

BUREAU OF INDIAN STANDARDS

AGENDA

National Building Code Sectional Committee, CED 46 : Seventh Meeting

Friday, 18 March 2016 : 1100 h

Auditorium, Manak Bhavan, Bureau of Indian Standards, 9 Bahadur Shah Zafar Marg, New Delhi-110 002

Chairman: Dr H. C. Visvesvaraya	Member Secretary: Shri Sanjay Pant
Vice-Chairman: Shri V. Suresh	Jt Member Secretaries: Shri S. Arun Kumar Smt Madhurima Madhav

Item 0 OPENING REMARKS

Item 1 CONFIRMATION OF THE MINUTES OF LAST MEETING

1.1 The Minutes of last meeting of the Sectional Committee held on 24 June 2014 were circulated vide BISDG letter No. CED 46/A-2.6 dated 23 September 2014. No comments have been received on the Minutes.

The Committee may **CONFIRM** the Minutes.

Item 2 COMPOSITION OF THE SECTIONAL COMMITTEE AND PANELS

2.1 The present composition of the Sectional Committee, as approved after review by the Civil Engineering Division Council, CEDC in its last (twentieth) meeting held on 24 April 2015, is given at **Annex 1 (P-31)**.

The Committee may **NOTE**.

2.1.1 Request for co-option on the Sectional Committee have been received from the following:

- a) Hindustan Construction Company Ltd, Mumbai
- b) Indian Society of Structural Engineers, Mumbai
- c) Shri Ashok Khurana, New Delhi

The Committee may **CONSIDER**.

2.2 The composition of the 22 Expert Panels, Adhoc Group for Part 0 of NBC, and the High Level Group on NBC, under the Committee, are given at respective Annexes as per the following details:

	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 (P- 35)
b)	Panel for Fire Protection, CED 46:P2 <i>Request for Co-option has been received from Chettiar Consulting Engineers, Mumbai.</i> <i>The Committee may CONSIDER.</i>	Annex 3 (P-37)
c)	Panel for Building Materials, CED 46:P3	Annex 4 (P-39)
d)	Panel for Loads, Forces and Effects, CED 46:P4	Annex 5 (P-40)
e)	Panel for Soils and Foundations, CED 46:P5	Annex 6 (P-42)
f)	Panel for Timber, CED 46:P6	Annex 7 (P-43)
g)	Panel for Masonry, CED 46:P7	Annex 8 (P-45)
h)	Panel for Plain, Reinforced and Prestressed Concrete, CED 46:P8	Annex 9 (P-46)
j)	Panel for Steel, CED 46:P9	Annex 10 (P-48)
k)	Panel for Prefabrication and Systems Building, CED 46:P10	Annex 11 (P-50)
m)	Panel for Constructional Practices and Safety, CED 46:P11	Annex 12 (P- 52)
n)	Panel for Lighting & Ventilation, CED 46:P12	Annex 13 (P- 54)

p)	<p>Panel for Electrical Installations, CED 46:P13</p> <p><i>Request for Co-option has been received from Chettiar Consulting Engineers, Mumbai.</i></p> <p><i>The Committee may CONSIDER.</i></p>	Annex 14 (P- 56)
q)	<p>Panel for Air-conditioning and Heating, CED 46:P14</p> <p><i>Request for Co-option has been received from Chettiar Consulting Engineers, Mumbai.</i></p> <p><i>The Committee may CONSIDER.</i></p>	Annex 15 (P- 58)
r)	<p>Panel for Acoustics, Sound Insulations and Noise Control, CED 46:P15</p>	Annex 16 (P- 61)
s)	<p>Panel for Installation of Lifts and Escalators, CED 46:P16</p>	Annex 17 (P- 63)
t)	<p>Panel for Plumbing Services, CED 46:P17</p> <p><i>Request for Co-option has been received from Chettiar Consulting Engineers, Mumbai.</i></p> <p><i>The Committee may CONSIDER.</i></p>	Annex 18 (P- 65)
u)	<p>Panel for Landscaping, Signs and Outdoor Display Structures, CED 46:P18</p> <p><i>The Convener of the Panel, Prof M. Shaheer has expired in November 2015. He had made substantial contribution in the last revision of NBC, where a new Section on Landscape Planning and Design was added, and was leading the revision of Part 10 in the current exercise of revision of the Code.</i></p> <p><i>In view of the sad demise of Prof Shaheer, the Committee may appoint a Convener.</i></p>	Annex 19 (P- 67)
w)	<p>Panel for Sustainability, CED 46:P19</p>	Annex 20 (P- 69)

y)	Panel for Glass and Glazing, CED 46:P20 <i>Request for Co-option has been received from BES Consultants Pvt Ltd, Mumbai.</i> <i>The Committee may CONSIDER.</i>	Annex 21 (P- 72)
z)	Panel for Information and Communication Enabled Installations, CED 46:P21	Annex 22 (P- 74)
aa)	Panel for Asset and Facility Management, CED 46:P22	Annex 23 (P- 76)
bb)	Adhoc Group for Part 0 of NBC, CED 46:AG	Annex 24 (P- 78)
cc)	High Level Group on NBC, CED 46:HLG	Annex 25 (P- 79)

The above compositions given at Annex 2 to Annex 23 include further co-options and withdrawals of representations made by the respective Panels. Also, the Adhoc Group for revision of Part 0 of NBC, CED 46:AG, was constituted in consultation with the Chairman to deal with the revision of Part 0 of the Code.

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

Item 3 OVERVIEW OF THE PROGRESS IN THE NATIONAL PROJECT OF REVISION OF NATIONAL BUILDING CODE OF INDIA (NBC) AND RELATED ISSUES

3.1 Last Meeting of the National Building Code Sectional Committee, CED 46

3.1.1 The last (sixth) meeting of the National Building Code Sectional Committee, CED 46 was held on 24 June 2014 under the Chairmanship of Dr H. C. Visvesvaraya, where a project of Revision of NBC was formally initiated. The Committee also reviewed the Composition of various expert Panels and authorized the Chairman for appointing Conveners in some cases, as well as for finalizing the Composition for some new Panels. Accordingly all actions were taken and work under the Project was initiated.

The Committee may **NOTE**.

3.2 Overall Contents of NBC 2005 and its Revision

3.2.1 The contents of existing NBC 2005 are given below, including the new Part 11 'Approach to Sustainability' incorporated through Amendment No. 1 to the Code, which was issued on 29 September 2015:

<i>Part/Section</i>	<i>Title</i>
1..... PART 0	INTEGRATED APPROACH – A PRE-REQUISITE FOR APPLYING THE PROVISIONS OF THE CODE
2..... PART 1	DEFINITIONS
3..... PART 2	ADMINISTRATION
4..... PART 3	DEVELOPMENT CONTROL RULES AND GENERAL BUILDING REQUIREMENTS
5..... PART 4	FIRE PROTECTION
6..... PART 5	BUILDING MATERIALS
PART 6	STRUCTURAL DESIGN
7.....	Section 1 Loads, Forces and Effects
8.....	Section 2 Soils and Foundations
	Section 3 Timber and Bamboo
9.....	3A Timber
10.....	3B Bamboo
11.....	Section 4 Masonry
	Section 5 Concrete
12.....	5A Plain and Reinforced Concrete
13.....	5B Prestressed Concrete
14.....	Section 6 Steel
	Section 7 Prefabrication and Systems Building and Mixed/Composite Construction
15.....	7A Prefabricated Concrete
16.....	7B Systems Building and Mixed/Composite Construction
17..... PART 7	CONSTRUCTIONAL PRACTICES AND SAFETY
PART 8	BUILDING SERVICES
18.....	Section 1 Lighting and Ventilation
19.....	Section 2 Electrical and Allied Installations
20.....	Section 3 Air-conditioning, Heating and Mechanical Ventilation
21.....	Section 4 Acoustics, Sound Insulation and Noise Control
22.....	Section 5 Installation of Lifts and Escalators
PART 9	PLUMBING SERVICES
23.....	Section 1 Water Supply, Drainage and Sanitation (including Solid Waste Management)
24.....	Section 2 Gas Supply
PART 10	LANDSCAPING, SIGNS AND OUTDOOR DISPLAY STRUCTURES
25.....	Section 1 Landscape Planning and Design
26.....	Section 2 Signs and Outdoor Display Structures
27..... PART 11	APPROACH TO SUSTAINABILITY

The Part 4 'Fire and Life Safety' also stands modified in accordance with the Amendment No. 2 issued on 29 September 2015.

The Committee may **NOTE**.

3.2.2 The contents of the proposed revision of NBC are given below, where, new chapters being added are duly highlighted:

<i>Part/Section</i>	<i>Title</i>
1..... PART 0	INTEGRATED APPROACH – A PRE-REQUISITE FOR APPLYING THE PROVISIONS OF THE CODE
2..... PART 1	DEFINITIONS
3..... PART 2	ADMINISTRATION
4..... PART 3	DEVELOPMENT CONTROL RULES AND GENERAL BUILDING REQUIREMENTS
5..... PART 4	FIRE AND LIFE SAFETY
6..... PART 5	BUILDING MATERIALS
PART 6	STRUCTURAL DESIGN
7.....	Section 1 Loads, Forces and Effects
8.....	Section 2 Soils and Foundations
	Section 3 Timber and Bamboo
9.....	3A Timber
10.....	3B Bamboo
11.....	Section 4 Masonry
	Section 5 Concrete
12.....	5A Plain and Reinforced Concrete
13.....	5B Prestressed Concrete
14.....	Section 6 Steel
	Section 7 Prefabrication and Systems Building and Mixed/Composite Construction
15.....	7A Prefabricated Concrete
16.....	7B Systems Building and Mixed/Composite Construction
17.....	Section 8 Glass and Glazing (new)
18..... PART 7	CONSTRUCTIONAL PRACTICES AND SAFETY
PART 8	BUILDING SERVICES
19.....	Section 1 Lighting and Natural Ventilation
20.....	Section 2 Electrical and Allied Installations
21.....	Section 3 Air-conditioning, Heating and Mechanical Ventilation
22.....	Section 4 Acoustics, Sound Insulation and Noise Control

23.....	Section 5 Installation of Lifts, Escalators and Moving Walks
24.....	5A Lifts
25.....	5B Escalators and Moving Walks
25.....	Section 6 Information and Communication Enabled Installations (new)

PART 9 PLUMBING SERVICES

26.....	Section 1 Water Supply
27.....	Section 2 Drainage and Sanitation
28.....	Section 3 Solid Waste Management (new)
29.....	Section 4 Gas Supply

PART 10 LANDSCAPE ARCHITECTURE, SIGNS AND OUTDOOR DISPLAY STRUCTURES

30.....	Section 1 Landscape Planning, Design and Development
31.....	Section 2 Signs and Outdoor Display Structures

32..... PART 11 APPROACH TO SUSTAINABILITY

33..... PART 12 ASSET AND FACILITY MANAGEMENT (new)

The Committee may **NOTE**.

3.3 Follow-Up Action on the Decisions of Sectional Committee

3.3.1 Preparation and Circulation of Working Drafts

In accordance with the directions of the Sectional Committee and in consultation with the Chairman, the work was taken up through various expert Panels and the Adhoc Group. As a result, the draft revisions of various existing Parts/Sections and drafts of new Parts/Sections being added in this revision, were issued as Working Drafts, as per the following details:

DESIGNATION OF THE PANEL	PART/SEC	TITLE OF WORKING DRAFT	WORKING DRAFT SENT ON
CED 46:AG	Part 0	Integrated Approach - Prerequisite for Applying the Provisions of the Code	29-Sep-2015
CED 46:P1	Part 2	Administration	N.A.
CED 46:P1	Part 3	Development Control Rules and General Building Requirements	25-Jun-2015
CED 46:P2	Part 4	Fire and Life Safety	N.A.
CED 46:P3	Part 5	Building Materials	23-Nov-2014

DESIGNATION OF THE PANEL	PART/SEC	TITLE OF WORKING DRAFT	WORKING DRAFT SENT ON
CED 46:P4	Part 6/Sec 1	Structural Design: Loads, Forces and Effects	2-Jan-2015
CED 46:P5	Part 6/Sec 2	Structural Design: Soils and Foundations	7-Jan-2015
CED 46:P6	Part 6/Sec 3A	Structural Design: Timber	21-Nov-2014 and 1-Jul-2015
CED 46:P6	Part 6/Sec 3B	Structural Design: Bamboo	21-Nov-2014 and 1-Jul-2015
CED 46:P7	Part 6/Sec 4	Structural Design: Masonry	2-Dec-2014
CED 46:P8	Part 6/Sec 5A	Structural Design: Plain and Reinforced Concrete	11-Dec-2014
CED 46:P8	Part 6/Sec 5B	Structural Design: Prestressed Concrete	11-Dec-2014
CED 46:P9	Part 6/Sec 6	Structural Design: Steel	28-Apr-2015
CED 46:P10	Part 6/Sec 7A	Structural Design: Prefabricated Concrete	21-Nov-2014
CED 46:P10	Part 6/Sec 7B	Structural Design: System Building and Mixed/Composite Construction	21-Nov-2014
CED 46:P20	Part 6/Sec 8	Structural Design: Glass and Glazing	30-Apr-2015
CED 46:P11	Part 7	Construction Management, Practices and Safety	8-Jan-2015
CED 46:P12	Part 8/Sec 1	Building Services: Lighting and Ventilation	13-Jan-2015
CED 46:P13	Part 8/Sec 2	Building Services: Electrical and Allied Installations	18-Dec-2014
CED 46:P14	Part 8/Sec 3	Building Services: Air Conditioning, Heating and Mechanical Ventilation	20-Nov-2014 and 1-Jun-2015
CED 46:P15	Part 8/Sec 4	Building Services: Acoustics, Sound Insulation and Noise Control	30-Apr-2015

DESIGNATION OF THE PANEL	PART/SEC	TITLE OF WORKING DRAFT	WORKING DRAFT SENT ON
CED 46:P16	Part 8/Sec 5A	Building Services: Installation of Lifts	2-Jan-2015
CED 46:P16	Part 8/Sec 5B	Building Services: Installation of Escalators and Moving Walks	2-Jan-2015
CED 46:P21	Part 8/Sec 6	Building Services: Information and Communication Enabled Installations	17-Aug-2015 and 26-Sep-2015
CED 46:P17	Part 9/Sec 1	Plumbing Services: Water Supply	4-Dec-2014
CED 46:P17	Part 9/Sec 2	Plumbing Services: Drainage and Sanitation	4-Dec-2014
CED 46:P17	Part 9/Sec 3	Plumbing Services: Solid Waste Management	4-Dec-2014
CED 46:P17	Part 9/Sec 4	Plumbing Services: Gas Supply	4-Dec-2014
CED 46:P18	Part 10/Sec 1	Landscaping, Signs and Outdoor Display Structures: Landscape Planning, Design and Development	17-Dec-2014
CED 46:P18	Part 10/Sec 2	Landscaping, Signs and Outdoor Display Structures: Signs and Outdoor Display Structures	17-Dec-2014
CED 46:P19	Part 11	Approach to Sustainability	N.A.
CED 46:P22	Part 12	Asset and Facility Management	29-July-2015 and 11-Aug-2015

As the new chapter in NBC 2005, namely Part 11 'Approach to Sustainability', was recently published and released through Amendment No. 1 to the Code on 29 September 2015, it was decided in consultation with the Convener of the concerned Panel, not to issue a separate Working Draft of the same. Similarly, no Working Draft was issued in case of Part 2 'Fire and Life Safety' in view of some of the important changes having already taken care of through Amendment No. 2 to the Code, which was also released on 29 September 2015. Also, any draft revision of Part 2 'Administration' was decided to be issued only after formal due consideration of various aspects through a review by organizing meeting of the Panel

The Committee may **NOTE**.

