



No: T103/PWT-18/XXI.

Date: 18<sup>th</sup> January, 2008**CE CIRCULAR NO. 190****SUB: PROCEDURE ORDER FOR ENSURING SAFETY AT WORK SITE**

A number of Engineering, S&T and Electrical works in connection with gauge conversion, doubling, third line, railway electrification, RVNL and traffic facilities are progressing on various divisions which require excavation/ digging, movement of vehicles/ equipment near the running tracks. While carrying out these works in the vicinity of running tracks, there is a possibility of disturbance to track geometry, damage to electrical /S&T Cables, infringement of moving dimensions and which may result into unusuals resulting into dislocation of traffic accidents, and therefore, need was felt to issue a circular on this subject.

Hence forth, the following instructions shall be followed by the Open Line and Construction Department, while planning and carrying out such works which involve earth work to build formation, digging/ excavation, movement / operation of vehicles/ equipments near the running tracks, so that the instances of disturbance to track geometry, infringement of moving dimensions and damage to the electrical / S&T Cables, which may result into accidents or unusuals can be avoided.

**1. UNDERTAKING ANY TYPE OF WORK ADJOINING THE RUNNING TRACKS.**

1.1 Before undertaking any work adjoining the running track, Engineer Incharge should submit written information to the Open Line SSE/SE (P.Way), ADEN, sectional Sr DEN before start of the work giving the following details:

- 1.1.1 Nature of work, location and Name of the executing agency.
- 1.1.2 Approximate duration of work.
- 1.1.3 The list of type of vehicles and approx. number of vehicles to be deployed.
- 1.1.4 Details of location where vehicles are likely to work.
- 1.1.5 Certification regarding
  - i. Availability of Railway's Supervisor and Competent authorized supervisor of the contractor.
  - ii. Training to supervisor/ driver (staff) of contractor and Competency certificate issued as given in IRP/WM Para 826 (1V) Annexure 8/5, by Assistant Engineer In charge of the site if required to be issued.
  - iii. Imposition of Caution orders, OEHS, WF instructions etc. wherever required.
  - iv. Giving information to concerned departments supervisors i.e. Engg, Elect, or S&T if required.

1.2. While executing the work of excavation adjoining the track, the Engineer Incharge should ensure following things



- 1.2.1 The excavation is not causing any damage to formation or the cess, disturbance or settlement to the running track and obstruction to the drainage or the existing drains of track.
- 1.2.2 There is no infringement to the maximum moving dimensions for safe running of trains.
- 1.2.3 There is no damage to equipments & cables or any other installation.
- 1.2.4 In case of deployment of mass labour, the caution order of, observe engineering hand signals & whistle freely (OHS & WF) shall be issued for the duration of work.
- 1.2.5 The concerned Open Line department supervisors (i.e. Engineering, S&T, TRD, etc) shall be advised to depute their staff as and when required.
- 1.2.6 The supervisor of contractor and railway's Supervisor Incharge of work should visit the site to assess the precautions to be taken while working. The detailed planning of work including protection of track and safety measures proposed to be adopted should be listed out.
- 1.2.7 A register shall be maintained at the site regarding "Safety Measures" being taken at site and all the precaution being taken shall be logged. Inspecting officials shall check various safety measures being taken during their inspection and record the observations.

#### **CARRYING OUT EARTH WORK IN EMBANKMENT, DIGGING / EXCAVATION INVOLVING MOVEMENT / OPERATION OF VEHICLES/EQUIPMENTS:**

