wide circulation for public commenting.

3.31 Preliminary Draft of Revision of NBC 2016 - Part 12 'Asset and Facility Management' – Doc: CED 46(27025)P

3.31.1 Vide BIS letter numbered CED 46/T-28 dated 24 October 2024, the above draft was sent to the members of the National Building Code, CED 46 and its 22 Panels & all the Working Groups (under the Panels) for their comments until 14 November 2024. Responses received in the form of agreement and the comments (*as in Annex 45, attached separately*) are placed/being placed for consideration of the Panel for Asset and Facility Management, CED 46:P22. The recommendations on the comments will be shared with CED 46 separately.

The Committee may **NOTE** and also **AUTHORIZE** for issuing the document in wide circulation for public commenting.

Item 4 PROJECT OF PROMOTION OF USE OF NBC 2016 IN ALL STATES AND UTs OF INDIA

4.1 The Committee in its last meeting had noted regarding the ambitious Project for Promotion of use of National Building Code of India 2016 in all States and UTs of India. It was noted that the Project involves comprehensive study and review of rules and regulations governing land development and building construction in various states and union territories of India and preparing draft regulations which are aligned with provisions in National Building Code of India 2016 (NBC 2016), for use by the States and UTs in revising their existing regulatory documents in line with the revised state-of-the-art NBC 2016. It was also noted that there are altogether 9 deliverables of the Project which are listed below:

SI No.	Deliverable
1	Compilation and study of existing processes, rules and regulations as existing in various States and UTs which govern the land development and building construction, and other statutory provisions which have to be complied with currently, etc
2	Classification of the Provisions in various Rules and Regulations as mandatory/recommendatory, identification of commonalities/dissimilarities, conflicts, if any
3	Mapping the existing Rules, Regulations, Processes against provisions given in NBC 2016
4	Identification of other best practices which may currently not be a part of the existing rules or of NBC 2016, which may be aspirational but will help further the Aim/Objective of this project
5	Preparation of a draft revised standardized/model Rules and Regulations aligned with the provisions of NBC 2016, for the consideration of the Bureau
6	Preparing State/UT-wise standardized/model regulatory documents, including such required documents for some metro/mega cities, which can be adopted by various authorities & obtaining approval of the Bureau as per scope of work
7	Creating pamphlets for an awareness campaign for general public

8	Creating a simplified booklet on using NBC which can be used by all stakeholders-academicians, students and professionals
9	Dissemination to designated States/UTs, the knowledge base created and presenting to them advantages of adopting the same through meetings and workshops

The Committee had also noted that the Project is not only voluminous, but also very specialized in nature, for which an external agency namely Ernst & Young LLP has been engaged as the BIS' Consultant for carrying out this work. It was further noted that, the document 'Draft Development and Building Regulations, 2022' (DDBR) (Deliverable 5) contains regulations that lay down a set of minimum provisions to ensure safety, sustainability and accessibility in buildings and built environment, aligned to the provisions of the National Building Code of India 2016 (NBC 2016) as well as findings based on mapping of the leading practices from India and abroad with the NBC provisions (Deliverables 1 to 4). The document is envisioned as a model document that brings forth uniformity in structuring, detailing as well as key approval processes throughout the country, without sacrificing any specific/unique area specific need of the various states and UTs and their concerned bodies.

The key beneficiaries of this document are the following:

- a) Ministry of Housing and Urban Affairs (MoHUA) and Town and Country Planning
- b) Organization (TCPO) under MoHUA;
- c) State and Union Territory Governments;
- d) Local Bodies (LBs), both urban and rural;
- e) Development Authorities (DAs);
- f) Cantonment Boards and Port Trusts; and
- g) Zila and Gram Panchayats.

It was earlier noted that the document has been divided into 12 chapters. These are: 'Abbreviations, Units and Definitions', 'Administration', 'Permits', 'Land Development', 'Development and Building Controls', 'General Building Requirements', 'Fire and Life Safety', 'Structural Safety and Quality Control' 'Building and Plumbing Services', 'Requirements for Special Developments and Buildings', 'Solid Waste Management' and 'Sustainability'. The local Authority may adapt the regulations in accordance with their local requirements.

It was earlier noted that to ensure that the document is easy to understand, adopt, adapt, implement and comply with, a number of measures have been undertaken while drafting of the document. These are as follows:

- 1) The structuring of the chapters and the document as a whole has been done in the order of the development process for the most part. This makes the document a cogent continuous volume.
- 2) Explanatory notes have been outlined at the beginning of each chapter to brief the readers about the contents therein, in the form of major highlights.
- 3) To enable easy navigation through the document and easy identification of the clauses,
- 4) Standardized numbering has been done for the items, clauses, sub-clauses, tables, figures, annexes, etc.
- 5) Clauses have been supported with figures and flowcharts wherever necessary, to enhance their interpretation visually.
- 6) The regulations are written in such a manner as to ensure that there is no room for multiple interpretations, and effort has been made to frame the regulations in a manner that it is unambiguous. This will ensure easy translation of the document to other languages, as well as help in designing various forms/checklists for administrating the land development and building activity.
- 7) Wherever there is a possibility of an ambiguity arising in the interpretation of a clause or an exception occurring to the rule, notes have been inserted to clarify the issue.

It was further noted that based on the above document, the Draft Development and Building Regulations for each of the States and UTs (Deliverable 6) were prepared. The Committee had also noted that these draft regulations were shared with the Chief Secretaries of States and Administrators of UTs in October 2022, and as a result comments have been received from a few states/UTs.

The Committee had also noted about the on-going last deliverable, which involves dissemination of the Draft Regulations to the states/UTs for seeking their comments/inputs on the same. As per the TOR, all the 20 two-day Workshops across the country (Deliverable 9) have been completed. The DDBR has been well-received by the concerned Authorities who were participating in large numbers in the above workshops and useful suggestions/comments have been received for necessary modifications/updates in the DDBR and NBC 2016.

Further, Chairperson of the Civil Engineering Division Council, CEDC and Chairman of the Project Monitoring Committee (PMC) of the Project Shri H. S. Dogra had apprised the Committee about the mammoth exercise carried out in preparing the draft regulations (Deliverables 5 and 6) and had suggested to suitably utilize the document in the revision of NBC 2016.

During the last meeting, the Committee had also suggested that having done such a voluminous exercise with an aim to unify the structure of the regulation including most of the administrative and technical provisions in the same, BIS should submit the final document after having considered the comments from the States & UTs to Ministry of Housing and Urban Affairs with a request to issue advisory to States and UTs to adopt the same with any further state specific changes/requirements without altering the structure of the document.

Subsequently, DDBR was also circulated to the members of the National Building Code Sectional Committee, CED 46 and the Panel for Administration, Development Control Rules and General Building Requirements, CED 46:P1 on 25 August 2023, for their comments; and the comments received were agreed for improvements/ rejected being irrelevant to NBC 2016 but be considered for the revision of NBC.

The Committee had noted the DDBR which was circulated to the members of CED 46 and CED 46:P1 on 25 August 2023, along with the file containing all the comments received on the same with their redressal, and the file containing the comments put up to the Project Monitoring Committee along with their decisions are provided in the google drive link available in the email of the Agenda. The Committee suggested the title of the document as 'Standardized Development and Building Regulations, 2023' which be made available as a Special Publication.

Accordingly, SP 73:2023 'Standardized Development and Building Regulations, 2023' was published and released by the Hon'ble Minister for Consumer Affairs, Food and Public Distribution on 06 January 2024. Using SP 73, the State/UT level documents were also developed. The SP 73 and the documents were shared with the respective State/UTs in the country and also have been made available in the BIS website at: <https://www.bis.gov.in/standardized-development-and-building-regulations-2023/> , as listed below:

SI No.	States	Document	Download
1	Andhra Pradesh	View	Download
2	Arunachal Pradesh	View	Download
3	Assam	View	Download
4	Bihar	View	Download
5	Chhattisgarh	View	Download
6	Goa	View	Download
7	Gujarat	View	Download
8	Haryana	View	Download
9	Himachal Pradesh	View	Download
10	Jharkhand	View	Download
11	Karnataka	View	Download
12	Kerala	View	Download
13	Madhya Pradesh	View	Download
14	Maharashtra	View	Download
15	Manipur	View	Download
16	Meghalaya	View	Download
17	Mizoram	View	Download
18	Nagaland	View	Download
19	Odisha	View	Download

SI No.	States	Document	Download
20	Punjab	View	Download
21	Rajasthan	View	Download
22	Sikkim	View	Download
23	Tamil Nadu	View	Download
24	Telangana	View	Download
25	Tripura	View	Download
26	Uttarakhand	View	Download
27	Uttar Pradesh	View	Download
28	West Bengal	View	Download
UNION TERRITORIES			
29	Andaman and Nicobar Islands	View	Download
30	Chandigarh	View	Download
31	Dadra and Nagar Haveli and Daman & Diu	View	Download
32	NCT of Delhi	View	Download
33	Jammu & Kashmir	View	Download
34	Ladakh	View	Download
35	Lakshadweep	View	Download
36	Puducherry	View	Download
37	SP 73:2023 'Standardized Development and Building Regulations, 2023'	View	Download

The Committee may **NOTE**.

4.2 With the above, particularly the approval of the competent authority in BIS, BIS made the final payment of the project fee to the consultant in November 2024, marking the end of the mammoth project work.

The Committee may **NOTE**.

Item 5 COMMENTS RECEIVED ON NATIONAL BUILDING CODE OF INDIA 2016

5.1 From DMRC on Part 4 'Fire and Life Safety' of NBC 2016

A communication dated 08 February 2024 has been received from the Director Electrical (Shri On Hari Pandey) of DMRC Limited, New Delhi requesting **towards dispensing with DG Sets in metro station premises**, as detailed below:

Dear Sir,

Your kind attention is drawn to the reliable power supply network of Metro Rail systems in India which generally comprises of 2 independent sources of Mains Power drawn at extra high voltage level i.e. at 66kV and above and distributed across metro rail network at 33kV level at various Underground and Elevated stations and Depots. Further, there is a provision of DG set at each of the Station / Depots which are provided for emergency use. Based on DMRC experience of more than past 20 years, it is observed that DG sets provided at the metro stations / Depots have been seldom used for operational emergency and mostly DG sets have been operated for the purpose of testing their functionality and ensuring their healthiness for emergency use.

In view of the ever growing concern on the use of the DG sets and the rarity of the need of operation of DG set installed in metro rail network, it is desirable to consider dispensing with DG sets in line with the codal provision provided in the NBC and NFPA.

In this regard, a revision of Clause J-8 on Backup or Emergency power supply of Annexure-J provided in Part 4 Fire and Life Safety of NBC-2016 is proposed with a view to empower the respective Metro Rail Administration for considering dispensing with requirements of DG sets provided at Metro Stations/Depots.

A draft note for revision of Clause J-8 as deliberated above, is enclosed for review by the NBC sectional committee for Fire and Life Safety at the earliest.

Thanking You

With reference to the highly reliable Power Supply Network of Metro Rail systems and past experience, the following revision to clause J-8 of Annexure-J in Part 4 of NBC-2016 regarding Fire and Life Safety systems, is proposed -

Existing Clause	Proposed Revision
<p>Part - 4 Fire and Life Safety Annexure-J</p> <p>Clause J-8 : Back-up or Emergency power supply :</p> <p>The back-up/emergency power supply shall have a capacity to cater all critical loads such as emergency lighting, protective signaling system, communication system, fire station and control room, lifts providing required egress capacity, etc.</p>	<p>Clause J-8 : Backup or Emergency power supply</p> <p>The back-up/emergency power supply shall have a capacity to cater all critical loads such as emergency lighting, protective signaling system, communication system, fire station and control room, lifts providing required egress capacity, etc.</p> <p>-</p> <p>Power supply to these systems and equipment shall be from normal and emergency source (standby generator as power source with changeover facility).</p> <p>If the emergency power supply is from HT source and HT generation, the transformer shall be planned in standby capacity to ensure continuity of power to such systems. Where parallel HV/LV supply from separate substations fed from separate generating source is provided with appropriate transformer capacity for emergency, the provision of Diesel Generator for emergency supply may be waived off by the Metro Rail Administration responsible for metro operations. In such a scenario, in case of failure of Mains power, the transfer to emergency power supply should be automatic and within 10 seconds for ensuring uninterrupted supply to emergency systems.</p>

The matter was deliberated in the meeting of CED 46:P2 whose recommendations are given below:

- more exempted to the tune of 50% in the payment of annual marking fees.
- c) DMRC representatives referred to the provisions in clause 3.4.6.2 and J-8 on emergency power for fire and life safety systems and sought that the requirement of Diesel Generator Set be waived off for the metro station buildings considering that such buildings are fed by power from two independent sources. The Panel deliberated in the matter and observed that considering the various metro station buildings across the country relying on electricity power from two different sources. It was agreed that the urban metro station buildings could be exempted from the requirement of the additional power source namely the Diesel Generator provided that there is always source of power from two independent but dependable power sources which the metro authorities shall ensure in each of the respective metro station buildings.
- d) As regards the discussions on the Amendment No. 1 issued to Part 4 based

The Committee may **DECIDE**.

5.2 From Bureau of Civil Aviation Security

A communication dated 08 February 2024 has been received from Shri Zulfiqar Hasan, IPS, Director General, BCAS, New Delhi as below:

I am writing to bring to your attention a matter of significant importance regarding the fire and life safety standards at airports across the country. We understand that Bureau of Indian Standards (BIS), which is the standards body at national level, plays a pivotal role in establishing and promoting standards in India including the National Building Code, which sets out the essential guidelines for construction and safety standards across various sectors.

2. While the current National Building Code serves as a comprehensive framework for most building types, it is unable to address the unique complexities, peculiarities and specific requirements associated with airport facilities. These include Security Restricted Area (SRA), no reverse entry etc. at airports which not only accommodate large volume of passengers and staff but also involve critical infrastructure and operational considerations peculiar to aviation sector.

3. Given these distinctive factors, I believe there is a compelling need for a dedicated building code tailored specifically to airports. Such a code would, apart from

3. Given these distinctive factors, I believe there is a compelling need for a dedicated building code tailored specifically to airports. Such a code would, apart from addressing the fire emergencies and evacuation, will also be helpful in other contingencies such as bomb threats and terrorist attacks that require emergency rescue to ensure the protection and well-being of individuals within these high-risk environments. Moreover, the formulation of a dedicated airport building code would align with the international best practices and standards as per Part I (Rescue and Fire Fighting) and Part VII (Airport Emergency Planning) of doc 9137 published by International Civil Aviation Organization (ICAO).

5. Therefore, I request the Bureau of Indian Standards (BIS) to undertake the development and publication of a dedicated building code specifically designed for airports.

6. I am confident that by addressing this matter proactively, we can significantly enhance the safety and security of our airports, thereby safeguarding the passengers and airport personnel alike.

The committee may **CONSIDER**.

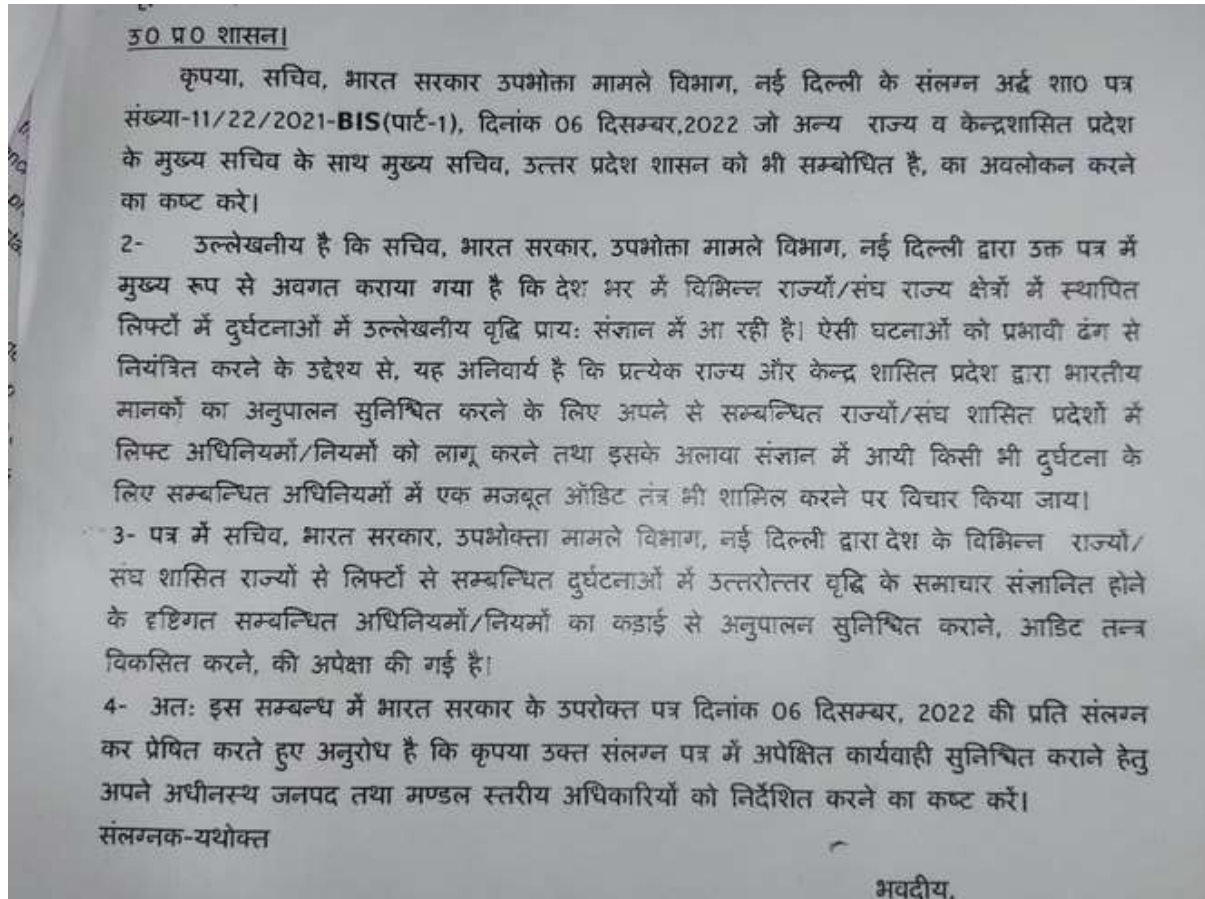
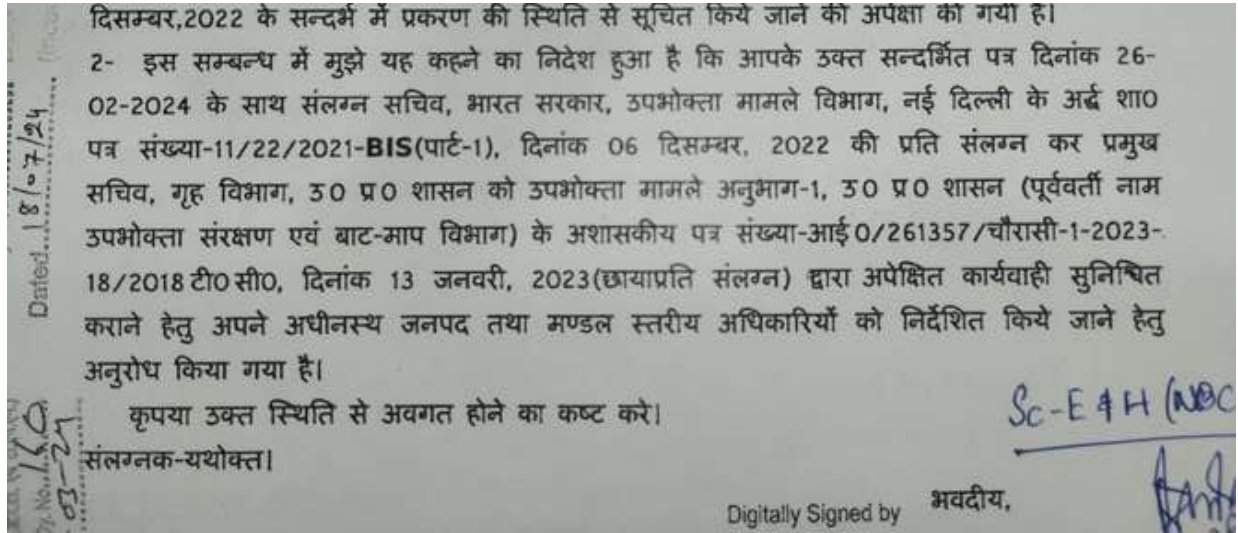
5.3 From Uttar Pradesh Government, Special Secretary, Shri Abhishek Goyal

In the matter regarding enforcement of Lifts, Acts/Rules by the States and UTs to ensure compliance of Indian Standards to avoid incidents/accidents, the following was received.

