



भारत सरकार **Government of India**
विद्युत मंत्रालय **Ministry of Power**
केंद्रीय विद्युत प्राधिकरण **Central Electricity Authority**
क्षेत्रीय निरीक्षण संगठन (उत्तर) **Regional Inspectorial Organization(North)**
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संख्या : NRIO/Misc-43/Accidents/2017/

Dated: 15-01-2018

To
ShriSunil Sivatch
Sr. Excutive Engineer
O&M Circle,
BBMB Bhiwani,
Haryana - 127021

Subject: - Inspection Report of Electrical Accident happened at 132 KV switchyard at 400KV sub station, Prem Nagar, Bhiwani of Bhakra Beas Management Board (BBMB) on 12.12.2017.

BBMB vide their letter no. 110/03 dated 12.12.2017 submitted Form-A to CEA regarding electrical accident happened on 12.12.2017 at 132KV switchyard, District Bhiwani. The detailed causes leading to the accident have been given in the report submitting in form-A by BBMB.

For verification of the above facts, a visit at the site of accident was done by Sunil Kumar Jain Deputy Director, RIO (North), CEA on 19.12.2017, after the discussion with Sub Station in charge Shri Sunil Sivach , ShriWazir Chand, ShriZile Singh and apprentices who was present at the spot, following are the observations and conclusions:

Observations:

- i) 132 KV switchyard ,the site of accident was full of big trees and unwanted growth in that area. Many trees had attained substantial height and came into the induction zone of 132 KV bus bar.
- ii) No gravels were spread at 132 KV switchyard.
- iii) Despite of many trees in induction zone, at the time of removing the unwanted growth in switch yard area 132 KV line was live.

Conclusions:

- i) It is found that accident occurs due to violation of Regulations 3,5,7,12,28,64 of CEA (Measures relating to Safety and Electric Supply) Regulations,2010.
- ii) BBMB did not obtained the approval for the energisation of the substation neither under regulation 43 nor under regulation 30 of the CEA(Measures relating to Safety and Electric Supply) Regulations,2010 or erstwhile applicable Electricity Rules, 1956 from CEA.

Violation of Regulation-3

1. It shall be ensured that A supplier or a consumer, or the owner, agent or manager of a mine, or the agent of any company operating in an oil-field or the owner of a drilled well in an oil field or a contractor who has entered into a contract with a supplier or a consumer to carry out duties incidental to the generation, transformation, transmission, conversion, distribution or use of electricity shall designate persons for the purpose to operate and carry out the work on electrical lines and apparatus.
2. A register shall be maintained by the BBMB wherein names of the designated persons and the purpose for which they are engaged, shall be entered.
3. It shall be ensured by the BBMB that no person shall be designated unless he possesses a certificate of competency or electrical work permit, issued by the Appropriate Government.

It was found that BBMB is not maintaining any register wherein the designated persons and the purpose for which they are engaged, mentioned.

Neither The deceased person nor under whose supervision , the work was being carried out having any certificate of competency or electrical work permit, issued by the Appropriate Government

Violation of Regulation 5

1. The name, qualification and experience of Electrical Safety Officer designated for ensuring observance of the safety measure shall be furnished and the same shall be displayed in the control room.
2. A copy of the records of the various tests done periodically in respect of the apparatus inspected shall be furnished.

It was found that BBMB has not designated any Electrical Safety Officer for ensuring observance of the safety measure .

Violation of Regulation 7

It may be ensured that all the persons engaged for O&M duties have undergone the necessary training as specified in Schedule-II of these Regulations.

It was found no training was given to the persons engaged for O&M duties as specified in Schedule-II.

Violation of Regulation 12

General safety requirements pertaining to construction, installation, protection, operation and maintenance of electric supply lines and apparatus.- (1) All electric supply lines and apparatus shall be of sufficient rating for power, insulation and estimated fault current and of sufficient mechanical strength, for the duty cycle which

they may be required to perform under the environmental conditions of installation, and shall be constructed, installed, protected, worked and maintained in such a manner as to ensure safety of human beings, animals and property.

It was found no greval feeding was done at the 132 KV switchyard.

Violation of Regulation 28

- 1 Soiled Resuscitation charts at various locations shall be replaced.
- 2 Instructions (i.e. electric shock treatment chart), in local language of the district and English or Hindi for the restoration of persons suffering from electric shock, shall be affixed in a conspicuous place.
- 3 Assurance shall be given that all the designated persons employed are acquainted with and competent to apply instructions for the resuscitation of persons suffering from electric shocks.

It was found that no designated persons employed are acquainted with and competent to apply instructions for the resuscitation of persons suffering from electric shocks.


Violation of Regulation 64

As per sub clause (3), no material or earth work or agriculture produce shall be dumped or stored, no trees grown below or in the vicinity of bare overhead conductor or line to contravene the provision of regulation 60 and 61.

It was found that the trees grown below the 132 KV bus bar (at the site of accident) was near to the gentry height and fall under the induction zone.

In view of above, here it is to mentioned that there were major lapses in the part of BBMB , leading to the fatal injury to one of the employee. If BBMB followed the CEA(Measures relating to Safety and Electric Supply) Regulations,2010,the accident could have been avoided.

BBMB is hereby advised to strictly adhere with CEA(Measures relating to Safety and Electric Supply) Regulations,2010 in future.


(Sunil Kumar Jain)
Deputy Director
RIO (North), CEA

Copy to:

1. Chief Engineer, Chief Electrical Inspectorate Division, CEA
2. PPS to Member (Power System), CEA – for kind information.
3. Director (RIO-North)