My dear Arya,

Train number 3241 (Bankura- Rajendra Nagar Express) derailed on 04.10.2010 near Fatwa station due to obstruction of main line caused by OHE mast. It is reported that shifting of mast was being done by the staff of contractor without taking traffic block and proper protection which has resulted into a major mishap causing derailment of coaches and blocked the traffic for more than 24 hours.

While some of the Railways have already taken initiatives to streamline the procedure of safe working, occurrence of the above incidence is the testimony that these norms are not being followed by all Zonal Railways. A list of some of untoward incidences leading to train accident at work sites in enclosed at annexure-I. Sufficient instructions already exist for safe working in ACTM, Engineering Code, P-Way manual and also in form of safety directives issued from time to time. A list of such instructions, though not exhaustive is enclosed in annexure II. It transpires that the said practice of block working, use of banner flags, provision of ‘Look for Obstruction Board’ etc. are not being given due importance. Needless to mention that the safety measures needs to be adopted by the Zonal Railway, while working near track/OHE, required to be revisited and reiterated at grass root level. It is expected that Zonal Railways shall sum up all safety instructions in the form of Dos and Don’ts for easy understanding separately for supervisors and contractors and devise a mechanism to enforce them at field level. Important instructions which need to be followed at field level are again reiterated in annexure-III for circulation down the line. These instructions are only indicative and not exhaustive.

Analysis of punctuality loss cases also reveals that a large number of cases of punctuality loss of trains are on account of bursting of traffic block. To minimise such incidence, it is necessary that the associated activities like mobilisation of material at site in advance, co-ordination with...
Shri S.K. Arya,
Chief Electrical Engineer,
N.E. Railway,
Gorakhpur.

Various department/agency needs to be planned in advance. I am sure that such efforts will definitely yield fruitful results and will facilitate timely completion of planned activities during block period.

I would like to get confirmation from your Railway including Construction Organisation that the safety instructions at field level are being complied with after ensuring proper training to railway and contractor staff. You are also advised to organise safety workshops, frequent field's inspection by officers, reiteration of works instructions highlighting safe working, methodology of block working in reasonable time, setting of model OHE in the depot for educating the staff.

With best wishes,

Yours sincerely,

(R.N. Lai)

Shri S.K. Arya,
Chief Electrical Engineer,
N.E. Railway,
Gorakhpur.

Copy to: CR, ER, NR, NCR, ECR, WCR, SR, SCR, SER, S&ECR, NFR, NWR, WR, SWR, ECR and CORE

[Stamp]
LIST OF SOME UNTOWARD INCIDENCES AT WORK SITES:

1. Date – 8/11/2004 : Train 6346 hits ladder trolley of RE works in TVC division of Southern Railway. The following instructions were issued after CRS enquiry:-
   (i) The provision of GR 15.27 has to be followed in totality for protection of the work site by flagman and no shortcuts should be allowed to be adopted. The Supervisor in-charge of the work must strictly adhere to the protection of line during a line block. The flagman should be supplied with mandatory tools/signals to carry out their work. The working of Ladder Trolleys should be governed in accordance with GRs 15.18 to 15.28.
   (ii) No shortcut methods like the use of Walkie-Talkie etc. should be used for obtaining and clearing line block. Similarly, the cancellation of the line block can be done only on the positive proof that the ladder trolley or lorry is removed from the track. The positive removal of lorry/trolley is to be ensured. In any case, this requires a foolproof correction to the rules 4.4.4, 4.4.5, 4.7.4 and 4.7.5 of Southern Railway’s Block Working Manual, which already lays down the procedure. Any amendment to Subsidiary Rules and provision of Block Working Manual should not lead to unsafe conditions. Any presumptions in safety related matters are fraught with danger.

2. Date 15.03.01 : locomotive of Train No. 3151 up hit the leaning mast in Asansol Division in ER while contactor staff were handling the OHE mast for erection without supervision, without block & beyond working hours. The following provisions of contract were not complied:-
   (i) Contractor shall take due care and caution to avoid any damage to rail property during the execution of work.
   (ii) As the work is to be carried out in electrified running lines, contractor has to take all safety precautions for his staff and railways shall not be responsible for any accident or injuries to the contractor labour during execution of work.

3. Injuries to passengers of BS262A Up EMU local by earthing strip of overhead equipment on 22/12/2008 at Km. 23/8-6 between Jogeshwari and Andheri station of Churchgate – Vihar BG quadruple electrified line of suburban section of Mumbai Central Division of Western Railway.
   CRS enquiry conclude that the incident occurred due to lack of coordination between TRD & Engineering supervisors as improper unloading of rail has damaged the earthing strip from its connection and hit the EMU passengers. CRS suggested for follow-up of different procedures prescribed in the manual and procedures in practice.

4. Date 10.12.07, Sanghmitra express hit the trolley kept near to track on platform during platform extension work leading to passenger injury- instruction for working as per existing manuals were reiterated.