नई दिल्ली।
 उपभोक्ता मामले अनुभाग-1
 लखनऊ: दिनांक 11 मार्च, 2024
 विषय:-राज्य और केन्द्र शासित प्रदेश द्वारा भारतीय मानकों का अनुपालन सुनिश्चित करने के लिए लिफ्ट अधिनियमों/नियमों को लागू करने तथा किसी भी दुर्घटना के लिए एक मजबूत ऑडिट तंत्र बनाये जाने के सम्बन्ध में।
 महोदय,
 उपर्युक्त विषय के सम्बन्ध में कृपया अपने पत्र संख्या ई0टी0डी0/25-लिफ्ट, दिनांक 26 फरवरी, 2024 का सन्दर्भ ग्रहण करने का कष्ट करें जिसके साथ संलग्न सचिव, भारत सरकार, उपभोक्ता मामले विभाग, नई दिल्ली के अर्द्ध शा0 पत्र संख्या-11/22/2021-BIS(पार्ट-1), दिनांक 06 दिसम्बर, 2022 के सन्दर्भ में प्रकरण की स्थिति से सूचित किये जाने की अपेक्षा की गयी है।

19-3-24

उपभोक्ता मामले विभाग



The Committee may **CONSIDER.**

5.4 From Shri Sarit Maheshwari, CEO-NTPC Renewable Energy Limited:

Regarding a request for new IS on Early Streamer Emission:

Dear Sir,

I am writing to draw your kind attention to the need for an Indian Standard specifically for Early Streamer Emission (ESE) type lightning arresters. The existing IS/IEC 62305 standard addresses lightning protection systems using conventional metallic elements such as rods, mesh conductors, or catenary wires designed to intercept lightning flashes. However, recent advancements in lightning protection technology, such as ESE type arresters, have significantly enhanced our ability to safeguard large areas, including solar photovoltaic (PV) fields.

ESE lightning arresters represent a significant technological evolution, providing enhanced protection and covering larger areas compared to traditional systems. These devices are increasingly adopted worldwide, including in India, where they are widely used in renewable energy projects to shield solar arrays from lightning strikes. The French standard NF C 17 102-2011 outlines the design requirements and testing criteria for ESE lightning protection systems. Many countries, including Spain, Portugal, Turkey, Romania, and China, have established their own standards for these systems.

NTPC has been utilizing ESE lightning arresters in solar projects for over a decade without observing any adverse effects. Data from lightning counters installed with ESE arresters confirm their effectiveness in safely dissipating lightning strikes. The ability of ESE arresters to cover larger areas reduces the number of components needed, leading to more efficient installation, maintenance, and cost management.

Given India's ambitious target to achieve 500 GW of renewable energy by 2030, it is crucial to have a standard that addresses the specific requirements of ESE lightning arresters. NTPC Ltd respectfully request the Bureau of Indian Standards to consider establishing an Indian Standard for

the design, manufacturing, testing, and certification of Early Streamer Emission type lightning arresters.

This would not only align with international practices but also support the development of a more robust and cost-effective lightning protection system for India's growing renewable energy sector.

Thank you for your attention to this matter. We look forward to your positive response.

The Committee may **CONSIDER**.

5.5 Changes Requested in Competency Clause in Part 2 of NBC

5.5.1 From The Indian Institute of Architects

The Indian Institute of Architects through their Joint Hon. Secretaries Ar. Akshaya Kumar Beuria, Ar. Sandeep Bawdekar and Ar. Raneer Vedamuthu have sent an email

based on the suggestion of IIA Committee on Govt. Policies, some changes to be incorporated in the Competency Clause of NBC [i.e. in Annex A of Section 3 (permits and inspection) of Part 2 (Administration) of Volume 1 of NBC].

The required changes are given below.

PREAMBLE

The curriculum of civil engineering is designed for mainly infrastructure like roads, canals, bridges, runways and structural design part of buildings. There is no subject of study of architectural design, aesthetics, functionality of spaces, interior design considerations, history of human settlements, integration of different arts, climatic studies, utilisation of spaces and their interrelationships, anthropology for derivations of spaces, psychological requirements of spaces, derivation of moods in civil engineering curriculum while these all are the subject matter of study in architecture. Also civil engineers studies building design from the engineering aspect for only one term, while Architects study design for throughout the course i.e. for whole five years.

Hence we can say that architecture is a specialisation in building design while civil engineering is a general study of building and allied construction activities.

Hence the design of buildings (except the structure design part) should be an exclusive domain of architects. Though it is so, we suggest only cutting down the competency of civil engineers in the field of building design instead of totally removing design from their domain.

Therefore we suggest following changes in the competency clause of NBC {i.e. in ANNEX A of Section 3(Permits and Inspection) of PART 2 (Administration) of Volume 1 of NBC} as follows;

Qualification and Competence of Technical Personnel for Preparations of Schemes for Building Permit and Supervision

1.0 General

Building / Development work for which permission is sought, shall be planned, designed and supervised by registered professionals. The registered professionals for carrying out the various activities shall be:

Architect, Engineer, Structural engineer, Town planner, Landscape architect, Urban designer & Supervisor.

Requirements of registration / license for these professionals by the Authority or by the body governing such profession and constituted under a statute, are given in items 1 to 7 of the following table:

01. Architect

Registered with valid membership of the Council of Architecture, India as prescribed under Architect's Act 1972. The registered architect shall be competent to carry out the work related to the building/development permit as given below:

a. Prepare **and sign** all building plans, sub-division / layout plans of a land **up to 20.00 Ha.** and information connected with it. (This does not include structural drawings / specialised building services required for special buildings). For layouts more than 20.00 Ha. Architect shall work in team comprising Town Planner / Urban Planner / Urban Designer & Landscape Architect.

b. Issuing certificate of supervision and completion for buildings / layout works as per 01(a) pertaining to architectural aspects.

02. Engineer

Graduate in Civil Engineering from recognized Indian or foreign university. Registered with valid membership (Civil) of the Institution of Engineers, India. The registered engineer shall be competent to carry out the work related to the building / development permit as given below:

a. Prepare and sign building plans, structural drawings, services plans and information connected with building permit for the development proposals **up to height of 12.00 m. or parking plus three floors whichever is less.** (This does not include the buildings categorised as special buildings in these byelaws)

b. Issuing certificate of supervision and completion for buildings / layout plans as per 02(a) including structure and building services.

03. Structural Engineer

Post graduate or Graduate in structural engineering from recognized Indian or foreign university, or Corporate Member (Civil) of Institution of Engineers (India), with minimum 3 years' experience in structural engineering including designing and field work.

NOTE - The 3 years' experience shall be relaxed to 2 years in the case of post-graduate degree of recognized Indian or foreign university in the branch of structural engineering. In case of doctorate in structural engineering, the experience required would be one year. The registered structural engineer shall be competent to prepare the structural design, calculations and details for all buildings and undertake their supervision.

In case of buildings having special structural features, as decided by the Authority, the development proposal shall be signed by the Structural engineer along with the Architect.

04. Town Planner / Urban Designer / Urban planner

Graduate or Post-graduate degree in Town and country planning or Urban Design or Urban planning or with valid Associate Membership of the Institute of Town Planners, India. The registered town planner shall be competent to carry out the work related to the development permit as given below:

- a. Preparation of plans for land sub-division / layout and related information connected with development permit.
- b. Issuing of certificate of supervision for work listed in 04(a)

NOTE - However, for land layouts of an area above 20.00 Ha. Architect & Landscape architect shall also be associated.

05. Supervisor

Diploma in Civil engineering / Architectural Assistantship from recognized institute with 2 yrs. working experience or Civil Draftsman ship from I.T.I with 5 yrs. experience under a qualified Architect / Civil Engineer for building construction and supervision.

The registered supervisor shall be competent to carry out the work related to the building permit as given below:

- a. All building plans and related information connected with building permit for residential buildings on plot up to 300.00 sq. m. and up to two storeys or 7.50 m in height.
- b. Issuing certificate of supervision & completion for buildings as per 05(a).

The Committee may **COSNIDER**.

5.5.2 From The Institute of Town Planners, India

Through a letter dated 09 September 2024 from the Secretary General of ITPI, the following comments were received.

Institute of Town Planners India (ITPI), the only professional body of Town Planners in the country, has received a strong protest from Shri Ved Mittal, one of our senior Fellow Members, regarding the competence of Engineers and other professional in terms of planning function specified by BIS.

ITPI have noted from the NBC 2016, Part 2 Administration sec. A-2.2.1(d) that preparation of subdivision/layout plans up to 1 hectare in metro-cities and 2 hectares in other cities falls within the competence of Registered Engineers. Considering the fact that the layout plans are legal documents under the respective State Town Planning Acts and can be prepared by the trained professional Town Planners only. Engineers and Architects are not trained to earn this competence. ITPI have also noted that the BIS is currently revising the NBC 2016 document.

As per the Town and Country Planning Act of every state, Master Plans for each city and surrounding areas including many rural areas are prepared by the planners. The Municipal Corporations, Municipalities, other parastatal agencies and Development Authorities follow the competency of Engineers and other professional in terms of Planning functions such as preparation and sanctioning of layout plans, Scheme Plans, TP Schemes, Land Use Zoning, development controls etc., as per the provisions of local legislation. Building By-Laws are prepared by the Department of Town and Country Planning and followed by all the local self-government agencies. All the Architects, Civil Engineers, City Planners, Structural Engineers and others have to adhere to this Building By-Laws, which is under legislation.

Considering the above, ITPI supports the objections/suggestions put forward by Shri Ved Mittal. The Council of ITPI in its meeting dated 03/08/2024 after the extensive deliberations, to strongly recommend that section A-2.2.1(d) be deleted or revised while drafting the revised national Building Code-2024, in the light of the observations.

The Committee may **COSNIDER**.

Item 6 SUGGESTIONS/NEW REQUESTS

6.1 Requirement for Creches

6.1.1 BIS received a copy of the communication from the Ministry of Women and Child Development, Gol indicating that they have developed the National Minimum Standards and Protocol for Creches (Operational Management).

The same has been referred in the revision of Part 3 of NBC, in its clause **33.2** under **33 'Special Development and Buildings'**.

The Committee may **NOTE**.

6.2 Requirements for Data Centres

6.2.1 Ministry of Electronics and Information Technology, GoI has taken up an exercise of preparing their own Building code for the Data centres in which they have proposed to address the following aspects:

- 1 Floor to ceiling Height
- 2 Floor Space Index (FSI) or Floor Area Ratio (FAR)
- 3 Ground Coverage and Open space and setbacks
- 4 Relaxation in Green Belt
- 5 Car parking for Data Centres
- 6 Lifts/ Elevators
- 7 Installation of Chillers on rooftop
- 8 Stacking of DG Sets
- 9 Fire Safety
- 10 Load Bearing
- 11 Physical Security

BIS has been invited as a member on their Group which is involved in the preparation of their document.

The Panel for Fire Protection, CED 46:P2 is engaged in the development of an Annex on Data Centres (on the lines of car parking, metro stations) within Part 4 of NBC to address the related safety aspects.

The Committee may **NOTE**.

Item 7 DATE & PLACE OF THE NEXT MEETING

Item 8 ANY OTHER BUSINESS

ANNEX 1
(Item 2.1)

**COMPOSITION OF THE NATIONAL BUILDING CODE SECTIONAL
COMMITTEE, CED 46**

SCOPE: WORK RELATING TO NATIONAL BUILDING CODE OF INDIA

No. of Meetings	Date	Place
Seventh	18 Mar 2016	New Delhi
Eighth	08 May 2023	New Delhi
Ninth	31 October 2023	New Delhi

SI No.	NAME OF THE ORGANIZATION	REPRESENTED BY	STATUS	MEETING			ATTEN DANCE
				7 TH	8 TH	9 TH	
1)	In Personal Capacity, Thiruvananthapuram	Shri V. Suresh (Chairman)	T	P	P	P	3/3
2)	Ahmedabad Municipal Corporation, Ahmedabad	Dr Vatsal S. Patel Shri Harpalsingh Zala (Alternate)	U	P	P	P	3/3
3)	Airports Authority of India, New Delhi	Shri Sanjeev Jindal Shri Jaideep Singh Balhara (Alternate)	U	P	P	A	2/3
4)	Association of Consulting Civil Engineers (India), Bengaluru	Shri Manoj Kawalkar Shri Rajkumar Kacharla (Alternate) Shri Milind Manohar (Alternate II) Shri Badam Sundar Rao (Alternate III)	T	P	P	P	3/3
5)	Bruhat Bengaluru Mahanagara Palike, Bengaluru	Commissioner Chief Engineer (Alternate)	U	A	A	P	1/3
6)	Builders' Association of India, Mumbai	Shri Sanjay V. Vaichal Shri H. S. Pasricha (Alternate)	U	P	P	P	3/3
7)	Building Materials and Technology Promotion Council, New Delhi	Dr Shailesh Kumar Agrawal Shri C. N. Jha (Alternate)	T	A	A	P	1/3
8)	Bureau of Energy Efficiency, New Delhi	Shri Saurabh Diddi	T	P	A	A	1/3
9)	CSIR-Central Building Research Institute, Roorkee	Prof. R. Pradeep Kumar Dr Ajay Chourasia (Alternate)	T	A	P	P	2/3
10)	CSIR-Structural Engineering Research Centre, Chennai	Dr J. Prabhakar Dr Kanchana Devi A (Alternate I) Dr B. Arun Sundaram (Alternate II)	T	A	A	P	1/3

SI No.	NAME OF THE ORGANIZATION	REPRESENTED BY	STATUS	MEETING			ATTEN DANCE
				7 TH	8 TH	9 TH	
11)	Central Public Works Department, New Delhi	Shri Prem Mohan Shri Dinesh Kumar Ujjainia (Alternate)	U	P	P	P	3/3
12)	Chennai Metropolitan Development Authority, Chennai	Shri Anshul Mishra Shri N Ravikumar (Alternate)	U	P	A	P	2/3
13)	Confederation of Real Estate Developers Association of India, New Delhi	Shri Nilam B. Doshi Shri Nikhil Hawelia (Alternate)	U	P	P	P	3/3
14)	Construction Industry Development Council, New Delhi	Dr P. R. Swarup (Alternate) - Deceased	U	A	P	A	1/3
15)	Council of Architecture, New Delhi	Shri Gajanand Ram Shri Salil Ranadive (Alternate)	T	P	P	P	3/3
16)	Delhi Development Authority, New Delhi	Shri Ashok Kumar Gupta - (Retired) Shri Sanjay Kumar Khare (Alternate)	U	P	P	P	3/3
17)	Delhi Fire Services, Govt of NCT of Delhi, Delhi	Shri Atul Garg Shri Mukesh Verma (Alternate)	U	P	P	P	3/3
18)	Directorate General of Employment and Training (Ministry of Skill Development and Entrepreneurship), New Delhi	Shri Aswani Kumar	U	A	P	A	1/3
19)	Directorate General of Fire Services, Civil Defence and Home Guards), New Delhi	Shri Prashant Lonkar Shri Moreshwar Kudkilwar (Alternate)	U	P	P	P	3/3
20)	Engineers India Ltd, New Delhi	Shri Anurag Sinha Shri Samir Das (Alternate) - (Retired)	T	P	P	P	3/3
21)	Forest Research Institute, Dehradun	Shri Rajesh Bhandari Dr Shailendra Kumar (Alternate)	T	A	A	P	1/3
22)	Gujarat State Disaster Management Authority, Gandhinagar	Nomination Awaited	T	A	A	A	0/3
23)	Himachal Pradesh Urban Development Authority, Shimla	Shri Dinesh Kumar Kashyap Shri Umesh Kumar Sharma (Alternate)	U	A	A	A	0/3
24)	Hiranandani Construction Private Limited, Mumbai	Shri Niranjan Hiranandani Shri Prashanth. N (Alternate)	U	A	A	P	1/3
25)	Housing & Urban Development Corporation Limited, New Delhi	Dr. Deepak Bansal Ms Pooja Nandy (Alternate I) Smt Nirmal Batra (Alternate II)	U	P	A	A	1/3
26)	Indian Association of Structural Engineers, New Delhi	Shri Mahesh Tandon Shri Manoj Mittal (Alternate)	T	P	P	P	3/3

SI No.	NAME OF THE ORGANIZATION	REPRESENTED BY	STATUS	MEETING			ATTEN DANCE
				7 TH	8 TH	9 TH	
27)	Indian Buildings Congress, New Delhi	Shri V. R. Bansal Shri Hitesh Pal Gupta (Alternate)	T	P	P	P	3/3
28)	Indian Geotechnical Society, New Delhi	Dr Anil Joseph Dr A. P. Singh (Alternate)	T	P	P	P	3/3
29)	Indian Green Building Council, Hyderabad	Principal - Retired/Left Shri Praveen Kumar Soma (Alternate)	T	P	P	A	2/3
30)	Indian Institute of Technology Madras, Chennai	Dr Benny Raphael Dr Amlan K. Sengupta (Alternate)	T	P	P	P	3/3
31)	Indian Roads Congress, New Delhi	Shri S. K. Nirmal Shri R. V. Patil (Alternate)	T	A	P	A	1/3
32)	Institution of Fire Engineers (India), New Delhi	Shri U. S. Chillar Shri M. S. Patyal (Alternate)	T	P	P	P	3/3
33)	Institute of Town Planners, India, New Delhi	Dr S. K. Kulshrestha Shri Sandeep Kumar Raut (Alternate)	T	A	P	A	1/3
34)	Interarch Building Products Private Limited, Noida	Shri Gautam Suri	T	P	P	P	3/3
35)	Larsen & Tourbro Ltd, Chennai	Shri Senthilkumar Ganapathy Shri V. Dakshinamurthy (Alternate I) Shri Vijay UP (Alternate II)	U	A	P	P	2/3
36)	Madhya Pradesh Housing and Infrastructure Development Board, Bhopal	Shri Prakash Sangamnerkar	U	P	P	P	3/3
37)	Military Engineer Services, Engineer-in-Chief's Branch, Integrated HQ of MoD (Army), New Delhi	Shri Manoj Bapna Shri S. K. Arora (Alternate) – Retired	U	P	A	A	1/3
38)	Ministry of Home Affairs (Disaster Management Division), New Delhi	Joint Secretary (DM)	U	A	A	A	0/3
39)	Ministry of Housing and Urban Affairs, New Delhi	Joint Secretary (Urban Development)	U	A	P	P	2/3
40)	Ministry of New and Renewable Energy, New Delhi	Dr T C Tripathi	T	A	A	A	0/3
41)	Municipal Corporation of Greater Mumbai, Mumbai	Director City Engineer (Alternate)	U	A	A	P	1/3
42)	National Council for Cement and Building Materials, Ballabgarh	Shri P. N. Ojha Shri Amit Trivedi (Alternate)	T	P	P	P	3/3

