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East Central Railway

**Office of the
General Manager (S&T)
Hajipur**

No. ECR/S&T/JPO/185-A/Pt. I | 43

Date- 05.01.2018

Sr. DSTEs
East Central Railway
DHN, DNR, MGS, SEE, SPJ

Sub: Joint Inspection Register for Recording Joint Inspection (Half Yearly) of Power Supply, Electrical Fittings & Fire detection for S&T installations at stations/cabin in Electrified/Non Electrified sections by JE/SSE (Signal), JE/SSE (Elect.G) & JE/SSE (TRD).

Ref: (i) This office letter of even No., Dtd.-03.01.2018
(ii) JPO No. EL/2017.

Please find enclosed herewith, a sample register for recording Joint Inspection (Half Yearly) of Power Supply, Electrical Fittings & Fire detection for S&T installations at stations/cabin in Electrified/Non Electrified sections by JE/SSE (Signal), JE/SSE (Elect.G) & JE/SSE (TRD).

Please ensure that copy of this sample register is kept at all station/cabin and joint inspection to be carried out properly so that Power supply related S&T failures could be avoided/minimized.

DA: Sample Register for joint inspection.


05/1/18

**(S.R.Meena)
Chief Signal Engineer
for GM (S&T)/ECR/HJP**

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Copy to:

- (i) DRMs/DHN, DNR, MGS, SEE, SPJ for information and necessary action please.
- (ii) PCOM/ECR, PCEE/ECR & CSO/ECR for information and necessary action please.
- (iii) CSTE/Con/MHX/ North & South, CSTE/Works for information and necessary action please.

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East Central Railway

Joint Procedure Order No. EU/2017

Sub: Maintenance of Power Supply for S&T installations at
stations/cabin in Electrified/Non Electrified sections.

A. ARRANGEMENT:

1. All sources of Power Supply i.e. Up & Dn AT, local power supply in double line section and AT, local Power Supply, Solar and DG set, where provided for other sections will be terminated in main power change over panel. Automatic CLS panel as per latest RDSO specification is to be provided. Wherever manual changeover panel is existing, it shall be replaced at the earliest by automatic changeover panel in a programmed manner.
2. All supply to signaling installations will be taken from exclusive MCB provided for the purpose. One MCB of equal rating will be kept spare for emergency use of S&T.
3. Emergency power arrangement for lighting/UTS/PRS/Telecom etc will be taken from separate MCB of suitable size.
4. Power indication availability of various supplies including Up/Dn AT will be provided on/oc in vicinity of main CLS change over panel.
5. All cables/wires shall be terminated by using lug and crimps. Temporary twisted and insulated connections are not to be provided.
6. No joint shall be permitted between AT distribution Box/Local power supply connection point to CLS change over panel.
7. Armour of Power cables shall be earthed at AT & CLS changeover panel end.

B. PERIODICAL MAINTENANCE:

1. Action to be taken by Electrical (G) department:

- 1.1 Load for signaling system on way side stations is normally 15 to 20 Amps (approx.). So only a dedicated MCB from CLS panel having no other load connected to this MCB shall be given for signal supply. Another MCB of same rating will be kept spare. Other permitted emergency load shall be connected by remaining MCB with separated circuit. All the cable shall be connected to MCB after proper crimping with suitable lug and dressed.
- 1.2 No spare slot, plug point may leave for unauthorized connection from L.V. side of AT.
- 1.3 Don't use inadequate rating of fuse wire in place of 63 Amp MCB and one spare MCB for equal rating should be kept on an emergency use of signaling or by Elect. (G).
- 1.4 Provision of proper fuse/ MCB/ ELCB/RCCB etc. for other load like PRS, UTS & PA System etc.
- 1.5 All concerned Railway Employees to be counseled to avoid using any kind of unauthorized load or any heavier loaded electrical equipment like Electric heater,

room heater/blower, Iron etc with AT supply. Time to time random checking should be done by SSE(G) in this regard.

