My dear Arunendr,

Sub: Joint Procedure Order for protecting S&T & Electrical Cables


In the recent case of burning of Cables, Junction Boxes, Cable Termination & Relay Racks and Wiring at Kuria on Central Railway, it has come to notice that OHE DC traction cable from sub-station to Kuria car shed was damaged after the work of digging & laying of S&T Cables was done. The work was done by the Contractor of S&T Construction Unit without any supervision by Railways and without obtaining the required clearances from the concerned departments in the division i.e. Electrical and Engineering. The traction current leaked to the Signalling Cables and damaged Cables, Termination Boards and Relay Racks resulting in fire and extensive damage. The entire suburban train operations on the Railway got crippled for nearly three days apart from causing extensive loss to Railways and severe inconvenience to the commuters.

It is a matter of great concern that in spite of issue of the Joint Procedure Order by the Railway for this purpose, instructions were not followed, which led to this catastrophe.

I would, therefore, desire that the JPO available on your Railway be reviewed at your level and re-issued based on the guidelines issued by Rly Board/RDSO (Refer i) & ii) above) suitably incorporating checks and measures to prevent such cases in DC Traction Area, wherever applicable. CSTE (Open Line & Const) & CEE (Open Line & Const) should be directed to ensure that no work is taken up until the plan for execution of the work is prepared and verified at site by the SSEs/SEs of all concerned departments and approved/cleared by the Divisional Branch Officers. Random checks should be conducted by identified senior HQ’s officers regularly to ensure quality control in digging & cable laying.

In case, non-compliance is noticed, responsibility shall be fixed at the highest level of the organization responsible for executing such works. A drive should immediately be launched to check the above aspects and the compliance be reported to Board within next 10 days for perusal of CRB and Hon’ble MR.

With best wishes,

Yours sincerely,

(Kul Bhushan)

Shri Arunendra Kumar
General Manager
South East Central Railway
Bilaspur
My dear Batra,

Sub:- Execution of Engineering works along the railway track.

As serious train accident took place on 14.12.2004 when two trains collided head on in the block section of Northern Railway causing heavy casualties. On preliminary investigation, it was noticed that the block instrument in the section was not functioning due to damage to the 4-quad cable by the construction machinery (JCBs) working in the section in connection with doubling work. The trains were being worked in the section on paper line clear and prima facie due to carelessness in issuing the PLC the two trains entered in the block section.

2. While some broad joint guidelines might have already been issued on the Railways for undertaking engineering works along the railway track in order to avoid damage to the signaling telecommunication and electrical cables, a Joint Procedure Order highlighting board guidelines has been issued by Addl. Member(Works), Addl. Member (Tele), Addl. Member (Elect) and Adviser (Sig), Rly. Board. A copy of this order is enclosed herewith.

3. It should be ensured that one Section Engineer Signal/Telecom/Electrical who may be charged to the construction projects should be available at the site while undertaking such works. The location of the cables should be identified prior to the commencement of earthwork and clearance from the S&T and Electrical Depts. be made mandatory, before undertaking any construction work in the vicinity of the track.

4. Please acknowledge receipt of this letter

With best wishes.

Yours sincerely,

(Sd)-

(R.K.Singh)

DA: As above

Shri J.P. Batra,

General Manager
North Eastern Railway
Gorakhpur.

2004/Sig/G/7

J.P.O. No. 1/Sig/2004.
JOINT PROCEDURE ORDER FOR UNDERTAKING DIGGING WORK IN THE VICINITY OF UNDERGROUND SIGNALLING, ELECTRICAL AND TELECOMMUNICATION CABLES.

A. A number of Engineering works in connection with gauge conversion/doubling/third line are in progress on various railways which require extensive digging work near the running track, in close vicinity of the working S&T cables carrying vital safety circuits as well as electrical cables feeding the power supply to cabins, ASM room, RRI cabin, Intermediate Block Huts (IBH) etc. Similarly, S&T organization under open line or construction units under CAO/C are executing various signaling and telecommunication works requiring digging of earth for laying of cables or casting of foundations for the erection of signal posts etc. RailTel are also executing the work of laying of quad cable and OFC on various Railways as a part of sanctioned works for exclusive use of Railways for carrying voice and data i.e. administrative and control communication, PRS POIs etc. or shared by RailTel Corporation of India Ltd. On certain section digging is also required for laying of electrical cable and casting of foundation for the erection of OHE masts by Electrical Depts. Generally these work are executed by contractors employed by these organizations.

B. However while carrying out these works in the vicinity of working signaling telecommunication and electrical cables, at times cable cuts take place due to JCB machines working along the track or during the digging work being done by Contractors carrying out the Civil Engineering Works. Similarly such cable cuts are also resulting due to works undertaken by S&T or Electrical Depts. Such cable faults results in the failure of vital signaling and telecommunication circuits.

C. Henceforth the following joint procedure shall be followed by Engineering, Electrical and S&T (and RailTel organization, wherever such works are being done by them). Officers of the respective division and by the Construction Organization, while carrying out any digging work near to existing signaling & telecommunication and electrical cables, so that the instances of cable cut due to one's own works can be controlled and minimized.

1. S&T Department (and RailTel where they have laid the cables) & Electrical Depts. shall provide a detailed cable route plan showing exact location of cable at an interval of 200m or wherever there is change in alignment so that the same is located easily by the Engineering official/contractor. This cable route plans shall be made available to the SDE/DEN or Dy CE/C as the case may be by Sr. DSTE/DSTE of Sr. DEE/DEE of the divisions or Dy CSTE/C or Dy CEE/C within an reasonable time in duplicate. DSE/DEN or Dy CE/C will send copies to their field unit i.e. AEN/SE/P.Way & Works.

