

दक्षिणपूर्वरेलवे
SOUTH EASTERN RAILWAY

प्र. मु.संकेत व दूर संचार अभियंता का कार्यालय
तीसरी मंजिल नया प्रशासनिक भवन
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Date/ दिनांक: 19.02.2024

All PHODs, CAO/C,
CMD/IRCON, RITES, RVNL
DRM/ADA, CKP, KGP, RNC

Sub: Joint Procedure Order (JPO)-Procedure for undertaking digging work
in the vicinity of Underground S&T cable to prevent the damages of
Underground Utilities.

Ref: Rly. Board Letter No. 2021/Tele/5(2)/3-Part (1)(3425647) dtd:
12.06.2023.

In pursuance of Railway Board guidelines, JPO on Procedure for
undertaking digging work in the vicinity of Underground S&T cable to
prevent the damages of Underground utility, signed by CSE/SER,
CTE/SER and CSC/RPF/SER has been prepared and issued here by.

JPO has been enclosed herewith for bringing out to the notice of all
concerned and it is requested to instruct the officials working from your side
to worksites involving S&T cable may kindly implement this JPO in letter
and spirit.

Enc: JPO



19/02/2024

(M.L.SAH)
CSTE/PLANNING

SOUTH EASTERN RAILWAY

JOINT PROCEDURE ORDER

Sub: Procedure for undertaking digging work in the vicinity of Underground utility of various departments viz. Signaling, Telecom & Electrical cables - preventive and post cable cut measures.

Ref: RB letter No. 2021/Tele/5(2)/3-Part (1) (3425647) Dated 12-06-2023

Large number of cable cuts and damage cases have occurred due to various kinds of construction activities is a cause of concern. Various directives have been issued to prevent such cases from time to time. This Joint Procedure Order is issued to streamline the mechanism to prevent the damages to working assets during various activities happening on account of different kinds of works.

(A) Planning & Estimate Stage:

1. Utility mapping shall be part of all major construction projects requiring excavation/earth work. Technologies like Cable avoidance tools, Ground Penetrating Radar (GPR) can be used to detect underground utilities including underground cables. Requirement to mobilize these tools and methodology to detect underground cables should be made as an integral part of the works Contracts to execute the work at site accordingly. Necessary items description and rate to be incorporated in the contract if not available, with the help of S&T and Electrical department. Utility mapping/tracing shall be undertaken by user departments (units of S&T/CON and Electrical Engineering/CON for projects of CAO/C, S&T/Project unit for S&T/Project) and cater to the requirement of complete project.
2. Based on the Cable Route Plan and quantum of cables submitted by the Division (Sr DSTE), the Abstract/ detailed estimate of any construction project involving excavation work in the vicinity of underground Signaling/Telecom/Electrical cables shall be prepared with the provision of cables/utility shifting which may include shifting of various encumbrances over ground and underground signaling & telecommunication, electrical utilities. Such estimate shall be made part of the execution of works contract.
3. For existing sanctioned estimates where the provision for utility shifting does not exist, the estimate shall be revised to make provision for the same or contingency provisions shall be used, if sufficient funds exist under contingency.

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4. At a station, within the station limits viz. from Home to Home where existing S&T/Electrical utilities population is very high:

- i. Shifting of main cables and location Boxes should be avoided as far as possible as it involves extra expenditure. However, if such shifting is imperative then it shall be undertaken well in advance of actual commencement of earthwork.
- ii. The trenching within station limit shall be manual, when such trenching is required to be done, where cables are known to exist nearby. However, machine trenching may be done if no cable exists in work area.
- iii. If shifting is required, Executing Agency will make plans in consultation with Division (Sr DSTE) to carry out the shifting with care and ensuring proper protection of shifted assets.
- iv. For new works, cables from Home to Home should be laid in ducts which are to be made as per latest guidelines issued by Railway Board (RB letter no. 2022/GS/IR/Cable laying policy dated 29.03.2023. Executing agency will do the shifting and jointing work.
- v. In some cases, where works are required to be undertaken within Railway boundary or close to railway boundary by State Government /NHAI etc., for all such cases, the nodal agency for coordinating these organizations will be Engineering department i.e. Sr. DEN(Co) and necessary assistance shall be provided by Sr. DSTE(Co) of the Division.
- vi. There should be a planned activity by the Division on cable identification by Global Positioning (GPS) system with exact coordinates for future reference and the same has to be uploaded on Railnet website of SER.