2. Action to be taken by Electrical (TRD) department:

To ensure that AT is provided with proper size of D.O. fuse and arcing horn with appropriate gap and LT cable for AT is terminated at 63 Amp MCB with crimped lug.

3. Action to be taken by S&T department:

To ensure that signaling Power cable with properly crimped bottle type lug/thimble is connected from outgoing MCB provided exclusively for S&T use in CLS panel. Provision and maintenance of signaling power cable from MCB onward is to be ensured by S&T in accordance with JPO ECR/Elec/G/304-PS/1239 dt. 01.04.08, IPS at all PI stations (upto 6 line) are to be provided in a programmed manner, if already not provided and proper back up of IPS (min: 3hrs) is to be ensured. Signal staff on duty shall check the effectiveness of IPS battery back up by switching off the main supply from IPS panel once in a month.

4. Action to be taken by SM on duty:

Station Master on duty at all the stations on arrival in each shift shall check the condition of the indication lamps of Down AT, Up AT and local power supply. The same must be recorded in station diary/Electrical Supply Failure Register and defective status of any of the indication lamp shall be reported to the control for onward information to Elect (G) control who will take appropriate action for its rectification.

The change over operation should be done by SM to get supply from other ATs/local/LG/Solar, in case main source of supply fails and the auto change over system is not functional/not provided. The time must be recorded in register.

Simple trouble shooting of changeover /resetting of MCB etc. will be done by ASM for which simple operation-instructions/training will be provided by Elect. Staff.

C. PERIODICAL JOINT INSPECTION, TESTING AND MAINTENANCE OF POWER SUPPLY ITEMS BY JEs/SSEs IN EVERY 06 MONTHS.

1. Joint inspection, testing of the power supply items e.g. ATs and connections from AT, CLS panel, load for signaling, integrated power supply, DG sets (if any), Solar Panel (if any), MCB load, cables including their connections and earthing arrangement for all the system including electrical wiring, distribution board, lights & their fitting, Fan, exhaust fan and air conditioner (wherever available) etc. provided in S&T service building shall be carried out by joint team of JE/SSEs of Elect (G), Elect. (TRD) and S&T departments in every 06 months.
2. During such joint inspection thorough maintenance of switches/MCB like cleaning, tightening of terminals, measuring voltage drop in the system shall be carried out. Any defective electrical items in relay room etc. shall also be attended.

3. During these joint inspection, awareness of Operating Staff (ASM/SN/Dy.SS/Panel Operator) of change over operation & simple trouble shooting of changeover/ resetting of MCB etc. shall be checked and their counselling shall be done.
4. RECORDING OF JOINT INSPECTION & THEIR COMPLIANCE: Details of joint inspection and compliance to be recorded in standard formats of a separate register kept at stations meant for this purpose and duly signed by all JE/SSEs of Elect (G), Elect. (TRD), S&T.
- D. JOINT INSPECTION BY SECTIONAL OFFICERS OF POWER SUPPLY ITEMS ONCE IN A YEAR: Apart from joint inspection mentioned in Para 5, Junction stations and large RRIs/stations should also be inspected jointly by Sectional Officers (Jr. Scale/Sr. Scale) of Electrical and S&T dept.
- E. ACTION TO BE TAKEN IN CASE OF FAILURE:

The failure of any of the AT supply shall be informed by ASM to TPC & Elect. (G) Control for taking immediate remedial action. The failure of both AT supply or local supply to signals shall be reported immediately by ASM to section controller for onward information to S&T, TRD and Electrical (G) Control for taking immediate corrective action.

ASM will also issue written message to S&T, Electrical (G) and TRD staff if available at stations.

ASM will also immediately take appropriate action for operation of train services as per laid down procedure to minimize detention to train during complete supply failure to signals. Maintenance supervisors of all the concerned departments (i.e. Electrical (G), Electrical (TRD) and S&T shall rush to the station irrespective of the nature of failure and take necessary action for restoration of power supply. A joint note shall be prepared by all the above supervisors and SM and finding of the same shall be relayed to the control.

