

Government of West Bengal
Public Works Department
Technical Branch

Memo No. 49(3)-Works-TE

Date : 18. 11. 2014



- To
1. Chief Engineer (HQ), PWD., Nabanna, Howrah
 2. Chief Engineer, P. W. (R) D., Nabanna, Howrah
 3. Chief Engineer, Social Sector, PWD., N. S. Building, Kol.

Sub : A General Guideline for consideration of important Electrical aspects at the DPR/design stage.

It has been observed that during preparation of DPR/Design of multi-storied buildings, bridges, some important electrical aspects, without which the time-bound project gets delayed/hampered during execution, are inadvertently ignored. To sort out the problem and for smooth execution of the project some salient points were elaborately discussed and circulated in the meeting at Government Guest House, Hungerford Street, Kolkata on 14th & 15th November, 2014 wherein the E-in-C & E.O. Secy., PWD and other Engineer Officers were present.

I am once again, in the interest of public works, enclosing the guide lines and salient points for electrical works for its proper implementation before finalizing the DPR/Design parameters for the execution of the projects smoothly.

Enclosure : Two Sheets

Subh...
Chief Engineer (El.)-I, PWD. 18-11-14



Memo No. 49(3)/1(4)-Works-TE

Date : 18. 11. 2014

Copy along with copy of enclosures forwarded for kind information and necessary action to the :

1. Principal Secretary, P.W.D., Nabanna, Howrah
2. Engineer-in-Chief & E.O. Secretary, PWD., Nabanna, Howrah
3. Chief Government Architect, P.W.D. Bhabani Bhawan, Kolkata.. The matter was discussed with him several times and communicated through this office Memo No. 1215(2)/CE(Elecl.)-I, PWD-3 Dt. 14. 11. 2013 which was duly received by his office on 20. 11. 2013.
4. Chief Engineer, N. H., P. W. (R) D., Writers' Buildings, Kol.

Enclosure : Two Sheets


Subh...
Chief Engineer (El.)-I, PWD. 18-11-14

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**SALIENT POINTS IN ELECTRICAL ASPECTS FOR PREPARATION OF DPR
FOR DIFFERENT PROJECTS AS PER NATIONAL BUILDING CODE**

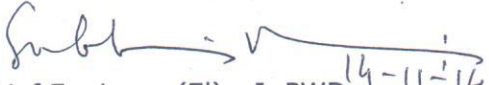
**Planning of Electrical Installations (National Building Code -
2005 - Part - 8 - Section - 2**

<p>4. 1. 3 page-10 of NBC</p>	<p>:</p>	<p>Proper coordination amongst Architects, Civil and Electrical Engineers shall be effected from the planning stage of the installation. The provisions that will be needed for the accommodation of Sub-Station, Transformer, Switch Rooms, Service Rooms, Cable Ducts , Rising Mains, Distribution Cables, Sub-Distribution Boards, Opening and Chases in floors/walls for all required electrical installation etc. shall be specified in advance.</p>
<p>4.2.1 page-10 of NBC</p>	<p>a)</p>	<p>Location and requirement of Sub-Station : The Sub-Station should preferably be located in a separate building and should be adjacent to the Generator Room. Location of Sub-Station in basement floor should be avoided as far as possible.</p>
	<p>b)</p>	<p>Ideal location for Electrical Sub-station for a group of buildings would be at load centre on ground floor.</p>
	<p>d)</p>	<p>Air-conditioning Plant Room to be considered , if required.</p>
	<p>j)</p>	<p>At least 6 Meter clear distance between the adjacent buildings and Sub-Station so that Fire Tender is able to pass between the two structures.</p>
<p>4. 2. 2. page -11 of NBC</p>		<p>Types of Buildings for Sub-Stations : The Sub-Station enclosure i.e. walls, floors, ceiling, opening doors etc. shall have two hours fire rating (c) Part 4 of Fire and Light Safety.</p>
<p>4.2.4. (m) - 2 page -13 of NBC</p>		<p>Special care should be taken to ventilate the transformer rooms and where necessary louvers at lower level and exhaust fan at higher level may be provided.</p>
<p>4.2.4. (m) - 4 page -14 of NBC</p>		<p>The minimum height of High Voltage Switch Gear Room shall be 3.6 Meter below the Soffit of the room.</p>
<p>3.5 page - 9 of NBC</p>	<p>:</p>	<p>Execution of Works : The works of Electrical Installations shall be carried out by a Licensed Electrical Contractor and under the direct supervision of a person holding a Certificate of Competency.</p>


 Chief Engineer (EI) - I, PWD 14-11-14

A General Guideline for consideration of important Electrical Aspects at the design stage for utility service for an important building.

1. Standard Sub-station Building including 5 nos. rooms each having dimension (5 Mtr. x 5 Mtr.) along with a place/platform for Generator attached to the Electrical Sub-Station in an easy accessible place.
2. In every floor of the Building there should be a L T Panel Room of (10 ft. x 10 ft.) size in vertical alignment in a large building.
3. Electrical Cable Duct & Fire Duct are to be provided as per requirement.
4. Above lintel level , if sky light is provided, brick work for cable drawing should be provided.
5. A. C. Plant Room for Central A. C. to be provided adjacent to the building also a separate space for installation of cooling tower is required adjacent to the building
6. In case of Air-conditioning (Central or Package) false ceiling is must and floor height should be 3.9 mtr. for Central AC & 3.6 mtr. for packaged AC for accommodating AC Duct and other utility services like sprinkler.
7. For accommodating out door unit of Split Air-conditioning machine in each floor in an easily accessible place outside the building facia, a suitable arrangement must be provided keeping in view easy maintenance of the Air-conditioning machines, wherever necessary.
8. AHU room for each floor is required for Central AC & Ductable AC.
9. In case of packaged unit floor wise space (4.5 mtr. x 4.5 mtr.) is required.
10. Packaged AC is required for avoiding fire hazards/power saving, as split or window ACs are power intensive. Where there are requirements of multiple air-conditioners in a close proximity, then packaged AC system may be utilized to avoid future fire hazard and for power saving also.
11. Fire Panel room is required (5 mtr. x 6 mtr.)
12. Proper capacity exclusive fire reservoir is required to proper capacity.
13. A Central Room is required for installation of CCTV in a suitable position
14. Civil design should be made in such a fashion so that no structural beam/column should fall within lift shaft.
15. Package and Central Plant in a Hospitals and High Rise Buildings instead of Window and Split Air conditioner is preferable to avoid fire hazard in future.
16. Constructing Pole Catcher & Cable Duct would be mandatory at the time of construction of new Bridge.


Chief Engineer (EI) - I, PWD 14-11-14