(B) Construction activities where underground Utility Shifting can be done in advance:

1. Contract for utility shifting shall be awarded in advance of the excavation/earth work contract. The scope may include shifting/removal of infringements including cables, signals, LC equipment, location boxes etc. and get the shifting done well in advance before start of excavation/earth work. Civil Contracts of earth work, building works etc., required for facilitating the utility shifting shall be awarded in advance.
2. The work of utility shifting shall be done in close supervision of Divisional concerned BO (Branch Officer) i.e. Sr DSTE. The responsibility in this respect of department is as follows:

3/12/24
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6/2/24
Page 2 of 7

- i. **Construction/ Executing Agency:** Supervision of Cable laying, Provision of Location Boxes/huts, termination of cable, etc.
- ii. **Divisional concerned BO i.e. Sr DSTE:**
 - (a) Supervision of works involving connecting live signaling circuits such as shifting of cable, wires in location boxes/Relay room/huts, Signals, Point machines etc.
 - (b) Supervision of works involving connecting live Telecom Circuits such as shifting of 4/6 Quad Cables, OFC Cables and such other Telecom Equipment/Circuits in this regard.
3. Once the work of utility shifting is completed, the Division will give the certificate/permission to the Executing Agency to start their work. Division and Executing Agency will take necessary precautions that the work is carried out as per agreed permissions.

(C) Construction activity without carrying out utility shifting:

As a norm, all construction activities involving excavation/earth work in the vicinity of S&T or existing utilities shall be planned with shifting of existing utilities. However, whenever it is not possible to undertake advance shifting of utilities in ongoing works due to various constraints, the same shall only be undertaken with all necessary precautions

1. The Executing Agency viz construction/GSU/Open line, shall provide all the information to Engineering Control regarding any works being done. Engineering Control shall provide the information to S&T and Electrical control immediately. These controls shall maintain record of the information, passed on to them by the concerned SSEs. SSE/W of Executing Agency will prepare joint reports with the help of SSE/Signal/Telecom, about existence of cable etc. in the work area within two days. No work in yards which may affect existing cables to be done in the vicinity of the track without permission of competent authority.
2. The Executing Agency, before undertaking the excavation activity, shall approach the Division with a detailed plan at least one month in advance of proposed date of start of the excavation activity. Division shall provide a detailed cables / utility route plan showing location of cable/ utilities for easy identification by the Executing agency.
3. The Executing Agency shall then cross verify the location by cable tracing, providing /excavating the cross trench/pits at a few locations to ensure correctness of the cable route plan in presence of S&T/Electrical staff. Division will also inform the Executing Agency if such verification is essentially required. In such cases, S&T/Electrical

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staff shall be provided at a 2-day notice and adequate progress will be ensured to avoid wastage of staff.

4. When Cable Route Plan is not available with the Divisional concerned BOs i.e. Sr DSTE or cable route plan is not found to be accurate (during cross check), cross trenches shall be made by Executing Agency under the supervision of S&T department. Cross trenching shall be done in presence of concerned Supervisor of Engineering/S&T by manual excavation (only) by the Executing Agency with adequate precautions (without damaging existing utilities) at appropriate spacing (an interval of 200 m approx. in block sections and about 50m apart in station limit) to ascertain the presence and route of the utility in that area under a suitable caution order on main line as suggested by Division. Further, by using Cable Route Locator/ Cable Route Tracer, the exact continuous route of the cables/ utilities shall be identified. Overall responsibility for entire exercise of verification and fine tuning /correction of cable route plan shall lie with Sr DSTE of the Division who will be duly assisted by the Executing Agency.

The SSE/In-charges from S&T (Open Line) shall arrange man power for supervision from their units depending upon involvement of underground utilities of the concerned department as the case may be.

5. 3 days before the start of excavation, the Executing Agency shall indicate the path of cable on site by suitable marking viz. lime marking along with pegging, markers etc. After the marking, concerned open line supervisor of the section shall be informed by the supervisor of the Executing Agency about the excavation work at least 2 days in advance. Divisional supervisor shall verify/ get verified the site marking and give a go ahead to the Executing Agency for excavation in writing.
6. In case the Division and Executing agency supervisor appropriately decide that supervision by the Division is also required, the Executing Agency, will inform concerned Divisional Supervisor at least 2 days before taking up the work in writing. Divisional supervisor will arrange to depute a person to supervise the excavation work.
7. The Executing Agency shall ensure that no cables/ utilities getting exposed during excavation are left without any protection. All effort shall be made to cover/ protect the cables appropriately on same day. If due to unavoidable reasons, longer time is required, then the Executing Agency shall depute a suitable guard till the cable/ utility is protected to avoid theft and other miscreant activities.
8. The concerned SSE (P.Way/Works/Sig/Tele/RCIL) supervising the work of the contractor shall ensure that apart from cables, existing emergency sockets are not damaged due to their importance in providing communication during accident/ emergency.