2. After ensuring the above, the Executive / Assistant Engineer Incharge of the working department i.e. construction, electrification, S&T, etc. shall ensure that following Site Preparations Before permitting the execution of works where it is necessary to use road vehicle/ machinery.
  - 2.1.1 The engineer Incharge of the work will personally examine and certify the road vehicle/equipment, counsel the driver, Protection man and supervisor and will give written permission to Contractor giving number and type of road vehicle, driver and supervisors to be deployed on the work location, period and timing of the work. The contractor shall not be allowed to work at site without prior written permission from Engineer Incharge
  - 2.1.2 Check list given in Annexure-II shall be used to ensure that all the requisite measures have been taken before start of the work.
  - 2.1.3 The engineer Incharge of the work should ensure following Site preparation as applicable
    - 2.1.3.1 In case, work has been planned to be executed beyond 6.0 mtrs from center line of the nearest running track, The adjacent land strip where road vehicle/machinery is to ply for the work shall be demarcated by 150mm wide line with lime in advance at the distance of 6mts from the centre of existing track and acknowledge by the contractor so that the vehicle/machinery do not cross this line and do not come closer than 6.0 mts. of running track.
    - 2.1.3.2 In case, work has been planned to be done between 6.0 mtrs to 3.5mtrs from center line of track, it shall be ensured that:
      - I. Demarcation of land is done by bright colored ribbon/ nylon chord suspended on 75cm high wooden / bamboo posts at distance of 3.5m from centerline of nearest running track
      - II. An authorized railway's representative is present during plying of vehicles or working of machinery.
      - III. Suitable caution order to whistle freely is issued to Drivers of approaching train about road vehicles plying or machineries working close to running tracks. Whistle boards shall be provided wherever considered necessary.



2.1.3.3. Sketches showing the location of marking are given in Annexure-1. In case, work is planned to be done within 3.5 m of centre line of running track, it shall be ensured that the work is done under block protection only and necessary safety precautions for protection to track as per Para.No.806 and 807 of IRPWM are taken. The presence of Railway Supervisor of minimum JE/II rank should be ensured at work site.

2.1.4. The worksite shall be suitably demarcated to keep public and passengers away from work area. Necessary signage boards such as "Work in progress" etc., shall be provided at appropriate locations to warn the public/ passengers.

2.2. In unusual circumstances, where operator apprehends infringement to track while working truck/machinery near running track, following action shall be taken:

- i. The contractor / supervisor/ vehicle operator immediately advise the situation to railway official and assist him in protecting the track.
- ii. Protection shall be done as per Para.806 & 807 of P.Way Manual as the case may be.

2.3. Individual vehicle/machinery shall not be left unattended near the track. If it is unavoidable and becomes necessary to stable the road vehicle/ machinery & plant near the running track, these shall be properly secured against any possible roll-off.

2.4. When a road vehicle is reversed, do ensure the following:

- I. The location where vehicle is to take a turn is properly demarcated.
- II. The road vehicle driver should always face the railway track during the course of turning or reversing his vehicle.
- III. Presence of an authorized railway's representative is ensured at such location.

2.5. Communication facilities where necessary should preferably be provided at work sites.

2.6. In case of obstructions protection of the site should be ensured as per G&SR Para.15.09.

2.7. The Check list given in Annexure III shall be used to ensure that all the requisite measures are being taken during the execution of the work.

### **III. UNDERTAKING THE WORK ON THE RUNNING TRACK/EXISTING LINES.**

3.1. The Engineering work such as insertion of turnout sleeper, laying of glued joints, etc., is being done on the running tracks, that portion of the track shall be taken over temporarily by the Engineer Incharge of the work as per Joint Engineering & Construction Circular No.148 and the same shall be handed over back to the sectional Incharge after relaxing the caution order. During this period, the Engineer Incharge of work should ensure safety of the track.

3.2. The Draft Circular Notice shall be published by the Engineer Incharge of the work if required.

3.3. While executing the work protection of track should be ensured as Para.806 & 807 of IRPWM.

3.4. Speed restriction should be relaxed only by the open line sectional Supervisor.

3.5. Released materials such as rails, sleepers, etc., should be stacked clear of infringement from running track. Stacking areas should be pre-identified in consultation with PWI Open line.