SI No.	NAME OF THE ORGANIZATION	REPRESENTED BY	STATUS	MEETING			ATTEN DANCE
				7 TH	8 TH	9 TH	
43)	National Disaster Management Authority, New Delhi	Shri Safi Ahsan Rizvi Shri Bisawarup Das (Alternate)	T	P	P	A	2/3
44)	National Institute of Disaster Management, New Delhi	Dr Chandan Ghosh – Left/Retired Dr Amir Ali Khan (Alternate)	T	P	P	P	3/3
45)	National Safety Council, Mumbai	Shri Lalit R. Gabhane Shri K. D. Patil (Alternate)	T	C	P	P	2/2
46)	NBCC (India) Ltd, New Delhi	Ms Annu Garg Shri Mudit Bhatnagar (Alternate)	U	P	A	P	2/3
47)	New Okhla Industrial Development Authority, Noida	Shri G. C. Gaur Shri A. K. Goel (Alternate)	U	A	A	A	0/3
48)	North Eastern Council, Shillong	Shri P. K. H. Singh (Retired) Shri Moneswar Kalita (Alternate)	U	A	P	A	1/3
49)	Punjab Urban Planning and Development Authority, Mohali	Shri Rajiv Moudgil – (Retired) Shri Anuj Sehgal (Alternate)	U	A	P	A	1/3
50)	RITES Ltd, Gurugram	Shri Rajeev Nanda Smt Reetu Patiyal (Alternate)	T	A	P	A	1/3
51)	School of Planning and Architecture, New Delhi	Director Dr Virendra Kumar Paul (Alternate)	T	P	P	P	3/3
52)	Sustainable Urbanism International, Bengaluru	Dr Jyoti Hasagrahar	T	A	A	A	0/3
53)	The Energy and Resources Institute, New Delhi	Shri Sanjay Seth Shri Yatin Choudhary (Alternate)	T	A	P	P	2/3
54)	The Indian Institute of Architects, Mumbai	Shri Balbir Verma Shri Abhijit Ray (Alternate)	T	P	P	P	3/3
55)	The Institution of Engineers (India), Kolkata	Shri O. P. Goel Shri K. B. Rajoria (Alternate)	T	P	A	A	1/3
56)	The Institution of Surveyors, New Delhi	Shri D. L. Vohra Dr S. N. Bansal (Alternate)	T	P	A	P	2/3
57)	Tata Consulting Engineers, Mumbai	Nomination Awaited	T	-	C	A	1/1
58)	Town and Country Planning Organization, New Delhi	Shri Jagdeep Kumar Kapoor Smt Jasmine Bimra Malik (Alternate)	T	A	A	P	1/3
59)	Unitech Limited, Gurugram	Shri Sanjay Tyagi Shri Nagendar Vats (Alternate)	U	P	P	P	3/3

P - Present A - Absent C - co-opted YP - Young Professional

Technologist (T)	33
Manufacturer (M)	00
Users (U)	26
Others (O)	00
Total	59

ANNEX 2

[Item 2.2 (a)]

COMPOSITION OF THE PANEL FOR ADMINISTRATION, DEVELOPMENT CONTROL RULES AND GENERAL BUILDING REQUIREMENTS, CED 46:P1

SI No.	NAME OF THE ORGANISATION	REPRESENTED BY	Participation in Meeting No.		
			4 th	5 th	6 th
1)	In Personal Capacity, Thiruvananthapuram	Shri V. Suresh (<i>Convener</i>)	P	P	P
2)	Airports Authority of India, New Delhi	Nomination Awaited	–	–	P
3)	Association of Consulting Civil Engineers (India), Bangalore	Shri Avinash D. Shirole Shri Umesh B. Rao (Alternate)	P	P	P
4)	Building Materials and Technology Promotion Council, New Delhi	Dr Shailesh Kr Agrawal	A	P	A
5)	Central Public Works Department, New Delhi	Shri A.K. Sharma Shri Saju Siddharthan (Alternate)	A	P	A
6)	Confederation of Real Estate Developers Associations of India, New Delhi	Shri Nilam B. Doshi Shri Nikhil Hawelia (Alternate)	A	P	A
7)	Consulting Engineers Association of India, New Delhi	Shri S. C. Mehrotra Shri V. P. Agarwal (Alternate)	P	P	A
8)	Corporation of Chennai, Chennai	Shri R. Manoharan Shri A. S. Murugan (Alternate)	A	A	A
9)	Council of Architecture, New Delhi	Shri Divya Kush Shri A. R. Ramanathan (Alternate)	A	P	A
10)	CSIR - Central Building Research Institute, Roorkee	Prof. R. Pradeep Kumar Shri S K Negi (Alternate-I)	P	P	P
11)	Delhi Development Authority, New Delhi	Shri Ajay Kumar Agrawal Shri Manohar Lal (Alternate)	A	P	P
12)	Engineering Council of India, New Delhi	Dr Mahesh Tandon Dr S. Chatterjee (Alternate)	P	P	P
13)	Housing and Urban Development Corporation Ltd, New Delhi	Ms Pooja Nandy Smt Nirmal Batra (Alternate I) Md. Ishteyak Alam (Alternate	A	A	P

		II)			
14)	Indian Association of Structural Engineers, New Delhi	Shri Manoj K. Mittal Prof Mahesh Tandon (Alternate)	P	P	P
15)	Indian Building Congress, New Delhi	Shri Rajeev Kumar Gupta Shri V. R. Bansal (Alternate)	A	P	P
16)	Institute of Town Planners (India), New Delhi	Dr S. K. Kulshrestha	P	A	P
17)	Ministry of Environment, Forest and Climate Change, New Delhi	Nomination Awaited	-	-	-
18)	Municipal Corporation of Greater Mumbai, Mumbai	Chief Engineer (Dev Plan) Dy Chief Engineer (Dev Plan)-I (Alternate)	P	P	P
19)	National Council for Cement and Building Materials, Ballabgarh	Shri P. N. Ojha Shri Amit Trivedi (Alternate)	A	P	P
20)	National Real Estate Development Council, New Delhi	Nomination Awaited	-	-	-
21)	National Monuments Authority, New Delhi	Shri Bhaskar Verma Col Savyasachi Marwaha (Alternate)	A	P	P
22)	School of Planning and Architecture, New Delhi	Prof P. S. N. Rao Smt Ruchita Gupta (Alternate)	P	P	P
23)	South Delhi Municipal Corporation, New Delhi	Shri Sudhir Mehta Shri Brajesh Kumar (Alternate)	P	A	A
24)	Svayam - Global Centre for Inclusive Environments, New Delhi	Shri Navin Kumar Nayan	P	A	A
25)	The Energy and Resources Institute, New Delhi	Shri Yatin Choudhary	A	P	P
26)	The Indian Institute of Architects, Mumbai	Shri Akshaya Kumar Beuria Shri Envita Das (Alternate) Shri Dhanashri Bhosale (Alternate II)	P	P	P
27)	The Institution of Engineers (India), Kolkata	Shri Ashok Kumar Basa Shri P. Surya Prakash (Alternate)	A	A	P
28)	Town and Country Planning Organization, New Delhi	Dr Sandeep Raut	P	P	A
29)	West Bengal Housing Infrastructure Development Corporation Limited, Kolkata	Chief Planner Additional Chief Planner (Alternate)	A	A	A
30)	In Personal Capacity, Mumbai	Shri Shashikant L. Jadhav	P	P	P

31)	In Personal Capacity, Visakhapatnam	Dr V. S. Naidu	A	P	P
32)	In Personal Capacity, New Delhi	Shri Subhash Chandra Vashishth	A	P	P

**CED 46: P1: WG1 – Working Group for Revision of Part 2 Administration of
NBC Working Group**

Sl. No.	Organization	Member Name
1)	In Personal Capacity, Thiruvananthapuram	Shri V. Suresh (Convener)
2)	Indian Association of Structural Engineers, New Delhi	Shri Manoj K. Mittal
3)	Maharashtra Fire Services, Mumbai	Shri Santosh S. Warick
4)	Town and Country Planning Organisation, New Delhi	Shri R. Srinivas
5)	In Personal Capacity, Mumbai	Shri Shashikant L. Jadhav
6)	In Personal Capacity, New Delhi	Shri Rajpal Kaushik

CED 46: P1: WG2 – WG for Revision of Part 3 Development Control Rules and General Building Requirements of NBC Working Group

Sl. No.	Organization	Member Name
1)	In Personal Capacity, New Delhi	Shri Rajpal Kaushik (<i>Convener</i>)
2)	In Individual Capacity	Dr V S Naidu
3)	Institute of Town Planners - India, New Delhi	Shri Sandeep Kumar Raut
4)	Maharashtra Fire Services, Mumbai	Shri Santosh S. Warick
5)	School of Planning and Architecture, New Delhi	Dr Ruchita Gupta
6)	The Indian Institute of Architects, New Delhi	Shri Akshaya Kumar Beuria
7)	Town and Country Planning Organisation, New Delhi	Shri R. Srinivas
8)	In Personal Capacity, Mumbai	Shri Shashikant L. Jadhav
9)	In Personal Capacity, Thiruvananthapuram	Shri V. Suresh

ANNEX 3

[Item 2.2(b)]

COMPOSITION OF PANEL FOR FIRE AND LIFE SAFETY, CED 46:P2

Sl No	NAME OF THE ORGANISATION	REPRESENTED BY	Participation in Meeting No.		
			7 th	8 th	9 th
1)	In Personal Capacity, New Delhi	Shri S. K. Dheri (<i>Convener</i>)	P	P	P
2)	Airports Authority of India, New Delhi	Shri Prakash Kumar Deshmukh Shri Mahesh Dadaji Warbhe (Alternate I) Shri Shameem Ahammad C (Alternate II)	P	P	P
3)	Central Industrial Security Force, New Delhi	Shri Rajnath Singh	P	P	A
4)	Central Public Works Department, New Delhi	Shri Vikas Rana Shri R. P. Gupta (Alternate)	P	P	A
5)	CSIR - Central Building Research Institute, Roorkee	Dr Shorab Jain Dr Nawal Kishore Banjara (Alternate)	A	A	P
6)	Delhi Fire Service, Govt. of NCT of Delhi, Delhi	Director Chief Fire Officer (Alternate)	P	A	P
7)	Delhi Metro Rail Corporation, New Delhi	Shri Ashok Tewari Smt Rashmi Bhardwaj (Alternate)	C	P	P
8)	Directorate of Fire & Emergency Services, Govt of Goa, Goa	Director Shri Prakash M. Parab (Alternate)	P	P	P
9)	Directorate General Fire Services, Civil Defence and Home Guards, New Delhi, Ministry of Home Affairs, New Delhi	Fire Advisor Deputy Fire Advisor (Alternate)	A	A	A
10)	Directorate of Maharashtra Fire & Emergency Services, Mumbai	Director and Fire Advisor Shri S. S. Warick (Alternate)	A	P	P
11)	Elevator & Escalator Division of IEEMA, Mumbai	Nomination Awaited	-	-	-
12)	Fire & Security Association of India, Chennai	Shri Srinivas Valluri	P	P	P
13)	Fire Safe India Foundation, Mumbai	Shri Milind V. Deshmukh	A	A	P

14)	FM Engineering International (India) Pvt Ltd, Bengaluru	Shri Srikant Yajjala Shri Vedanarayanan Selvakumar (Alternate)	P	P	P
15)	Forum of Critical Utility Services, Bengaluru	Nomination Awaited	-	-	P
16)	FYRPROTEK (Fire Engineers & Consultants), Delhi	Shri Gulshan Khurana	A	A	P
17)	Glazing Society of India, New Delhi	Chairman Shri G. N. Gohul Deepak (Alternate)	P	P	P
18)	Indian Plumbing Association, New Delhi	Shri Mahender Kumar Gupta Shri S. K. Duggal (Alternate)	P	P	P
19)	Institution of Fire Engineers (India), New Delhi	Shri U. S. Chhillar Shri M. S. Patyal (Alternate)	P	P	P
20)	Insurance Regulatory and Development Authority, Hyderabad	Shri Randip Singh Jagpal Shri T. S. Naik (Alternate)	A	A	A
21)	Kaleidoscope, New Delhi	Shri Amor Kool	P	P	P
22)	Lloyd Insulations (India) Ltd, New Delhi	Shri Sanjeev Angra Shri K. K. Mitra (Alternate)	A	P	P
23)	Maple Engineering-Design Services (India) Pvt Ltd, Bengaluru	Shri B. S. A. Narayanan Shri H. R. Ranganath (Alternate)	P	P	P
24)	Military Engineer Services, E-in-C's Branch, Army HQ, New Delhi	Shri N. K. Goyal Col Sumeet Singh Makkar (Alternate)	A	A	A
25)	Ministry of Home Affairs, New Delhi	Shri Prashant Lonkar Shri Moreshwar Kudkilwar (Alternate)	P	P	P
26)	Municipal Corporation of Greater Mumbai (Mumbai Fire Brigade), Mumbai	Chief Fire Officer Dy Chief Fire Officer (Alternate)	A	A	P
27)	National Council for Cement and Building Materials, Ballabgarh	Shri P.N. Ojha Shri Brijesh Singh (Alternate)	P	P	P
28)	National Fire Service College (Ministry of Home Affairs), Nagpur	Director	A	A	P
29)	National Safety Council, Navi Mumbai	Shri Lalit R. Gabhane Shri K. D. Patil (Alternate)	A	A	P
30)	Oil Industry Safety Directorate, New Delhi	Shri A. K. Arora	P	A	A
31)	Proion Consultants, New Delhi	Shri Sandeep Goel	P	P	P
32)	School of Planning and Architecture, New Delhi	Dr V. K. Paul	A	A	A
33)	Tamil Nadu Fire Service Department, Chennai	Shri S. Vijayasekar Smt Meenakshi Vijayakumar	P	A	A

34)	Tata Consulting Engineers Ltd, Navi Mumbai	Ms Sangita Agrawal Shri Saikat Manna (Alternate)	A	A	P
35)	Telangana State Disaster Response and Fire Services Department, Hyderabad	Shri C. Lakshmi Prasad Shri G. V. Narayana Rao (Alternate)	P	P	P
36)	The Indian Institute of Architects, Mumbai	Shri Gaurish Chandawarkar Shri V. V. L. Narasimham (Alternate I) Smt Swati Nachane (Alternate II)	A	P	P
37)	The Institution of Engineers (India), Kolkata	Er. Rajesh Sharma	A	A	A
38)	UL India Pvt Ltd, Bengaluru	Shri V Manjunath Ms Monalisa Das (Alternate)	P	P	P
39)	Uttar Pradesh Fire Service, Lucknow	Shri Aman Sharma Shri Animesh Singh (Alternate)	A	P	P
40)	West Bengal Fire & Emergency Services, Kolkata	Director General Assistant Director General (Alternate)	A	A	A
41)	In personal capacity, Bengaluru	Shri T. R. A. Krishnan	P	P	P
42)	In personal capacity, Thiruvananthapuram	Shri V. Suresh	P	P	P
43)	In personal capacity, New Delhi	Shri R. C. Sharma	P	P	P
44)	In Personal capacity	Dr K. C. Wadhwa	-	-	C

CED 46: P2: WG1 – Working Group for Smoke Management Working Group

SI no.	Organization	Member Name
1)	Directorate of Maharashtra Fire Services, Mumbai	Santosh S. Warick (Convener)
2)	Fire and Security Association of India, Chennai	Shri Srinivas Valluri
3)	ISHARE, New Delhi	Shri K. Ramachandran

CED 46: P2: WG2 – Working Group for Electrical Safety Working Group

SI no.	Organization	Member Name
1)	Fire and Security Association of India, Chennai	Shri Srinivas Valluri (Convener)
2)	National Federation of Engineers for Electrical Safety, Chennai	Shri S. Gopa Kumar
3)	In Personal Capacity, Coimbatore	Shri T. R. A. Krishnan

CED 46: P2: WG3 – Expert Group for Fire and Life Safety Working Group

S.No.	Organization	Member Name
1)	Fire Safe India Foundation, Mumbai	Shri M. V. Deshmukh (Convener)
2)	Fire and Security Association of India, Chennai	Shri Srinivas Valluri
3)	Kapse Consulting Engineers Private Limited, Thane	Shri Vinod Kapse
4)	Maharashtra Fire Services, Mumbai	Shri Santosh S. Warick
5)	Maharashtra Fire Services, Mumbai	Shri Kiran Hatyal (Alternate)
6)	Proion Consultants, New Delhi	Shri Sandeep Goel

7)	TTS Consultant, Kolkata	Shri Tarak Chakraborty
8)	In Personal Capacity	Dr G. C. Misra
9)	In Personal Capacity	Shri Arun Kumar S
10)	In Personal Capacity	Shri Abhay Purandare
11)	In Personal Capacity, Mumbai	Shri Shashikant L. Jadhav

CED 46: P2: WG4 – Working Group on Advisory Group for Revision of Part 4 Working Group

S.No.	Organization	Member Name
1)	In Personal Capacity, New Delhi	S. K. Dheri (Convener)
2)	Delhi Metro Rail Corporation Limited, Delhi	Shri Ashok Tewari
3)	In Personal Capacity, New Delhi	Dr G. C. Misra
4)	In Personal Capacity, Coimbatore	Shri T. R. A. Krishnan

CED 46: P2: WG5 – Working Group on Metro related provisions of Part 4 Working Group

S.No.	Organization	Member Name
1)	In Personal Capacity, New Delhi	Dr G. C. Misra (Convener)
2)	Delhi Metro Rail Corporation Limited, Delhi	Ms. Rashmi Bhardwaj
3)	Delhi Metro Rail Corporation Limited, Delhi	Shri Ashok Tewari (Alternate)
4)	National Capital Region Transport Corporation, New Delhi	Shri Gautam Bhardwaj
5)	In Personal Capacity, Coimbatore	Shri T. R. A. Krishnan

ANNEX 4

[Item 2.2(c)]

COMPOSITION OF THE PANEL FOR BUILDING MATERIALS, CED 46:P3

SI No.	NAME OF THE ORGANISATION	REPRESENTED BY	ATTENDANCE		
			3 rd	4 th	5 th
1)	Building Materials & Technology Promotion Council, New Delhi	Dr Shailesh Kumar Agrawal (Convener)	P	P	P
2)	AEON Design & Development LLP, Noida	Ms Sheetal Rakheja	A	A	A
3)	Building Materials & Technology Promotion Council, New Delhi	Dr Shailesh Kr. Agrawal Shri C. N. Jha (Alternate)	A	P	A
4)	Builders' Association of India	Nomination Awaited	–	–	C
5)	Central Building Research Institute (CSIR), Roorkee	Dr Neeraj Jain Shri Rajesh Kumar (Alternate)	A	A	P
6)	Central Public Works Department, New Delhi	Shri Dinesh K. Ujjainia Chief Engineer (CSQ) Superintending Engineering (Alternate)	A	P	P
7)	Construction Chemicals Manufacturers' Association, Navi Mumbai	Shri Himanshu Kapadia Shri Ananya Sarkar (Alternate)	–	–	–
8)	Delhi Development Authority, New Delhi	Shri Sanjay Khare Shri Narender Kumar Goel (Alternate)	A	A	P
9)	Directorate General Border Roads, New Delhi	Nomination Awaited	–	–	–
10)	DLF Limited, Gurgaon	Nomination Awaited	–	–	–
11)	Housing and Urban Development Corporation Ltd, New Delhi	Dr Deepak Bansal Ms Pooja Nandy (Alternate) Smt Nirmal Batra (Alternate)	A	A	P

SI No.	NAME OF THE ORGANISATION	REPRESENTED BY	ATTENDANCE		
			3 rd	4 th	5 th
12)	M/s Hindalco Industries Ltd, Mumbai	Shri Sidharth Sethi Smt Snehal Mahajan (Alternate)	–	–	C
13)	Indian Institute of Technology Guwahati, Guwahati	Smt Indu Siva Ranjani Gandhi	A	A	P
14)	Indian Institute of Technology Madras, Chennai	Prof Rupen Goswami Prof Amlan K Sengupta Prof Manu Santhanam (Alternate)	A	A	P
15)	Indian Buildings Congress, New Delhi	Shri Deepak Narayan	P	P	A
16)	Indian Wood Science and Technology (IPIRTI), Bengaluru	Shri K. Shyama Sundar Shri M. Pavan Kumar (Alternate)	A	A	A
17)	Inter-University Accelerator Centre, New Delhi	Nomination Awaited Shri M.K Gupta	A	A	A
18)	Larsen & Toubro Ltd, Chennai	Shri Praveen Kumar Rai	A	A	P
19)	Military Engineer Services, Engineer-in-Chief's Branch, Army HQ, New Delhi	Smt S. Gayatri Mukherjee Shri Manish Gupta (Alternate) Smt Rivoo Mahendru Smt Remika Sharma (Alternate)	A	P	P
20)	National Building Construction Corporation, New Delhi	Shri Sunil Kumar Pandey Shri Sachin Kaushik (Alternate)	A	A	P
21)	National Council for Cement and Building Materials, Ballabgarh	Dr. L. P. Singh Director General Shri P. N. Ojha (Alternate)	P	P	P
22)	Tata Consulting Engineers, Mumbai	Shri. R. L. Dinesh	–	–	C
23)	The Indian Institute of Architects, New Delhi	Prof Venu Shree Shri K. K. Asthana (Alternate I) Smt Gayatri Anand Khatau (Alternate II)	A	P	P
24)	The Institution of Engineers (India),	Dr Binu Sukumar Dr A Hemamathi (Alternate)	A	A	P

SI No.	NAME OF THE ORGANISATION	REPRESENTED BY	ATTENDANCE		
			3 rd	4 th	5 th
	Kolkata				
25)	In Personal Capacity, Faridabad	Shri Madhur M. Goyal	A	P	A