3.3.2 First Series of Meetings of Expert Panels to Consider Working Drafts

A series of meetings of expert panels as enlisted below chronologically, were organized to consider various working drafts along with comments received thereon as a result of their circulation:

DATE OF MEETING	DESIGNATION OF THE PANEL	PART/SEC	NAME OF THE PANEL
15-Oct-2014	CED 46:P2	Part 4	Panel for Fire Protection
25-Nov-2014 and 07-April-2015	CED 46:P14	Part 8/Sec 3	Panel for Air-conditioning and Heating
28-Nov-2014	CED 46:P6	Part 6/Sec 3A Part 6/Sec 3B	Panel for Timber
1-Dec-2014	CED 46:P3	Part 5	Panel for Building Materials
4-Dec-2014	CED 46:P10	Part 6/Sec 7A Part 6/Sec 7B	Panel for Prefabrication and Systems Buildings
12-Dec-2014	CED 46:P7	Part 6/Sec 4	Panel for Masonry
15-Dec-2014	CED 46:P17	Part 9/Sec 1 Part 9/Sec 2 Part 9/Sec 3 Part 9/Sec 4	Panel for Plumbing Services
17-Dec-2014	CED 46:P8	Part 6/Sec 5A Part 6/Sec 5B	Panel for Plain, Reinforced and Prestressed Concrete
23-Dec-2014	CED 46:P18	Part 10/Sec 1 Part 10/Sec 2	Panel for Landscaping, Signs and Outdoor Display Structures
24-Dec-2014	CED 46:P13	Part 8/Sec 2	Panel for Electrical Installations
8-Jan-2015	CED 46:P16	Part 8/Sec 5A Part 8/Sec 5B	Panel for Installation of Lifts and Escalators
9-Jan-2015	CED 46:P4	Part 6/Sec 1	Panel for Loads, Forces and Effects
13-Jan-2015	CED 46:P11	Part 7	Panel for Constructional Practices and Safety
16-Jan-2015	CED 46:P5	Part 6/Sec 2	Panel for Soils and Foundations

DATE OF MEETING	DESIGNATION OF THE PANEL	PART/SEC	NAME OF THE PANEL
20-Jan-2015	CED 46:P12	Part 8/Sec 1	Panel for Lighting and Ventilation
8-May-2015	CED 46:P20	Part 6/Sec 8	Panel for Glass and Glazing
12-May-2015	CED 46:P9	Part 6/Sec 6	Panel for Steel
14-May-2015	CED 46:P15	Part 8/Sec 4	Panel for Acoustics, Sound Insulation and Noise Control
27-May-2015	CED 46:P22	Part 12	Panel for Asset and Facility Management
23-Jun-2015	CED 46:P21	Part 8/Sec 6	Panel for Information and Communication Enabled Installations
3-Jul-2015	CED 46:P1	Part 2 & 3	Panel for Administration, Development Control Rules and General Building Requirements

The meeting of the Panel for Sustainability, CED 46:P19 was however not organized and, in consultation with the Convener, it was decided to utilize the existing Part 11 'Approach to Sustainability' appropriately for issuing in Wide Circulation to invite further comments and improvements therein. In case of Part 4 'Fire and Life Safety', the above referred meeting of the Panel for Fire Protection, CED 46:P2 essentially dealt with various issues relating to Amendment No. 2, as per the directions of the Sectional Committee. The Committee, however, entrusted the work of preparation of a comprehensive draft revision of Part 4 to its Working Group.

The Committee may **NOTE**.

3.3.3 *Preparation and Circulation of Wide Circulation Drafts for Public Comments*

Based on the recommendations made by the Panels and technical inputs from the members, it was decided to prepare updated drafts of various Parts/Sections. In consultation with the Chairman, it was decided that the updated drafts so prepared be further issued in Wide Circulation for a period of one month for eliciting public comments. Accordingly, the modified drafts were prepared and issued in Wide Circulation for eliciting public comments, as follows:

DESIGNATION OF THE PANEL	PART/SEC	TITLE OF WC DRAFT	WC ISSUED ON
CED 46:AG	Part 0	Integrated Approach – Prerequisite for Applying the Provisions of the Code	25-Oct-2015
CED 46:P1	Part 2	Administration	24-Nov-2015
CED 46:P1	Part 3	Development Control Rules and General Building Requirements	24-Nov-2015
CED 46:P2	Part 4	Fire and Life Safety	24-Nov-2015
CED 46:P3	Part 5	Building Materials	7-Aug-2015
CED 46:P4	Part 6/Sec 1	Structural Design: Loads, Forces and Effects	21-Sep-2015
CED 46:P5	Part 6/Sec 2	Structural Design: Soils and Foundations	28-Aug-2015
CED 46:P6	Part 6/Sec 3A	Structural Design: Timber	2-Sep-2015
CED 46:P6	Part 6/Sec 3B	Structural Design: Bamboo	2-Sep-2015
CED 46:P7	Part 6/Sec 4	Structural Design: Masonry	24-Sep-2015
CED 46:P8	Part 6/Sec 5A	Structural Design: Plain and Reinforced Concrete	05-Oct-2015
CED 46:P8	Part 6/Sec 5B	Structural Design: Prestressed Concrete	05-Oct-2015
CED 46:P9	Part 6/Sec 6	Structural Design: Steel	07-Oct-2015
CED 46:P10	Part 6/Sec 7A	Structural Design: Prefabricated Concrete	4-Sep-2015
CED 46:P10	Part 6/Sec 7B	Structural Design: System Building and Mixed/Composite Construction	4-Sep-2015
CED 46:P20	Part 6/Sec 8	Structural Design: Glass and Glazing	2-Sep-2015

DESIGNATION OF THE PANEL	PART/SEC	TITLE OF WC DRAFT	WC ISSUED ON
CED 46:P11	Part 7	Construction Management, Practices and Safety	15-Aug-2015
CED 46:P12	Part 8/Sec 1	Building Services: Lighting and Ventilation	15-Sep-2015
CED 46:P13	Part 8/Sec 2	Building Services: Electrical and Allied Installations	28-Aug-2015
CED 46:P14	Part 8/Sec 3	Building Services: Air Conditioning, Heating and Mechanical Ventilation	31-Jul-2015
CED 46:P15	Part 8/Sec 4	Building Services: Acoustics, Sound Insulation and Noise Control	19-Nov-2015
CED 46:P16	Part 8/Sec 5A	Building Services: Installation of Lifts	11-Aug-2015
CED 46:P16	Part 8/Sec 5B	Building Services: Installation of Escalators and Moving Walks	11-Aug-2015
CED 46:P21	Part 8/Sec 6	Building Services: Information & Communication Enabled Installations	27-Oct-2015
CED 46:P17	Part 9/Sec 1	Plumbing Services: Water Supply	11-Nov-2015
CED 46:P17	Part 9/Sec 2	Plumbing Services: Drainage and Sanitation	11-Nov-2015
CED 46:P17	Part 9/Sec 3	Plumbing Services: Solid Waste Management	15-Nov-2015
CED 46:P17	Part 9/Sec 4	Plumbing Services: Gas Supply	15-Nov-2015
CED 46:P18	Part 10/Sec 1	Landscaping, Signs and Outdoor Display Structures: Landscape Planning, Design and Development	29-Oct-2015
CED 46:P18	Part 10/Sec 2	Landscaping, Signs and Outdoor Display Structures: Signs and Outdoor Display Structures	29-Oct-2015
CED 46:P19	Part 11	Approach to Sustainability	01-Oct-2015
CED 46:P22	Part 12	Asset and Facility Management	10-Sep-2015

In case of Part 0, the Working Draft was updated based on the comments received thereon and the same was issued in Wide Circulation in consultation with the Convener of the Adhoc Group and Chairman of the Sectional Committee.

The Committee may **NOTE**.

3.3.4 Second Series of Meetings of Expert Panels to Consider Wide Circulation Drafts for their Finalization

The second round of meetings of expert panels/adhoc group as enlisted below chronologically, were simultaneously organized to consider the drafts which have since completed wide circulation, along with the comments received thereon, and recommend the same for finalization by the National Building Code Sectional Committee, CED 46 :

DATE OF MEETING	DESIGNATION OF THE PANEL	PART/SEC	NAME OF THE PANEL
23-Sep-2015	CED 46:P16	Part 8/Sec 5A Part 8/Sec 5B	Panel for Installation of Lifts and Escalators
26-Sep-2015	CED 46:P14	Part 8/Sec 3	Panel for Air Conditioning and Heating
8-Oct-2015	CED 46:P3	Part 5	Panel for Building Materials
9-Oct-2015	CED 46:P13	Part 8/Sec 2	Panel for Electrical Installations
13-Oct-2015	CED 46:P11	Part 7	Panel for Constructional Practices and Safety
16-Oct-2015	CED 46:P5	Part 6/Sec 2	Panel for Soils and Foundations
21-Oct-2015	CED 46:P20	Part 6/Sec 8	Panel for Glass and Glazing
23-Oct-2015	CED 46:P6	Part 6/Sec 3A Part 6/Sec 3B	Panel for Timber
27-Oct-2015	CED 46:P10	Part 6/Sec 7A Part 6/Sec 7A	Panel for Prefabrication and Systems Buildings
02-Nov-2015	CED 46:P22	Part 12	Panel for Asset and Facility Management
04-Nov-2015	CED 46:P12	Part 8/Sec 1	Panel for Lighting and Ventilation

DATE OF MEETING	DESIGNATION OF THE PANEL	PART/SEC	NAME OF THE PANEL
12-Nov-2015	CED 46:P7	Part 6/Sec 4	Panel for Masonry
17-Nov-2015	CED 46:P19	Part 11	Panel for Sustainability
19-Nov-2015	CED 46:P4	Part 6/Sec 1	Panel for Loads, Forces and Effects
23-Nov-2015	CED 46:P8	Part 6/Sec 5A Part 6/Sec 5B	Panel for Plain, Reinforced and Prestressed Concrete
26-Nov-2015	CED 46:P9	Part 6/Sec 6	Panel for Steel
11-Dec-2015	CED 46:P21	Part 8/Sec 6	Panel for Information & Communication Enabled Installations
15-Dec-2015	CED 46:P18	Part 10/Sec 1 Part 10/Sec 2	Panel for Landscaping, Signs and Outdoor Display Structures
16-Dec-2015	CED 46:AG	Part 0	Adhoc Group for Part 0 of NBC
21-Dec-2015	CED 46:P17	Part 9/Sec 1 Part 9/Sec 2 Part 9/Sec 3 Part 9/Sec 4	Panel for Plumbing Services
23-Dec-2015	CED 46:P15	Part 8/Sec4	Panel for Acoustics, Sound Insulation & Noise Control
28-Dec-2015 and 29-Dec-2015	CED 46:P2	Part 4	Panel for Fire Protection
30-Dec-2015 and 31-Dec-2015	CED 46:P1	Part 2 & Part 3	Panel for Administration, Development Control Rules & General Building Requirements

The Panels/Adhoc Group after due consideration in these meetings, recommended finalization of the drafts with further modifications/improvements.

The Committee may **NOTE**.

Item 4 FINALIZATION OF DRAFTS FOR ADOPTION AND PRINTING

4.1 Draft National Building Code of India: Part 0 'Integrated Approach – Prerequisite for Applying Provisions of the Code' [*First Revision of SP 7(Part 0)*], Doc: CED 46(8054)WC

4.1.1 The draft was issued in wide circulation vide BIS DG letter No. CED 46/T-23 dated 25 October 2015. The recommendations of the Adhoc Group for Part 0 of NBC, CED 46:AG on the comments received as a result of circulation, made in its first meeting on 16 December 2015, are given at **Annex 26**.

The Committee may consider the draft along with the comments received and the recommendations of the Adhoc Group, and finalize the draft for **Adoption** and **Printing**.

4.2 Draft Revision of National Building Code Of India: Part 1 'Definitions', Doc No. : CED 46(8072)

4.2.1 The Part 1 'Definitions' does not contain definitions of all the terms, but lists them and indicates against each such term the information as to in which Parts/Sections of NBC, the definitions of the term can be found. Some of the common definitions are reproduced in Part 1 for the sake of ease of reference. Therefore, this Part simply gets revised based on the revisions in other Parts/Sections, and hence is non-controversial in nature. Hence, in consultation with the Chairman, it was decided not to issue the same in wide circulation. However, a draft revision of Part 1 has been prepared which is given at **Annex 27**. This will be further modified based on the actual changes decided in other Parts/Sections in terms of addition/deletion of definitions therein of those terms which have been enumerated in Part 1, or modification in the definitions of those terms, the definitions of which are reproduced in Part 1 in addition to coverage of their definitions in the respective Parts/Sections.

The Committee may consider the draft and finalize the same for **Adoption** and **Printing**.

4.3 Draft National Building Code of India: Part 2 'Administration' [*Third Revision of SP 7 (Part 2)*], Doc: CED 46(8068)WC

4.3.1 The draft was issued in wide circulation vide BIS DG letter No. CED 46/T-2 dated 24 November 2015. The recommendations of the Panel for Administration, Development Control Rules & General Building Requirements, CED 46:P1 on the comments received as a result of circulation, made in its fourth meeting on 30-31 December 2015, are given at **Annex 28**.

The Committee may consider the draft along with the comments received as also the recommendations of the Panel and finalize the draft for **Adoption** and **Printing**.

4.4 Draft National Building Code of India: Part 3 'Development Control Rules and General Building Requirements' [*Third Revision of SP 7 (Part 3)*], Doc: CED 46(8064)WC

4.4.1 The draft was issued in wide circulation vide BIS DG letter No. CED 46/T-3 dated 24 November 2015. The recommendations of the Panel for Administration, Development Control Rules & General Building Requirements, CED 46:P1 on the comments received as a result of circulation, made in its fourth meeting on 30-31 December 2015, are given at **Annex 29**.

The Committee may consider the draft along with the comments received as also the recommendations of the Panel and finalize the draft for **Adoption** and **Printing**.

4.5 Draft National Building Code of India: Part 4 'Fire and Life Safety' [*Third Revision of SP 7 (Part 4)*], Doc: CED 46(8067)WC

4.5.1 The draft was issued in wide circulation vide BIS DG letter No. CED 46/T-4 dated 24 November 2015. The recommendations of the Panel for Fire and Life Safety, CED 46:P2 on the comments received as a result of circulation, made in its seventh meeting on 28-29 December 2015, are given at **Annex 30**.

The Committee may consider the draft along with the comments received as also the recommendations of the Panel and finalize the draft for **Adoption** and **Printing**.

4.6 Draft National Building Code of India and the Part 5 'Building Materials' [*Third Revision of SP 7 (Part 5)*], Doc: CED 46(8017)WC

4.6.1 The draft was issued in wide circulation vide BIS DG letter No. CED 46/T-5 dated 07 August 2015. The recommendations of the Panel for Building Materials, CED 46:P3 on the comments received as a result of circulation, made in its fourth meeting on 08 October 2015, are given at **Annex 31**.

The Committee may consider the draft along with the comments received as also the recommendations of the Panel and finalize the draft for **Adoption** and **Printing**.

4.7 Draft National Building Code of India: Part 6 'Structural Design, Section 1 Loads, Forces and Effects' [*Third Revision of SP 7(Part 6/Section 1)*], Doc: CED 46(8034)WC

4.7.1 The draft was issued in wide circulation vide BIS DG letter No. CED 46/T-6 dated 21 September 2015. The recommendations of the Panel for Loads, Forces and Effects,

CED 46:P4 on the comments received as a result of circulation, made in its fifth meeting on 19 November 2015, are given at **Annex 32**.

The Committee may consider the draft along with the comments received as also the recommendations of the Panel and finalize the draft for **Adoption** and **Printing**.

4.8 Draft National Building Code of India: Part 6 'Structural Design', Section 2 'Soils and Foundations' [*Third Revision of SP 7(Part 6/Section 2)*], Doc: CED 46(8021)WC

4.8.1 The draft was issued in wide circulation vide BIS DG letter No. CED 46/T-7 dated 28 August 2015. The recommendations of the Panel for Soils and Foundations, CED 46:P5 on the comments received as a result of circulation, made in its fourth meeting on 16 October 2015, are given at **Annex 33**.

The Committee may consider the draft along with the comments received as also the recommendations of the Panel and finalize the draft for **Adoption** and **Printing**.

4.9 Draft National Building Code of India: Part 6 'Structural Design', Section 3 'Timber and Bamboo', 3A Timber [*Third Revision of SP 7(Part 6/Section 3A)*], Doc: CED 46(8024)WC

4.9.1 The draft was issued in wide circulation vide BIS DG letter No. CED 46/T-8 dated 02 September 2015. The recommendations of the Panel for Timber, CED 46:P6 on the comments received as a result of circulation, made in its fourth meeting on 23 October 2015, are given at **Annex 34**.

The Committee may consider the draft along with the comments received as also the recommendations of the Panel and finalize the draft for **Adoption** and **Printing**.

4.10 Draft National Building Code of India: Part 6 'Structural Design', Section 3 'Timber and Bamboo', 3B Bamboo [*First Revision of SP 7(Part 6/Section 3B)*], Doc: CED 46(8025)WC

4.10.1 The draft was issued in wide circulation vide BIS DG letter No. CED 46/T-8 dated 02 September 2015. The recommendations of the Panel for Timber, CED 46:P6 on the comments received as a result of circulation, made in its fourth meeting on 23 October 2015, are given at **Annex 35**.

The Committee may consider the draft along with the comments received as also the recommendations of the Panel and finalize the draft for **Adoption** and **Printing**.

4.11 Draft National Building Code of India: Part 6 'Structural Design', Section 4 'Masonry' [*Third Revision of SP 7(Part 6/Section 4)*], Doc: CED 46(8035)WC

4.11.1 The draft was issued in wide circulation vide BIS DG letter No. CED 46/T-9 dated 24 September 2015. The recommendations of the Panel for Masonry, CED 46:P7 on the comments received as a result of circulation, made in its fifth meeting on 12 November 2015, are given at **Annex 36**.

The Committee may consider the draft along with the comments received as also the recommendations of the Panel and finalize the draft for **Adoption** and **Printing**.

4.12 Draft National Building Code of India: Part 6 Structural Design, Section 5 Concrete: 5A Plain and Reinforced Concrete [*Third Revision of SP 7(Part 6/Section 5A)*], Doc: CED 46(8039)WC

4.12.1 The draft was issued in wide circulation vide BIS DG letter No. CED 46/T-10 dated 05 October 2015. The recommendations of the Panel for Plain, Reinforced and Prestressed Concrete, CED 46:P8 on the comments received as a result of circulation, made in its third meeting on 23 November 2015, are given at **Annex 37**.