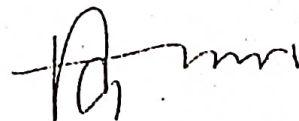


**IV. ADDITIONAL PRECAUTIONS TO BE TAKEN WHILE WORKING IN OR ON TOP OF CUTTING.**

- 4.1 Shifting of machine within Railway boundary should be carried out under Railway supervision and track protection / traffic block wherever required.
- 4.2 No movements of earth handling machine and tippers should be permitted once the train enters the block section and till the train passes the work site.
- 4.3 No loose boulders or steep slope having potential of slipping should be allowed to left before permitting the train to pass the work spot.

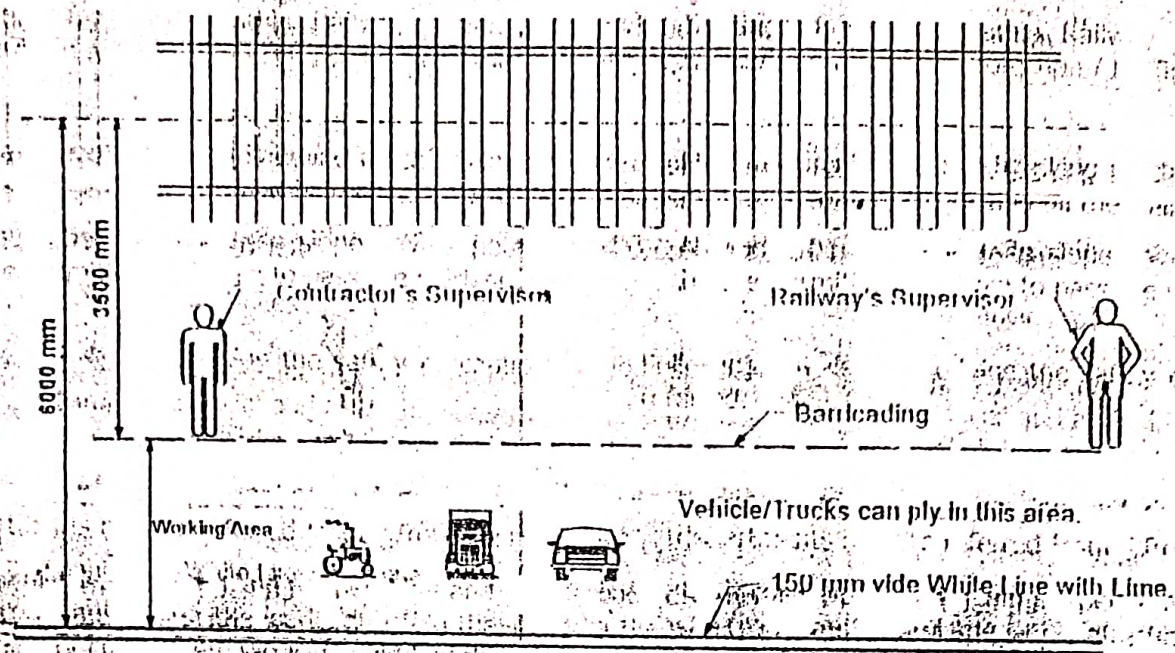
**V. Following Circulars containing the safety precautions various specialized works may also be referred.**

- 5.1 For carrying out blasting work, work of widening of cutting or extension of bridges etc., the procedure and precaution laid down in Jt. Circular No.146 by Engg. & Electrical departments may be referred Issued from file No.W.742.TM.19.
- 5.2 Jt. Circular No.148, by Engg. Open Line and Construction department which includes the safety precautions for the works affecting the safety of the track like extension of bridges, widening of cuttings etc Works should be followed.
- 5.3 Handbook on "Safety at Construction work sites" has been circulated to all construction officers by Construction Organization vide letter No.EW/187/R/465/Comp./Cir dt.09-02-2004.
- 5.4 Railway Board vide CRB's D.O. letter No. 2004/Sig/G7/ dt.17.12.07, has circulated JPO No 1/Sig/2004 for undertaking digging work in the vicinity of undertaking signaling, electrical and telecommunication cables. Provision of the JPO should be followed.