CED 46: P3: WG1 – WG for Expert Group to Revise Part 5 Working Group

S.No.	Organization	Member Name
1)	Central Public Works Department, New Delhi	Shri Dinesh K Ujjainia (Convener)
2)	AEON Design & Development LLP, Noida	Ms Sheetal Rakheja
3)	CSIR - Central Building Research Institute, Roorkee	Dr Neeraj Jain
4)	Indian Institute of Technology Madras, Chennai	Dr Amlan Kumar Sengupta
5)	L&T Construction, Chennai	Shri Praveen Kumar Rai
6)	Military Engineer Services, New Delhi	Ms S. Gayatri Mukherjee
7)	National Council for Cement and Building Materials, Faridabad	Shri P. N. Ojha

ANNEX 5*Item 2.2(d)]***COMPOSITION OF THE PANEL FOR LOADS, FORCES AND EFFECTS, CED
46:P4**

Sl. No.	NAME OF THE ORGANISATION	REPRESENTED BY	Participation in Meeting No.		
			4 th	5 th	6 th
1)	Indian Institute of Technology Madras, Chennai	Prof C. V. R. Murty (Convener)	P	P	P
2)	Association of Consulting Civil Engineers (India), Bengaluru	Shri Manoj Kawalkar Shri Rajkumar Kacharla (Alternate I) Shri Milind Manohar Tare (Alternate II) Shri Badam Sundar Rao (Alternate III)	A	A	P
3)	Building Materials and Technology Promotion Council, New Delhi	Dr. Shailesh Kr Agrawal Shri A. K. Tiwari (Alternate)	A	A	A
4)	Central Public Works Department, New Delhi	Shri Nagendra Prasad Shri Amrendra Kumar Jalan (Alternate)	P	P	P
5)	Creative Consultants & Engineers Pvt Ltd, Ghaziabad	Shri Aman Deep	P	P	P
6)	CSIR - Central Building Research Institute, Roorkee	Dr. A. K. Mittal Dr. Ajay Chourasia (Alternate)	A	A	P
7)	CSIR - Structural Engineering Research Centre, Chennai	Dr J. Rajasankar Dr G. S. Palani (Alternate I) Dr. J. Prawin (Alternate II)	P	P	P
8)	Delhi Metro Rail Corporation, New Delhi	Nomination Awaited	-	-	-
9)	Engineers India Limited, New Delhi	Nomination Awaited	-	-	-
10)	Geological Survey of India, Kolkata	Nomination Awaited	-	-	-
11)	Himachal Pradesh State Disaster Management Authority, Shimla	Nomination Awaited	-	-	-
12)	India Meteorological Department, New Delhi	Dr. Devendra Pradhan Shri K. N. Mohan (Alternate)	C	P	A
13)	Indian Association of Structural Engineers, New Delhi	Shri Manoj Mittal (Alternate)	P	P	A
14)	Indian Geotechnical Society, New Delhi	Prof. A Boominathan Dr G.R. Dodagoudar (Alternate I) Dr Divya Priya Balasubramani (Alternate II)	A	A	P

15)	Indian Institute of Technology Delhi, New Delhi	Dr. Vasant Matsagar Dr. Dipti Ranjan Sahoo (Alternate)	P	P	P
16)	Indian Institute of Technology Roorkee, Roorkee	Nomination Awaited	C	-	-
17)	Larsen & Toubro Ltd, Chennai	Shri Surya Prakash Karri Shri Krishna Somaraju (Alternate I) Shri Praveen Kumar Rai (Alternate II)	P	P	P
18)	National Council for Cement and Building Materials, Ballabgarh	Shri P. N. Ojha Shri Brijesh Singh (Alternate)	P	P	P
19)	National Institute of Disaster Management, New Delhi	Dr Amir Ali Khan	C	A	A
20)	National Remote Sensing Centre, Hyderabad	Nomination Awaited	-	-	-
21)	Odisha Disaster Management Authority, Bhubaneswar	Nomination Awaited	-	-	-
22)	The Institution of Engineers (India), Kolkata	Dr Anil Joseph Er. Shilpi Ranjan (Alternate)	A	A	P
23)	Uttarakhand State Disaster Management Authority, Dehradun	Nomination Awaited	-	-	-
24)	Tandon Consultants Pvt Ltd, New Delhi	Nomination Awaited	-	-	-
25)	In Personal Capacity, Gurugram	Dr Prem Krishna	A	A	A
26)	In Personal Capacity, Chennai	Dr Nagesh R. Iyer	A	A	P
27)	In Personal Capacity, Thiruvananthapuram	Shri V. Suresh	P	A	P

ANNEX 6
Item 2.2(e)]

COMPOSITION OF THE PANEL FOR SOILS AND FOUNDATIONS, CED 46:P5

S. No.	Name of the Organization	Represented by	Participation in Meeting No.		
			3 rd	4 th	5 th
1)	Bharat Heavy Electricals Ltd., Noida	Shri C. Pushpakaran (<i>Convener</i>)	P	P	P
2)	Afcons Infrastructure Limited, Mumbai	Shri P. S. Bansod Shri V. Ramamurty (<i>Alternate</i>)	A	A	A
3)	Bharat Heavy Electricals Ltd., Noida	Shri T. Madhusudhan Rao Shri Hitesh Kumar (<i>Alternate</i>)	C	P	A
4)	Cengrs Geotechnical Pvt. Ltd., Noida	Shri Sanjay Gupta Shri Ravi Sundaram (<i>Alternate</i>)	-	P	P
5)	CSIR - Central Building Research Institute, Roorkee	Shri Manojit Samanta Dr Anindya Pain (<i>Alternate-I</i>) Ms. Aswathy M.S. (<i>Alternate-II</i>)	A	P	P
6)	Central Public Works Department, New Delhi	Shri Nagendra Prasad Shri A. K. Jalan (<i>Alternate</i>)	P	A	P
7)	Creative Consultants & Engineers Pvt Ltd, Ghaziabad	Shri Aman Deep	P	A	P
8)	Delhi Development Authority, New Delhi	Shri Arun Kumar Shri A. K. Singhal (<i>Alternate</i>)	P	P	A
9)	Fluidyn-India, Bengaluru	Dr Chandan Ghosh	-	-	C
10)	Indian Institute of Technology Delhi, New Delhi	Dr. J. T. Shahu Dr. R. Ayothiraman (<i>Alternate</i>)	C	P	P
11)	Indian Institute of Technology Madras, Chennai	Nominations are awaited	C	-	-
12)	Indian Association of Structural Engineers, New Delhi	Shri Sushil K. Dhawan Dr Abhay Gupta (<i>Alternate</i>)	P	P	P
13)	Indian Geotechnical Society, New Delhi	Dr. A. P. Singh Dr. Neelima Satyam (<i>Alternate-I</i>) Dr. Aditya Singh (<i>Alternate-II</i>)	A	P	P
14)	ITD Cementation Pvt Ltd, Mumbai	Shri Hemendra Chaudhary	C	P	A
15)	Military Engineer Services, Engineer-in-Chief's Branch, Army HQ, New Delhi	Shri Ajay Kumar Singh Shri Aman Garg (<i>Alternate</i>)	A	A	P
16)	NTPC Ltd, New Delhi	Revised Nominations awaited	P	P	P
17)	National Council for Cement and Building Materials, Ballabgarh	Shri P. N. Ojha Shri Amit Trivedi (<i>Alternate</i>)	P	P	P
18)	National Capital Region Transport Corporation, New Delhi	Shri Jitendra Kumar	-	-	C
19)	National Institute of Disaster Management, New Delhi	Shri Dr Amir Ali Khan (<i>Alternate</i>)	A	P	P
20)	The Institution of Engineers (India), Kolkata	Er. Vijay Shankar Dr Alok Kumar (<i>Alternate</i>)	A	P	A
21)	In Personal Capacity, Chennai	Shri A. Vijayaraman	C	A	P

ANNEX 7*Item 2.2(f)]***COMPOSITION OF THE PANEL FOR TIMBER AND BAMBOO, CED 46:P6**

SI No.	NAME OF THE ORGANIZATION	REPRESENTED BY	Participation in Meeting No.		
			4 th	5 th	6 th
1)	In Personal Capacity, Dehradun	Shri K. S. Pruthi (<i>Convener</i>)	P	P	P
2)	Bamboo Society of India, Bengaluru	Shri Punati Sridhar Shri K. N. Murthy (Alternate)	A	P	P
3)	Building Materials and Technology Promotion Council, New Delhi	Dr Shailesh Kr Agrawal Shri C. N. Jha (Alternate)	P	A	P
4)	CSIR - Central Building Research Institute, Roorkee	Dr Rajesh K Verma Dr Neeraj Jain (Alternate I) Shri Prasanta Kar (Alternate II)	A	P	P
5)	Central Public Works Department, New Delhi	Chief Engineer (CSQ) Superintending Engineer (TAS) (Alternate)	A	P	A
6)	CEPT, Ahmedabad	Nomination Awaited	-	-	C
6)	Creative Consultants & Engineers Pvt Ltd, Ghaziabad	Shri Aman Deep	P	P	P
7)	Forest Research Institute (ICFRE), Dehra Dun	Shri Rajesh Bhandari Shri R. S. Topwal (Alternate I) Shri Ashwath Hegde (Alternate II)	A	P	A
8)	Forum of Scientists, Engineers and Technologists, Kolkata	Shri Rabi Mukhopadhyay Dr. Parthasarathi Mukhopadhyay (Alternate I)	A	P	P
9)	Housing and Urban Development Corporation Ltd, New Delhi	Dr Deepak Bansal Ms Pooja Nandy (Alternate I) Smt Nirmal Batra (Alternate II)	A	P	P
10)	Indian Association of Structural Engineers, New Delhi	Dr Dulal Goldar Prof. Visalakshi Talakokula (Alternate)	P	P	P
11)	Indian Institute of Technology Delhi, New Delhi	Dr Suresh Bhalla	A	P	A

12)	Institute of Wood Science and Technology, Bengaluru	Shri Anand Nandanwar Shri Amitava Sil (Alternate I) Dr Narasimhamurthy (Alternate II)	P	P	P
13)	Iyer and Mahesh Architects, Thiruvanthapuram	Shri N. Mahesh	A	A	A
14)	Manasaram Architects, Bengaluru	Smt Neelam Manjunath Smt Sanjita Shrikant (Alternate I) Shri Gurudayal Sharan (Alternate II)	A	P	P
15)	Military Engineer Services, Engineer-in-Chief's Branch, Army HQ, New Delhi	Smt S Gayatri Mukherjee Shri Shekhar Gupta (Alternate)	P	A	A
16)	MUTHA Industries Pvt Ltd, Maharashtra	Shri Anil Mutha Shri Neeraj Mutha (Alternate I) Shri Sudip Chakraborty (Alternate II)	A	P	P
17)	North East Centre for Technology Application and Reach, Shillong	Shri Krishna Kumar Ms. Lyngksiar khongwir (Alternate)	P	P	P
18)	The Institution of Engineers (India), Kolkata	Shri Manoj Kumar Singh Er. Kumar Arvind (Alternate)	A	P	P
19)	Windsor Wood (India) Pvt Ltd, Mumbai	Shri Prakash Narmadashankar Suthar	A	P	P
20)	Wonder Grass Initiative Pvt Ltd, Nagpur	Shri Vaibhav Kaley	A	P	A
21)	In Personal Capacity, Dehradun	Shri S. S. Rajput	A	A	A

CED 46: P6: WG1 – Working Group for Bamboo Working Group

Sl no.	Organization	Member Name
1)	Wonder Grass Initiative Private Limited, Nagpur	Shri Vaibhav Kaley (Convener)
2)	Bamboo Society of India, Bengaluru	Shri Punati Sridhar
3)	CSIR - Central Building Research Institute, Roorkee	Er Mickey Mecon Dalbehera
4)	Forest Research Institute (FRI), Dehradun	Dr Ajay Thakur
5)	Manasaram Architects , Bengaluru	Neelam Manjunath

CED 46: P6: WG2 – Working Group for Engineered Bamboo Working Group

SI no.	Organization	Member Name
1)	Institute of Wood Science and Technology, Bengaluru	Shri Anand Nandanwar (Convener)
2)	CEPT University, Ahmedabad	Dr Dhara Shah
3)	Forest Research Institute (FRI), Dehradun	Dr Ajay Thakur
4)	Indian Institute of Technology Delhi, New Delhi	Shri Suresh Bhalla
5)	Institute of Wood Science and Technology, Bengaluru	Shri Narasimhamurthy
6)	Mutha Industries, Agartala	Shri Anil Mutha
7)	North East Centre for Technology Application and Research, Shillong	Shri Krishna Kumar

CED 46: P6: WG3 – Working Group for Timber Working Group

SI no.	Organization	Member Name
1)	Canadian Wood, Mumbai	Dr Jimmy Thomas
2)	Forest Research Institute, Indian Company SEAL for Forestry Research and Education, Dehradun	Shri Rajesh Bhandari
3)	Forum of Scientists, Engineers and Technologists, Kolkata	Shri Parthasarathi Mukhopadhyay
4)	Institute of Wood Science and Technology, Bengaluru	Shri Anand Nandanwar
5)	Institute of Wood Science and Technology, Bengaluru	Shri Amitva Sil (Alternate)
6)	In Personal Capacity	Dr Sadhna Tripathi

CED 46: P6: WG4 – Working Group for Engineered Timber Working Group

SI no.	Organization	Member Name
1)	Institute of Wood Science and Technology, Bengaluru	Shri Anand Nandanwar (Convener)
2)	CEPT University, Ahmedabad	Dr Dhara Shah

3)	Forest Research Institute, Indian Company SEAL for Forestry Research and Education, Dehradun	Shri Rajesh Bhandari
4)	Forum of Scientists, Engineers and Technologists, Kolkata	Shri Parthasarathi Mukhopadhyay
5)	North East Centre for Technology Application and Research, Shillong	Shri Krishna Kumar
6)	Windsor Wood (India) Pvt Ltd, Mumbai	Shri Prakash Narmadashankar Suthar
7)	In Personal Capacity	Shri Abhishek Sharma

ANNEX 8

Item 2.2(g)]

COMPOSITION OF THE PANEL FOR MASONRY, CED 46:P7

Sl. No	NAME OF THE ORGANISATION	REPRESENTED BY	Participation in the last meetings		
			4 th	5 th	6 th
1)	In Personal Capacity, New Delhi	Shri V. V. Arora (<i>Convener</i>)	P	P	P
2)	Adlakha Associates Pvt Ltd, New Delhi	Shri Promod Kumar Adlakha Shri V. K. Sethi (<i>Alternate</i>)	P	P	P
3)	Association of Consulting Civil Engineers (India), Bengaluru	Shri Umesh B. Rao Dr Raghunath S. (<i>Alternate</i>)	A	A	A
4)	Bhabha Atomic Research Centre, Trombay	Shri K. Srinivas Shri H. E. Iyer (<i>Alternate</i>)	C	A	P
5)	Building Materials & Technology Promotion Council, New Delhi	Dr Shailesh Kr Agrawal Shri Pankaj Gupta (<i>Alternate</i>)	P	P	A
6)	Central Public Works Department, New Delhi	Chief Engineer Superintending Engineer (<i>Alternate</i>)	P	P	P
7)	CSIR-Central Building Research Institute Roorkee, Roorkee	Shri A.P Chaurasia Ms Hina Gupta (<i>Alternate</i>)	A	A	P
8)	CSIR-Structural Engineering Research Centre, Chennai	Dr A. Ramachandra Murthy Dr S.R. Balasubramanian (<i>Alternate I</i>) Shri Farvaze Ahmed A.K (<i>Alternate II</i>)	A	A	P
9)	Delhi Development Authority, New Delhi	Shri Arun Kumar Shri A. K. Singhal (<i>Alternate</i>)	P	P	A
10)	Indian Association of Structural Engineers New Delhi	Shri Deepak Bansal Km Sangeeta Wij (<i>Alternate</i>)	A	P	P
11)	Indian Institute of Science, Bengaluru	Dr B. V. Venkatarama Reddy Dr K. S. Nanjunda Rao (<i>Alternate</i>)	P	A	P
12)	Indian Institute of Technology Delhi, New Delhi	Revised Nomination Awaited	–	–	P
13)	Indian Institute of Technology Guwahati, Guwahati	Prof. Hemant B Kaushik	–	–	C
14)	Indian Institute of Technology Hyderabad, Hyderabad	Prof. Kolluru V.L. Subramaniam	–	–	C
15)	Indian Institute of Technology Patna, Patna	Dr. Vaibhav Singhal	–	–	C

16)	Indian Institute of Technology Kanpur, Kanpur	Dr Durgesh C. Rai	A	A	A
17)	Indian Institute of Technology Madras, Chennai	Dr Arun Menon	C	P	P
18)	Military Engineer Services, Engineer-in-Chief's Branch, Army HQ, New Delhi	Shri Manoj Bapna Shri S C Gupta (Alternate)	P	A	A
19)	National Council for Cement and Building Materials, Ballabgarh	Shri Amit Trivedi Shri Amit Prakash (Alternate)	P	P	A
20)	The Institution of Engineers (India), Kolkata	Shri Satya Prakash Shri Masarrat Noor Khan (Alternate)	P	A	P

ANNEX 9

[Item 2.2(h)]

**COMPOSITION OF THE PANEL FOR PLAIN, REINFORCED AND
PRESTRESSED CONCRETE, CED 46:P8**

Sl No.	NAME OF THE ORGANISATION	REPRESENTED BY	Participation in the last meetings		
			2 nd	3 rd	4 th
1)	In Personal Capacity, Thiruvananthapuram	Shri Jose Kurian (<i>Convener</i>)	P	P	P
2)	Association of Consulting Civil Engineers (India), Bengaluru	Shri M. S. Sudharshan	A	A	A
3)	BBR (India) Pvt Ltd, Bengaluru	Shri P. Jayachandran Shri Bharat Bhushan (<i>Alternate</i>)	A	P	A
4)	Central Public Works Department, New Delhi	Chief Engineer (D&DM) Superintending Engineer (D)-II, D&DM (<i>Alternate</i>)	P	P	P
5)	Creative Design Consultants & Engineers Pvt Ltd, Ghaziabad	Shri Aman Deep	P	P	A
6)	CSIR-Central Building Research Institute, Roorkee	Shri S. K. Singh Shri Subash Chandra Bose Gurram (<i>Alternate-I</i>) Dr Govind Gaurav (<i>Alternate-II</i>)	C	A	P
7)	CSIR-Central Road Research Institute, New Delhi	Dr. Rajeev Goel	A	A	P
8)	CSIR-Structural Engineering Research Centre, Chennai	Dr S. Parivallal Dr S. Bhaskar (<i>Alternate I</i>) Shri Thondamon V (<i>Alternate II</i>)	A	A	P
9)	Delhi Development Authority, New Delhi	Chief Engineer Superintendent Engineer (<i>Alternate</i>)	C	P	A
10)	Indian Association of Structural Engineers, New Delhi	Dr Abhay Gupta	P	P	P
11)	Indian Concrete Institute (ICI), Chennai	Shri A. K. Jain Shri K. P. Abraham (<i>Alternate</i>)	C	P	P
12)	Indian Institute of Science, Bangalore	Nomination Awaited	C	–	–
13)	Indian Institute of Technology Madras, Chennai	Prof C. V. R. Murty Prof. Amlan K. Sengupta	C	A	P
14)	Larsen and Toubro Limited, Chennai	Shri V. Sadasivam Shri Sthaladipti Saha (<i>Alternate I</i>) Shri J. Rajesh (<i>Alternate II</i>)	A	A	P
15)	Military Engineer Services, New Delhi	Shri Suneel Kumar Arora Shri Niraj Kumar (<i>Alternate</i>)	C	A	P

16)	Ministry of Road Transport and Highways, New Delhi	Chief Engineer, Standard & Research (Bridges)	A	A	A
17)	National Council for Cement and Building Materials, Ballabgarh	Shri P. N. Ojha Shri Brijesh Singh (Alternate)	P	P	P
18)	Research, Designs and Standards Organization (Ministry of Railways), Lucknow	Shri V. K. Pandey Shri Sandeep Singh (Alternate)	A	A	P
19)	STUP Consultants Pvt Ltd, Mumbai	Nomination Awaited	P	–	–
20)	Tandon Consultants, New Delhi	Shri Mahesh Tandon	A	P	A
21)	The Institution of Engineers (India), Kolkata	Shri Manoj Kumar Sinha Dr M A Chakrabarti (Alternate)	A	P	A
22)	In Personal Capacity, New Delhi	Shri V. V. Arora	A	P	A
23)	In Personal Capacity, Chennai	Dr C. Rajkumar	A	A	A