The Committee may consider the draft along with the comments received as also the recommendations of the Panel and finalize the draft for **Adoption** and **Printing**.

4.13 Draft National Building Code of India: Part 6 Structural Design, Section 5 Concrete: 5B Prestressed Concrete [*Third Revision of SP 7(Part 6/Section 5B)*], Doc: CED 46(8040)WC

4.13.1 The draft was issued in wide circulation vide BIS DG letter No. CED 46/T-10 dated 05 October 2015. The recommendations of the Panel for Plain, Reinforced and Prestressed Concrete, CED 46:P8 on the comments received as a result of circulation, made in its third meeting on 23 November 2015, are given at **Annex 38**.

The Committee may consider the draft along with the comments received as also the recommendations of the Panel and finalize the draft for **Adoption** and **Printing**.

4.14 Draft National Building Code of India: Part 6 'Structural Design, Section 6 Steel' [*Third Revision of SP 7(Part 6/Section 6)*], Doc: CED 46(8041)WC

4.14.1 The draft was issued in wide circulation vide BIS DG letter No. CED 46/T-11 dated 07 October 2015. The recommendations of the Panel for Steel, CED 46:P9 on the comments received as a result of circulation, made in its fourth meeting on 26 November 2015, are given at **Annex 39**.

The Committee may consider the draft along with the comments received as also the recommendations of the Panel and finalize the draft for **Adoption** and **Printing**.

4.15 Draft National Building Code of India: Part 6 'Structural Design', Section 7 'Prefabrication and Systems Building', 7A Prefabricated Concrete, [*Third Revision of SP 7(Part 6/Section 7A)*], Doc: CED 46(8028)WC

4.15.1 The draft was issued in wide circulation vide BIS DG letter No. CED 46/T-12 dated 04 September 2015. The recommendations of the Panel for Prefabrication and Systems Buildings, CED 46:P10 on the comments received as a result of circulation, made in its fourth meeting on 27 October 2015, are given at **Annex 40**.

The Committee may consider the draft along with the comments received as also the recommendations of the Panel and finalize the draft for **Adoption** and **Printing**.

4.16 Draft National Building Code of India: Part 6 'Structural Design', Section 7 'Prefabrication and Systems Building', 7B Systems Building and Mixed/Composite Construction, [*First Revision of SP 7(Part 6/Section 7B)*], Doc: CED 46(8029)WC

4.16.1 The draft was issued in wide circulation vide BIS DG letter No. CED 46/T-12 dated 04 September 2015. The recommendations of the Panel for Prefabrication and Systems Buildings, CED 46:P10 on the comments received as a result of circulation, made in its fourth meeting on 27 October 2015, are given at **Annex 41**.

The Committee may consider the draft along with the comments received as also the recommendations of the Panel and finalize the draft for **Adoption** and **Printing**.

4.17 Draft National Building Code of India: Part 6 'Structural Design', Section 8 'Glass and Glazing' [*Draft SP 7(Part 6/Section 8)*], Doc: CED 46(8022)WC

4.17.1 The draft was issued in wide circulation vide BIS DG letter No. CED 46/T-25 dated 02 September 2015. The recommendations of the Panel for Glass and Glazing, CED 46:P20 on the comments received as a result of circulation, made in its second meeting on 21 October 2015, are given at **Annex 42**.

The Committee may consider the draft along with the comments received as also the recommendations of the Panel and finalize the draft for **Adoption** and **Printing**.

4.18 Draft National Building Code of India and the Part 7 'Construction Management, Practices and Safety' [Third Revision of SP 7(Part 7)], Doc: CED 46(8018)WC

4.18.1 The draft was issued in wide circulation vide BIS DG letter No. CED 46/T-13 dated 15 August 2015. The recommendations of the Panel for Constructional Practices and Safety, CED 46:P11 on the comments received as a result of circulation, made in its fourth meeting on 13 October 2015, are given at **Annex 43**.

The Committee may consider the draft along with the comments received as also the recommendations of the Panel and finalize the draft for **Adoption** and **Printing**.

4.19 Draft National Building Code of India: Part 8 'Building Services', Section 1 'Lighting and Ventilation' [Third Revision of SP 7(Part 8/Section 1)], Doc: CED 46(8030)WC

4.19.1 The draft was issued in wide circulation vide BIS DG letter No. CED 46/T-14 dated 15 September 2015. The recommendations of the Panel for Lighting and Ventilation, CED 46:P12 on the comments received as a result of circulation, made in its fourth meeting on 04 November 2015, are given at **Annex 44**.

The Committee may consider the draft along with the comments received as also the recommendations of the Panel and finalize the draft for **Adoption** and **Printing**.

4.20 Draft National Building Code of India and the Part 8 'Building Services', Section 2 'Electrical and Allied Installations' [Third Revision of SP 7(Part 8/Section 2)], Doc: CED 46(8023)WC

4.20.1 The draft was issued in wide circulation vide BIS DG letter No. CED 46/T-15 dated 28 August 2015. The recommendations of the Panel for Electrical Installations, CED 46:P13 on the comments received as a result of circulation, made in its fourth meeting on 09 October 2015, are given at **Annex 45**.

The Committee may consider the draft along with the comments received as also the recommendations of the Panel and finalize the draft for **Adoption** and **Printing**.

4.21 Draft National Building Code of India and the Part 8 'Building Services', Section 3 'Air Conditioning, Heating and Mechanical Ventilation', [Third Revision of SP 7(Part 8/Section 3)], Doc: CED 46(8016)WC

4.21.1 The draft was issued in wide circulation vide BIS DG letter No. CED 46/T-16 dated 31 July 2015. The recommendations of the Panel for Air Conditioning and

Heating, CED 46:P14 on the comments received as a result of circulation, made in its fifth meeting on 26 September 2015, are given at **Annex 46**.

The Committee may consider the draft along with the comments received as also the recommendations of the Panel and finalize the draft for **Adoption** and **Printing**.

4.22 Draft National Building Code of India: Part 8 'Building Services, Section 4 Acoustics, Sound Insulation and Noise Control' [*Third Revision of SP 7 (Part 8/Section 4)*], Doc: CED 46(8063)WC

4.22.1 The draft was issued in wide circulation vide BIS DG letter No. CED 46/T-17 dated 19 November 2015. The recommendations of the Panel for Acoustics, Sound Insulation & Noise Control, CED 46:P15 on the comments received as a result of circulation, made in its fourth meeting on 23 December 2015, are given at **Annex 47**.

The Committee may consider the draft along with the comments received as also the recommendations of the Panel and finalize the draft for **Adoption** and **Printing**.

4.23 Draft National Building Code of India and the Part 8 'Building Services', Section 5 'Installation of Lifts, Escalators and Moving Walks', 5A Lifts, [*Third Revision of SP 7(Part 8/Section 5A)*], Doc: CED 46(8019)WC

4.23.1 The draft was issued in wide circulation vide BIS DG letter No. CED 46/T-18 dated 11 August 2015. The recommendations of the Panel for Installation of Lifts and Escalators, CED 46:P16 on the comments received as a result of circulation, made in its fourth meeting on 23 September 2015, are given at **Annex 48**.

The Committee may consider the draft along with the comments received as also the recommendations of the Panel and finalize the draft for **Adoption** and **Printing**.

4.24 Draft National Building Code of India and the Part 8 'Building Services', Section 5 'Installation of Lifts, Escalators and Moving Walks', 5B Escalators & Moving Walks, [*Third Revision of SP 7(Part 8/Section 5B)*], Doc: CED 46(8020)WC

4.24.1 The draft was issued in wide circulation vide BIS DG letter No. CED 46/T-18 dated 11 August 2015. The recommendations of the Panel for Installation of Lifts and Escalators, CED 46:P16 on the comments received as a result of circulation, made in its fourth meeting on 23 September 2015, are given at **Annex 49**.

The Committee may consider the draft along with the comments received as also the recommendations of the Panel and finalize the draft for **Adoption** and **Printing**.

4.25 Draft National Building Code of India: Part 8 'Building Services, Section 6 Information and Communication Enabled Installations' [Draft SP 7 (Part 8/Section 6)], Doc: CED 46(8055)WC

4.25.1 The draft was issued in wide circulation vide BIS DG letter No. CED 46/T-26 dated 27 October 2015. The recommendations of the Panel for Information and Communication Enabled Installations, CED 46:P21 on the comments received as a result of circulation, made in its second meeting on 11 December 2015, are given at **Annex 50**.

The Committee may consider the draft along with the comments received as also the recommendations of the Panel and finalize the draft for **Adoption** and **Printing**.

4.26 Draft National Building Code of India: Part 9 'Plumbing Services, Section 1 Water Supply' [Third Revision of SP 7(Part 9/Section 1)], Doc: CED 46(8058)WC

4.26.1 The draft was issued in wide circulation vide BIS DG letter No. CED 46/T-19 dated 11 November 2015. The recommendations of the Panel for Plumbing Services, CED 46:P17 on the comments received as a result of circulation, made in its fourth meeting on 21 December 2015, are given at **Annex 51**.

The Committee may consider the draft along with the comments received as also the recommendations of the Panel and finalize the draft for **Adoption** and **Printing**.

4.27 Draft National Building Code of India: Part 9 'Plumbing Services, Section 2 Drainage and Sanitation' [Third Revision of SP 7(Part 9/Section 2)], Doc: CED 46(8059)WC

4.27.1 The draft was issued in wide circulation vide BIS DG letter No. CED 46/T-20 dated 11 November 2015. The recommendations of the Panel for Plumbing Services, CED 46:P17 on the comments received as a result of circulation, made in its fourth meeting on 21 December 2015, are given at **Annex 52**.

The Committee may consider the draft along with the comments received as also the recommendations of the Panel and finalize the draft for **Adoption** and **Printing**.

4.28 Draft National Building Code of India: Part 9 'Plumbing Services, Section 3 Solid Waste Management' [Draft SP 7(Part 9/Section 3)], Doc: CED 46(8060)WC

4.28.1 The draft was issued in wide circulation vide BIS DG letter No. CED 46/T-27 dated 15 November 2015. The recommendations of the Panel for Plumbing Services, CED 46:P17 on the comments received as a result of circulation, made in its fourth meeting on 21 December 2015, are given at **Annex 53**.

The Committee may consider the draft along with the comments received as also the recommendations of the Panel and finalize the draft for **Adoption** and **Printing**.

4.29 Draft National Building Code of India: Part 9 'Plumbing Services, Section 4 Gas Supply' [Draft SP 7(Part 9/Section 4)], Doc: CED 46(8061)WC

4.29.1 The draft was issued in wide circulation vide BIS DG letter No. CED 46/T-21 dated 15 November 2015. The recommendations of the Panel for Plumbing Services, CED 46:P17 on the comments received as a result of circulation, made in its fourth meeting on 21 December 2015, are given at **Annex 54**.

The Committee may consider the draft along with the comments received as also the recommendations of the Panel and finalize the draft for **Adoption** and **Printing**.

4.30 Draft National Building Code of India: Part 10 'Landscape Architecture, Signs and Outdoor Display Structures, Section 1 Landscape Planning, Design and Development' [First Revision of SP 7(Part 10/Section 1)], Doc: CED 46(8056)WC

4.30.1 The draft was issued in wide circulation vide BIS DG letter No. CED 46/T-22 dated 29 October 2015. The recommendations of the Panel for Landscaping, Signs and Outdoor Display Structures, CED 46:P18 on the comments received as a result of circulation, made in its fourth meeting on 15 December 2015, are given at **Annex 55**.

The Committee may consider the draft along with the comments received as also the recommendations of the Panel and finalize the draft for **Adoption** and **Printing**.

4.31 Draft National Building Code of India: Part 10 'Landscape Architecture, Signs and Outdoor Display Structures, Section 2 Signs and Outdoor Display Structures' [Third Revision of SP 7(Part 10/Section 2)], Doc: CED 46(8057)WC

4.31.1 The draft was issued in wide circulation vide BIS DG letter No. CED 46/T-22 dated 29 October 2015. The recommendations of the Panel for Landscaping, Signs and Outdoor Display Structures, CED 46:P18 on the comments received as a result of circulation, made in its fourth meeting on 15 December 2015, are given at **Annex 56**.

The Committee may consider the draft along with the comments received as also the recommendations of the Panel and finalize the draft for **Adoption** and **Printing**.

4.32 Draft National Building Code of India: Part 11 'Approach to Sustainability', [First Revision of SP 7(Part 11)], Doc: CED 46(8037)WC

4.32.1 The draft was issued in wide circulation vide BIS DG letter No. CED 46/T-24 dated 01 October 2015. The recommendations of the Panel for Sustainability, CED 46:P19 on the comments received as a result of circulation, made in its sixth meeting on 17 November 2015, are given at **Annex 57**.

The Committee may consider the draft along with the comments received as also the recommendations of the Panel and finalize the draft for **Adoption** and **Printing**.

4.33 Draft National Building Code of India: Part 12 'Asset and Facility Management', [Draft SP 7(Part 12)], Doc: CED 46(8027)WC

4.33.1 The draft was issued in wide circulation vide BIS DG letter No. CED 46/T-28 dated 10 September 2015. The recommendations of the Panel for Asset and Facility Management, CED 46:P22 on the comments received as a result of circulation, made in its second meeting on 02 November 2015, are given at **Annex 58**.

The Committee may consider the draft along with the comments received as also the recommendations of the Panel and finalize the draft for **Adoption** and **Printing**.

Item 5 RELEASE FUNCTION OF AMENDMENT NO. 1 TO NBC 2005 INTRODUCING PART 11 'APPROACH TO SUSTAINABILITY', AND AMENDMENT NO. 2 IN RESPECT OF PART 4 'FIRE AND LIFE SAFETY'

5.1 Keeping in line with the vision of India surging into a new era of orderly, safe and sustainable development, the Sectional Committee has been making concerted efforts to bring out Amendment No. 1 to the National Building Code of India 2005 (NBC 2005), for introducing a new Part 11 'Approach to Sustainability' in the Code. The work was going on through its Panel for Sustainability, CED 46:P19 under the Convenership of Dr Prem C. Jain. As a result of all these efforts, the Amendment was published and formally released by Smt Alka Panda, Director General, BIS, in a function organized by BIS on 29 September 2015.

In the function, DG, BIS informed that the objective of addition of new chapter to NBC 2005 is to create buildings and built environment in such a way thereby making sustainability a way of life and necessary tool for all buildings to come up. She urged the local authorities, the Govt. construction departments, the private agencies/builders/developers, consultants and professionals to copiously follow and implement the provisions of the new chapter. The Part 11 intends to promote positive environmental impacts; identifies health, safety and welfare impacts with a view to contributing to a positive quality of life for current and future generations, she further added.

The function was organized as per the following programme:

Welcome Address	Shri D. K. Nayyar <i>Deputy Director General (Standardization), BIS</i>
Framework of Part 11 of NBC 2005	Shri Sanjay Pant <i>Director (Civil Engg), BIS</i>
Key-Note Address	Dr Prem C. Jain <i>Convener, NBC Panel for Sustainability</i>
Special Address	Shri V. Suresh <i>Vice-Chairman, NBC Sectional Committee of BIS</i>
Message from Padmashri Dr H. C. Visvesvaraya	<i>Chairman, NBC Sectional Committee of BIS</i>
Presidential Address	Shri H. S. Dogra <i>Chairman, Civil Engineering Division Council</i>
Inaugural Address & Release	Ms. Alka Panda <i>Director General, BIS</i>
Vote of Thanks	Shri B. K. Sinha <i>Head (Civil Engg), BIS</i>

5.2 During the function, DG, BIS also released Amendment No. 2 to NBC 2005, thus effecting number of modifications/improvements in respect of number of important issues and giving solutions under various situations for practical implementation of different provisions of Part 4 'Fire and Life Safety'.

The Amendment was brought out based on the deliberations of the work done by the Panel for Fire Protection, CED 46:P2 under the Convenership of Shri S. K. Dheri and the Working Group functioning thereunder. DG, BIS presented the first copy of the Amendment to Shri Dheri.