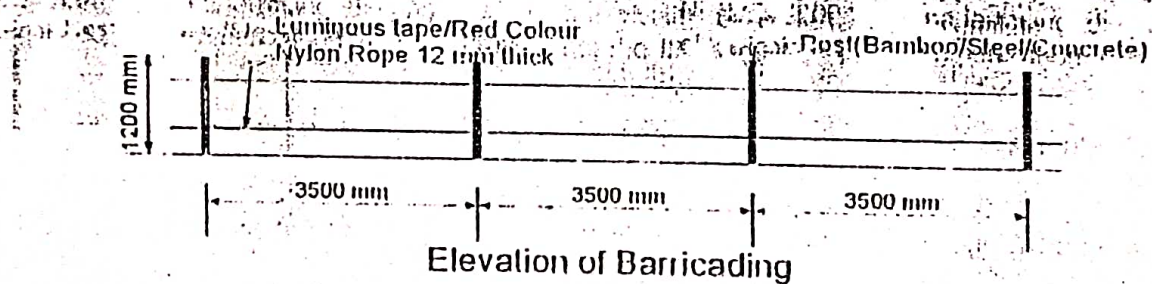
  
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**A) Plying of Vehicles/Machinery within 6 m. From center line to track.**



**B) Design of Barricading**





**CHECK LIST TO BE FILLED BEFORE STARTING THE WORK**

Name of the work: \_\_\_\_\_

Location: \_\_\_\_\_

Duration of work: From \_\_\_\_\_ To \_\_\_\_\_

Sr.No.	Details to be checked	YES	NO
1.	Name of the Contractor's supervisor, who is going to be a site incharge?		
2.	Training imparted to contractor's supervisor and Certificate Issue.		
3.	Safety pre-cautions to be taken, Identified and listed.		
4.	Submission of details as per para no 1.1 to open line AEN/IOW & PWI.		
5.	Before start of work, proper line marking / Barricading done at site of work as per para 2.1.3.		
6.	Men deputed for protection of track alongwith safety equipments.		
7.	Caution order issued for the train drivers in case work is being done within 6 mts. of centre of running track.		
8.	Drivers of vehicles/ machinery counselled about the safe working and Competency Certificate issued.		
9.	Sufficient lighting provided at site of work for night working.		
10.	Infringements checked and found OK.		
11.	Engineer Incharge has satisfied himself regarding safety arrangements.		
12.	Availability of Walkie-talkie sets for communications.		

Date: \_\_\_\_\_

Signature of Engineer Incharge of the site.  
(Construction/Other Departments).



**CHECK LIST TO BE FILLED WHILE WORK IS IN PROGRESS**

Name of the work: \_\_\_\_\_

Location: \_\_\_\_\_

Duration of work: From \_\_\_\_\_ To \_\_\_\_\_

Date of Inspection: \_\_\_\_\_

Sr.No.		YES	NO
1.	Does the Contractor's has the Valid permit to work at this site?		
2.	Does the Contractor's supervisor has the Valid Competency certificate ?		
3.	Does the knowledge of contractor's supervisor on safety of track and work site upto the mark.		
4.	Is Railway's Supervisor of Concern executing department's available at site.		
5.	Is knowledge of Railway's Supervisor O.K?		
6.	Is line marking / barricading done as per para 2.1.3?		
7.	Is adequate safety precaution taken as per the list 2.		
8.	Is communication facility (Walkie-Talkie sets) available at site?		
9.	Does the driver of vehicles/ machinery aware about safety precaution?		
10.	Is whole work site safe for working of men/ vehicles and trains?		
11.	Adequate lighting arrangements done at site?		
12.	Adequate protection equipments available at site?		
13.	Is caution order to trains being issued?		
14.	Are train drivers following the enforced temporary speed restrictions?		
15.	Has work permit been taken for working in Electrified territory/ station yards (P&C areas)		

Remarks, If any: \_\_\_\_\_

Signature of Inspecting Officer

Designation: \_\_\_\_\_

Date: \_\_\_\_\_