CED 46: P8: WG1 – Working Group for Material Provisions Working Group

S.No.	Organization	Member Name
1)	In Personal Capacity, Faridabad	Shri V. V. Arora (Convener)
2)	Creative Design Consultants and Engineers Private Limited, Ghaziabad	Shri Aman Deep
3)	Indian Institute of Technology Delhi, New Delhi	Shri Shashank Bishnoi
4)	Indian Institute of Technology Madras, Chennai	Shri Manu Santhanam
5)	National Council for Cement and Building Materials, Faridabad	Shri Brijesh Singh
6)	National Council for Cement and Building Materials, Faridabad	Shri P. N. Ojha (Alternate)
7)	National Council for Cement and Building Materials, Faridabad	Shri Suresh Kumar (Alternate)
8)	National Council for Cement and Building Materials, Faridabad	Shri Puneet Kaura (Young Professional)
9)	Tandon Consultants Private Limited, New Delhi	Prof. Mahesh Tandon
10)	In Personal Capacity, New Delhi	Shri R. C. Wason

CED 46: P8: WG2-Working Group for Structural Design Provisions Working Group

S.No.	Organization	Member Name
1)	Indian Institute of Technology Madras, Chennai	Prof C. V. R. Murty (Convener)
2)	Creative Design Consultants and Engineers Private Limited, Ghaziabad	Shri Aman Deep
3)	Engineers India Limited, New Delhi	Shri Rajanji Srivastava
4)	Indian Institute of Technology Delhi, New Delhi	Shri Dipti Ranjan Sahoo
5)	Indian Institute of Technology Madras, Chennai	Prof Rupen Goswami
6)	Tandon Consultants Private Limited, New Delhi	Prof. Mahesh Tandon
7)	In Personal Capacity, New Delhi	Shri R. C. Wason
8)	In Personal Capacity, Ghaziabad	Shri A. K. Mittal
9)	In Personal Capacity, Faridabad	Shri V. V. Arora

CED 46: P8: WG3-Working Group for PSC Working Group

S.No.	Organization	Member Name
1)	Tandon Consultants Private Limited, New Delhi	Prof. Mahesh Tandon (Convener)
2)	Creative Design Consultants and Engineers Private Limited, Ghaziabad	Shri Aman Deep
3)	Freyssinet Prestressed Concrete Company Limited, Mumbai	Shri P. Y. Manjure
4)	Indian Institute of Technology Delhi, New Delhi	Dr. Dipti Ranjan Sahoo
5)	In Personal Capacity, New Delhi	Shri T. Viswanathan

ANNEX 10

[Item 2.2(j)]

COMPOSITION OF THE PANEL FOR STEEL, CED 46:P9

SI No.	NAME OF THE ORGANISATION	REPRESENTED BY	Participation in the last meetings		
			4 th	5 th	6 th
1)	In personal capacity, Chennai	Dr V. Kalyanaraman (<i>Convener</i>)	P	P	P
2)	Association of Consulting Civil Engineers (India), Bangalore	Shri Manoj Kawalkar Shri Rajkumar Kacharla (<i>Alternate</i>)	P	P	P
3)	Central Public Works Department, New Delhi	Shri Nagendra Prasad Shri Amrendra Kumar Jalan (<i>Alternate</i>)	A	P	P
4)	Creative Consultants & Engineers Pvt Ltd, Ghaziabad	Shri Aman Deep	P	P	A
5)	CSIR – Central Building Research Institute, Roorkee	Dr. Ajay Chourasia Dr. R. Siva Chidambaram (<i>Alternate I</i>) Dr. Chanchal Sonkar (<i>Alternate II</i>)	A	P	P
6)	CSIR-Structural Engineering Research Centre, Chennai	Dr G. S. Palani Dr Napa Prasad Rao (<i>Alternate I</i>) Dr M Sarvanan (<i>Alternate II</i>)	A	P	P
7)	Engineers India Limited, New Delhi	Smt. Papiya Mandal Shri Chandra Shekhar Sharma (<i>Alternate</i>) Shri Saptadip Sarkar (<i>Alternate II</i>)	P	P	P
8)	Indian Association of Structural Engineers, New Delhi	Dr. Harshavardhan Subbarao Dr Abhay Gupta (<i>Alternate</i>)	P	P	P
9)	Indian Institute of Technology Madras, Chennai	Dr S. Arul Jayachandran	P	P	P
10)	Institute for Steel Development and Growth, Kolkata	Shri Pydi Lakshmana Rao Shri Arijit Guha (<i>Alternate</i>) Shri M. M. Ghosh	P	P	P
11)	Interarch Building Products Pvt Ltd, Noida	Shri Gautam Suri Shri Sunil Pulikkal (<i>Alternate</i>)	P	P	P
12)	Jindal Steel and Power Limited, New Delhi	Shri Sanjay Nandanwar Shri Biju Mahima (<i>Alternate</i>)	P	P	P
13)	Kirby Building Systems India Limited, New Delhi	Dr. Padmaja Gokaraju	-	C	P
14)	Larsen and Toubro Ltd, Chennai	Shri T. Venkatesh Rao	P	A	P
15)	M. N. Dastur & Co Limited, Kolkata	Shri Satyaki Sen Shri Tapan Kumar Bhaumik (<i>Alternate</i>)	A	A	A
16)	MECON Limited, Ranchi	Shri A. Krishna Rao Shri C. Krishnam Raju (<i>Alternate</i>)	A	A	A
17)	Military Engineer Services, Engineer-in-Chief's Branch, Army	Shri S C Gupta Brig Ravi Reddy (<i>Alternate</i>)	P	P	A

SI No.	NAME OF THE ORGANISATION	REPRESENTED BY	Participation in the last meetings		
			4 th	5 th	6 th
	HQ, New Delhi				
18)	PEB Manufacturers' Association, Navi Mumbai	Shri Manish Garg	P	A	A
19)	Research, Designs and Standards Organization (Ministry of Railways), Lucknow	Shri Rajesh Kumar Srivastava Shri Srijan Tripathi (Alternate)	A	P	P
20)	Tata Consulting Engineers Limited, Mumbai	Shri Pratip Bhattacharya	A	A	A
21)	Tata Steel Ltd, Jamshedpur	Shri Hariharaputhiran H.	A	P	A
22)	The Institution of Engineers (India), Kolkata	Dr S Senthil Selvan Dr P R Kannan Rajkumar (Alternate)	P	P	P

ANNEX 11

[Item 2.2(k)]

COMPOSITION OF THE PANEL FOR PREFABRICATION AND SYSTEMS BUILDINGS, CED 46:P10

SI No	NAME OF THE ORGANISATION	REPRESENTED BY	Participation in Meeting No.		
			3 rd	4 th	5 th
1)	Larsen & Toubro Limited, Chennai	Shri K. Senou (Convener)	P	P	P
2)	Adlakha Associates Pvt Ltd, New Delhi	Shri P. K. Adlakha	C	P	P
3)	Anna University, Chennai	Dr. K. P. Jaya	-	-	C
4)	B.G. Shirke Construction Technology Pvt Ltd, Pune	Shri Yogesh P. Kajale Shri Sanjay M. Adsar (Alternate)		A	P
5)	Building Materials and Technology Promotion Council, New Delhi	Shri C. N. Jha	C	P	A
6)	Central Public Works Department, New Delhi	Shri Prem Mohan Shri Dinesh Kumar Ujjainia (Alternate)	A	P	P
7)	Creative Consultants & Engineers Pvt Ltd, Ghaziabad	Shri Aman Deep	P	A	A
8)	CSIR - Central Building Research Institute, Roorkee	Dr A.P. Chaurasia Shri Ashish Kapoor (Alternate I) Shri Siddharth Behera (Alternate II)	P	A	P
9)	CSIR - Structural Engineering Research Centre, Chennai	Dr J. Prabakar Dr K.N. Lakshmi Kandhan (Alternate I) Shri A. M. Sarath (Alternate II)	A	A	P
10)	Delhi Development Authority, New Delhi	Shri Ajay Kumar Agrawal Shri A. K. Singhal (Alternate)	C	P	A
11)	Indian Institute of Technology Hyderabad	Dr. Suriya Prakash	-	-	C
12)	Indian Institute of Technology Madras, Chennai	Prof Radhakrishna G. Pillai Dr Nikhil Bugalia (Alternate)	C	A	A
13)	Indian Association of Structural Engineers, New Delhi	Dr Mahesh Tandon Shri Alok Bhowmick (Alternate)	P	P	P
14)	Indian Concrete Institute, Chennai	Shri Rajkumar Pillai	C	P	A
15)	Innovela Building Solutions, Pune	Shri Saurabh Purandare	-	-	C
16)	Institute for Steel Development and Growth, Kolkata	Shri Arijit Guha	A	A	P
17)	Interarch Building Products Pvt Ltd, Noida	Shri Manish Kumar Garg Shri Gautam Suri (Alternate)	A	A	P
18)	Kirby Building Systems India Ltd, Hyderabad	Dr Padmaja Gokaraju	C	A	P

		Shri G. Venu Madhava Reddy (Alternate)			
19)	Larsen & Toubro Limited, Chennai	Shri C. K. Somaraju Shri Amit Barde (Alternate)	P	P	P
20)	Lloyd Insulations (India) Ltd, New Delhi	Shri Ajay Singh Shri Jitendra Kumar Jain (Alternate)	P	P	P
21)	Military Engineer Services, Engineer-in-Chief's Branch, Army HQ, New Delhi	Brig Ravi Reddy Col Jassar S. M. (Alternate)	P	P	A
22)	National Council for Cement and Building Materials, Ballabgarh	Shri Amit Trivedi Shri B. P. Ranga Rao (Alternate)	P	P	P
23)	PEB Manufacturers Association, Navi Mumbai	Nomination Awaited	-	C	-
24)	Precast India, Pune	Shri Kapilesh Bhate	-	-	C
25)	Precision Precast Solutions, Pune	Shri Dhananjay Bhosale Shri Rajendra R. Kulkarni (Alternate)	-	-	C
26)	Shirish Patel and Associates Consultants Pvt Ltd, Mumbai	Shri Shirish B. Patel - deceased Shri P. H. Srinivasachar (Alternate)	A	A	A
27)	Systems Building Technologists, New Delhi	Shri G. B. Singh		A	A
28)	Tata Bluescope Steel Ltd, Pune	Shri Krishnakant Rane	C	P	A
29)	The Indian Institute of Architects, Mumbai	Shri Chamarthi Rajendra Raju Shri Kurian George (Alternate I) Smt Vibha Shrivastava (Alternate II)	A	A	P
30)	The Institution of Engineers (India), Kolkata	Dr R. K. Bhandari Shri Hemant S. Vadalkar (Alternate)	A	A	P
31)	TRC Engineering India Pvt Ltd., Bengaluru	Shri Arjun Mudambi	-	-	C
32)	In Personal Capacity, Hyderabad	Shri M. P. Naidu	P	P	P

ANNEX 12

[Item 2.2(m)]

COMPOSITION OF THE PANEL FOR CONSTRUCTIONAL PRACTICES AND SAFETY, CED 46:P11

SI No	NAME OF THE ORGANISATION	REPRESENTED BY	Participation in Meeting No.		
			3 rd	4 th	5 th
1)	In Personal Capacity, New Delhi	Shri H. S. Dogra (<i>Convener</i>)	P	P	P
2)	Adlakha Associates Pvt Ltd, Delhi	Shri P. K. Adlakha	P	P	P
3)	Builders Association of India, Mumbai	Shri Neerav Parmar Shri S. Senthil (<i>Alternate</i>)	A	P	A
4)	Central Public Works Department, New Delhi	Shri Prem Mohan Shri Dinesh Kumar Ujjainia (<i>Alternate</i>) Shri P. Bhagat Singh (<i>Alternate II</i>)	P	A	A
5)	CSIR - Central Building Research Institute, Roorkee	Shri S. K. Negi Shri S. K. Singh (<i>Alternate I</i>) Dr Veena Chaudhary (<i>Alternate II</i>)	A	A	P
6)	Directorate General Factory Advice Service and Labour Institutes, Mumbai	Shri S N Borkar Shri Saket Kumar Pandey (<i>Alternate</i>)	A	A	P
7)	Engineers India Limited, New Delhi	Shri Indrajit Neog Shri Brihabhan Tiwari (<i>Alternate</i>)	P	A	P
8)	Hindustan Construction Company, Mumbai	Shri Abid Sheikh Shri Praveen H Shettigar (<i>Alternate</i>)	A	A	P
9)	Hindustan Prefab Limited, New Delhi	Shri Satish Kumar Jain	C	P	P
10)	Indian Association of Structural Engineers, New Delhi	Shri Manoj K. Mittal Shri Alok Bhowmick (<i>Alternate</i>)	A	P	P
11)	Indian Buildings Congress, New Delhi	Shri Deepak Narayan	C	P	A
12)	Indian Demolition Association, Chennai	Shri Mohan Ramanathan Shri Jigar Chheda (<i>Alternate</i>)	A	A	P
13)	Indian Geological Society, New Delhi	Dr H. N. Ramesh Prof Satyendra Mittal (<i>Alternate I</i>) Dr Meghna Sharma (<i>Alternate II</i>)	A	A	A
14)	Indian Institute of Technology	Dr Koshy Vargese	A	A	A

SI No	NAME OF THE ORGANISATION	REPRESENTED BY	Participation in Meeting No.		
			3 rd	4 th	5 th
	Madras, Chennai				
15)	Institute of Wood Science and Technology, Bengaluru	Shri V. R. Ramkumar Shri Anand Nandanwar (Alternate)	P	A	P
16)	Indian Society for Trenchless Technology, New Delhi	Shri P. R. Swarup Shri Aaroh Swarup (Alternate) Shri Satender Singh Negi (Alternate II)	A	A	P
17)	Larsen and Toubro Ltd, Chennai	Shri M. Nachiappan	C	A	A
18)	Military Engineer Services, Engineer-in- Chief's Branch, Army HQ, New Delhi	Shri S. C. Gupta Shri Manoj Bapna (Alternate)	A	A	P
19)	National Building Construction Corporation, New Delhi	Shri C. Mani Shri Manoj Kumar (Alternate)	P	P	A
20)	National Institute of Construction Management and Research, Hyderabad	Dr R. Sathish Kumar Shri Onkar Krishnakant Chothe	A	A	A
21)	National Safety Council, Navi Mumbai	Shri A. V. Hotkar Shri Swapnil U. Pupilwad (Alternate)	A	A	P
22)	School of Planning and Architecture, New Delhi	Dr V. K. Paul	P	P	A
23)	Tata Projects, Mumbai	Nomination Awaited	-	-	-
24)	The Indian Institute of Architects, Mumbai	Shri Sandeep Bawdekar Shri Vishwas Kotkar (Alternate I) Smt Darshana Dubhashi (Alternate II)	P	A	P
25)	The Institution of Engineers (India), Kolkata	Er. Prem Kumar Gupta Er. Sanjay Kumar (Alternate)	P	P	A
26)	ITD Cementation Ltd, Kolkata	Nomination Awaited	-	-	-
27)	In Personal Capacity, Dehradun	Shri K. S. Pruthi	C	A	A
28)	In personal Capacity, Thiruvananthapuram	Shri Jose Kurian	P	A	P
29)	In Personal Capacity, Bangalore	Shri P. Krishnan	A	A	P
30)	In Personal Capacity, Chennai	Shri M. P. Naidu	C	A	A
31)	In Personal Capacity, Thiruvananthapuram	Shri V. Suresh	A	P	P
32)	In Personal Capacity, New Delhi	Shri Balbir Verma	C	P	P

CED 46: P11: WG1-WG for Expert Group to Revise Part 7 of NBC Working Group

S.No.	Organization	Member Name
1)	Central Public Works Department, New Delhi	Shri Dinesh K Ujjainia (Convener)
2)	Builders Association of India, Mumbai	Shri S. Senthil Kumar
3)	Engineers India Limited, New Delhi	Shri Indrajit Neog
4)	Indian Geotechnical Society, New Delhi	Prof H. N. Ramesh
5)	L&T Construction, Chennai	Shri M. Nachiappan
6)	Military Engineer Services, New Delhi	Shri S C Gupta
7)	TATA Projects Limited, Noida	Shri Yogesh Saran Srivastava

ANNEX 13

[Item 2.2(n)]

**COMPOSITION OF THE PANEL FOR LIGHTING AND NATURAL VENTILATION,
CED 46:P12**

SI No.	NAME OF THE ORGANISATION	REPRESENTED BY	ATTENDANCE		
			4 th	5 th	6 th
1)	CEPT University, Ahmedabad	Prof Rajan Rawal (Convener)	P	P	P
2)	AB Initio, Thane	Shri Shirish Deshpande	P	P	P
3)	Ashok B Lall Architects, New Delhi	Shri Ashok B. Lall Ms Girisha Sethi (Alternate)	A	P	P
4)	Bureau of Energy Efficiency, Ministry of Power, New Delhi	Shri Saurabh Diddi Ms Meenal Anand (Alternate)	A	P	A
5)	Central Public Works Department, New Delhi	Shri A.K. Sharma Shri Saju Siddharthan (Alternate)	P	A	A
6)	CEPT University, Ahmedabad	Shri Yash Shukla Dr Minu Agarwal (Alternate)	P	P	P
7)	Chandigarh College of Architecture, Chandigarh	Nomination Awaited	P	A	P
8)	CSIR-Central Building Research Institute, Roorkee	Shri Nagesh Babu Balam Shri Naveen Nishant (Alternate I) Shri Anup Kumar Prasad (Young Professional)	A	P	P
9)	CSIR-National Physical Laboratory, New Delhi	Dr Parag Sharma Shri V. K. Jaiswal (Alternate)	A	P	A
10)	Directorate General Factory Advice Service and Labour Institute, Mumbai	Shri Vipul Mishra Shri Sourish Datta Choudhury (Alternate)	A	P	P
11)	Edspring Technologies, Noida	Shri Ankur Khandelwal	A	P	A
12)	Indian Institute of Technology Delhi (Centre for Energy Studies), New Delhi	Prof. Dibakar Rakshit	A	A	P
13)	Indian Institute of Technology Madras, Chennai	Dr Benny Raphael	A	P	P
14)	Indian Institute of Technology Roorkee, Roorkee	Dr E. Rajashekhar	A	A	A

SI No.	NAME OF THE ORGANISATION	REPRESENTED BY	ATTENDANCE		
			4 th	5 th	6 th
15)	Indian Society for Lighting Engineers, New Delhi	Dr Rajat Mondal Shri B. M. Bhatia (Alternate)	A	P	A
16)	Kaleidoscope, Noida	Shri Amor Kool	P	P	P
17)	Larsen & Toubro Ltd (Sustainability Group), Chennai	Dr S. Rajkumar	A	A	A
18)	Military Engineer Services, Engineer-in-Chief's Branch, Army HQ, New Delhi	Shri Ram Kumar Param Shri Ashok Kumar (Alternate)	P	A	P
19)	Ministry of New and Renewable Energy, New Delhi	Dr A. K. Tripathi Shri H. C. Borah (Alternate)	A	P	P
20)	Municipal Corporation of Greater Mumbai, Mumbai	Executive Engineer Shri R. K. Rahate (Alternate)	A	A	A
21)	School of Planning and Architecture, New Delhi	Prof V. K. Paul Prof Anil Dewan (Alternate)	A	A	A
22)	Signify Innovations India Ltd	Shri Nitish Poonia Shri Shrikant Dattatreya Phanse (Alternate I) Ms Megha Soni (Young Professional)	P	P	P
23)	Space Design Consultants, New Delhi	Prof Vinod Kumar Gupta	A	P	P
24)	The Indian Institute of Architects, Mumbai	Shri Gyanendra Singh Shekhawat Shri Raneer Vedamuthu (Alternate I) Smt Leena Nimbalkar (Young Professional)	A	P	A
25)	The Institution of Engineers (India), Kolkata	Shri Ram Niwas Rajpoot	A	P	P
26)	In personal capacity, Chandigarh	Prof Pradeep Bhagat	-	-	-
27)	In personal capacity, Gurugram	Smt. Sudheshna Mukhopadhyay	A	P	A
28)	In Personal Capacity, Roorkee	Dr P. K. Bhargava	A	A	A
29)	In Personal Capacity, Roorkee	Dr Ishwar Chand	P	A	A