2. Before taking up any digging activity on a particular work by any agency Sr.DSTE/DSTE or Sr. DEE/DEE of the section shall be approached in writing by the concerned Eng. or S&T or Electrical officer for permitting to undertake the work. After ensuring that the concerned executing agencies including the contractor have fully understood the S&T and Electrical cable route plan shall permit the work in writing.

3. After getting the permission from S&T or Electrical Depts. as case may be, the relevant portion of the cable route plan shall be attached to the letter through which permission is issued to the contractor by concerned Eng. official for commencement of work and ensuring that the contractor has fully understood the cable rout plan and precautions to be taken in prevent damage to the underground cables. The contractor shall be asked to study the cable plan and follow it meticulously to ensure that the safety the cable is not endangered. Such a provision including any penalty for default should from part of agreement also. It is advisable that a suitable post of SE(Sig) or SE(Tele) or SE(Elect.) shall be created chargeable to the estimate to doubling/Gauge conversion who can help Eng. agencies in the execution of the work. However basic responsibility will be of the Department executing the work and the Contractor.
4. The SE(P.Way) or SE (Works) shall pass on the information to the concerned SE (Sig.) or SE(Tele) or SE(Elect.) about the works being taken up by the contractors in their section at least 3 days in advance of the day of the work. In addition Engineering control shall also be informed by SE(P.Way) or SE(Work) which in turn shall pass on the information to the Test Room/Network Operation Center of RailTel/TPC/Electrical Control.

5. On receiving the above information SE(Sig.) or SE(Tele) or SE(Elect.) shall visit the site on or before the date of taking up the work and issue permission to the contractor to commence the work after checking that adequate precautions have been taken to avoid the damage to the cables. The permission shall be granted within 3 days of submission of such requests.

6. The name of the contractor, his contact telephone number, the nature of the work shall be notified in the Engineering Control as soon as the concerned Eng. Official issued the letter authorizing commencement of work to the contractor. Test Room be given a copy and Test Room shall collect and further details from the engineering Control and shall pass it on the S&T RailTel & Elect. Officials regularly.

7. In case of works being taken up by the State Government National Highway Authority etc, the details of the permission given i.e. the nature of work kilometer etc be given to the Engineering Control including the contracts person’s number so that the work can be done in a planned manner. The permission letter shall indicate the contract numbers of Test Room/Networking Operations Centre of RailTel/TPC/Elect. Control.

8. Where the nature of the work taken up by the Engineering department such that the OFC or other S&T cables or Electrical cables is to be shift and relocated notice of minimum one week shall be given so that the Division/RailTel/Construction can plan the work properly for shifting. Such shifting works shall, in addition for security and integrity of the cables be supervised by S&T supervisors/RailTel supervisors/Electrical supervisors.

9. The concerned SE(P.Way)/SE(Works)/SE(Sig./SE(Tele)/SE(Elect.) or RailTel supervisors, supervising the work of the contractor shall ensure that the existing emergency sockets are not damaged in view of their importance in providing communication during accident/emergency.

10. In case of minor nature of work where shifting of cable is not required in order to prevent damage to the cable the Engineering Contractor shall take out the S&T or optical fiber cable or Electrical cable carefully from the trench and place it properly alongside at a safe location before starting the earthwork under the supervision of SE(Sig.) or SE(Tele) or SE (Electrical). The cable shall be reburied soon after completion of excavation with proper care including placement of the brick over the cable by the concerned S&T supervisors or Electrical Supervisors. However, the work will be charged to the concerned engineering works.

11. In all the sections where major project are to be taken up going on RailTel/S&T Depts. Shall deploy their official to take preventive/ corrective action at site of work.

12. No new OFC/Quad cable shall be laid close to existing track it shall be laid close to Railway boundary as per extant instructions i.e. 1.0m from the Railway boundary to the extent possible to avoid any interference with future works (doubling etc.) It shall be ensured in the new works of cable laying that the cable route is properly identified with electronic or Concrete markers. Henceforth wherever cable laying is planned and before undertaking the laying work the cable route plan of the same shall be got approved from the concerned Sr. D&N or Dy CE/Constn. to avoid possible damages in future such approvals shall be granted within 7 days of submission of the requests.

13. The works of excavating the trench and laying of the cable should proceed in quick succession leaving a minimum time between the two activities.
14. Any damage caused to OFC/Quad cable or Electrical cable during execution of the work necessary debit shall be raised on Engineering Department who shall bear the cost of the corrective action.

15. All types of bonds i.e. rail bond, cross bond and structure bond shall be restored by the Contractor with a view to keep the rail voltage low to ensure safety of personnel.

16. Above joint circular shall be applicable for construction as well as open line organization of Engineering S&T & Electrical.

17. The S&T cable and Electrical cable route plan should be got approved from the concerned Sr. DSTE/DSTE & Sr. DEE/DEE respectively, before undertaking the work and completion cable route plan should be finalized Block section by Block section as soon as the work is completed.

-Sd-
(R.S. Grover)
AM (Elec.)

-Sd-
(N.K. Goel)
Adv (Sig.)

-Sd-
(R.C. Sharma)
AM (Tele)

-Sd-
(R. Sundararajan)
AM (Work)