Item 6 NATIONAL SEMINAR ON NATIONAL BUILDING CODE OF INDIA: NEW DIRECTIONS FOR REVISION

6.1 A seminar was organized by BIS jointly with the School of Planning and Architecture (SPA), on 18 March 2015, with a view to disseminating information about the ongoing revision of the code and to obtain feedback from the stakeholders on the same. The Seminar was inaugurated by the Chief Guest, Shri H.S. Dogra, Chairman, Civil Engineering Division Council of BIS and former DG, CPWD and currently Advisor (Engg), NDMC. In his **Inaugural Address**, he extolled the efforts towards the ambitious

project of revision of NBC being made by BIS. He advised the delegates to share their experiences and to make suggestions and contributions towards this mammoth task of comprehensive revision of the Code. Prof. Chetan Vaidya, Director, SPA, in his **Special Address**, mentioned that NBC was like Bible to the Construction Industry and was also copiously used by students of Architecture and Engineering. While wishing the Seminar a grand success, he assured full cooperation and contribution of SPA in the revision of the Code. Shri B. K. Sihna, Head (Civil Engg), BIS gave a **Keynote Address** and highlighted the importance of NBC in the national development particularly in view of large scale programmes for housing and infrastructure development being take up throughout the country. Earlier, the Inaugural Session started with the **Welcome Address** by Dr V.K. Paul, Professor, SPA and Convener of the Seminar. Shri Sanjay Pant, Scientist E (Civil Engg), BIS gave the **Programme Objective**. The Inaugural Session was followed by Technical Sessions where technical lectures were delivered:

Session 1 : National Building Code of India: Proposals for Revision Speaker : Shri Sanjay Pant, Director (Civil Engg), BIS
Session 2 : Administration, Development Control Rules & General Building Requirements Speaker : Shri V. Suresh, Convener of Panel for Administration, Development Control Rules & General Building Requirements
Session 3 : Fire and Life Safety Speaker : Shri S. K. Dheri, Convener of Panel for Fire Protection
Session 4 : Structural Design Speaker : Shri Jose Kurian, Convener of Panel for Plain, Reinforced and Prestressed Concrete
Session 5 : Plumbing Services Speaker : Shri B. S. Aswathnarayan, Convener of Panel for Plumbing Services
Session 6 : Electrical and Allied Installations Speaker : Smt Shruti Goel, Member of Panel for Electrical Installations
Session 7 : Constructional Practices, Safety and Management Speaker : Shri P. Krishnan, Convener of Panel for Constructional Practices and Safety
Session 8 : Lighting and Ventilation Speaker : Dr V. K. Paul, Member of Panel for Approach to Sustainability

The seminar was attended by around 300 delegates representing various stakeholders connected with building planning, design and construction including engineers, architects, town planners, Govt. and private construction agencies, consultants, academic and research institutions and building materials and technology providers.

The Committee may **NOTE**.

Item 7 AWARENESS AND PUBLICITY OF NBC

7.1 In order to disseminate information about the NBC 2005 and latest developments in connection with the same, and to help the state authorities, Govt. and private construction agencies, consultants, building professionals, academic and research institutions, and building materials and technology providers in understanding and implementing the Code, the following lectures/papers/talks were delivered:

<p>1. 'Revision of National Building Code of India - New Proposal and Directions' <i>- Delivered in the Seminar on 'Proposed Changes in National Building Code of India', organized by American Society of Civil Engineers-India Section (Western Region); 03 September 2014, Mumbai.</i></p>
<p>2. 'Provision of NBC and Indian Standards on Thermal Comfort and Building Design' <i>- Delivered in the Conclave on Green Architecture 'Building Sense: Towards Sustainable Building & Habitat', organized by Centre for Science & Environment; 22 September 2014, New Delhi.</i></p>
<p>3. 'Standards and NBC 2005: Part 4 Fire & Life Safety - Current Status and Proposed Revisions' <i>- Delivered in the Workshop on 'Fire & Life Safety: Regulations and beyond', organized by Institution of Fire Engineers (India); 26 September 2014, New Delhi.</i></p>
<p>4. 'Overview of National Building Code of India' <i>- Delivered in 47th International Training Programme on Standardization and Quality Assurance for Developing Countries, organized by NITS, BIS; 17 Oct 2014, Noida</i></p>
<p>5. 'NBC 2005: An Overview and Latest Developments' <i>- Delivered in the Foundation Training Programme of Assistant Executive Engineers of CPWD, organized by CPWD Training Institute; 19 November 2014, Ghaziabad.</i></p>
<p>6. 'Sustainability in Buildings and Built Environment - A Comprehensive Approach' <i>- Presented the paper in the 2nd International Congress on Durability of Concrete (ICDC); organized jointly by the Norwegian Concrete Association and the Indian Concrete Institute; 4 - 6 December 2014, New Delhi.</i></p>
<p>7. 'NBC: A Model Code for Adoption in Building Regulatory Process' <i>- Delivered in the National Workshop on Draft Model Building Bye-Laws, 2015; organized Town & Country Planning Organization, Ministry of Urban Development, Govt of India; 18 February 2015, New Delhi.</i></p>
<p>8. 'Ensuring Quality in Construction: Sustained BIS Initiatives through Indian standards and NBC' <i>- Delivered in the ICI-Ultratech Awards Function for Outstanding Concrete Structures of Goa, organized jointly by the Indian Concrete Institute-Goa Centre and Ultratech Cement Ltd; 21 February 2015, Goa.</i></p>

<p>9. National Building Code of India: New Directions for Revision</p> <p>- <i>Delivered Lecture at the National Seminar on 'National Building Code of India: New Directions for Revision', organized by BIS and SPA; 18 March 2015, New Delhi</i></p>
<p>10. 'NBC 2005: An Overview and Latest Developments'</p> <p>- <i>Delivered in the 'Foundation Training Programme for AEEs (C&E) 2014 of CPWD', organized by CPWD Training Institute; 10 April 2015, Ghaziabad.</i></p>
<p>11. 'Approach to Sustainability in NBC 2005'</p> <p>- <i>Delivered in the 'Training Programme for CPWD Architects and Engineers', organized by Centre for Science & Environment; 15 April 2015, New Delhi.</i></p>
<p>12. 'National Building Code of India 2005 and Building Regulatory Process for Ensuring Structural Safety'</p> <p>- <i>Delivered in Training Programme on Earthquake Risk Mitigation and Management, organized by the National Institute of Disaster Management, Ministry of Home Affairs; 21 May 2015, New Delhi</i></p> <p>-</p>
<p>13. 'National Building Code of India 2005 and Building Regulatory Mechanism for Ensuring Safety'</p> <p>- <i>Delivered in the 'Training Programme on Building Better: Advance Building Technologies and Practices for Sustainability', organized by Centre for Science & Environment; 15 July 2015, New Delhi.</i></p>
<p>14. 'Sustainability in Buildings and Built Environment - A Comprehensive Approach in NBC 2005: Part 11'</p> <p>- <i>Delivered in the 'Training Programme on Building Better: Advance Building Technologies and Practices for Sustainability', organized by Centre for Science & Environment; 15 July 2015, New Delhi.</i></p>
<p>15. 'Indian Standards & NBC and Building Regulatory Framework in India'</p> <p>- <i>Delivered in the CEP 2015 - Continuing Education Programme on the Theme 'Opportunities and Threats Arising Out of New Enactments in India for Indian and International Valuers', organized by Professional Valuers' Association of India; 15 July 2015, New Delhi.</i></p>
<p>16. 'Indian Standards and NBC 2005: An Overview and Latest Developments'</p> <p>- <i>Delivered in Training Programme 'Testing of Construction Materials' for DRDO Engineers, organized by Construction Industry Development Council; 16 September 2015, New Delhi</i></p>
<p>17. 'Overview of National Building Code'</p> <p>- <i>Delivered in the 48th International Training Programme on 'Standardization & Quality Assurance for Developing Countries', organized by NITS, Noida; 15 October 2015, Noida.</i></p>
<p>18. 'National building Code of India - Part 11 The new Approach to Sustainability'</p> <p>- <i>Delivered in the 'Training Programme on Building Better: Sustainable Building Policies and Practices', organized by Centre for Science & Environment; 21 November 2015, New Delhi.</i></p>

<p>19. ‘Introduction to NBC and Indian Standards for Construction’</p> <ul style="list-style-type: none"> - <i>Delivered in 2nd Executive Programme for DRDO Engineers on Laboratory Techniques, organized by Construction Industry Development Council jointly with DRDO; 25 November 2015, New Delhi</i>
<p>20. ‘A Holistic Approach for Materials Selection for Sustainable Building Construction’</p> <ul style="list-style-type: none"> - <i>Paper Published in the NCB-CMA Special Publication 'Cement & Construction Industry - Perspective for Sustainable Growth' brought out on the occasion of 14th NCB International Seminar on Cement & Building Materials; organized by the National Council for Cement & Building Materials; 1-4 December 2015, New Delhi, pp 67-87</i>
<p>20. ‘Introduction to Indian Standards and National Building Code of India 2005: An Overview & Latest Developments’</p> <ul style="list-style-type: none"> - <i>Delivered in Training Programme 'Testing of Construction Materials' for DRDO Engineers, organized by Construction Industry Development Council jointly with DRDO; 27 February 2016, New Delhi</i>
<p>21. ‘NBC 2005: An Overview’</p> <ul style="list-style-type: none"> - <i>Delivered in the ‘Foundation Training Programme for AEEs (C&E) 2015 of CPWD’, organized by CPWD Training Institute; 10 March 2016, Ghaziabad.</i>

The Committee may **NOTE**.

Item 8 ANY OTHER BUSINESS

ANNEX 1
(Item 2.1)

COMPOSITION OF NATIONAL BUILDING CODE SECTIONAL COMMITTEE, CED 46

SI No.	NAME OF THE ORGANISATION	REPRESENTED BY	STATUS	ATTENDANCE
1.	In Personal Capacity, Bangalore	Dr H. C. Visvesvaraya (Chairman)	T	3/3
2.	In Personal Capacity, Mumbai	Shri V. Suresh (Vice-Chairman)	T	3/3
3.	Ahmedabad Municipal Corporation, Ahmedabad	Shri Vatsal S. Patel Shri Jagdish A. Patel (<i>Alternate</i>)	U	1/3
4.	Airports Authority of India Ltd, New Delhi	Shri D. K. Kamra Shri S. G. Panicker (<i>Alternate</i>)	U	1/1
5.	Association of Consulting Civil Engineers (India), Bangalore	Dr Aswath M. U. Shri Avinash D. Shirode (<i>Alternate</i>)	T	2/2
6.	Bruhat Bengaluru Mahanagara Palike, Bengaluru	Commissioner Chief Engineer (Project) (<i>Alternate</i>)	U	1/3
7.	Builders Association of India, Mumbai	Shri Sanjay V. Vaichal Shri H. S. Pasricha (<i>Alternate</i>)	U	1/3
8.	Building Materials & Technology Promotion Council, New Delhi	Dr Shailesh Kr Agrawal	T	1/3
9.	Bureau of Energy Efficiency (Ministry of Power), New Delhi	Shri Sanjay Seth	T	1/3
10.	CSIR - Central Building Research Institute, Roorkee	Director Dr A. K. Minocha (<i>Alternate</i>)	T	1/3
11.	CSIR - Structural Engg Research Centre, Chennai	Dr P. Srinivasan Dr Jolly Annie Peter (<i>Alternate</i>)	T	2/3
12.	Central Public Works Department, New Delhi	Shri M. K. Sharma Shri Rajesh Khare (<i>Alternate</i>)	U	1/3
13.	Chennai Metropolitan Development Authority, Chennai	Member Secretary Dr S. Chithra (<i>Alternate</i>)	U	2/3
14.	Confederation of Real Estate Developers Association of India, New Delhi	Shri G. Yoganand Shri Prashant Sarode (<i>Alternate</i>)	U	0/1

SI No.	NAME OF THE ORGANISATION	REPRESENTED BY	STATUS	ATTENDANCE
15.	Construction Industry Development Council, New Delhi	Shri P. R. Swarup Shri Ravi Jain (<i>Alternate</i>)	U	2/3
16.	Council of Architecture, New Delhi	Shri Divya Kush Shri A. R. Ramanathan (<i>Alternate</i>)	T	1/3
17.	Delhi Development Authority, New Delhi	Engineer-Member Chief Engineer (Deisgn) (<i>Alternate</i>)	U	2/3
18.	Delhi Fire Service, Govt of NCT of Delhi, Delhi	Shri A. K. Sharma	U	1/3
19.	Directorate General of Training (Ministry of Skill Development and Entrepreneurship), New Delhi	Shri Ashwani Kumar	U	1/3
20.	Engineers India Ltd, New Delhi	Shri J. K. Bhagchandani Shri Deepak Agrawal (<i>Alternate</i>)	T	1/3
21.	Forest Research Institute (ICFRE), DehraDun	Director General Director (<i>Alternate</i>)	T	1/3
22.	Gujarat State Disaster Management Authority, Gandhinagar	Nomination awaited	T	0/0
23.	Himachal Pradesh Urban Development Authority, Shimla	Shri Dinesh Kumar Kashyap Shri Umesh Kumar Sharma (<i>Alternate</i>)	U	0/0
24.	Hiranandani Developers Private Limited, Mumbai	Nomination awaited	U	0/0
25.	Housing & Urban Development Corporation Limited, Delhi	Chairman & Managing Director Shri R. K. Safaya (<i>Alternate</i>)	U	1/3
26.	In Personal Capacity, New Delhi	Dr J. R. Bhalla	T	1/3
27.	Indian Association of Structural Engineers, New Delhi	Prof Mahesh Tandon Shri Mahendra Raj (<i>Alternate</i>)	T	0/1
28.	Indian Buildings Congress, New Delhi	Shri K. B. Rajoria Shri Deepak Narayan (<i>Alternate</i>)	T	0/0
29.	Indian Geotechnical Society, New Delhi	Prof A. Sreerama Rao Prof Abhay Gupta (<i>Alternate</i>)	T	2/3
30.	Indian Green Building Council, Hyderabad	Shri S. Srinivas Shri Praveen Kumar Soma (<i>Alternate</i>)	T	0/0

SI No.	NAME OF THE ORGANISATION	REPRESENTED BY	STATUS	ATTENDANCE
31.	Indian Institute of Technology Madras, Chennai	Dr Benny Raphael Dr Amlan Sengupta (<i>Alternate</i>)	T	0/0
32.	Indian Roads Congress, New Delhi	Secretary General Director (<i>Alternate</i>)	T	1/3
33.	Institute of Fire Engineers (India), New Delhi	President General Secretary (<i>Alternate</i>)	T	2/3
34.	Institute of Town Planners India, New Delhi	Dr S. K. Kulshrestha	T	2/3
35.	Larsen & Tourbro Ltd, Chennai	Shri K. Senthilnathan Shri Sthaladipti Saha (<i>Alternate</i>)	U	0/1
36.	Madhya Pradesh Housing Board, Bhopal	Nomination awaited	U	0/0
37.	Military Engineer Services, E-in-C's Branch, Army HQ, New Delhi	Brig Girish Joshi Lt Col Gaurav Kaushik (<i>Alternate</i>)	U	1/3
38.	Ministry of Home Affairs, New Delhi	Fire Advisor	U	1/3
39.	Ministry of Home Affairs (Disaster Management Division), New Delhi	Smt Suchitra Goswami	U	1/3
40.	Ministry of New & Renewable Energy, New Delhi	Dr T. C. Tripathi	T	1/3
41.	Ministry of Urban Development, Govt of India, New Delhi	Joint Secretary (Urban Development)	U	0/0
42.	Municipal Corporation of Greater Mumbai, Mumbai	Director City Engineer (<i>Alternate</i>)	U	0/3
43.	National Buildings Construction Corporation, New Delhi	Shri Rakesh Marya Ms Annu Garg (<i>Alternate</i>)	U	0/3
44.	National Council for Cement and Building Materials, Ballabgarh	Shri V. V. Arora Shri Satish Sharma (<i>Alternate</i>)	T	3/3
45.	National Design & Research Forum, The Institution of Engineers (India), Bengaluru	Director	T	2/3
46.	National Disaster Management Authority, New Delhi	Shri Anil Kumar Sanghi Shri Sachida Nand Singh (<i>Alternate</i>)	T	0/0

SI No.	NAME OF THE ORGANISATION	REPRESENTED BY	STATUS	ATTENDANCE
47.	National Institute of Disaster Management, New Delhi	Nomination awaited	T	0/1
48.	New Okhla Industrial Development Authority, Noida	Shri S. C. Gaur Shri A. K. Goel (<i>Alternate</i>)	U	0/1
49.	North Eastern Council, Shillong	Adviser (T&C)	U	0/3
50.	Punjab Urban Planning & Development Authority, Mohali	Shri Rajiv Moudgil Shri Sunil Kansal (<i>Alternate</i>)	U	0/0
51.	rites Ltd, Gurgaon	Smt Anita Dhar Kaul Shri Rajeev Nanda (<i>Alternate</i>)	T	0/1
52.	School of Planning & Architecture, New Delhi	Director Dr Virendra Kumar Paul (<i>Alternate</i>)	T	1/3
53.	Suri & Suri Consulting Acoustical Engineers, Noida	Shri Gautam Suri	T	0/3
54.	Sustainable Urbanism International, Bengaluru	Dr Jyoti Hosagrahar	T	0/0
55.	The Energy and Resources Institute, New Delhi	Shri Pradeep Kumar Ms Sonia Rani (<i>Alternate</i>)	T	0/3
56.	The Indian Institute of Architects, New Delhi	Shri Balbir Verma Shri Abhijit Ray (<i>Alternate</i>)	T	3/3
57.	The Institution of Engineer (India), Kolkata	Shri O. P. Goel Shri K. B. Rajoria (<i>Alternate</i>)	T	2/3
58.	The Institution of Surveyors, New Delhi	Shri D. L. Vohra Shri M. S. Tomar (<i>Alternate</i>)	T	0/3
59.	Town and Country Planning Organization, Ministry of Urban Development, New Delhi	Chief Planner Shri R. Srinivas (<i>Alternate</i>)	T	2/3
60.	Unitech Limited, Gurgaon	Shri Anil Kumar Chopra Shri Sanjay Tyagi (<i>Alternate</i>)	U	1/3