CED 46: P12: WG1-Working Group for Orientation Working Group

S.No.	Organization	Member Name
1)	Ashok B Lall Architects, New Delhi	Prof Ashok B. Lall (<i>Convener</i>)
2)	Ministry of New and Renewable Energy, New Delhi	Shri A. K. Tripathi

CED 46: P12: WG2-Working Group for Lightning Working Group

S.No.	Organization	Member Name
1)	CEPT University, Ahmedabad	Smt Minu Agarwal (<i>Convener</i>)
2)	CSIR - Central Building Research Institute, Roorkee	Shri Anup Kumar Prasad

CED 46: P12: WG3-Working Group for Ventilation Working Group

S.No.	Organization	Member Name
1)	CEPT University, Ahmedabad	Shri Rajan Rawal (<i>Convener</i>)
2)	Military Engineer Services, New Delhi	Shri Ashok Kumar

ANNEX 14

[Item 2.2(p)]

**COMPOSITION OF THE PANEL FOR ELECTRICAL INSTALLATIONS,
CED 46:P13**

Sl No.	NAME OF THE ORGANISATION	REPRESENTED BY	ATTENDANCE		
			4 th	5 th	6 th
1)	In Personal Capacity, Bengaluru	Shri J. N. Bhavani Prasad (Convener) Shri N. Nagarajan (proposed Convener)	P	P	P
2)	Aeon Consultants, New Delhi	Shri Puneet Gupta Shri Pravesh Kumar Pundir (Alternate)	C	P	P
3)	Bureau of Energy Efficiency, New Delhi	Shri Saurabh Diddi Shri Ashish Saraswat (Alternate)	P	A	P
4)	Cape Electric India Pvt Ltd, Kanchipuram	Shri S. Gopa Kumar	A	P	P
5)	C&S Electric Limited, New Delhi	Shri Nitin Rastogi Shri Sandeep Kumar Gupta (Alternate)	A	A	A
6)	Central Electricity Authority, New Delhi	Shri R.K. Verma Shri A. K. Rajput (Alternate)	P	P	A
7)	Central Public Works Department, New Delhi	Shri Vikas Rana Shri R. P. Gupta (Alternate)	A	P	A
8)	Chief Electrical Inspectorate, Govt of Tamil Nadu, Chennai	Shri Sandeep A. Patil, CEI Shri Ashok Ganapati Kanase SE	P	A	P
9)	DEHN India Pvt Ltd, Gurgaon	Shri Samir Shankar Shri Manu Mukundan (Alternate)	C	P	P
10)	Delhi Metro Rail Corporation, New Delhi	Shri Deepak Kumar Gupta Shri Rajeev Saxena (Alternate)	P	A	P
11)	Engineers India Ltd, New Delhi	Shri Harish Kumar (Alternate)	A	A	P
12)	Forum of Critical Utility and Services, Bengaluru	Shri Maxim Norbet Pinto	A	A	P
13)	Indian Institute of Technology Madras, Chennai	Prof. Ashok Jhunjhunwala	A	A	A
14)	ITC Ltd, Gurgaon	Shri I. K. Suresh	P	A	A
15)	Larsen & Toubro Ltd, Chennai	Shri D. Maheswaran Shri K K Jembu Kailas (Alternate)	P	A	A
16)	Military Engineer Services, Engineer-in-Chief's Branch, Army HQ, New Delhi	Shri R K Param Shri Arvind Kumar (Alternate)	A	A	A
17)	Ministry of New and Renewable Energy, New Delhi	Shri H. R. Khan Shri G. Upadhyay (Alternate)	A	P	A
18)	OBO Bettermann, Chennai	Shri Arul Prakash Dr K Janaki Raman (Alternate)	C	P	P

SI No.	NAME OF THE ORGANISATION	REPRESENTED BY	ATTENDANCE		
			4 th	5 th	6 th
19)	Proion Consultants, New Delhi	Smt Shruti Goel	P	P	P
20)	Public Works Department (Electrical Division), Govt of Maharashtra, Mumbai	Shri Sandeep Arvind Patil Shri Hemant Sali (Alternate)	P	A	P
21)	Schneider Electric India Pvt Ltd, Gurgaon	Shri Debdas Goswami	P	P	A
22)	Siemens Ltd, Chennai	Shri Vijay Wanwe	A	A	A
23)	Solar Energy Corporation of India, New Delhi	Shri C. K. Singh	P	A	A
24)	Tata Motors Ltd, Mumbai	Nomination Awaited	—	—	—
25)	The Institution of Engineers (India), Kolkata	Dr G Madhusudanan Dr S Senthilkumar (Alternate)	A	A	P
26)	In Personal Capacity, New Delhi	Shri N. Nagarajan	P	A	A
27)	M/s National Federation of Engineers for Electrical Safety, Tamil Nadu	Nomination Awaited	—	—	C
28)	M/s Maple Engineering Design Services, Bengaluru	Nomination Awaited	—	—	C
29)	M/s International Copper Alliance	Nomination Awaited	—	—	C

CED 46: P13: WG2-Working Group for Electric Vehicles; Battery Storage; Load Factor Working Group

SI no.	Organization	Member Name
1)	In Personal Capacity, Bengaluru	Shri J. N. Bhavani Prasad (Convener)
2)	Automotive Research Association of India, Pune	Shri A. A. Deshpande
3)	Cape Electric Private Limited, Kancheepuram	S. Gopa Kumar
4)	Central Public Works Department, New Delhi	Shri Vikas Rana
5)	Directorate of Maharashtra Fire Services, Mumbai	Santosh S. Warick

6)	India Energy Storage Alliance, Pune	Shri Debi Prasad Dash
7)	Indian Institute of Technology Madras, Chennai	Prof Ashok Jhunjunwala
8)	Tata Motors Limited, Pune	Senthilnathan Thangavelu
9)	In Personal Capacity, New Delhi	Chaitanya Kumar Varma

**ED 46: P13: WG3-Working Group for revision of the provisions in the
Chapter Working Group**

Sl no.	Organization	Member Name
1)	Cape Electric Private Limited, Kancheepuram	Shri S. Gopa Kumar (<i>Convener</i>)
2)	Aeon Integrated Building Design Consultants, Noida	Shri Puneet Gupta
3)	Central Electricity Authority, New Delhi	Shri Ashok Kumar Rajput
4)	Central Public Works Department, New Delhi	Shri Vikas Rana
5)	Government of Tamil Nadu, Chief Electrical Inspectorate, Chennai	Shri P. Palani
6)	Ministry of New and Renewable Energy, New Delhi	Shri A. K. Tripathi
7)	National Federation of Engineers for Electrical Safety, Chennai	Shri Abhishek Singh
8)	Proion Consultants, New Delhi	Smt Shruti Goel
9)	Public Works Department, Government of Maharashtra, Mumbai	Shri Hemant M Sali
10)	Schneider Electric India Private Limited, Gurugram	Shri Debdas Goswami

CED 46: P13: WG4 – Working Group for Solar Energy and Power from Multiple Sources related protection and Earthing Working Group

Sl no.	Organization	Member Name
1)	Proion Consultants, New Delhi	Smt Shruti Goel (<i>Convener</i>)
2)	Cape Electric Private Limited, Kancheepuram	Shri S. Gopa Kumar
3)	Central Public Works Department, New Delhi	Shri Vikas Rana
4)	Government of Tamil Nadu, Chief Electrical Inspectorate, Chennai	Shri P. Palani
5)	Ministry of New and Renewable Energy, New Delhi	Shri A. K. Tripathi
6)	Obo Bettermann India Private Limited, Oragadam	Shri K. Janaki Raman
7)	Public Works Department, Government of Maharashtra, Mumbai	Shri Hemant M Sali
8)	Solar Energy Corporation of India Limited, New Delhi	Shri C. K. Singh
9)	The Institution of Engineers (India), Kolkata	Dr S Senthilkumar

ANNEX 15

[Item 2.2(q)]

COMPOSITION OF THE PANEL FOR AIR-CONDITIONING, HEATING, AND MECHANICAL VENTILATION CED 46:P14

Sl No.	NAME OF THE ORGANIZATION	REPRESENTED BY	ATTENDANCE		
			7 th	8 th	9 th
1)	Indian Society of Heating, Refrigerating and Air Conditioning Engineers, New Delhi	Shri Ashish Rakheja (Convener)	P	P	A
2)	AEON Integrated Building Design Consultants LLP, Noida	Shri Saurabh Goyal Shri Anurag Joshi (Alternate)	P	A	A
3)	ASHRAE India Chapter, New Delhi	Shri Rajesh Jain Shri Kanak Raj (Alternate)	A	A	A
4)	Blowtech Air Devices Pvt Ltd, Noida	Shri Sushil K. Choudhury	A	P	P
5)	Blue Star Limited, Chennai	Shri B. Thiagarajan Shri Srinivas Reddy	A	P	A
6)	Bureau of Energy Efficiency, New Delhi	Shri Saurabh Diddi Ms Meenal Anand (Alternate) Shri Jotham Prabhu (Alternate II)	P	P	A
7)	Caire Consult, Greater Noida	Shri Ankit Jain	P	P	P
8)	Camfil India Pvt. Ltd., Gurugram	Shri Anil Chopra	P	P	P
9)	Carrier Air-conditioning and Refrigeration Ltd, Gurgaon	- Shri Bimal Tandon (Alternate)	A	P	A
10)	CSIR - Central Building Research Institute, Roorkee	Shri Nagesh Babu Balam Dr Shorab Jain (Alternate I) Dr Chandan Swaroop Meena (Alternate II)	P	P	P
11)	Central Public Works Department, New Delhi	Shri Vikas Rana Shri R. P. Gupta (Alternate)	A	A	A
12)	CEPT University, Ahmedabad	Dr Yash Shukla Shri Rajan Rawal (Alternate)	P	P	P
13)	Climaveneta Climate Technologies (P) Ltd, Bengaluru	Shri Anil Dev Shri Nanthagopalan T K (Alternate I) Shri Akshay Dev (Alternate II)	P	A	A
14)	Comfort Care System Pvt Ltd, New Delhi	Shri Yogesh Malhotra	P	P	P

Sl No.	NAME OF THE ORGANIZATION	REPRESENTED BY	ATTENDANCE		
			7 th	8 th	9 th
15)	Daikin Air-conditioning India Pvt Ltd, Gurgaon	Shri Kanwaljeet Jawa Shri Sanjay Goyal (Alternate I) Shri Gaurav Mehtani (Alternate II)	P	P	P
16)	Delhi Fire Services, Govt of NCT of Delhi, New Delhi	Shri Atul Garg Shri Mukesh Verma (Alternate)	A	A	A
17)	Delhi Metro Rail Corporation, New Delhi	Shri Ashok Tewari Shri Rajesh Jain (Alternate)	P	A	A
18)	Eskayem Consultants Pvt Ltd, Mumbai	Revised Nomination Awaited	A	P	P
19)	Forum of Critical Utility and Services, Bengaluru	- Smt. Nivedita Jadhav (Alternate)	P	P	A
20)	Indian Green Building Council, Hyderabad	Shri Praveen Kumar Soma	A	A	A
21)	Indian Institute of Technology Delhi, New Delhi	Shri Mukesh Khare	A	A	A
22)	Indian Society for Heating, Refrigeration & Air-Conditioning Engineer, New Delhi	Shri K. Ramachandran Smt. Nivedita Jadhav (Alternate)	P	P	P
23)	International Ground Source Heat Pump Association, India Chapter, New Delhi	Shri Richie Mittal Shri Madhusudhan (Alternate)	P	P	P
24)	Kanwal Industries Corporation, Noida	Shri Pawandeep Singh Shri Jaiveer Singh (Alternate)	A	A	A
25)	Kirloskar Chillers Pvt Ltd, Pune	Shri Gaurang Dabholkar Shri Amey Majgaonkar (Alternate)	A	A	A
26)	Malaviya National Institute of Technology, Jaipur	Dr Jyotirmay Mathur	P	P	P
27)	Military Engineer Services, Engineer-in-Chief's Branch, Army HQ, New Delhi	Shri R K Param Shri Arvind Kumar (Alternate)	A	A	P
28)	Ministry of Environment, Forest and Climate Change	Nomination Awaited	-	-	-
29)	Proion Consultants, New Delhi	Shri Sandeep Goel	A	A	P
30)	Schneider Electric India Pvt Ltd, Gurgaon	Shri Himanshu Nigam Shri Devaki K. N. (Alternate)	P	A	A
31)	Sterling India Consulting Engineers, New Delhi	Shri G.C. Modgil Ms Khushboo Modgil (Alternate)	P	A	A

Sl No.	NAME OF THE ORGANIZATION	REPRESENTED BY	ATTENDANCE		
			7 th	8 th	9 th
32)	Shinryo Suvridha Engineers India Private Limited, Noida	Shri Ashok K. Virmani Shri Sanjay Mookerjee (Alternate)	P	P	A
33)	The Institution of Engineers (India), Kolkata	Shri Pradeep Chaturvedi Shri Anirban Datta (Alternate)	A	P	A
34)	Underwriters Laboratory India, Bengaluru	Shri V. Manjunath Shri Satish Kumar (Alternate I) Smt Pallavi Tripathi (Alternate II)	P	A	P
35)	Voltas Limited, New Delhi	Shri Ashwani Sharma Shri Saurav Dixit (Alternate)	A	A	A
36)	In Personal Capacity, New Delhi	Dr R. S. Agarwal	P	P	P
37)	In Personal Capacity, Gurgaon	Shri Prabhat Goel	A	P	P
38)	In Personal Capacity, Roorkee	Dr P. K. Bhargava	P	A	A
39)	AIRCON Engineers (P) Ltd., New Delhi	Shri K. D Singh			C
40)	CBRE South Asia Private Limited, Gurgaon	Shri Aneesh Kadyan			C
41)	Vision Electro Mechanical Consultants Private Limited, Pune	Dr. Nitin Deodhar			C

CED 46: P14: WG1- Members of the various Core Groups

S.No.	Organization	Member Name
1)	ACR Project Consultants Private Limited, Pune	Shri Harshal Surange
2)	Adani Aerospace and Defence Limited, Bengaluru	Shri Pramod Prabhakar
3)	Anna University, Chennai	Dr R Saravanan
4)	Blowtech Air Devices Private Limited, Noida	Shri Sushil K. Choudhury
5)	Breathe Easy Labs, New Delhi	Shri Barun Agarwal
6)	CBRE India, Gurugram	Shri Aneesh Kadyan
7)	CEPT University, Ahmedabad	Shri Yash Shukla
8)	Degree Day Private Limited, Madhya Pradesh	Shri Nishant Gupta
9)	Dynacraft Air Controls, Mumbai	Shri V Krishnan
10)	ELM Enterprises Private Limited, Delhi	Shri Prashant Desai
11)	ENOVA, Mumbai	Ms Sangita Jhangiani
12)	ESKAYEM Consultants Private Limited, Mumbai	Shri Goutham Pitchikala
13)	Envirocon Engineering Services, New Delhi	Smt Samta Bajaj
14)	Genex Consultants, Hyderabad	Shri Chandrasekar Narayanan
15)	Godrej & Boyce Manufacturing Company Limited, Mumbai	Shri Mukesh Suthar
16)	Impec Filters Private Limited, Chennai	Shri Shankar Rajasekaran
17)	Indian Society of Heating, Refrigerating and Air Conditioning Engineers, New Delhi	Shri Ashish Rakheja
18)	Indian Society of Heating, Refrigerating and Air Conditioning Engineers, New Delhi	Shri K. Ramachandran (Alternate)
19)	Indian Society of Heating, Refrigerating and Air Conditioning Engineers, New Delhi	Smt Nivedita Jadhav (Alternate)
20)	International Ground Source Heat Pump Association, New Delhi	Shri Madhusudan Rapole
21)	Lead Consultancy and Engineering Services (India) Private Limited, Bengaluru	Shri M.Selavarasu
22)	Malaviya National Institute of Technology, Jaipur	Dr. Jyotirmay Mathur
23)	Overdrive Engineering Private Limited, New Delhi	Shri Richie Mittal
24)	Paharpur Cooling Tower Limited, Kolkata	Shri Varun Swarup

25)	Proion Consultants, New Delhi	Shri Sandeep Goel
26)	Reliance Industries Limited, Bengaluru	Shri Ajaj Kazi
27)	SSS Placement Consultants & Event Management, New Delhi	Shri C.Subramaniam
28)	Sanelac Consultants Private Limited, New Delhi	Shri Varun Jain
29)	Sterling India, New Delhi	Shri G. C. Modgil
30)	The Chemours India Private Limited, Gurugram	Shri Vikas Mehta
31)	UL India Private Limited, Bengaluru	Shri V. Manjunath
32)	Univac Environment Systems Private Limited, Mumbai	Shri Vikram Murthy
33)	In Personal Capacity	Shri Avinash G. Shaligram
34)	In Personal Capacity, Gurugram	Shri Prabhat Goel

ANNEX 16

[Item 2.2(r)]

COMPOSITION OF THE PANEL FOR ACOUSTICS, SOUND INSULATION AND NOISE CONTROL, CED 46:P15

Sl No.	NAME OF THE ORGANIZATION	REPRESENTED BY	ATTENDANCE		
			3 RD	4 th	5 th
1)	In Personal Capacity, Noida	Shri Gautam Suri (Convener)	P	P	P
2)	All India Radio, New Delhi	Ms Anuradha Aggarwal Shri Rajesh Kumar Shri S Hyder (Alternate) : Superannuated	P	P	A
3)	Central Public Works Department, New Delhi	Shri A.K. Sharma Shri Saju Siddharthan (Alternate)	P	A	A
4)	CSIR-Central Building Research Institute, Roorkee	Shri Soraj Kumar Panigarhi Shri Anup Kumar Prasad (Alternate I) Shri Kanti Lal Solanki (Alternate II)	A	A	P
5)	CSIR-National Physical Laboratory, New Delhi	Dr Naveen Garg Dr Chitra Gautam(Alternate)	P	P	P
6)	Indian Institute of Science, Bengaluru	Prof M. L. Munjal	A	A	P
7)	Indian Institute of Technology Kharagpur, Kharagpur	Dr A. R. Mohanty	P	A	P
8)	Indian Institute of Technology Madras, Chennai	Prof S. Narayanan Prof P. Chandramouli (Alternate)	A	A	P
9)	Indian Institute of Technology Roorkee, Roorkee	Dr E. Rajasekar	—	C	P
10)	Military Engineer Services, E-in-C's Branch, Army HQ, New Delhi	Shri Manoj Bapna Shri M. K. Deepak Shri P.K. Jain	P	P	P

Sl No.	NAME OF THE ORGANIZATION	REPRESENTED BY	ATTENDANCE		
			3 RD	4 th	5 th
		Col. N. Chakraborty (Alternate)			
11)	P. S. Subramanian Associates, Chennai	Dr S. Kandaswamy Dr P. Senthil Kumar (Alternate)	A	A	P
12)	School of Planning and Architecture, New Delhi	Prof Shuvojit Sarkar	P	A	P
13)	The Indian Institute of Architects, Mumbai	Shri B. Sudhir Shri Vikas Dubey (Alternate I) Shri Shital Prashant Nemane (Alternate II)	P	P	P
14)	The Institution of Engineers (India), Kolkata	Er. P K Adlakha	P	P	P

CED 46: P15: WG1-Expert Group under Panel for Acoustics, Sound Insulation and Noise Control Working Group

S.No.	Organization	Member Name
1)	CSIR - National Physical Laboratory, New Delhi	Dr. Naveen Garg
2)	Indian Institute of Science, Bengaluru	Prof M. L. Munjal
3)	Indian Institute of Technology Madras, Chennai	Prof S. Narayanan
4)	Indian Institute of Technology Roorkee, Roorkee	Shri E. Rajasekar
5)	PS Subramanian Associates, Chennai	Dr S. Kandaswamy
6)	Suri & Suri Consulting Engineers, Noida	Shri Gautam Suri
7)	The Indian Institute of Architects, New Delhi	Shri B. Sudhir

ANNEX 17

[Item 2.2(s)]