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20/12/24
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20/12/24 Page 4 of 7

9. In case even after taking all precautions, cable / utility gets damaged during the work; to minimize the adverse impact of the damage on safety and punctuality, Executing Agency shall always keep skilled manpower and materials in readiness for ensuring expeditious restoration of cable cuts/ utility damages under supervision of the Divisional officials. At each excavation site, Executing Agency shall keep one Cable Route Tracer and one Cable Fault Locator to reduce the time taken to locate the fault in case of cable cuts. Executing agency shall provide immediately sufficient labors and equipment if required, to dig out the cables covered by earth.
10. Under any circumstances, Cable cut and damage during execution of the work, shall in no case be buried by the contractor working at site as this leads to inordinate delay in the restoration work.
11. The responsibility for the following shall lie with the concerned Division.
 - a. Identification of location for cross trenching and execution of cross trenching.
 - b. Identification of location of underground cable by use of sophisticated equipment like cable route tracer.

(D) Restoration and Deterrent action in case of Cable Cuts

1. Any case of utility damage shall be promptly informed to the Division. Division should ensure early repair and rectification of cable with help of the Executing Agency as deliberated above. In the utility shifting contracts, provision is to be made for locating the cable, cable jointing, and provision of Junction Box (JB) etc. to facilitate early restoration of Signaling and Telecom circuits.
2. For the restoration of failures involving S&T utility damages, before re-connection of the assets and signaling and telecom gears for use, the Signal supervisor at site must ensure that correspondence/ integrity test of the gears is carried out as per proper procedure and rules.
3. Penalty should be levied on the contractor when they worked without permission or resort to careless working without making arrangements for protecting cables and other utilities.

The contractor of Executing Agency is liable to pay following penalty as per Railway Board letter no. 2021/Tele/5(2)/3-Part (1) (3425647) dated 12.06.2023

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Cable damaged	Penalty per location
Quad Cable or Signalling Cable	Rs. 1.0 Lakh
Only OFC	Rs. 1.25 Lakh
Both OFC and Quad	Rs. 1.5 Lakh
Electrical Cable	Rs. 1.0 Lakh

For number of cables cut during execution if limited up to 5 cables, the above charges will be applicable. For damage of cables beyond five in number the penalty shall be levied as per location per cable as per rate as stipulated.

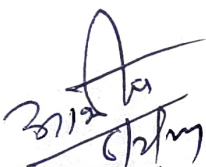
The damage to other assets will be calculated as appropriate. Necessary debits in this regard will be raised by the cable/utility owning Department on the department undertaking the work that shall levy and recover the penalty from the defaulting contractor. If required, the Executing Agency will make necessary provisions in contract to enforce the penalty.


4. A joint note shall be made by the supervisor of S&T department (affected party) with supervisor of Executing Agency (work in charge of site) and inspector of RPF of concerned jurisdiction to record the incident (the time of incident, cause of incident, description of the damage to Railway asset and agency responsible for it). The assessment of damage to S&T cable shall then be assessed by SSE/Signal or SSE/Tele based on above joint note. In case of any disagreement or refusal by the former, the joint note signed by majority of supervisors (Inspector of RPF, supervisor of S&T) shall be put up to concerned BOs (S&T, RPF and Executing Agency). Again, in case of disagreement among above BOs, the majority decision shall prevail. The dissenting BO however may appeal to ADRM of the division. The decision of ADRM in this regard shall be final.
5. The executive in-charge will send notice of the penalty imposed to the contractor, Executing Agency and associate Finance of Executing Agency within 7 days after finalization by ADRM.
6. No penalty shall be imposed on contractual agency in case cable route plan is not provided by concerned department.
7. A jointly reconciled summary of action taken on the joint notes, recovery status of the penalties shall be maintained by the cable/utility owning Department of the Division and the work Executing Department/Agency on monthly basis.


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8. In cases, where gross negligence or repeated offence of cable cut / utility is caused by a contractor, the utility owning department has right to lodge an FIR against the contractor as per appropriate provisions with RPF.
9. These guidelines are in supersession of JPO issued vide Railway Board Letter No. 2003/Tele/RCIL/1Pt.IX dated 24.06.2013 (Telecom Circular No. 17/2013).
10. This JPO comes into effect with immediate effect. If required, the JPO may be reviewed after one year.


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(Shailesh Verma)
CTE


(Debasish Bhattacharjee)
CSE