

केन्द्रीय लोकनिर्माणविभाग

कार्यालय झापन

No. DG/CON/EE/321

ISSUED BY THE AUTHORITY OF DIRECTOR GENERAL, CPWD

Nirman Bhawan, New Delhi

Dated: 25.03.2022

Subject: General Conditions of Contract 2020 – EPC Projects - Amendment to General Rules & Directions SI No 1 and Schedule F

1. *Following is added after the existing provisions in respect of EPC contracts to **General Rules & Directions SI No 1***

The work involves execution as per name of work under either EPC Mode I or Mode II or Mode III as specified in Schedule F.

Mode I involves Engineering (preparation of Architectural, structural and services design and drawings), procurement & construction by the contractor based on conceptual architectural drawings attached with the tender documents;

Mode II involves part Engineering (preparation of structural and services design and drawings), procurement & construction by the contractor based on Preliminary/ Conceptual Architectural design and drawings attached with the tender documents; detailed Architectural design and drawings may be provided by the Engineer-in-Charge in stages/ parts during execution.

Mode III involves procurement & construction by the contractor based on Architectural, structural and services design and drawings attached with the tender documents or to be provided by the Engineer-in-Charge in stages / parts during execution.


The Type of building i.e Permanent or Semi-Permanent, based on the expected economic life of the building, shall be as specified in Schedule-F.

Tenders invited in Mode I and Mode II are technology neutral. Bidders can choose any of the approved technologies depending upon type of building, other suitability conditions (such as seismic zone, number of storeys etc) as per Schedule F under Mode I and II as per structural design, subject further to the condition that the structural system technologies categorized under Pre-cast Construction System and adopted for buildings under Seismic Zone IV as per IS 1893(Part-I) :2016 amended from time to time, shall have passed the full scale type testing for pseudo-static reversed cyclic test as detailed below:

Pseudo-Static Reversed –Cyclic Test

The test shall be conducted on typical three storeys of multi-storey building, which (a) are built with the full-scale components precast as per technology (b) are the weakest and/or most flexible, and (c) have all the typical connections of the building in precast, namely interior, exterior and corner wall to wall (vertical) connections, wall to slab (horizontal) connections and wall to wall (horizontal) connections, if any, as built in the original system with minimum four room layout plan.

The bottom of the first storey shall be connected to the strong floor of the test facility, and the floors of the upper storeys to the Displacement-controlled actuators of the requisite Displacement (and force) capacity. This proto-type shall be loaded with the due vertical gravity load representing service level dead and live loads. The profile of displacement loading shall be as per the force distribution profile specified in IS 1893 (part I):2016 in the Equivalent Static Method of design.


R K SINGH
EE(Manual)

Displacement controlled loading: At least 3 loading cycles (Full positive and Full negative) at Each of the displacement excursions of 0.1%, 0.2%, 0.3%,0.4%, 0.5%, 0.75%, 1%, 1.5%, 2%, 2.5%, 3%, 3.5%, 4%, 5% and 6% drift of specimen, or failure of the specimen, whichever is earlier.

i) 6% drift requirement is an upper limit. Actual drift is expected to be lesser than 6% depending on:

Deformability of the building, and Flexibility of the connections.

The test may be stopped when either 6% drift or the maximum lateral force of 3 times the design base shear is reached.

ii) Pseudo-static reversed cyclic test does not require a Shake Table facility.

Number of samples and Frequency: One sample shall be tested unless the structure shows premature failure before reaching at least 6% overall drift, either elastically or in elastically. If the structure fails to meet 6% drift requirement, then another sample be tested to reconfirm the failure pattern observed in the first specimen. If both samples fail, said configuration of the technology shall not be adopted in the work.

One test for every new type of connection system adopted shall be conducted. If the connection type / combination of elements under approved technology are changed, either in part or in full, the system will be treated as new.

The test should have been already got conducted from any government academic institute of repute or government R&D organization in India.


The testing charges shall be borne by the contractor.

2. *Following is added after the existing provisions in respect of EPC contracts to **Schedule F- General Rules and Directions after "Officer Inviting Tender"**.*

Applicable Mode of EPC Contract	:	Mode- I/II/III	One option to be kept by NIT approving authority
Type of Building	:	Permanent or Semi Permanent	One option to be kept by NIT approving authority
List of approved construction technologies.	:	As per Table 1A/1B/2 of OM No. 17/SE(TAS)/BMTPC/2022/105-H dated 24.03.2022 amended from time to time.	One option of appropriate Table to be kept by NIT approving authority and also attach a copy of the OM along with amendments, if any, with NIT.

This OM shall be applicable for NITs uploaded /invited after the date of issue of OM.


This issues with approval of DG, CPWD.


(वी. पी. साहू) 25.03.2022

अधीक्षणअभियंता(सी.एंड एम.)

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केलोनिवि तथा लोनिवि दिल्ली के सभी अधिकारियों को आवश्यक सूचना एवंकार्यवाहीहेतु।(केलोनिवि वेबसाईट के माध्यम से)


R K SINGH
EE(Manual)