**COMPOSITION OF THE PANEL FOR INSTALLATION OF LIFTS, ESCALATORS
AND MOVING WALKS CED 46:P16**

SI No.	NAME OF THE ORGANISATION	REPRESENTED BY	ATTENDANCE		
			3 rd	4 th	5 th
1)	TAK Consulting Pvt Ltd, Mumbai	Shri T. A. K. Mathews (Convener)	P	P	P
2)	Central Public Works Department, New Delhi	Shri Vikas Rana Shri R. P. Gupta (Alternate)	P	P	A
3)	Chief Electrical Inspectorate, Govt of Tamil Nadu, Chennai	Shri G. Joseph Arockiadoss Shri P. Palani (Alternate)	P	A	A
4)	Delhi Development Authority, New Delhi	Shri Sanjay Kumar Khare Shri K. P. Yadav (Alternate)	P	A	P
5)	Delhi Fire Service, Govt of NCT of Delhi, New Delhi	Shri Atul Garg	A	A	A
6)	Directorate of Maharashtra Fire & Emergency Services, Mumbai	Shri Santosh Warick Shri Kiran Hatyal (Alternate I)	A	P	P
7)	ECE Industries Limited, Ghaziabad	Shri Amit Kachroo Shri Anurag Manglik (Alternate I)	P	P	P
8)	Elevator and Escalator Component Manufacturing Association of India (EECMAI), Chennai	Shri Harish A Nakman Shri Abey George (Alternate I)	A	A	P
9)	Electrical Inspectorate, Govt of NCT of Delhi, New Delhi	Shri Mukesh Kumar Sharma Shri Jogender Singh (Alternate)	A	P	A
10)	Fujitec India Pvt Ltd, Chennai	Shri R. Rajesh Shri S Manokar (Alternate)	A	P	P
11)	Indian Electrical and Electronics Manufactures' Association (IEEMA), Delhi	Nomination Awaited	-	-	-
12)	IIEEMA Elevator Division, Bengaluru	Shri P. K. Dixit Shri Rushad Divecha (Alternate I) Shri Uttam Kumar (Alternate II)	A	A	P
13)	Inspectorate of Lifts, Directorate of Electricity, Kolkata	Nomination Awaited	-	-	-

SI No.	NAME OF THE ORGANISATION	REPRESENTED BY	ATTENDANCE		
			3 rd	4 th	5 th
14)	Johnson Lifts Pvt Ltd, Chennai	Shri T. Subramanian Shri V. Karthikeyan (Alternate I) Shri Sachin More (Alternate II)	P	P	P
15)	KONE Elevators India Limited, Chennai	Shri P. Gurumoorthy Shri U. Viswanathan (Alternate I) Shri Balaji K (Alternate II)	P	P	A
16)	Military Engineer Services, Engineer-in- Chief's Branch, Army HQ, New Delhi	Shri Man Mohan Mehrotra Shri Arvind Kumar (Alternate)	P	A	A
17)	Maharashtra Energy Department, Govt. of Maharashtra, Mumbai	Shri Sandeep A. Patil Shri Uday Dambe (Alternate)	A	A	P
18)	National Building Construction Corporation, New Delhi	Shri Ram Bachan Shri Tej Prakash Dhabhai (Alternate)	A	A	A
19)	Otis Elevator Company (India) Limited, Bengaluru	Shri Abhijit Dandekar Shri Shrihari Vispute (Alternate I) Shri Praveena Siddaramanna (Alternate II)	P	P	P
20)	Public Works Department, Govt of Maharashtra, Mumbai	Shri Sandeep A. Patil Shri Sanjay Bhasme (Alternate) Shri Uday Dambe (Alternate II)	P	P	A
21)	Schindler India Pvt Limited, Mumbai	Shri Nimish Deshpande Shri Ronnie Dante (Alternate) Shri Rajagopalan Renganathan (Alternate II) Shri Nitin Kadam (Alternate II)	P	P	P
22)	TAK Consulting Pvt Ltd, Mumbai	Shri Gaurav Ghag Shri Pranali Pawaskar (Alternate I)	A	P	P
23)	Tipnis Consultancy, Mumbai	Shri P. M. Tipnis	-	-	C
24)	TK Elevators (Thyssenkrupp), New Delhi	Shri Vishnu Parashar Shri Deepak Balani (Alternate I)	A	A	P
25)	The Indian Institute of Architects, New Delhi	Shri Prakash Deshmukh Shri M R Kumarchandra (Alternate I) Shri Anagha Vishwas Kotkar (Alternate II)	A	P	P
26)	The Institution of Engineer (India), Kolkata	Dr R.K. Dave	A	A	A
27)	Wohr Parking Systems Pvt. Ltd., Pune	Nomination Awaited	-	-	-
28)	In personal capacity, New Delhi	Shri S.K. Dheri	P	P	A

ANNEX 18

[Item 2.2(t)]

COMPOSITION OF THE PANEL FOR PLUMBING SERVICES, CED 46:P17

SI No.	NAME OF THE ORGANISATION	REPRESENTED BY	ATTENDANCE		
			3 rd	4 th	5 th
1)	Indian Plumbing Association, New Delhi	Shri B. S. Aswathnarayan (Convener)	P	P	P
2)	Brihan Mumbai Licenced Plumbers Association, Mumbai	Shri D. K. Daiya Shri B. M. Shah (Alternate)	A	A	P
3)	Central Ground Water Board, Faridabad	Member (SML) Regional Director (Alternate)	A	A	A
4)	Central Pollution Control Board, New Delhi	Dr A. B. Akolkar Dr Sanjeev Agrawal (Alternate)	P	A	P
5)	Central Public Health and Environmental Engineering Organisation, New Delhi	Dr Ramakant Shri Vipin Kumar Patel (Alternate)	A	A	A
6)	Central Public Works Department, New Delhi	Chief Engineer (CSQ) Superintending Engineer (TAS) (Alternate)		P	P
7)	CSIR-Central Building Research Institute, Roorkee	Shri Kishore Kulkarni Shri Naveen Nishant (Alternate I) Dr Veena Chaudhary (Alternate II)	A	A	P
8)	CSIR-National Environmental Engineering Research Institute, Nagpur	Shri A. S. Dubey Shri M. Karthik (Alternate)	A	A	P
9)	Delhi Development Authority, New Delhi	Shri K S Meena Shri Pankaj Kumar Verma (Alternate)	P	P	P
10)	Delhi Jal Board, New Delhi	Chief Engineer (Central & North)	A	P	A
11)	Forum of Critical Utility Services, Bengaluru	Nomination Awaited	-	-	-
12)	Gas Authority of India Limited, New Delhi	Nomination Awaited	-	-	-
13)	Indian Institute of Technology Guwahati, Assam	Nomination Awaited Shri H. R. Ranganath (Alternate)	A	P	A

SI No.	NAME OF THE ORGANISATION	REPRESENTED BY	ATTENDANCE		
			3 rd	4 th	5 th
	Indian Plumbing Association, New Delhi				
14)	Indore Municipal Corporation, Indore	Nomination Awaited	-	-	-
15)	Indraprastha Gas Ltd, New Delhi	Shri Pankaj Sharma Shri Avijit Narayan (Alternate)	P	P	P
16)	Mahanagar Gas Ltd, Mumbai	Nomination Awaited	-	-	-
17)	Indian Plumbing Association, New Delhi	Shri B. S. Aswathnarayan (Convener)	P	A	P
18)	Maple Engineering Design Services (India) Pvt Ltd, Bengaluru	Shri H. R. Ranganath	A	A	A
19)	MKG Consultants, New Delhi	Shri M. K. Gupta Shri Nishant Gupta (Alternate I) Shri Himanshu Parihar (Alternate II)	A	A	P
20)	Military Engineer Services, Engineer-in- Chief's Branch, Army HQ, New Delhi	Shri N.K. Goel Col Sumeet Singh Makkar (Alternate)	P	A	A
21)	Municipal Corporation of Delhi, New Delhi	Shri Vijay Prakash Shri Ajay Kumar Mittal (Alternate)	A	A	A
22)	Municipal Corporation of Greater Mumbai, Mumbai	Dy Hydraulic Engineer (Planning & Control) Executive Engineer (Planning & Research) (Alternate)	A	A	P
23)	Nous Hospital Consultants Pvt Ltd, New Delhi	Dr K. B. Sood	A	P	A
24)	Proion Consultants, New Delhi	Shri Sandeep Goel	P	P	P
25)	Tata Consulting Engineers Ltd, Mumbai	Shri Dheeraj Kaushik	A	P	P
26)	The Indian Institute of Architects, New Delhi	Shri Udaya Shankar Doni Shri Raj Kumar Prajapati (Alternate I) Ms Swopnadutta Mohanty (Alternate II)	A	A	P
27)	The Institution of Engineers (India), Kolkata	Prof D Elango Dr V S Priya (Alternate)	A	A	P

SI No.	NAME OF THE ORGANISATION	REPRESENTED BY	ATTENDANCE		
			3 rd	4 th	5 th
28)	In Personal Capacity, Bombay	Dr Hariharan S Shankar	A	A	A
29)	Ministry of Jal Shakti, New Delhi	Nomination Awaited	-	-	C
30)	Pratham Envirotech Solutions, Navi Mumbai (Shri Purshottam Yemul)	Nomination Awaited	-	-	C
31)	Delhi Pollution Control Committee, New Delhi	Nomination Awaited	-	-	C
32)	Envirotech Instruments Pvt Ltd (EIPL), New Delhi	Nomination Awaited	-	-	C
33)	Dr Bharat Bhushan Nagar [now with Alliance for Water Stewardship (AWS)]	Nomination Awaited	-	-	C
34)	CSIR – CLRI, Chennai	Dr Srinivasan	-	-	C
35)	Water Management & Plumbing Skill Council, New Delhi	Nomination Awaited	-	-	C

CED 46: P17: WG1 – WG For Water Supply Members Working Group

S.No.	Organization	Member Name
1)	Maple Engineering Design Services (India) Private Limited, Bengaluru	Shri H. R. Ranganath (Convener)
2)	CSIR - Central Building Research Institute, Roorkee	Shri Chandan Swaroop Meena
3)	D' Plumbing Consultants, Mumbai	Shri Deepak
4)	Ministry of Heavy Industries and Public Enterprises, New Delhi	Shri Vijay Prakash
5)	Municipal Corporation of Greater Mumbai, Mumbai	Dr Deepak Nagarsoge
6)	Nous Hospital Consultants Pvt Ltd, New Delhi	Dr K B Sood
7)	Proion Consultants, New Delhi	Shri Sandeep Goel
8)	Tata Consulting Engineers Limited, Navi Mumbai	Shri Dheeraj Kaushik

CED 46: P17: WG2 – WG FOR DRAINAGE AND SANITATION Working Group

S.No.	Organization	Member Name
1)	MKG Consultants, New Delhi	Shri M. K. Gupta (Convener)
2)	Brihan Mumbai Licensed Plumbers Association, Mumbai	Shri H. G. Gandhi
3)	Central Public Works Department, New Delhi	Shri Dinesh K Ujjainia
4)	Maple Engineering Design Services (India) Private Limited, Bengaluru	Shri S. L. Prasannakumar
5)	Military Engineer Services, New Delhi	Shri N. K. Goel
6)	The Indian Institute of Architects, New Delhi	Shri Raj Kumar Prajapati
7)	In Personal Capacity, New Delhi	Shri Subir Paul

CED 46: P17: WG3 – WG For Solid Waste Management Working Group

S.No.	Organization	Member Name
1)	Central Public Health Environmental Engineering Organization, New Delhi	Shri Ramakant (Convener)
2)	CSIR - Central Building Research Institute, Roorkee	Shri Ajay Chourasia
3)	Central Pollution Control Board, New Delhi	Dr A. B. Akolkar
4)	Central Pollution Control Board, New Delhi	Dr Sanjeev Agrawal
5)	Indian Institute of Technology Bombay, Mumbai	Dr Hariharan S Shankar
6)	The Institution of Engineers (India), Kolkata	Shri D Elango

CED 46: P17: WG4-WG For Gas Supply Working Group

S.No.	Organization	Member Name
1)	Indraprastha Gas Limited, New Delhi	Shri Pankaj Sharma (Convener)
2)	CSIR - National Environmental Engineering Research Institute, Nagpur	Shri A. S. Dubey
3)	Ministry of Heavy Industries and Public Enterprises, New Delhi	Shri Vijay Prakash
4)	Tata Consulting Engineers Limited, Navi Mumbai	Shri Ganesh Kumar Singh

ANNEX 19

[Item 2.2(u)]

COMPOSITION OF THE PANEL FOR LANDSCAPING, SIGNS AND OUTDOOR DISPLAY STRUCTURES, CED 46:P18

SI No.	NAME OF THE ORGANIZATION	REPRESENTED BY	ATTENDANCE		
			4 th	5 th	6 th
1)	Integral Design International Studio Pvt Ltd	Shri Samir Mathur (Convener)	P	P	P
2)	CEPT University,Ahmedabad	Nomination Awaited	-	P	A
3)	Central Public Works Department, New Delhi	Shri A.K. Sharma Shri Saju Siddharthan (Alternate I) Shri H. C. Nikhurpa (Alternate II)	A	A	P
4)	Delhi Development Authority, New Delhi	Smt Harleen Behl Shri Deepankar Singh (Alternate)	A	P	A
5)	Delhi Urban Arts Commission, New Delhi	Smt Nivedita Pande Shri Ashutosh Kumar Agarwal (Alternate)	A	P	A
6)	Housing and Urban Development Corporation, New Delhi	Ms Pooja Nandy Md. Ishteyak Alam (Alternate I) Ms Pallavi Kema (Alternate II)	A	A	A
7)	Indian Society of Landscape Architects, Ahmedabad	Ms Devayani Deshmukh Upasani Ms Nidhi Madan (Alternate I) Smt Urmila Rajadhyaksha (Alternate II)	P	P	A
8)	Institute of Town Planners (India), New Delhi	Shri Shaynil Patel	A	P	A
9)	JDAP Design - Architecture, Planning, Mumbai	Shri Sandeep B Menon	A	A	A
10)	M. S. Y. K. Design, New Delhi	Shri Yogesh Kapoor	P	P	A
11)	Municipal Corporation of Greater Mumbai, Mumbai	Smt Minakshi Mane Smt Ashlesha Modak (Alternate)	A	A	A
12)	National Institute of Design, Ahmedabad	Dr Tridha Gajjar Mohammed Naim Shaikh (Alternate)	A	A	P
13)	New Delhi Municipal Council, New Delhi	Shri Rakesh Goel	P	A	A
14)	NMP Design Private Limited	Smt Nandita Parikh Shri Minesh Parikh (Alternate)	A	A	P

15)	School of Planning and Architecture, New Delhi	Prof Aarti Grover	A	P	P
16)	Municipal Corporation of Delhi, New Delhi	Nomination Awaited	-	-	-
17)	The Indian Institute of Architects, Mumbai	Ms. Shajeena T. V. Shri Mauktik Trivedi (Alternate I) Smt Shilpa Sharma (Alternate II)	P	P	P
18)	The Institution of Engineers (India), Kolkata	Dr Anil Joseph	A	P	P
19)	Town and Country Planning Organization, New Delhi	Smt Jasmin Bimra Mallik	P	A	A
20)	U. P. Horticulture Department, Lucknow	Nomination Awaited	-	-	-
21)	In Personal Capacity, Goa	Smt Vinita Vijayan Pugal	A	P	A

CED 46: P18: WG1-Working Group for Landscape Planning, Design and Development Working Group

S.No.	Organization	Member Name
1)	Integral Designs International Studio Private Limited, New Delhi	Shri Samir Mathur (<i>Convener</i>)
2)	Delhi Development Authority, New Delhi	Smt Smita Saxena
3)	Delhi Urban Art Commission, New Delhi	Ms. Nivedita Pande
4)	Indian Society of Landscape Architects, Gujarat	Ms. Nidhi Madan
5)	Indian Society of Landscape Architects, Gujarat	Ms. Devayani Deshmukh Upasani (Young Professional)
6)	Indian Society of Landscape Architects, Gujarat	Ms. Urmila Rajadhyaksha (Alternate)
7)	MSYK Design, New Delhi	Shri Yogesh Kapoor
8)	School of Planning and Architecture, New Delhi	Prof Aarti Grover
9)	The Indian Institute of Architects, New Delhi	Shri Shajeena T V
10)	The Institution of Engineers (India), Kolkata	Prof Jitendra Singh
11)	In Personal Capacity, Goa	Smt Vinita Vijayan Pugal

CED 46: P18: WG2 – Working Group for Sign and Outdoor Display Structures Working Group

S.No.	Organization	Member Name
1)	Integral Designs International Studio Private Limited, New Delhi	Shri Samir Mathur (<i>Convener</i>)
2)	Indian Society of Landscape Architects, Gujarat	Ms. Nidhi Madan
3)	JDAP Design - Architecture - Planning, Mumbai	Shri Sandeep B Menon
4)	MSYK Design, New Delhi	Shri Yogesh Kapoor
5)	National Institute of Design, Ahmedabad	Dr Tridha Gajjar

ANNEX 20

[Item 2.2(w)]

COMPOSITION OF PANEL FOR SUSTAINABILITY, CED 46:P19

SI No.	NAME OF THE ORGANISATION	REPRESENTED BY	ATTENDANCE		
			5 th	6 th	7 th
1)	Indian Institute of Science, Bengaluru	Dr Monto Mani (Convener)	P	P	P
3)	Ankoor Sanghvi Architects, Rajkot	Shri Ankoor Sanghvi	A	A	A
4)	Building Materials & Technology Promotion Council, New Delhi	Dr Shailash Kumar Agrawal Shri J. K. Prasad (Alternate)	A	A	A
5)	Bureau of Energy Efficiency, New Delhi	Shri Jotham Shri Sanjay Seth	P	A	P
6)	Central Public Works Department New Delhi	Chief Engineer (CSQ) Superintending Engineer (TAS) (Alternate)	P	P	P
7)	CEPT University, Ahmedabad	Shri Rajan Rawal	P	A	P
8)	Confederation of Real Estate Developers' Association of India, New Delhi	Shri G. Yoganand Shri Hemant Dattaji Naiknavare (Alternate)	A	A	P
9)	CSIR - Central Building Research Institute, Roorkee	Dr R Pradeep Kumar Dr Ajay Chaurasia (Alternate I) Shri Anup Kumar Prasad (Alternate II)	P	A	P
10)	Delhi Development Authority, New Delhi	Shri Sanjay Kumar Khare Shri Deepankar Singh (Alternate)	P	P	P
11)	AEON Design and Development, New Delhi	Ms Sheetal Rakheja	A	A	A
12)	Environmental Design Solutions, New Delhi	Shri Tanmay Tathagat	A	A	A
13)	Indian Association of Structural Engineers, New Delhi	Shri Manoj K. Mittal Dr T. Visalakshi (Alternate)	P	A	P
14)	Indian Buildings Congress, New Delhi	Smt Usha Batra Shri C. S. Mittal (Alternate)	A	A	A
15)	Integral Design International Studio Pvt Ltd, New Delhi	Shri Samir Mathur	A	A	P
16)	Indian Green Building Council, Hyderabad	Shri Praveen Kumar Soma Ms Pallavi Bhallamudi (Alternate)	P	P	P
17)	Institute of Town Planners India, New Delhi	Dr S. K. Kulshrestha	A	P	P
18)	International Institute of Information Technology, Hyderabad	Dr Vishal Garg Dr Pradeep Kumar Ramancharla (Alternate)	P	A	A