Technologist (T)	=	31
Manufacturer (M)	=	00
User (U)	=	29

Total	=	60

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
1.	In Personal Capacity, Mumbai	Shri V. Suresh (Convener)
2.	Association of Consulting Civil Engineers (India), Bangalore	Shri Avinash D. Shirode Shri Umesh B. Rao (<i>Alternate</i>)
3.	Building Materials and Technology Promotion Council, New Delhi	Dr Shailesh Kr Agrawal Shri J. K. Prasad (<i>Alternate</i>)
4.	Central Public Works Department, New Delhi	Chief Engineer (CSQ) Chief Architect (NDR) (<i>Alternate</i>)
5.	Consulting Engineers Association of India, New Delhi	Shri S. C. Mehrotra Shri V. P. Agarwal (<i>Alternate</i>)
6.	Corporation of Chennai, Chennai	Shri R. Manoharan Shri A. S. Murugan (<i>Alternate</i>)
7.	Council of Architecture, New Delhi	Shri Divya Kush Shri A. R. Ramanathan (<i>Alternate</i>)
8.	CSIR - Central Building Research Institute, Roorkee	Director Dr Achal Kumar Mittal (<i>Alternate</i>)
9.	Delhi Development Authority, New Delhi	Shri D. P. Singh Shri Umesh Kumar (<i>Alternate</i>)
10.	Engineering Council of India, New Delhi	Prof Mahesh Tandon Dr S. Chatterjee (<i>Alternate</i>)
11.	Ghaziabad Development Authority, Ghaziabad	Shri Satish Chandra Gaur Shri V. K. Goyal (<i>Alternate</i>)
12.	Housing and Urban Development Corporation Ltd, New Delhi	Shri Akhilesh Kumar Shri V. K. Joshi (<i>Alternate</i>)
13.	In Personal Capacity, Mumbai	Shri Shashikant L. Jadhav
14.	Indian Association of Structural Engineers, New Delhi	Shri Mahendra Raj Shri Manoj Mittal (<i>Alternate</i>)
15.	Institute of Town Planners (India), New Delhi	Dr S. K. Kulshrestha
16.	Municipal Corporation of Greater Mumbai, Mumbai	Chief Engineer (Dev Plan) Dy Chief Engineer (Dev Plan)-I (<i>Alternate</i>)

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| 17. | National Council for Cement and Building Materials, Ballabgarh | Shri V. V. Arora
Shri Satish Sharma (<i>Alternate</i>) |
| 18. | National Real Estate Development Council, New Delhi | Brig. R. R. Singh |
| 19. | School of Planning and Architecture, New Delhi | Prof Mandeep Singh
Prof P. S. N. Rao (<i>Alternate</i>) |
| 20. | South Delhi Municipal Corporation, New Delhi | Shri Sudhir Mehta
Shri Brajesh Kumar (<i>Alternate</i>) |
| 21. | Svayam, New Delhi | Shri Subhash Chandra Vashishth |
| 22. | The Indian Institute of Architects, Mumbai | Shri Balbir Verma
Shri Abhijit Ray (<i>Alternate</i>) |
| 23. | The Institution of Engineers (India), Kolkata | Shri Ashok Kumar Basa
Shri P. Surya Prakash (<i>Alternate</i>) |
| 24. | Town and Country Planning Organization, New Delhi | Shri K. K. Joadder
Shri R. Srinivas (<i>Alternate</i>) |
| 25. | West Bengal Housing Infrastructure Development Corporation Limited, Kolkata | Chief Planner
Additional Chief Planner (<i>Alternate</i>) |

ANNEX 3
[Item 2.2(b)]

COMPOSITION OF PANEL FOR FIRE PROTECTION, CED 46:P2

SI No.	NAME OF THE ORGANISATION	REPRESENTED BY
1.	In Personal Capacity, New Delhi	Shri S. K. Dheri (Convener)
2.	AECOM India Pvt Ltd, Noida	Shri Sunil Shahani
3.	Airports Authority of India, New Delhi	Shri Ajay Kumar Bharadwaj
4.	Central Industrial Security Force, New Delhi	Shri Rajnath Singh
5.	Central Public Works Department, New Delhi	Shri Chaitanya Kumar Varma Shri D. K. Tulani (<i>Alternate</i>)
6.	CSIR - Central Building Research Institute, Roorkee	Dr Suvir Singh Shri A. A. Ansari (<i>Alternate</i>)
7.	Delhi Fire Service, Govt. of NCT of Delhi, Delhi	Shri A. K. Sharma Dr G. C. Misra (<i>Alternate</i>)
8.	Delhi Metro Rail Corporation, New Delhi	Nomination Awaited
9.	Directorate of Fire & Emergency Services, Govt of Goa, Goa	Shri Ashok Menon Shri Prakash M. Parab (<i>Alternate</i>)
10.	Directorate of Maharashtra Fire & Emergency Services, Mumbai	Shri M. V. Deshmukh Shri S. S. Warick (<i>Alternate</i>)
11.	Fire & Security Association of India, Chennai	Shri Srinivas Valluri
12.	FM Engineering International (India) Pvt Ltd, Bengaluru	Shri Sumit Khanna Shri Manikandan Krishnamurthy (<i>Alternate</i>)
13.	FYRPROTEK (Fire Engineers & Consultants), Delhi	Shri Gulshan Khurana
14.	Glazing Society of India, New Delhi	Shri R. Subramanian Shri G. N. Gohul Deepak (<i>Alternate</i>)
15.	In personal capacity, Bengaluru	Shri T. R. A. Krishnan
16.	In personal capacity, Mumbai	Shri V. Suresh
17.	In personal capacity, New Delhi	Shri R. C. Sharma
18.	Indian Plumbing Association, New Delhi	Shri Mahender Kumar Gupta Shri S. K. Duggal (<i>Alternate</i>)

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| 19. | Institution of Fire Engineers (India),
New Delhi | Shri U. S. Chhillar
Shri M. S. Patyal (<i>Alternate</i>) |
| 20. | Insurance Regulatory and Development
Authority, Hyderabad | Shri Randip Singh Jagpal
Shri T. S. Naik (<i>Alternate</i>) |
| 21. | Kaleidoscope, New Delhi | Shri Amor Kool |
| 22. | Kone Elevator India Pvt Ltd, Chennai | Shri J. Sivaraman
Shri P. M. Tipnis (<i>Alternate</i>) |
| 23. | Lloyd Insulations (India) Ltd, New Delhi | Shri Sanjeev Angra
Shri K. K. Mitra (<i>Alternate</i>) |
| 24. | Maple Engineering-Design Services (India)
Pvt Ltd, Bengaluru | Shri B. S. A. Narayanan
Shri H. R. Ranganath (<i>Alternate</i>) |
| 25. | Military Engineer Services, E-in-C's Branch,
Army HQ, New Delhi | Shri D. K. Tyagi
Shri Sunil Aggarwal (<i>Alternate</i>) |
| 26. | Ministry of Home Affairs, New Delhi | Shri D.K. Shami |
| 27. | Municipal Corporation of Greater Mumbai
(Mumbai Fire Brigade), Mumbai | Chief Fire Officer
Dy Chief Fire Officer (<i>Alternate</i>) |
| 28. | National Council for Cement and Building
Materials, Ballabgarh | Shri V. V. Arora |
| 29. | National Fire Service College (Ministry of
Home Affairs), Nagpur | Shri Shamim |
| 30. | Oil Industry Safety Directorate, New Delhi | Shri A. K. Arora |
| 31. | Proion Consultants, New Delhi | Shri Sandeep Goel |
| 32. | School of Planning and Architecture, New
Delhi | Dr V. K. Paul |
| 33. | Tamil Nadu Fire Service Department,
Chennai | Shri S. Vijaysekar |
| 34. | Telangana State Disaster Response and Fire
Services Department, Hyderabad | Shri P. Venkateshwar
Shri K. Jairam Naik (<i>Alternate</i>) |
| 35. | The Indian Institute of Architects, Mumbai | Shri Kapil Mehta
Shri Ajay Puri (<i>Alternate</i>) |
| 36. | The Institution of Engineers (India),
Kolkata | Prof (Dr) M. P. Chowdiah
Shri K. B. Rajoria (<i>Alternate</i>) |
| 37. | UL India Pvt Ltd, Bengaluru | Shri V. Jagdish
Shri G. Karthikeyan (<i>Alternate</i>) |
| 38. | Uttar Pradesh Fire Service, Lucknow | Shri P. K. Rao
Shri Aman Sharma (<i>Alternate</i>) |
| 39. | West Bengal Fire & Emergency Services,
Kolkata | Shri D. P. Biswas
Shri Gopal K. Bhattacharya (<i>Alternate</i>) |

ANNEX 4
[Item 2.2(c)]

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

NAME OF THE ORGANISATION	REPRESENTED BY
1. In Personal Capacity, New Delhi	Shri T.N. Gupta (Convener)
2. Building Materials & Technology Promotion Council, New Delhi	Dr Shailesh Kr. Agrawal Shri J.K. Prasad (<i>Alternate</i>)
3. Central Building Research Institute (CSIR), Roorkee	Dr A.K. Minocha Dr S.R. Karade (<i>Alternate</i>)
4. Central Public Works Department, New Delhi	Chief Engineer (CSQ) Shri Mathura Prasad (<i>Alternate</i>)
5. Delhi Development Authority, New Delhi	Nomination Awaited
6. Directorate General Border Roads, New Delhi	Nomination Awaited
7. DLF Limited, Gurgaon	Nomination Awaited
8. Housing and Urban Development Corporation Ltd, New Delhi	Chairman & Managing Director Shri Akhilesh Kumar (<i>Alternate</i>)
9. Indian Institute of Technology Guwahati, Guwahati	Nomination Awaited
10. Indian Institute of Technology Madras, Chennai	Prof Amlan K Sengupta Prof Manu Santhanam (<i>Alternate</i>)
11. In personal Capacity	Shri M M Goyal
12. Indian Buildings Congress, New Delhi	Shri Deepak Narayan
13. Indian Plywood Industries Research & Training Institute, Bangalore	Shri K. Shyama Sundar Shri M. Pavan Kumar (<i>Alternate</i>)
14. Inter-University Accelerator Centre, New Delhi	Shri M K Gupta
15. Larsen & Toubro Ltd, Chennai.	Nomination Awaited
16. Military Engineer Services, Engineer-in-Chief's Branch, Army HQ, New Delhi	Brig. Girish Joshi Lt. Col. Gaurav Kaushik (<i>Alternate</i>)
17. National Council for Cement and Building Materials, Ballabgarh	Director General Shri V.V. Arora (<i>Alternate</i>)
18. The Indian Institute of Architects, New Delhi	Shri Anurag Roy Shri Atul Gupta (<i>Alternate</i>)
19. The Institution of Engineers (India), Kolkata	Shri Anil Gattani Shri A.V. Patil (<i>Alternate</i>)

ANNEX 5
[Item 2.2(d)]

COMPOSITION OF THE PANEL FOR LOADS, FORCES AND EFFECTS, CED 46:P4

SI No.	NAME OF THE ORGANISATION	REPRESENTED BY
1.	In personal Capacity, Chennai	Dr Nagesh R. Iyer (Convener)
2.	Association of Consulting Civil Engineers (India), Bengaluru	Shri Manoj Mittal
3.	Building Materials and Technology Promotion Council, New Delhi	Dr Shailesh Kr Agrawal Shri A. K. Tiwari (<i>Alternate</i>)
4.	Central Public Works Department, New Delhi	Chief Engineer (CDO) Shri Rajesh Khare (<i>Alternate</i>)
5.	Creative Consultants & Engineers Pvt Ltd, Ghaziabad	Shri Aman Deep
6.	CSIR - Central Building Research Institute, Roorkee	Dr A. K. Mittal Shri Ajay Chourasia (<i>Alternate</i>)
7.	CSIR - Structural Engineering Research Centre, Chennai	Dr J. Rajasankar Dr G. S. Palani (<i>Alternate</i>)
8.	Delhi Tourism and Transportation Development Corporation (DTTDC), New Delhi	Shri Shishir Bansal
9.	In Personal Capacity, Mumbai	Shri V. Suresh
10.	In Personal Capacity, Roorkee	Prof A. S. Arya
11.	In Personal Capacity, Roorkee	Dr Prem Krishna
12.	India Meteorological Department, New Delhi	Dr Devendra Pradhan Shri K. N. Mohan (<i>Alternate</i>)
13.	Indian Association of Structural Engineers, New Delhi	Prof Mahesh Tandon Shri R. Gogia (<i>Alternate</i>)
14.	Indian Institute of Technology Delhi, New Delhi	Dr Vasant Matsagar Dr Dipti Ranjan Sahoo (<i>Alternate</i>)
15.	Indian Institute of Technology Jodhpur, New Delhi	Prof C. V. R. Murthy
16.	Indian Institute of Technology Roorkee, Roorkee	Dr D. K. Paul

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| 17. | Larsen & Toubro Ltd, Chennai | Shri Surya Prakash Karri
Shri Krishna Somaraju (<i>Alternate-1</i>)
Shri Praveen Kumar Rai (<i>Alternate-2</i>) |
| 18. | Mahendra Raj Consultants Pvt Ltd,
New Delhi | Shri Mahendra Raj
Shri S. S. Maan (<i>Alternate</i>) |
| 19. | Mehro Consultants, New Delhi | Shri S. C. Mehrotra
Shri Deepak Thakur (<i>Alternate</i>) |
| 20. | National Council for Cement and
Building Materials, Ballabgarh | Shri V. V. Arora
Shri B. S. Rao (<i>Alternate</i>) |
| 21. | National Institute of Disaster Management,
New Delhi | Nominations Awaited |
| 22. | The Institution of Engineers (India),
Kolkata | Shri U. P. Waghe
Shri Anil Gattani (<i>Alternate</i>) |

ANNEX 6
[Item 2.2(e)]

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

SI No.	NAME OF THE ORGANISATION	REPRESENTED BY
1.	In Personal Capacity, Kolkata	Dr N. Som (Convener)
2.	Afcons Infrastructure Limited, Mumbai	Shri P. S. Bansod Shri V. Ramamurty (<i>Alternate</i>)
3.	Bharat Heavy Electricals Ltd, Noida	Shri C. Pushpakaran Shri Hitesh Kumar (<i>Alternate</i>)
4.	Cengrs Geotechnica Pvt Ltd, Noida	Shri Sanjay Gupta Shri Ravi Sundaram (<i>Alternate</i>)
5.	CSIR - Central Building Research Institute, Roorkee	Dr Pradeep Kumar Shri Anindya Pain (<i>Alternate</i>)
6.	Central Public Works Department, New Delhi	Shri M. K. Sharma Shri Saurabh Gupta (<i>Alternate</i>)
7.	Creative Consultants & Engineers Pvt Ltd, Ghaziabad	Shri Aman Deep
8.	Delhi Development Authority, New Delhi	Chief Engineer (Design) Shri Vijay Shanker (<i>Alternate</i>)
9.	Indian Institute of Technology Delhi, New Delhi	Dr J. T. Shahu Dr R. Ayothiraman (<i>Alternate</i>)
10.	Indian Institute of Technology Madras, Chennai	Nomination awaited
11.	In personal Capacity, Chennai	Shri A. Vijayaraman
12.	Indian Association of Structural Engineers, New Delhi	Shri Sushil K. Dhawan Dr Abhay Gupta (<i>Alternate</i>)
13.	Indian Geotechnical Society, New Delhi	Maj Gen S.N. Mukherjee (Retd) Shri Sanjay Gupta (<i>Alternate</i>)
14.	ITD Cementation Pvt Ltd, Mumbai	Shri Hemendra Chaudhary
15.	Military Engineer Services, Engineer-in-Chief's Branch, Army HQ, New Delhi	Brig. Girish Joshi Col. Pradeep Tiwari (<i>Alternate</i>)
16.	NTPC Ltd, New Delhi	Dr D.N. Naresh Shri Jitendra Kumar (<i>Alternate</i>)
17.	National Council for Cement and Building Materials, Ballabgarh	Shri V.V. Arora Shri P. N. Ojha (<i>Alternate</i>)
18.	National Institute of Disaster Management, New Delhi	Dr Chandan Ghosh Dr Amir Ali Khan (<i>Alternate</i>)
19.	The Institution of Engineers (India), Kolkata	Prof G.B. Choudhari Dr S.S. Basarkar (<i>Alternate</i>)

ANNEX 7
[Item 2.2(f)]