This JPO supersedes JPO No. EL/2008/3.

Rak
(Rakesh Tiwar) 27.12.17
PCEE

Sukhen Deb
(Sukhen Deb) 27.12.17
PCSTE

Sailil Jha
(Sailil Jha) 29.12.17
PCOM

East Central Railway

JOINT INSPECTION REGISTER

for

Record of Periodical Joint Inspection (Half Yearly)
of

Power supply, Electrical fittings & Fire detection
for S&T installations at stations/cabin

By

JE/SSE (Signal), JE/SSE (Elect. G) & JE/SSE (TRD)

JOINT PROCEDURE ORDER No.-EL/2017.

Station/Cabin:.....Divn.

**East Central Railway
Signal & Telecom Dept.**

**Record of periodical Joint Inspection (Half Yearly) of Power supply, Electrical fittings & Fire detection etc. installed by electrical and S&T at stations/cabins
by JE/SSE (Signal), JE/SSE (Elect. G) & JE/SSE (TRD)**

JOINT PROCEDURE ORDER No.-EL/2017.

Station/Cabin:.....Divn..... Available 03 Source of Power Supply

Sl. No.	Item	1 st Half Year		2 nd Half Year	
		Observation/Deficiencies noticed	Complied on Date	Observation/Deficiencies noticed	Complied on Date
	Date of Joint Inspection				
A.	Power Supply Items				
1.	Condition & working of Automatic hange over switch incl. Indications				
2.	Load for Signalling System (in Amp.)				
3.	Provision of exclusive MCB for Signalling Installation with Rating				
4.	Provision of spare MCB of equal rating for Emergency use of signalling or Elect (G).				
5.	Provision of proper fuse MCB/ELECB/ RCCB etc. for other load like PRS/UTS/PA system etc.				
6.	Condition of Cables /wires their lugs and crimps				
7.	Temporary twisted and insulated connection, if any.				
8.	No joint between AT distribution Box/Local power supply connection point to CLS change over panel.				
9.	Existence of any unauthorized temporary installation				

Sl. No.	Item	1 st Half Year		2 nd Half Year	
		Observation/Deficiencies noticed	Complied on Date	Observation/Deficiencies noticed	Complied on Date
10 (a).	Provision of proper earthing (s) connections,				
10 (b).	Condition of earth pit & Value of Earth resistance (< 10 ohm)				
11.	Armour of Power Cables earthed at AT & CLS changeover panel end & their effectiveness.				
12	Condition of fire fighting equipment with due date of refilling				
13	Condition of Fire detection & alarm system, if provided.				
B.	TRD Items				
1.	Provision of correct size of D.O. Fuse with appropriate gap.				
2.	Termination of LT cable at 63 Amp MCB with crimped lug.				
C.	S&T Items				
1.	Effectiveness of IPS Battery back up.				
D.	Availability/Condition of Other Electrical Fitting in Relay Room, Battery Room, IPS Room, DG Room if available etc.				
1.	Lights & light fittings				
2.	Fan & Exhaust Fan				
3.	AC, if any				
4.	Switch boards (switches, sockets, plug pins, cut outs etc.), Flexible cords (if any)				
5.	Electrical wiring, its insulation including loose/temporary wiring				

Sl. No.	Item	1 st Half Year		2 nd Half Year	
		Observation/Deficiencies noticed	Complied on Date	Observation/Deficiencies noticed	Complied on Date
E	Awareness of Operating Staff (ASM/SM/Dy.SS/Panel Operator) of change over operation & simple trouble shooting of changeover/ resetting of MCB etc. & their counselling.				
F	Other deficiencies noticed/ Remarks, if Any:				
	Signature of JE/SSE (Signal)				
	Signature of JE/SSE (TRD)				
	Signature of JE/SSE (Elect./G)				