SI No.	NAME OF THE ORGANISATION	REPRESENTED BY	ATTENDANCE		
			5 th	6 th	7 th
19)	Welspun Enterprises Ltd, Gurugram	Shri Amor Kool	A	A	P
20)	Karan Grover & Associates, Vadodara	Shri Karan Grover	P	A	A
21)	IEEMA (Elevator Division) / Kone Elevator India Pvt Ltd, Chennai	Shri P. M. Tipnis Shri J. Sivaraman (Alternate)	A	A	P
22)	Larsen & Toubro Ltd, ECC Division Chennai	Shri Rajan Venkateswaran Shri Sthaladipti Saha (Alternate)	P	A	P
23)	Malviya National Institute of Technology, Jaipur	Dr Jyotirmay Mathur Dr Sanjay Mathur (Alternate)	A	A	P
24)	M/s Maple Engineering Design Services (India) Pvt Ltd, Bengaluru	Nomination Awaited			
25)	Military Engineer Services, Engineer-in-Chief's Branch, Army HQ, New Delhi	Smt S Gayatri Mukherjee Shri Manish Gupta (Alternate)	P	P	A
26)	Ministry of New & Renewable Energy New Delhi	Dr Arun K. Tripathi	A	A	P
27)	One Earth Consultant, Bengaluru	Shri S Srinivas	A	A	P
28)	Panika, Ahmedabad	Nomination Awaited			
29)	Proion Consultants, New Delhi	Shri Sandeep Goel	P	A	P
30)	School of Planning & Architecture, New Delhi	Prof Virendra Kumar Paul	P	P	A
31)	Surat Municipal Corporation, Surat	Shri J. M. Patel Shri J. S. Shah (Alternate)	A	A	A
33)	The Energy and Resources Institute, New Delhi	Shri Sanjay Seth Shri Yatin Choudhary (Alternate I) Dr Rana Veer Pratap Singh (Alternate II)	P	A	P
34)	The Indian Institute of Architects, Mumbai	Shri Tushar Sogani Shri Sandeep Kumar Jha (Alternate) Smt Roshni Vasanth Udyavar (Alternate II)	A	A	P
35)	The Institution of Engineers (India), Kolkata	Prof Anil Kumar Choudhary Shri Abhinendra Kumar (Alternate)	A	A	P
36)	Town and Country Planning Organization, Ministry of Urban Development, New Delhi	Shri Paresh Duria Dr Pawan Kumar (Alternate)	P	A	P
37)	Underwriters Laboratories (India) P Ltd, Bengaluru	Shri V. Manjunath	A	A	P
38)	M/s Green Business Certification Inc. India (GBCI India)	Ms Mili Majumdar	-	-	C
39)	Indian Geotechnical Society, New Delhi	Nominations Awaited	-	-	C

SI No.	NAME OF THE ORGANISATION	REPRESENTED BY	ATTENDANCE		
			5 th	6 th	7 th
40)	M/s Schneider Electric India, Gurgaon	Nominations Awaited	-	-	C
41)	M/s Owens Corning (India) Pvt Ltd	Nominations Awaited	-	-	C
42)	In personal capacity, Thiruvananthapuram	Shri Jose Kurian	A	A	P
43)	In personal capacity, Thiruvananthapuram	Shri V. Suresh	P	P	P

CED 46: P19: WG1 – Working Group for Renewable Energy Working Group

SI no.	Organization	Member Name
1)	Ministry of New and Renewable Energy, New Delhi	Shri A. K. Tripathi (Convener)
2)	Bureau of Energy Efficiency, New Delhi	Shri Jotham Prabhu
3)	Environmental Design Solutions, New Delhi	Shri Tanmay Tathagat
4)	One Earth Consultants, Bengaluru	Shri S. Srinivas

CED 46: P19: WG2 – Working Group for Embodied Energy of Building Materials Working Group

Sl no.	Organization	Member Name
1)	Environmental Design Solutions, New Delhi	Shri Tanmay Tathagat (Convener)
2)	CEPT University, Ahmedabad	Shri Rajan Rawal
3)	Ergo Energy LLP, Gujarat	Ms Sonal Desai
4)	Green Business Certification Inc. India, Noida	Smt Mili Majumdar
5)	Indian Green Building Company Council, Hyderabad	Shri Praveen Kumar Soma
6)	In Personal Capacity, Thiruvalla	Shri Jose Kurian

CED 46: P19: WG3 – Working Group to revise the Part 11 of NBC Working Group

S.No.	Organization	Member Name
1)	Indian Institute of Science, Bengaluru	Shri Monto Mani
2)	Indian Institute of Science, Bengaluru	Shri B. V. Venkatarama Reddy

ANNEX 21*Item 2.2(y)]***COMPOSITION OF THE PANEL FOR GLASS AND GLAZING, CED 46:P20**

SI No.	NAME OF THE ORGANISATION	REPRESENTED BY	ATTENDANCE		
			1 st	2 nd	3 rd
1)	Central Public Works Department, New Delhi	Shri Pradeep Garg (Convener)	A	A	P
2)	Ahluwalia Contracts India Limited, New Delhi	Shri Pradeep Kumar Shri Jaspal Singh Rawat (Alternate)	A	P	A
3)	The All India Glass Manufacturers' Federation, New Delhi	Shri Shailesh Ranjan Shri Rupinder Shelly (Alternate)	P	P	P
4)	Bureau of Energy Efficiency, New Delhi	Nominations Awaited	-	A	A
5)	Central Public Works Department, New Delhi	Shri A.K. Sharma Shri Saju Siddharthan (Alternate)	P	P	P
6)	Creative Design Consultants & Engineers Pvt. Ltd., Ghaziabad	Shri Aman Deep Garg Shri Barjinder Singh Ghai (Alternate)	A	P	P
7)	CSIR-Central Building Research Institute, Roorkee	Dr Shorab Jain Shri S. K. Negi (Alternate)	P	A	P
8)	Delhi Development Authority, New Delhi	Shri Gajendra Kumar Shri A K Singhal (Alternate)	P	A	A
9)	Façade India Testing Inc, Thane	Shri V S Ravi Shri Pravin Gaikwad (Alternate)	A	P	A
10)	Glazing Society of India, Chennai	Shri Subramanian R Shri Gohul Deepak (Alternate)	P	P	P
11)	GSC Glass Ltd, Greater Noida	Shri C. J. Singh	P	P	A
12)	Indian Association of Structural Engineers, New Delhi	Shri Vipul Ahuja Dr Mahesh Tandon (Alternate)	P	A	P
13)	International Fenestration Forum, Noida	Shri Arun Sharma Shri Nikhil Kant (Alternate)	A	A	A
14)	IIT Madras (Structural Glass Research & Testing Facility), Chennai	Dr S. Arul Jayachandran Dr P. Alagappan	A	A	A
15)	IIT Roorkee, Roorkee	Dr Avlokita Agrawal Dr E. Rajasekar (Alternate)	A	P	P
16)	Larsen & Toubro Ltd, Chennai	Shri Sthaladipti Saha Shri Surya Prakash (Alternate)	A	A	P
17)	Meinhardt Facade Technology India Pvt Ltd, Chennai	Shri Mahesh Arumugam	A	A	P
18)	Municipal Corporation of Greater Mumbai (Mumbai Fire Brigade), Mumbai	Chief Fire Officer Dy. Chief Fire Officer (Alternate)	P	A	A
19)	National Buildings Construction Corporation Limited, New Delhi	Shri Anuj Kumar Goyal Shri Vinay Kumar Khullar	P	P	P

SI No.	NAME OF THE ORGANISATION	REPRESENTED BY	ATTENDANCE		
			1 st	2 nd	3 rd
		(Alternate)			
20)	Saint-Gobain Glass India, Chennai	Shri Anand Santhanam Shri Avinash Gowra (Alternate)	P	P	P
21)	Schueco India Pvt Ltd, Bangalore	Shri Antony John Shri Kushagra Awasthi (Alternate) Smt. Shruthi S (Alternate II)	P	P	P
22)	The Indian Institute of Architects, Mumbai	Shri Rupinder Ahuja Shri Ashutosh Kumar Agarwal (Alternate) Smt Jyoti Rajeev Panse (Alternate II)	P	A	A
23)	The Institution of Engineers (India), Kolkata	Er. Shivanand Roy Er. Lokesh Ranjan (Alternate)	P	P	A
24)	UWDMA, New Delhi	Shri Satish Kumar	A	A	P
25)	Winwall Technology India Pvt Ltd, Chennai	Shri P. Jothi Ramalingam	A	P	P
26)	M/s BES Consultants Pvt Ltd, Mumbai	Nominations Awaited	-	-	C

**CED 46: P20: WG1 – Working Group for Energy, Thermal
Performance Working Group**

SI no.	Organization	Member Name
1)	Indian Institute of Technology Roorkee, Roorkee	Shri E. Rajasekar (Convener)
2)	Bureau of Energy Efficiency, New Delhi	Shri Saurabh Diddi
3)	Glazing Society of India, Chennai	Shri Gohul Deepak G N
4)	International Fenestration Forum, New Delhi	Shri Arun Sharma
5)	L&T Construction, Chennai	Shri Surya Prakash Karri
6)	Schueco India Private Limited, Bangalore	Shri Kushagra Awasthi

CED 46: P20: WG2 – Working Group for Special Glass Working Group

SI no.	Organization	Member Name
1)	Meinhardt Facade Technology India Private Limited, Chennai	Shri Mahesh Arumugam (<i>Convener</i>)
2)	Central Public Works Department, New Delhi	Shri Pradeep Garg
3)	Defence Research and Development Organisation, Terminal Ballistics Research Laboratory, Chandigarh	Smt Sakshi Arora
4)	Defence Research and Development Organisation, Terminal Ballistics Research Laboratory, Chandigarh	Dr Preeti Jain (Alternate)
5)	INTERNATIONAL FENESTRATION FORUM, NEW DELHI	Shri Arun Sharma
6)	L&T Construction, Chennai	Shri Surya Prakash Karri
7)	Saint-Gobain Glass India Private Limited, Chennai	Shri Avinash Gowra
8)	Schueco India Private Limited, Bangalore	Shri Antony John V S

CED 46: P20: WG3 – Working Group for Fire Safety Aspects Working Group

SI no.	Organization	Member Name
1)	Indian Institute of Technology Gandhinagar, Gandhinagar	Shri Gaurav Srivastava (<i>Convener</i>)
2)	BES Consultants Private Limited, Mumbai	Shri Rajan Govind
3)	CSIR - Central Building Research Institute, Roorkee	Dr Shorab Jain
4)	Indian Institute of Technology Tirupati, Tirupati	Dr Jashnav Pancheti

CED 46: P20: WG4 – Working Group for Structural Design Aspects Working Group

SI no.	Organization	Member Name
1)	BES Consultants Private Limited, Mumbai	Shri Rajan Govind (<i>Convener</i>)
2)	Indian Institute of Technology Madras, Chennai	Dr Alagappan Ponnalagu
3)	L&T Construction, Chennai	Shri Surya Prakash Karri
4)	Schueco India Private Limited, Bangalore	Shri Antony John V S

CED 46: P20: WG5 – Working Group for Performance and Testing Working Group

SI no.	Organization	Member Name
1)	Schueco India Private Limited, Bangalore	Shri Antony John V S (<i>Convener</i>)
2)	Eminent International Testing Centre Private Limited, Hyderabad	Shri Reji Bhami
3)	Facade India Testing Private Limited, Mumbai	Shri V. S. Ravi
4)	Winwall Technology India Private Limited, Chennai	Shri P. Jothi Ramalingam

ANNEX 22*Item 2.2(z)]***COMPOSITION OF THE PANEL FOR INFORMATION AND COMMUNICATION
ENABLED INSTALLATIONS, CED 46:P21**

SI No.	NAME OF THE ORGANIZATION	REPRESENTED BY	Participation in Meeting No.		
			2 nd	3 rd	4 th
1)	In personal Capacity, New Delhi	Shri A. K. Mittal (Convener)	P	P	P
2)	Airports Authority of India, New Delhi	Shri D. K. Kamra Shri Vivek Chourey (Alternate)	P	A	A
3)	Broadband India Forum, New Delhi	Shri T V Ramachandran Shri Anil Tandan (Alternate)	A	P	P
4)	Building Industry Consulting Service International- India District, Mumbai	Shri Ninad Mohan Desai	P	P	P
5)	Cellular Operators Association of India, New Delhi	Shri Vikram Tiwathia Smt Vertika Misra (Alternate)	A	P	P
6)	Central Industrial Security Force, New Delhi	Shri Naresh Kumar Shri Sanjeev Kumar Saddi (Alternate)	A	P	P
7)	Central Public Works Department, New Delhi	Shri Vikas Rana Shri R. P. Gupta (Alternate)	P	A	A
8)	CMAI Association of India, New Delhi	Prof N. K. Goyal	P	A	P
9)	Department of Telecommunication, Ministry of Communications and IT, New Delhi	Shri Ashok Kumar Shri Rahul Jain (Alternate)	P	P	A
10)	Dept. of Electronics & Information Technology, Ministry of Communications and IT, New Delhi	Dr Anil Kumar Kaushik Shri Prakash Kumar (Alternate)	P	A	P
11)	Gujarat International Finance Tec City Company Limited (GIFTCL), Gandhinagar	Shri Ramakant Jha Shri Nilesh Purey (Alternate)	A	P	P
12)	Indian Buildings Congress, New Delhi	Shri Bhisma Kumar Chugh Shri P. S. Chadha (Alternate)	A	A	A

13)	Indian Institute of Architects, Mumbai	Nomination Awaited	-	-	-
14)	Internet Service Providers Association of India, New Delhi	Shri Brajesh Chandra Jain	P	A	A
15)	Military Engineer Services, New Delhi	Shri Man Mohan Mehrotra Shri Ashok Kumar (Alternate)	A	A	A
16)	Ministry of Railways, New Delhi	Smt Vinita Narera	A	A	A
17)	Proion Consultants, New Delhi	Smt Shruti Goel	P	P	P
18)	Roads and Buildings Department, Govt of Telangana, Hyderabad	Shri G. Ramakrishna Kumar Deputy Chief Engineer (Alternate)	A	A	A
19)	Shyam Spectra Private Limited, Gurugram	Shri Hem Chand Rajput	A	P	P
20)	Sterlite Technologies, Pune	Shri S. N. Gupta Md Shahid Khan (Alternate)	A	A	P
21)	Telecom System Design & Manufacturers Association, New Delhi	Shri Bhupesh Yadav Shri Rahul Dubey (Alternate)	A	A	A
22)	The Institution of Engineers (India), Kolkata	Nomination Awaited	-	-	-
23)	Town and Country Planning Organization, New Delhi	Chief Planner (Shri Naresh Kumar Dhiran) Town and Country Planner (Alternate) Shri R. Srinivas (Alternate)	P	A	A
24)	In Personal Capacity, Bangalore	Shri J. N. Bhavani Prasad	A	A	A

**COMPOSITION OF THE WORKING GROUP FOR INDOOR AND OUTDOOR
PLANTS, CED 46:P21/WG1**

Sl. No.	Organization	Member Name
1)	ITS India Forum, New Delhi	Dr Shiv Kumar
2)	Broadband India Forum, New Delhi	Shri Atul Jain
3)	Building Industry Consulting Service International India District, Mumbai	Shri Ninad Mohan Desai
4)	RANext Technologies Private Limited, Gurugram	Shri Jagmohan Singh
5)	Sterlite Technologies Limited, Pune	Shahid Khan
6)	Telecom Regulatory Authority of India, New Delhi	Shri Virendra Singh Rajput

**COMPOSITION OF THE WORKING GROUP FOR WIRELESS SYSTEMS, CED
46:P21/WG2**

Sl. No.	Organization	Member Name
1)	In Personal Capacity, New Delhi	A. K. Mittal
2)	Broadband India Forum, New Delhi	Shri Debashish Bhattacharya
3)	Cellular Operators Association of India, New Delhi	Shri Vikram Tiwathia
4)	Cellular Operators Association of India, New Delhi	Shri Dhananjay Gawande
5)	Crest Digitel Private Limited, Gurugram	Shri Vinay Kumar
6)	Digital Infrastructure Providers Association, New Delhi	Shri T. R. Dua
7)	Telecom Regulatory Authority of India, New Delhi	Shri Tejpal Singh

ANNEX 23*Item 2.2(aa)]***COMPOSITION OF THE PANEL FOR ASSET AND FACILITY MANAGEMENT,
CED 46:P22**

SI No.	Name of the Organization	Represented By	Participation in Meeting No.		
			3 rd	4 th	5 th
1)	In Personal Capacity, New Delhi	Dr C. Velan (<i>Convener</i>)	P	P	P
2)	Airports Authority of India, New Delhi	Shri D. K. Kamra Shri Vivek Chourey (<i>Alternate</i>)	A	P	A
3)	CapitaLand India Ltd, Chennai	Shri George Fernandes	–	C	P
4)	C. B. Richard Ellis, Gurgaon	Shri Aneesh Kadyan Shri Tarun Mudgal (<i>Alternate</i>)	P	P	A
5)	Central Industrial Security Force, New Delhi	Dr K. C Wadhwa Smt Harpreet Kaur (<i>Alternate</i>)	P	A	A
6)	Central Public Works Department, New Delhi	Shri Vikas Rana Shri R. P. Gupta (<i>Alternate</i>)	A	A	P
7)	Climaveneta Climate Technologies (P) Ltd, Bangalore	Shri Anil Dev Shri Nitin Joshi (<i>Alternate</i>)	A	P	P
8)	Cushman and Wakefield India Pvt Ltd, Gurgaon	Shri Dinesh Wadehra Shri Sajit Sankar (<i>Alternate</i>)	A	A	A
9)	DLF Home Developers Ltd, Gurgaon	Shri Gautam Dey	A	A	A
10)	Forum of Critical Utility and Services, Bengaluru	Nomination Awaited	–	–	–
11)	Honeywell International India Pvt Ltd, Gurgaon	Shri Varun Jain	A	A	A
12)	IEEMA (Elevator Division), Mumbai	Dr Saad Faruqui	P	A	A
13)	Indian Buildings Congress, New Delhi	Shri S. P. Singh	A	P	P
14)	Jones Lang Lasalle Meghraj Building Operations Pvt Ltd, Gurgaon	Shri Sumit Rakshit	A	A	A

SI No.	Name of the Organization	Represented By	Participation in Meeting No.		
			3 rd	4 th	5 th
15)	Military Engineer Services, Engineer-in-Chief's Branch, Army HQ, New Delhi	Shri Ashok Kumar Shri Man Mohan Mehrotra (Alternate)	A	P	A
16)	National Council for Cement and Building Materials, Ballabgarh	Shri P. N. Ojha Shri Brijesh Singh (Alternate)	P	P	P
17)	Security and Intelligence Services (India) Ltd, New Delhi	Shri Ritu Raj Sinha Brig U. K. Dhar (Retd.) (Alternate)	P	P	P
18)	Vighnaharta Technologies Private Limited, Pune	Shri Nitin Joshi	P	A	A
19)	Yamuna International Airport Private Limited, New Delhi	Shri Rishi Pawah	–	C	P
20)	In Personal Capacity, New Delhi	Shri Anil Kumar Arora	A	A	A
21)	In Personal Capacity, New Delhi	Shri S. K. Dheri	P	A	A
22)	In Personal Capacity, New Delhi	Shri Krishna Kant	P	A	A
23)	In Personal Capacity, Delhi	Shri V. K. Sharma	P	A	P
24)	In Personal Capacity, Noida	Shri Mukesh Chandra	–	C	A

CED 46: P22: WG1 – Working Group on General Aspects and Organizational Structure Working Group

S.No.	Organization	Member Name
1)	CapitaLand India Ltd, Chennai	Dr C. Velan
2)	Yamuna International Airport Private Limited, New Delhi	Shri Rishi Pawah

CED 46: P22: WG2 – Working Group for Building Maintenance, Security and Management Working Group

S.No.	Organization	Member Name
1)	CBRE India, Gurugram	Shri Aneesh Kadyan
2)	Indian Building Congress, New Delhi	Shri S. P. Singh
3)	SIS India Ltd, New Delhi	Brig U.K. Dhar Retd
4)	SIS India Ltd, New Delhi	Shri Manoj Kumar Kapil (Alternate)

CED 46: P22: WG3-Working Group for Health, Safety and Environment (HSE) Working Group

S.No.	Organization	Member Name
1)	CapitaLand India Ltd, Chennai	Shri George Fernandes
2)	CapitaLand India Ltd, Chennai	Ms. C Sruthi (Alternate)
3)	National Council for Cement and Building Materials, Faridabad	Shri P. N. Ojha

CED 46: P22: WG4 – Working Group for Systems and Information Management Working Group

S.No.	Organization	Member Name
1)	CBRE India, Gurugram	Shri Aneesh Kadyan
2)	CapitaLand India Ltd, Chennai	Shri George Fernandes

ANNEX 24

[*Item 2.2(bb)*]

COMPOSITION OF THE ADHOC GROUP FOR PART 0 OF NBC, CED 46:AG

Shri V. Suresh, In Personal Capacity, Chairman CED 46 (Convener)

Shri H. S. Dogra, Chairman CEDC

Shri P. Krishnan, In Personal Capacity

Shri Balbir Verma, Indian Institute of Architects (Past President)

Dr Mahesh Tandon, Indian Association of Structural Engineers (President) Shri J.

Shri N. Bhavani Prasad, In Personal Capacity

Prof Benny Raphael, IIT Madras, Chennai

Shri Sandeep Goel, Proion Consultants, New Delhi

Dr C B Amarnath, IBIMA, Bengaluru