COMPOSITION OF THE PANEL FOR TIMBER CED 46:P6

SI No.	NAME OF THE ORGANISATION	REPRESENTED BY
1.	In Personal Capacity, Dehradun	Shri K. S. Pruthi (Convener)
2.	Bamboo Society of India, Bangalore	Dr K Sundar Naik Shri K. S. Anand (<i>Alternate</i>)
3.	Building Materials and Technology Promotion Council, New Delhi	Dr Shailesh Kr Agrawal Shri C. N. Jha (<i>Alternate</i>)
4.	CSIR - Central Building Research Institute, Roorkee	Dr B. Singh Shri B. S. Rawat (<i>Alternate</i>)
5.	Central Public Works Department, New Delhi	Chief Engineer (CSQ) Shri Mathura Prasad (<i>Alternate</i>)
6.	Creative Consultants & Engineers Pvt Ltd, Ghaziabad	Shri Aman Deep
7.	Forest Research Institute (ICFRE), Dehra Dun	Shri Rajesh Bhandari Shri R. S. Topwal (<i>Alternate</i>)
8.	Forum of Scientists, Engineers and Technologists, Kolkata	Nomination Awaited
9.	Housing and Urban Development Corporation Ltd, New Delhi	Chairman & Managing Director Shri Akhilesh Kumar (<i>Alternate</i>)
10.	In Personal Capacity, Dehra Dun	Shri S. S. Rajput
11.	Indian Association of Structural Engineers, New Delhi	Dr Dulal Goldar Shri Hari Om Gupta (<i>Alternate</i>)
12.	Indian Institute of Technology Delhi, New Delhi	Dr Suresh Bhalla
13.	Indian Plywood Industries Research and Training Institute, Bangalore	Shri Anand Nandanwar Shri Narasimhamurthy (<i>Alternate</i>)
14.	Iyer and Mahesh Architects, Thiruvanthapuram	Shri N. Mahesh Shri K. Gangadharan (<i>Alternate</i>)

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| 15. | Military Engineer Services, Engineer-in-Chief's Branch, Army HQ, New Delhi | Smt Upinder Kaur
Smt Rachna (<i>Alternate</i>) |
| 16. | North East Centre for Technology Application and Reach, Shillong | Shri Ajay Kumar
Shri Krishna Kumar (<i>Alternate</i>) |
| 17. | The Institution of Engineers (India), Kolkata | Shri Krishna Kumar |
| 18. | Wonder Grass Initiative Pvt Ltd, Nagpur | Shri Vaibhav Kaley |

ANNEX 8
[Item 2.2(g)]

COMPOSITION OF THE PANEL FOR MASONRY, CED 46:P7

SI No.	NAME OF THE ORGANISATION	REPRESENTED BY
1.	National Council for Cement and Building Materials, Ballabgarh	Shri V. V. Arora (Convener)
2.	Adlakha Associates Pvt Ltd, New Delhi	Shri Promod Kumar Adlakha Shri V. K. Sethi (<i>Alternate</i>)
3.	Association of Consulting Civil Engineers (India), Bangaluru	Shri Umesh B. Rao Dr Raghunath S. (<i>Alternate</i>)
4.	Bhabha Atomic Reaseach Centre, Trombay	Shri K. Srinivas Shri H. E. Iyer (<i>Alternate</i>)
5.	Building Materials & Technology Promotion Council, New Delhi	Dr Shailesh Kr Agrawal Shri Pankaj Gupta (<i>Alternate</i>)
6.	Central Public Works Department, New Delhi	Shri A. K. Jha Shri Rajesh Khare (<i>Alternate</i>)
7.	CSIR-Central Building Research Institute, Roorkee	Shri Achal Kumar Mittal Shri Ajay Chourasia (<i>Alternate</i>)
8.	CSIR-Structural Engineering Research Centre, Chennai	Dr A. Ramachandra Murthy Ms Smitha Gopinath (<i>Alternate</i>)
9.	Delhi Development Authority, New Delhi	Chief Engineer (Design) Shri Vijay Shanker (<i>Alternate</i>)
10.	Indian Association of Structural Engineers, New Delhi	Shri R. Gogia Km Sangeeta Wij (<i>Alternate</i>)
11.	Indian Institute of Science, Bangaluru	Dr B. V. Venkatarama Reddy Dr K. S. Nanjunda Rao (<i>Alternate</i>)
12.	Indian Institute of Technology Delhi, New Delhi	Dr S. N. Sinha
13.	Indian Institute of Technology Kanpur, Kanpur	Dr Durgesh C. Rai
14.	Indian Institute of Technology Madras, Chennai	Dr Arun Menon
15.	Military Engineer Services, Engineer-in-Chief's Branch, Army HQ, New Delhi	Brig Rajiv Sahani Shri Jai Prakash (<i>Alternate</i>)
16.	National Council for Cement and Building Materials, Ballabgarh	Shri Satish Sharma
17.	The Institution of Engineers (India), Kolkata	Shri P. T. Tawase Shri Azad Jain (<i>Alternate</i>)

ANNEX 9
[Item 2.2(h)]

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

SI No.	NAME OF THE ORGANISATION	REPRESENTED BY
1.	In Personal Capacity, Thiruvananthapuram	Shri Jose Kurian (Convener)
2.	Association of Consulting Civil Engineers (India), Bengaluru	Shri M. S. Sudharshan
3.	BBR (India) Pvt Ltd, Bengaluru	Shri P. Jayachandran Shri Bharat Bhushan (<i>Alternate</i>)
4.	Central Public Works Department, New Delhi	Chief Engineer (CDO) Shri Rajesh Khare (<i>Alternate</i>)
5.	Creative Design Consultants & Engineers Pvt Ltd, Ghaziabad	Shri Aman Deep
6.	CSIR-Central Building Research Institute, Roorkee	Shri S. K. Singh Shri Subash Chandra Bose Gurram (<i>Alternate</i>)
7.	CSIR-Central Road Research Institute, New Delhi	Shri J.B. Sengupta Shri Binod Kumar (<i>Alternate</i>)
8.	CSIR-Structural Engineering Research Centre, Chennai	Dr K. Ramanjaneyulu Dr B. H. Bharathkumar (<i>Alternate</i>)
9.	Delhi Development Authority, New Delhi	Shri Vijay Shanker
10.	Gammon India Limited, Mumbai	Shri Sarada Prasana Mohanty
11.	Hindustan Prefab Limited, New Delhi	Shri Rajesh Goel Shri S. K. Jain (<i>Alternate</i>)
12.	In personal capacity, New Delhi	Shri R. C. Wason
13.	In personal capacity, Bengaluru	Shri S. A. Reddi
14.	In Personal Capacity, Chennai	Dr C. Rajkumar
15.	In Personal Capacity, New Delhi	Dr. A. K. Mullick
16.	In Personal Capacity, New Delhi	Shri T. Viswanathan

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| 17. | Indian Association of Structural Engineers,
New Delhi | Shri S. C. Mehrotra
Dr Rajeev Goel (<i>Alternate</i>) |
| 18. | Indian Concrete Institute (ICI), Chennai | Shri A. K. Jain
Shri K. P. Abraham (<i>Alternate</i>) |
| 19. | Indian Institute of Science, Bangalore | Nomination awaited |
| 20. | Indian Institute of Technology Madras,
Chennai | Prof. Amlan K. Sengupta |
| 21. | Larsen and Toubro Limited, Chennai | Shri K. Senthilnathan
Shri Sthaladipti Saha (<i>Alternate</i>) |
| 22. | Military Engineer Services, New Delhi | Nomination awaited |
| 23. | Ministry of Road Transport and Highways,
New Delhi | Chief Engineer, Standard & Research (Bridges) |
| 24. | National Council for Cement and Building
Materials, Ballabgarh | Shri V. V. Arora
Shri Satish Sharma (<i>Alternate</i>) |
| 25. | Research, Designs and Standards
Organization (Ministry of Railways),
Lucknow | Shri H. L. Suthar
Shri Praveen Khorana (<i>Alternate</i>) |
| 26. | STUP Consultants Pvt Ltd, Mumbai | Shri S. G. Joglekar
Dr N. Bandyopadhyay (<i>Alternate</i>) |
| 27. | Tandon Consultants, New Delhi | Shri Mahesh Tandon |
| 28. | The Institution of Engineers (India), Kolkata | Shri S. S. Chakraborty
Dr (Ms) M. A. Chakrabarti (<i>Alternate</i>) |

ANNEX 10

[Item 2.2(j)]

COMPOSITION OF THE PANEL FOR STEEL, CED 46:P9

SI No.	NAME OF THE ORGANISATION	REPRESENTED BY
1.	In personal capacity, Chennai	Dr V. Kalyanaraman (Convener)
2.	Association of Consulting Civil Engineers (India), Bangalore	Shri S. C. Mehrotra
3.	Central Public Works Department, New Delhi	Chief Engineer (CDO) Shri A. K. Gupta (<i>Alternate</i>)
4.	Creative Consultants & Engineers Pvt Ltd, Ghaziabad	Shri Aman Deep
5.	CSIR-Structural Engineering Research Centre, Chennai	Dr G. S. Palani Dr G. Raghava (<i>Alternate</i>)
6.	Engineers India Limited, New Delhi	Shri Anurag Sinha Shri Vikram K. Gupta (<i>Alternate</i>)
7.	Indian Association of Structural Engineers, New Delhi	Dr K. Srinivasa Rao Dr Abhay Gupta (<i>Alternate</i>)
8.	Indian Institute of Technology Madras, Chennai	Dr S. Arul Jayachandran
9.	Institute for Steel Development and Growth, Kolkata	Shri Pydi Lakshmana Rao Shri Arijit Guha (<i>Alternate</i>)
10.	Interarch Building Products Pvt Ltd, Noida	Shri Gautam Suri Shri Sunil Pulikkal (<i>Alternate</i>)
11.	Jindal Steel and Power Limited, New Delhi	Shri Ashwani Kumar Ms Neha Sharma (<i>Alternate</i>)
12.	Kalpataru Power Transmission Ltd, Gandhinagar	Shri B. B. Shah Shri Sujal B. Shah (<i>Alternate</i>)
13.	Larsen and Toubro Ltd, Chennai	Shri T. Venkatesh Rao
14.	M. N. Dastur & Co Limited, Kolkata	Shri Satyaki Sen Shri Tapan Kumar Bhaumik (<i>Alternate</i>)
15.	MECON Limited, Ranchi	Shri A. Krishna Rao Shri C. Krishnam Raju (<i>Alternate</i>)
16.	Military Engineer Services, Engineer-in-Chief's Branch, Army HQ, New Delhi	Brig Girish Joshi Lt Col Sandeep Khokher (<i>Alternate</i>)

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| 17. | PEB Manufacturers' Association,
Navi Mumbai | Shri Gautam Suri
Shri Manish Garg (<i>Alternate</i>) |
| 18. | Research, Designs and Standards Organization
(Ministry of Railways), Lucknow | Shri A. K. Dadria
Shri Srijan Tripathi (<i>Alternate</i>) |
| 19. | Steel Authority of India Ltd (Centre for
Engineering & Technology), Ranchi | Shri R. M. Chattopadhyay
Shri G. K. Mitra (<i>Alternate</i>) |
| 20. | Tata Consulting Engineers Limited,
Mumbai | Shri Pratip Bhattacharya |
| 21. | Tata Steel Ltd, Jamshedpur | Shri Hariharaputhiran H |
| 22. | The Institution of Engineers (India),
Kolkata | Shri R. P. Gupta |

ANNEX 11
[Item 2.2(k)]

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

Sl No.	NAME OF THE ORGANISATION	REPRESENTED BY
1.	Larsen & Toubro Limited, Chennai	Shri M. P. Naidu (Convener)
2.	Adlakha Associates Pvt Ltd, New Delhi	Shri P. K. Adlakha
3.	B.G. Shirke Construction Technology Pvt Ltd, Pune	Shri Yogesh P. Kajale Shri Sanjay M. Adsar (<i>Alternate</i>)
4.	Building Materials and Technology Promotion Council, New Delhi	Shri J. K. Prasad
5.	Central Public Works Department, New Delhi	Chief Engineer (CSQ) Shri Mathura Prasad (<i>Alternate</i>)
6.	Creative Consultants & Engineers Pvt Ltd, Ghaziabad	Shri Aman Deep
7.	CSIR - Central Building Research Institute, Roorkee	Shri Ajay Chaurasia Shri Narender Kumar (<i>Alternate</i>)
8.	CSIR - Structural Engineering Research Centre, Chennai	Dr J. Prabakar Dr Jolly Annie Peter (<i>Alternate</i>)
9.	Delhi Development Authority, New Delhi	Chief Engineer (Design) Shri Vijay Shanker (<i>Alternate</i>)
10.	Hindustan Prefab Limited, New Delhi	Shri Rajesh Goel Shri Satish Kumar Jain (<i>Alternate</i>)
11.	Indian Institute of Technology Madras, Chennai	Nomination Awaited
12.	Indian Association of Structural Engineers, New Delhi	Shri Mahesh Tandon Shri N. Jain (<i>Alternate</i>)
13.	Indian Concrete Institute, Chennai	Shri Rajkumar Pillai
14.	Institute for Steel Development and Growth, Kolkata	Shri Arijit Guha
15.	Kirby Building Systems India Ltd, Hyderabad	Nomination Awaited
16.	Larsen & Toubro Limited, Chennai	Shri S. Veeramani Shri C. K. Somaraju (<i>Alternate</i>)

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| 17. Lloyd Insulations (India) Ltd, New Delhi | Shri Ajay Singh
Shri Jitendra Kumar Jain (<i>Alternate</i>) |
| 18. Military Engineer Services, Engineer-in-Chief's Branch, Army HQ, New Delhi | Brig. Girish Joshi
Lt Col Gaurav Kaushik (<i>Alternate</i>) |
| 19. National Council for Cement and Building Materials, Ballabgarh | Shri V. V. Arora
Shri B. S. Rao (<i>Alternate</i>) |
| 20. PEB Manufacturers Association, Navi Mumbai | Nomination Awaited |
| 21. Pranav Construction Systems Pvt Ltd, Navi Mumbai | Nomination Awaited |
| 22. Shirish Patel and Associates Consultants Pvt Ltd, Mumbai | Shri Shirish B. Patel
Shri P.H. Srinivasachar (<i>Alternate</i>) |
| 23. Systems Building Technologists, New Delhi | Shri G. B. Singh |
| 24. Tata Bluescope Steel Ltd, Pune | Shri Krishnakant Rane |
| 25. The Indian Institute of Architects, Mumbai | Shri S. R. Sikka |
| 26. The Institution of Engineers (India), Kolkata | Dr R.K. Bhandari
Shri Hemant S. Vadalkar (<i>Alternate</i>) |

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
1.	In Personal Capacity, Bangalore	Shri P. Krishnan (Convener)
2.	Adlakha Associates Pvt Ltd, Delhi	Shri P. K. Adlakha
3.	Builders Association of India, Mumbai	Shri S. Senthil Kumar Shri Neerav Parmar (<i>Alternate</i>)
4.	Central Public Works Department, New Delhi	Chief Engineer (CSQ) Shri Mathura Prasad (<i>Alternate</i>)
5.	Construction Industries Development Council, New Delhi	Shri P. R. Swarup Shri Sunil Mahajan (<i>Alternate</i>)
6.	CSIR - Central Building Research Institute, Roorkee	Shri S. K. Negi Shri S. K. Singh (<i>Alternate</i>)
7.	Director General of Factory Advice Service and Labour Institute, Mumbai	Shri S. N. Borkar Shri B. N. Jha (<i>Alternate</i>)
8.	Engineers India Limited, New Delhi	Shri S. N. Bhatnagar Shri D. Jana (<i>Alternate</i>)
9.	Gammon India Ltd, Mumbai	Shri Prakash Tikare Shri Sylvester F. Pereira (<i>Alternate</i>)
10.	Hindustan Prefab Ltd., New Delhi	Shri Rajesh Goel Shri S. K. Jain (<i>Alternate</i>)
11.	In Personal Capacity, Dehradun	Shri K. S. Pruthi
12.	In Personal Capacity, Mumbai	Shri V. Suresh
13.	In Personal Capacity, New Delhi	Shri Balbir Verma
14.	In Personal Capacity, New Delhi	Dr V. Thiruvengadam

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| 15. | In personal Capacity, Thiruvananthapuram | Shri Jose Kurian |
| 16. | Indian Association of Structural Engineers,
New Delhi | Shri Manoj Mittal
Shri R. Gogia (<i>Alternate</i>) |
| 17. | Indian Buildings Congress, New Delhi | Shri Deepak Narayan |
| 18. | Indian Plywood Industries Research & Training
Institute, Bangalore | Shri Jagadish Vengala
Shri Anand Nandanwar (<i>Alternate</i>) |
| 19. | L&T Metro, Hyderabad | Shri M. P. Naidu |
| 20. | Larsen and Toubro Ltd, Chennai | Shri S. Selvaganpathy
Shri N. Ramachandran (<i>Alternate</i>) |
| 21. | Military Engineer Services, Engineer-in- Chief's
Branch, Army HQ, New Delhi | Brig Dinesh Kumar Gupta
Shri B. Varshney (<i>Alternate</i>) |
| 22. | National Building Construction Corporation,
New Delhi | Shri Hem Raj
Shri H. S. Yadav (<i>Alternate</i>) |
| 23. | School of Planning and Architecture, New Delhi | Dr V. K. Paul |
| 24. | The Indian Institute of Architects, Mumbai | Shri Kailash Chandra Jatia
Shri C. M. Sapra (<i>Alternate</i>) |
| 25. | The Institution of Engineers (India), Kolkata | Shri D. S. Sachdev
Dr H. M. Raje (<i>Alternate</i>) |

ANNEX 13
[Item 2.2(n)]

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

SI No.	NAME OF THE ORGANISATION	REPRESENTED BY
1.	In Personal Capacity, Roorkee	Dr Ishwar Chand (Convener)
2.	Ab Initio, Thane	Shri Shirish Deshpande
3.	Bureau of Energy Efficiency, Ministry of Power, New Delhi	Shri Saurabh Diddi Shri Ashish Saraswat (<i>Alternate</i>)
4.	Central Public Works Department, New Delhi	Shri Chaitanya Kumar Varma Shri D. K. Tulani (<i>Alternate</i>)
5.	CEPT University, Ahmedabad	Shri Rajan Rawal Shri Yash Shukla (<i>Alternate</i>)
6.	Chandigarh College of Architecture, Chandigarh	Prof Pradeep Bhagat
7.	CSIR-Central Building Research Institute, Roorkee	Shri N. Babu Balam Shri Sohel Ibrahim (<i>Alternate</i>)
8.	CSIR-National Physical Laboratory, New Delhi	Dr Parag Sharma Shri V. K. Jaiswal (<i>Alternate</i>)
9.	Director General Factory Advice Service and Labour Institute, Mumbai	Shri S. N. Borkar Shri B. N. Jha (<i>Alternate</i>)
10.	In Personal Capacity, Haridwar	Shri Shree Kumar
11.	In Personal Capacity, Roorkee	Dr P.K. Bhargava
12.	Indian Institute of Technology Delhi (Centre for Energy Studies), New Delhi	Nomination Awaited
13.	Indian Society for Lighting Engineers, New Delhi	Shri Gulshan Aghi Shri Gaurav Arora (<i>Alternate</i>)
14.	Kaleidoscope, Noida	Shri Amor Kool
15.	Larsen & Toubro Ltd (Sustainability Group), Chennai	Shri R. Balakrishnan
16.	Military Engineer Services, Engineer-in-Chief's Branch, Army HQ, New Delhi	Shri D. K. Tyagi Shri Jaya Prakash (<i>Alternate</i>)
17.	Ministry of New and Renewable Energy, New Delhi	Dr A. K. Tripathi Shri H. C. Borah (<i>Alternate</i>)

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| 18. | Municipal Corporation of Greater Mumbai, Mumbai | Executive Engineer
Shri R. K. Rahate (<i>Alternate</i>) |
| 19. | Philips India Limited, Kolkata | Smt Sudeshna Mukhopadhyay
Shri Ashish Bahal (<i>Alternate</i>) |
| 20. | School of Planning and Architecture, New Delhi | Prof V. K. Paul
Prof Anil Dewan (<i>Alternate</i>) |
| 21. | Siddhirja Environment Technologies Pvt. Ltd., Noida | Shri Ankur Khandelwal |
| 22. | Space Design Consultants, New Delhi | Prof Vinod Kumar Gupta |
| 23. | The Indian Institute of Architects, Mumbai | Prof Ashok B. Lall |
| 24. | The Institution of Engineers (India), Kolkata | Shri R.N. Rajpoot |

ANNEX 14
[Item 2.2(p)]

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

SI No.	NAME OF THE ORGANISATION	REPRESENTED BY
1.	In Personal Capacity, Bangaluru	Shri J. N. Bhavani Prasad (Convener)
2.	AECOM India Pvt Ltd, Noida	Shri Kishor Kumar
3.	Aeon Consultants, New Delhi	Shri Puneet Gupta
4.	Bureau of Energy Efficiency, New Delhi	Shri Saurabh Diddi
5.	C&S Electric Limited, New Delhi	Shri P. S. Teji Shri Yashwant Sarathe (<i>Alternate</i>)
6.	Central Electricity Authority, New Delhi	Chief Engineer (DP&D) Shri A. K. Rajput (<i>Alternate</i>)
7.	Central Public Works Department, New Delhi	Shri Chaitanya Kumar Varma Shri D. K. Tulani (<i>Alternate</i>)
8.	Chief Electrical Inspectorate, Govt of Tamil Nadu, Chennai	Chief Electrical Inspector Senior Electrical Inspector (Hqrs) (<i>Alternate</i>)
9.	DEHN India Pvt Ltd, Gurgaon	Nomination Awaited
10.	Delhi Metro Rail Corporation, New Delhi	Shri Sanjeev Kumar Shri Ashok Tewari (<i>Alternate</i>)
11.	Engineers India Ltd, New Delhi	Shri B. R. Bhogal Shri Harish Kumar (<i>Alternate</i>)
12.	In Personal Capacity, New Delhi	Shri N. Nagarajan
13.	ITC Ltd, Gurgaon	Shri I. K. Suresh
14.	Larsen & Toubro Ltd, Chennai	Shri D. Maheswaran Shri K K Jembu Kailas (<i>Alternate</i>)
15.	Military Engineer Services, Engineer-in-Chief's Branch, Army HQ, New Delhi	Shri D. K. Tyagi Shri Sunil Agarwal (<i>Alternate</i>)
16.	Ministry of New and Renewable Energy, New Delhi	Nomination awaited
17.	Obo Bettermann, Chennai	Shri S. Gopa Kumar
18.	Proion Consultants, New Delhi	Smt Shruti Goel

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| 19. | Public Works Department (Electrical Division), Govt of Maharashtra, Mumbai | Shri Sandeep Arvind Patil
Shri Hemant Sali (<i>Alternate</i>) |
| 20. | Schneider Electric India Pvt Ltd, Gurgaon | Shri Amitabha Sarkar
Shri Rajkumar Singh (<i>Alternate</i>) |
| 21. | Siemens Ltd, Chennai | Shri Kishor Yadao |
| 22. | Solar Energy Corporation of India, New Delhi | Shri C. K. Singh |
| 23. | The Institution of Engineers (India), Kolkata | Prof Samiran Choudhuri
Lt Gen S. K. Jain (<i>Alternate</i>) |

ANNEX 15

[Item 2.2(q)]

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

SI No.	NAME OF THE ORGANISATION	REPRESENTED BY
1.	AECOM India Pvt Ltd, Noida	Dr Prem C. Jain (Convener)
2.	Aeon Consultants, New Delhi	Shri Ashish Rakheja
3.	ASHRAE India Chapter, New Delhi	Shri Sunil Kher
4.	Blowtech Air Devices Pvt Ltd, Noida	Shri Sushil K. Choudhury
5.	Blue Star Limited, Chennai	Shri B. Thiagarajan Shri M. Srinivas Reddy (<i>Alternate</i>)
6.	Bureau of Energy Efficiency, New Delhi	Shri Sanjay Seth Shri Saurabh Diddi (<i>Alternate</i>)
7.	Caire Consult, Greater Noida	Shri Ankit Jain
8.	Carrier Airconditioning & Refrigeration Ltd, Gurgaon	Shri Arun Bhatia Shri Bimal Tandon (<i>Alternate</i>)
9.	Central Building Research Institute (CSIR), Roorkee	Shri B. M. Suman Shri Shorab Jain (<i>Alternate</i>)
10.	Central Public Works Department, New Delhi	Shri Chaitanya Kumar Varma Shri D. K. Tulani (<i>Alternate</i>)
11.	CEPT University, Ahmedabad	Shri Rajan Rawal Shri Yash Shukla (<i>Alternate</i>)
12.	Climaveneta Climate Technologies (P) Ltd, Bengaluru	Shri Anil Dev Shri Anil Sharma (<i>Alternate</i>)
13.	Comfort Care System Pvt Ltd, New Delhi	Shri Yogesh Malhotra
14.	Daikin Airconditioning India Pvt Ltd, Gurgaon	Shri Kanwaljeet Jawa Shri Sanjay Goyal (<i>Alternate</i>)
15.	Delhi Fire Service, Govt of NCT of Delhi, New Delhi	Shri A. K. Sharma Dr G. C. Misra (<i>Alternate</i>)

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| 16. | Delhi Metro Rail Corporation (DMRC),
New Delhi | Shri A.K. Gupta
Shri A.K. Singh (<i>Alternate</i>) |
| 17. | Eskayem Consultants Pvt Ltd, Mumbai | Shri K. Ramachandran |
| 18. | IBM India Pvt Ltd, Mumbai | Shri Sudipta Sanyal |
| 19. | In personal capacity, Gurgaon | Shri Prabhat Goel |
| 20. | In personal capacity, New Delhi | Dr R. S. Agarwal |
| 21. | In personal capacity, Roorkee | Dr Ishwar Chand |
| 22. | In personal capacity, Roorkee | Dr P. K. Bhargava |
| 23. | Indian Green Building Council,
Hyderabad | Shri S. Srinivas
Shri Praveen Kumar Soma (<i>Alternate</i>) |
| 24. | Indian Institute of Technology Delhi,
New Delhi | Dr Sanjeev Jain |
| 25. | Indian Society for Heating,
Refrigeration & Air-Conditioning
Engineer, Delhi | Shri D. Nirmal Ram
Shri Ashwini Mehra (<i>Alternate</i>) |
| 26. | International Ground Source Heat
Pump Association, India Chapter,
New Delhi | Shri Richie Mittal |
| 27. | Kanwal Industries Corporation, Noida | Shri Pawandeep Singh |
| 28. | Kirloskar Chillers Pvt Ltd, Pune | Shri Avinash Manjul
Shri Gaurang Dabholkar (<i>Alternate</i>) |
| 29. | Malaviya National Institute of
Technology, Jaipur | Dr Jyotirmay Mathur |
| 30. | Military Engineer Services, Engineer-
in-Chief's Branch, Army HQ,
New Delhi | Shri D. K. Tyagi
Shri R. N. Sinha (<i>Alternate</i>) |
| 31. | Schneider Electric India Pvt Ltd,
Gurgaon | Dr Satish Kumar |
| 32. | Sterling India Consulting Engineers,
New Delhi | Shri G.C. Modgil
Ms Khushboo Modgil (<i>Alternate</i>) |
| 33. | Suvidha Engineers India Ltd, Noida | Shri Ashok K. Virmani
Shri Sanjay Mookerjee (<i>Alternate</i>) |

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| 34. | The Institution of Engineers (India),
Kolkata | Shri Pradeep Chaturvedi |
| 35. | Underwriters Laboratory India,
Bengaluru | Shri V. Manjunath |
| 36. | Voltas Limited, New Delhi | Shri Ashwani Sharma
Shri Pankaj Goel (<i>Alternate</i>) |

ANNEX 16

[Item 2.2(r)]

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

SI No.	NAME OF THE ORGANISATION	REPRESENTED BY
1.	Suri and Suri Consulting Acoustical Engineers, Noida	Shri Gautam Suri (Convener)
2.	All India Radio, New Delhi	Shri Animesh Chakraborty Shri Jitender Pruthi (<i>Alternate</i>)
3.	Central Public Works Department, New Delhi	Shri Rajesh Kumar Dhiman Shri Arun Kumar Tyagi (<i>Alternate</i>)
4.	CSIR-Central Building Research Institute, Roorkee	Dr S. K. Panigrahi Shri B. M. Suman (<i>Alternate</i>)
5.	CSIR-National Physical Laboratory, New Delhi	Dr Mahavir Singh Dr Naveen Garg (<i>Alternate</i>)
6.	In Personal Capacity, Roorkee	Shri R. K. Srivastava
7.	Indian Institute of Science, Bengaluru	Prof M. L. Munjal
8.	Indian Institute of Technology Kharagpur, Kharagpur	Dr A. R. Mohanty
9.	Indian Institute of Technology Madras, Chennai	Prof S. Narayanan Prof P. Chandramouli (<i>Alternate</i>)
10.	Indian Institute of Technology Roorkee, Roorkee	Dr E. Rajasekar
11.	Lloyd Insulations (India) Pvt Ltd, New Delhi	Shri N. Srinivas Shri Umesh Khanna (<i>Alternate</i>)
12.	Military Engineer Services, E-in-C's Branch, Army HQ, New Delhi	Shri A. K. Arora Smt Upinder Kaur (<i>Alternate</i>)
13.	P. S. Subramanian Associates, Chennai	Dr S. Kandaswamy Dr P. Senthil Kumar (<i>Alternate</i>)
14.	School of Planning and Architecture, New Delhi	Prof Shuvojit Sarkar

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| 15. | The Indian Institute of Architects,
Mumbai | Shri Indra Nath Basu |
| 16. | The Institution of Engineers (India),
Kolkata | Shri K. V. Chaubal
Shri P. K. Adlakha (<i>Alternate</i>) |

ANNEX 17

[Item 2.2(s)]

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

SI No.	NAME OF THE ORGANISATION	REPRESENTED BY
1.	TAK Consulting Pvt Ltd, Mumbai	Shri T. A. K. Mathews (Convener)
2.	Builders Association of India, Mumbai	Nomination Awaited
3.	Central Public Works Department, New Delhi	Shri Chaitanya Kumar Varma Shri Sham Sunder Garg (<i>Alternate</i>)
4.	Electrical Inspectorate, Govt of NCT of Delhi, New Delhi	Shri Mukesh Kumar Sharma Shri Jogender Singh (<i>Alternate</i>)
5.	Chief Electrical Inspectorate, Govt of Tamil Nadu, Chennai	Shri V. Jayavel Shri P. Manohar (<i>Alternate</i>)
6.	Delhi Development Authority, New Delhi	Shri Sandeep Mehta Shri Navneet Kumar Mittal (<i>Alternate</i>)
7.	Delhi Fire Service, Govt of NCT of Delhi, New Delhi	Shri A. K. Sharma Dr G. C. Misra (<i>Alternate</i>)
8.	Directorate of Maharashtra Fire & Emergency Services, Mumbai	Shri M. V. Deshmukh Shri Santosh Warick (<i>Alternate</i>)
9.	ECE Industries Limited, Ghaziabad	Shri M. Balasubramanian Shri K. Mohan (<i>Alternate</i>)
10.	Fujitec India Pvt Ltd, Chennai	Shri S. P. Rao Shri R. Rajesh (<i>Alternate</i>)
11.	In Personal Capacity, Mumbai	Shri A.S. Herwadkar
12.	In personal capacity, New Delhi	Shri S.K. Dheri
13.	Inspectorate of Lifts, Directorate of Electricity, Kolkata	Nomination Awaited
14.	Johnson Lifts Pvt Ltd, Chennai	Shri T. Subramanian Shri V. Karthikeyan (<i>Alternate</i>)
15.	KONE Elevators India Limited, Chennai	Shri P. M. Tipnis Shri P. Gurumoorthy (<i>Alternate</i>)
16.	Military Engineer Services, Engineer-in-Chief's Branch, Army HQ, New Delhi	Shri D. K. Tyagi Shri Sunil Agarwal (<i>Alternate</i>)
17.	Otis Elevator Company (India) Limited, New Delhi	Shri Abhijit Dandekar Shri H. N. Prashanth (<i>Alternate</i>)
18.	Public Works Department, Govt of Maharashtra, Mumbai	Shri Sandeep A. Patil Shri Sanjay Bhasme (<i>Alternate</i>)

19. Schindler India Pvt Limited, Mumbai

Shri Nimish Deshpande
Shri Ronnie Dante (*Alternate*)

20. TAK Consulting Pvt Ltd, Mumbai

Ms Anandi Khandekar

21. The Indian Institute of Architects,
New Delhi

Shri J.B. Karamchandani
Shri Vijay Garg (*Alternate*)

22. The Institution of Engineer (India),
Kolkata

Dr R.K. Dave

ANNEX 18

[Item 2.2(t)]

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

SI No.	NAME OF THE ORGANISATION	REPRESENTED BY
1.	Indian Plumbing Association, New Delhi	Shri B. S. Aswathnarayan (Convener)
2.	AECOM India Pvt Ltd, Noida	Shri B. V. Shiva Kumar
3.	Brihan Mumbai Licenced Plumbers Association, Mumbai	Shri D. K. Daiya Shri B. M. Shah (<i>Alternate</i>)
4.	Central Ground Water Board, Faridabad	Member (SML) Regional Director (<i>Alternate</i>)
5.	Central Pollution Control Board, New Delhi	Dr A. B. Akolkar Dr Sanjeev Agrawal (<i>Alternate</i>)
6.	Central Public Health and Environmental Engineering Organisation, New Delhi	Nomination Awaited
7.	Central Public Works Department, New Delhi	Chief Engineer (CSQ) Shri Rabindra Kumar (<i>Alternate</i>)
8.	CSIR-Central Building Research Institute, Roorkee	Shri Ajay Chaurasia Shri Ibrahim Sohel (<i>Alternate</i>)
9.	CSIR-National Environmental Engineering Research Institute, Nagpur	Shri A. S. Dubey Shri M. Karthik (<i>Alternate</i>)
10.	Delhi Development Authority, New Delhi	Shri D. P. Singh Shri Anil Kumar Tyagi (<i>Alternate</i>)
11.	Delhi Jal Board, New Delhi	Chief Engineer (Central & North)
12.	East Delhi Municipal Corporation, Delhi	Shri Vijay Prakash Shri Ajay Kumar Mittal (<i>Alternate</i>)
13.	In Personal Capacity, New Delhi	Shri Subir Paul
14.	In Personal Capacity, New Delhi	Shri J. D' Cruz
15.	Indian Plumbing Association, New Delhi	Shri M. K. Gupta Shri H. R. Ranganath (<i>Alternate</i>)
16.	Indraprastha Gas Ltd, New Delhi	Shri Pankaj Sharma Shri Avijit Narayan (<i>Alternate</i>)

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| 17. | Military Engineer Services, Engineer-in-Chief's Branch, Army HQ, New Delhi | Shri D. K. Tyagi
Shri Jaya Prakash (<i>Alternate</i>) |
| 18. | Municipal Corporation of Greater Mumbai, Mumbai | Dy Hydraulic Engineer (Planning & Control)
Executive Engineer (Planning & Research)
(<i>Alternate</i>) |
| 19. | Nous Hospital Consultants Pvt Ltd, New Delhi | Dr K. B. Sood |
| 20. | Proion Consultants, New Delhi | Shri Sandeep Goel |
| 21. | Tata Consulting Engineers Ltd, Mumbai | Shri Dheeraj Kaushik |
| 22. | The Indian Institute of Architects, New Delhi | Shri Uday Pande |
| 23. | The Institution of Engineers (India), Kolkata | Shri P. C. Tyagi |

ANNEX 19

[Item 2.2(u)]

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

Sl No.	NAME OF THE ORGANISATION	REPRESENTED BY
1.	To be appointed	Convener
2.	Central Public Works Department, New Delhi	Shri Rajesh Kumar Dhiman Shri Arun Kumar Tyagi (<i>Alternate</i>)
3.	Delhi Development Authority, New Delhi	Nomination Awaited
4.	Delhi Urban Arts Commission, New Delhi	Shri Samir Mathur Smt Sonali Bhagwati (<i>Alternate</i>)
5.	Housing and Urban Development Corporation, New Delhi	Smt Usha Prasad Mahavir Smt Varsha Punhani (<i>Alternate</i>)
6.	In Personal Capacity, Goa	Smt Vinita Vijayan Pugal
7.	In Personal Capacity, New Delhi	Shri Ravindra Bhan
8.	Indian Society of Landscape Architects, Ahmedabad	Shri Sachin Jain Ms Savita Punde (<i>Alternate</i>)
9.	Institute of Town Planners (India), New Delhi	Dr S.K. Kulshrestha
10.	M. S. University, Baroda	Prof. S. R. Raval
11.	M. S. Y. K. Design, New Delhi	Shri Yogesh Kapoor
12.	Municipal Corporation of Greater Mumbai, Mumbai	Smt Minakshi Mane Smt Ashlesha Modak (<i>Alternate</i>)
13.	National Institute of Design, Ahmedabad	Shri Anil Sinha Shri Immanuel Suresh (<i>Alternate</i>)
14.	New Delhi Municipal Council, New Delhi	Shri Rakesh Goel
15.	School of Planning and Architecture, New Delhi	Prof Rommel Mehta
16.	South Delhi Municipal Corporation, New Delhi	Nomination Awaited

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| 17. | The Indian Institute of Architects, Mumbai | Shri Mahesh Paliwal |
| 18. | The Institution of Engineers (India), Kolkata | Prof Jitendra Singh |
| 19. | Town and Country Planning Organization,
New Delhi | Smt Jasmin Bimra Mallik |

ANNEX 20
[Item 2.2(w)]

COMPOSITION OF PANEL FOR SUSTAINABILITY, CED 46:P19

SI No.	NAME OF THE ORGANISATION	REPRESENTED BY
1.	AECOM India Pvt Ltd, Noida	Dr Prem C. Jain (Convener)
2.	AECOM India Pvt Ltd, Noida	Ms Sanyukta Pande
3.	Ankoor Sanghvi Architects, Rajkot	Shri Ankoor Sanghvi
4.	Building Materials & Technology Promotion Council, New Delhi	Dr Shailash Kumar Agrawal Shri J. K. Prasad (<i>Alternate</i>)
5.	Bureau of Energy Efficiency, New Delhi	Shri Sanjay Seth
6.	Central Public Works Department, New Delhi	Shri Mathura Prasad Shri Rajesh Khare (<i>Alternate</i>)
7.	CEPT University, Ahmedabad	Shri Rajan Rawal
8.	Confederation of Real Estate Developers' Association of India, New Delhi	Shri G. Yoganand Shri Hemant Dattaji Naiknavare (<i>Alternate</i>)
9.	CSIR - Central Building Research Institute, Roorkee	Shri Yadvendra Pandey Shri Ashok Kumar (<i>Alternate</i>)
10.	Delhi Development Authority, New Delhi	Engineer Member Shri Ashok Ghodeswar (<i>Alternate</i>)
11.	Design and Development, New Delhi	Ms Sheetal Rakheja
12.	In personal capacity, Mumbai	Shri Santosh Deodhar
13.	In personal capacity, Mumbai	Shri V. Suresh
14.	In personal capacity, New Delhi	Prof M. Shaheer

15.	In personal capacity, New Delhi	Shri Ashok Khurana
16.	In personal capacity, New Delhi	Shri P. Krishnan
17.	In personal capacity, New Delhi	Shri T. N. Gupta
18.	In personal capacity, Thiruvananthapuram	Shri Jose Kurian
19.	Indian Association of Structural Engineers, New Delhi	Dr Ravande Kishore Shri Manoj Mittal (<i>Alternate</i>)
20.	Indian Buildings Congress, New Delhi	Shri P. Krishnan Shri P. S. Chadha (<i>Alternate</i>)
21.	Indian Green Building Council, Hyderabad	Shri M. Anand Shri Punit Agarwal (<i>Alternate</i>)
22.	Indian Institute of Science (Center for Sustainable Technologies), Bengaluru	Dr Monto Mani
23.	Institute of Town Planners, India, New Delhi	Dr S. K. Kulshrestha
24.	International Institute of Information Technology, Hyderabad	Dr Vishal Garg Dr Pradeep Kumar Ramancharla (<i>Alternate</i>)
25.	Kaleidoscope, Noida	Shri Amor Kool
26.	Karan Grover & Associates, Vadodara	Shri Karan Grover
27.	Kone Elevator India Pvt Ltd, Chennai	Shri P. M. Tipnis Shri J. Sivaraman (<i>Alternate</i>)
28.	Larsen & Toubro Ltd, ECC Division, Chennai	Shri Rajan Venkateswaran Shri Sthaladipti Saha (<i>Alternate</i>)
29.	Malviya National Institute of Technology, Jaipur	Dr Jyotirmay Mathur Dr Sanjay Mathur (<i>Alternate</i>)
30.	Military Engineer Services, Engineer-in- Chief's Branch, Army HQ, New Delhi	Smt Upinder Kaur Shri Mahesh Arjun Ruperee (<i>Alternate</i>)
31.	Ministry of New & Renewable Energy, New Delhi	Dr Arun K. Tripathi
32.	Panika, Ahmedabad	Shri Nimish Patel Ms Parul Zaveri (<i>Alternate</i>)

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| 33. | Proion Consultants, New Delhi | Shri Sandeep Goel |
| 34. | School of Planning & Architecture,
New Delhi | Prof Virendra Kumar Paul |
| 35. | Surat Municipal Corporation, Surat | Shri J. M. Patel
Shri J. S. Shah (<i>Alternate</i>) |
| 36. | Sustainable Urbanism International,
Bangalore | Dr Jyoti Hosagrahar |
| 37. | The Energy and Resources Institute,
New Delhi | Ms Mili Majumdar |
| 38. | The Indian Institute of Architects, Mumbai | Shri Prafulla Karkhanis
Shri Abhijit Ray (<i>Alternate</i>) |
| 39. | The Institution of Engineers (India),
Kolkata | Shri G. Prabhakar
Shri B. Anantaramloo (<i>Alternate</i>) |
| 40. | Town and Country Planning Organization,
Ministry of Urban Development, New Delhi | Shri Paresh Duria
Dr Pawan Kumar (<i>Alternate</i>) |
| 41. | Underwriters Laboratories (India) P Ltd,
Bengaluru | Shri V. Manjunath
Shri Puneet Randeo (<i>Alternate</i>) |

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
1	In Personal Capacity, New Delhi	Shri R. N. Dandekar (Convener)
2	AECOM India Pvt Ltd, Noida	Shri Vijay K. Mattoo Shri Sunil Shahani (<i>Alternate</i>)
3	Ahluwalia Contracts India Limited, New Delhi	Shri Pradeep Kumar Shri Jaspal Singh Rawat (<i>Alternate</i>)
4	All India Glass Manufacturers' Federation, New Delhi	Shri Somasundaram Senthil Shri Rupinder Shelly (<i>Alternate</i>)
5	Bureau of Energy Efficiency, New Delhi	Nominations Awaited
6	Central Public Works Department , New Delhi	Shri Mathura Prasad
7	Confédération of Construction Products and Services, New Delhi	Shri Shashi Kant Shri Deepak Gahlowt (<i>Alternate</i>)
8	Creative Design Consultants & Engineers Pvt. Ltd., Ghaziabad	Shri Aman Deep Garg Shri Barjinder Singh Ghai (<i>Alternate</i>)
9	CSIR-Central Building Research Institute, Roorkee	Shri Ashok Kumar Shri S. K. Negi (<i>Alternate</i>)
10	Delhi Development Authority, New Delhi	Chief Engineer (Design) Shri Vijay Shanker (<i>Alternate</i>)
11	Façade India Testing Inc, Thane	Shri V S Ravi Shri Pravin Gaikwad (<i>Alternate</i>)
12	Glazing Society of India, Chennai	Shri Subramanian R Shri Gohul Deepak (<i>Alternate</i>)
13	GSC Glass Ltd, Greater Noida	Shri C. J. Singh

14	Indian Association of Structural Engineers, New Delhi	Shri S. C. Mehrotra Prof Mahesh Tandon (<i>Alternate</i>)
15	IIT Madras (Structural Glass Research & Testing Facility), Chennai	Dr S. Arul Jayachandran
16	IIT Roorkee, Roorkee	Dr Avlokita Agrawal Dr E. Rajasekar (<i>Alternate</i>)
17	In Personal Capacity, New Delhi	Shri S. K. Dheri
18	Larsen & Toubro Ltd, Chennai	Shri Sthaladipti Saha Shri Surya Prakash (<i>Alternate</i>)
19	Meinhardt Facade Technology India Pvt Ltd, Chennai	Shri Mahesh Arumugam
20	Municipal Corporation of Greater Mumbai (Mumbai Fire Brigade), Mumbai	Chief Fire Officer Dy. Chief Fire Officer (<i>Alternate</i>)
21	National Buildings Construction Corporation Limited, New Delhi	Shri Hemraj Shri H. S. Yadav (<i>Alternate</i>)
22	Saint-Gobain Glass India, Chennai	Shri Manish Srivastava Shri N Murali (<i>Alternate</i>)
23	Schueco India Pvt Ltd, Bangalore	Shri Antony John Shri Piyush Kumar Srivastava (<i>Alternate</i>)
24	The Indian Institute of Architects, Mumbai	Shri Vijay Garg Shri Ashutosh Agarwal (<i>Alternate</i>)
25	The Institution of Engineers (India), Kolkata	Shri P. K. Adlakha
26	Winwall Technology India Pvt Ltd, 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
1	In personal Capacity, New Delhi	Shri A. K. Mittal (Convener)
2	Airports Authority of India, New Delhi	Shri D. K. Kamra Shri Vivek Chourey (<i>Alternate</i>)
3	Association of Unified Telecom Service Providers of India, New Delhi	Fresh Nomination Awaited
4	Building Industry Consulting Service International- India District, Mumbai	Shri Ninad Mohan Desai
5	Cellular Operators Association of India, New Delhi	Shri Vikram Tiwathia Smt Vertika Misra (<i>Alternate</i>)
6	Central Industrial Security Force, New Delhi	Shri Naresh Kumar
7	Central Public Works Department, New Delhi	Shri C. K. Varma Shri D. K. Tulani (<i>Alternate</i>)
8	CMAI Association of India, New Delhi	Prof N. K. Goyal
9	Department of Telecommunication, Ministry of Communications and IT, New Delhi	Shri V. K. Hirna Shri Arvind Chawla (<i>Alternate-1</i>) Shri Saurabh Chaturvedi (<i>Alternate-2</i>)
10	Dept. of Electronics & Information Technology, Ministry of Communications and IT, New Delhi	Dr Anil Kumar Kaushik Shri Prakash Kumar (<i>Alternate</i>)
11	Gujarat International Finance Tec-City Company Limited (GIFTCL), Gandhinagar	Shri Ramakant Jha Shri Nilesh Purey (<i>Alternate</i>)
12	In Personal Capacity, Bangalore	Shri J. N. Bhavani Prasad
13	Indian Buildings Congress, New Delhi	Shri Bhishma Kumar Chugh Shri P. S. Chadha (<i>Alternate</i>)
14	Indian Institute of Architects, Mumbai	Nomination awaited
15	Internet Service Providers Association of India, New Delhi	Shri Brajesh Chandra Jain

16	Military Engineer Services, New Delhi	Col R. Baijal
17	Ministry of Railways, New Delhi	Smt Vinita Narera
18	Proion Consultants, New Delhi	Smt Shruti Goel
19	Roads and Buildings Department, Govt of Telangana, Hyderabad	Shri G. Ramakrishna Kumar Deputy Chief Engineer (<i>Alternate</i>)
20	Sterlite Technologies, Pune	Shri S. N. Gupta Shri Priyadarshi Sidhartha (<i>Alternate</i>)
21	Telecom System Design & Manufacturers Association, New Delhi	Shri Bhupesh Yadav Shri Rahul Dubey (<i>Alternate</i>)
22	The Institution of Engineers (India), Kolkata	Nomination awaited
23	Town and Country Planning Organization, New Delhi	Shri K. K. Joadder Shri R. Srinivas (<i>Alternate</i>)
24	UBICO Networks Pvt Ltd, Gurgaon	Shri Nitin Kohli

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
1.	In Personal Capacity, New Delhi	Shri Krishna Kant (Convener)
2.	Airports Authority of India, New Delhi	Shri D. K. Kamra Shri Vivek Chourey (<i>Alternate</i>)
3.	C. B. Richard Ellis, Gurgaon	Shri Aneesh Kadyan
4.	Central Industrial Security Force, New Delhi	Dr K. C Wadhwa Smt Harpreet Kaur (<i>Alternate</i>)
5.	Central Public Works Department, New Delhi	Shri Prabhakar Singh Shri Pramod Kumar Singh (<i>Alternate</i>)
6.	Climaveneta Climate Technologies (P) Ltd, Bangalore	Shri Anil Dev Shri Nitin Joshi (<i>Alternate</i>)
7.	Cushman and Wakefield India Pvt Ltd, Gurgaon	Shri Dinesh Wadehra Shri Sajit Sankar (<i>Alternate</i>)
8.	DLF Home Developers Ltd, Gurgaon	Shri Gautam Dey
9.	Honeywell International India Pvt Ltd, Gurgaon	Shri Varun Jain
10.	In Personal Capacity, Delhi	Shri V. K. Sharma
11.	In Personal Capacity, New Delhi	Shri Chandra Pal
12.	In Personal Capacity, New Delhi	Shri S. K. Dheri
13.	In Personal Capacity, New Delhi	Shri Anil Kumar Arora
14.	In Personal Capacity, New Delhi	Shri Y. Taneja
15.	Indian Buildings Congress, New Delhi	Shri Deepak Narayan
16.	Jones Lang Lasalle Meghraj Building Operations Pvt Ltd, Gurgaon	Shri Sumit Rakshit
17.	Medanta Medicity, Gurgaon	Shri Sanjay Batra
18.	Military Engineer Services, Enginner-in- Chief's Branch, Army HQ, New Delhi	Shri D. K. Tyagi Lt Col Gaurav Kaushik (<i>Alternate</i>)

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| 19. | National Council for Cement and Building Materials, Ballabgarh | Shri V. V. Arora
Shri Brijesh Singh (<i>Alternate</i>) |
| 20. | Realty Automation and Security Systems Pvt Ltd, Pune | Shri Nitin Joshi |
| 21. | Security and Intelligence Services (India) Ltd, New Delhi | Shri Ritu Raj Sinha
Brig U. K. Dhar (Retd.) (<i>Alternate</i>) |

ANNEX 24
[Item 2.2(bb)]

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

Dr H. C. Visvesvaraya, In Personal Capacity, Chairman, CED 46 (**Convener**)

Shri V. Suresh, In Personal Capacity, Vice-Chairman CED 46

Shri H. S. Dogra, Chairman CEDC

Shri P. Krishnan, In Personal Capacity

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

Prof Mahesh Tandon, Indian Association of Structural Engineers (President)

Shri J. N. Bhavani Prasad, In Personal Capacity

ANNEX 25
[Item 2.2(cc)]

COMPOSITION OF THE HIGH LEVEL GROUP, CED 46:HLG

NAME OF THE ORGANISATION	REPRESENTED BY
In Personal Capacity (Chairman, CED 46)	Dr H.C. Visvesvaraya (Convener)
In Personal Capacity (Vice-Chairman, CED 46)	Shri V. Suresh
Association of Consulting Civil Engineers (India), Bangalore	President
Council of Architecture, New Delhi	President
Indian Association of Structural Engineers, New Delhi	President
Institute of Town Planners, India, New Delhi	President
The Indian Institute of Architects, Mumbai	President
The Institution of Engineers (India), Kolkata	President