5. On date 19.05.10, five passengers travelling in 2367 up Vikramshila Express were dashed with dwarf mast at Km 531/17 in BKG-PNC section of Danapur Div/ ECR
A. Gist of some important paragraphs in ACTM Vol-II, Part-I

20301 Item 8 CTFO/TRD should send his staff for training course.
20302 Item 5 Lays down Duties of field supervisors which includes close supervision of maintenance gangs.
20327 Item 8 Integrated blocks. Use of integrated traffic blocks should be made use of that block requirements come down.
20334 Item 5 PTW
20335 Item 5 Protection of staff against Traffic Movements & Protection of trains.
20529 Item 5 Obstruction of track – Protective steps to be taken by TPC.
20612 Item 5 – maintenance gangs to take all precaution as per G&SR.
20614 Item 5 Work by other than authorized person.
20714 Item (vi) Authorized person to supervise when foundation dug.
20825 Item 5 Safety rules to be observed.
   Speed is the essence of emergency working, but safe working should not be infringed.
20833 Item 5 Protection of staff – lays down that supervisor in-charge will take measures for protection of staff and use hand signals as per GR & SR.
21206 Item 5 Training specially safety rules.
21207 Item 5 Training in G&SR rules.

B. Gist of some important instruction given in ACTM, Vol.II Part II

1. In case of break down of OHE, when it is necessary for a train to proceed cautiously, the TFO(OHE) responsible for such notification shall arrange for issue of caution order.
2. Safety measures to be observed in case of unusual occurrences on electrified section:
In the event of an OHE fault, the Traction Power Controller after segregating and isolating the faulty section shall also immediately switch off the power to the healthy section on the adjacent line/lines over the same route length as the faulty section.

C. Gist of Instruction given in P.Way Manual:

1. Para 801: Work involving Danger to Train or traffic - A gang shall not commence or carry on any work which will involve danger to trains or to traffic without the previous permission of the inspector of Way and Works or of some competent Railway servant appointed on this behalf by special instructions. The Railway servant who has given the permission should be himself present at the site to supervise the work.

2. Para 802: Carrying out of Works, in case of Emergency - In the case of emergency, when the requirements of safety of safety warrant the commencement of the work by the gangmate, before the arrival of the railway servant, the gangmate shall himself ensure that Engineering signals are exhibited at specified distances according to rules and flagmen are posted with necessary equipment to man them, before commencing the work.

3. Precautions before commencing operations which would obstruct the line:
The work which may lead to obstruction to the track shall however be done only during the traffic block the written confirmation for which shall be obtained from the concerned Station Master.

D. Gist from G & SR

15.03 Keeping of material safely near track.
15.06 Work involving danger to train or traffic.
15.06/1 Official authorized to give permission to commence works.
15.08 Precautions before commencing operation which would obstruct the line.
15.08/2 Acquaintance with WTT.

Chapter-17 – Working of train on electrified section of Railway.

17.04 - PTW

E. Other provision in Civil Engineering Circulars:

(i) Even contractor’s supervisor should be trained.
(ii) Assurance register at site. To be signed as acknowledgement by Railway personnel as well as contractor’s supervisor, staff.
(iii) In tender schedule, some item can be even provided for ensuring safety for e.g. barricading, provision of luminous tape etc.
(iv) Barricading.
F. **Gist of extracts from contract document of CORE/ALD**

1. The Contractor shall take all precautionary measures in order to ensure the protection of his own personnel moving or working on the Railway premises, but shall then conform to the rules and regulations of the Railway.

2. Contractor shall provide necessary protection, the competency for which shall, however, be given by the Railway authorities.

3. The Contractor’s staff must comply fully with the Railway regulations given to him by the authorized Railway staff. The Contractor’s employees and workers may for no reason operate an installation concerning train safety or train movement.

G. **Gist of extracts from contract document of Central Railway:**

1. Strict adherence to the relevant provisions of the ‘General Conditions of Contract’ and the ‘Special Conditions of Contract’ pertaining to safety of both men and material not only of the Contractor but also of the Railways.

2. Contractor’s Site In-charge must keep 2 Red flags & one Green flag during day time, multi coloured lamp/torch light (having red & green colour) during night time and a whistle.

3. Contractor shall ensure that no staff is working on line/track side unless proper ‘Permit To Work’ is issued for those lines by Competent Railway Supervisors to the Contractor’s Site Incharge.

4. Contractor shall give necessary training to their Supervisors and staff and ensure that they know about the safety norms to be followed for working in Railway premises and in the vicinity of railway track in electrified territories.

5. Only eligible and competent staff shall be employed by Contractors and they must wear identity card while working on line and no person without identity card should be allowed.

6. Contractor must make adequate lighting arrangement at work site.

7. While unloading/stacking/loading, released or new material along the tracks, the Contractor must ensure that the material is not infringing the schedule of dimensions and keep them safely away.

H. **Gist of extracts from documents of Western Railway:**
1. At the end of each spell of work and on completion of the work, the contractor shall, as a part of his contractual obligation, leave the tracks, and their approaches, stores, yards, etc. cleared of rubbish and obstructions of all kinds according to the instructions of the purchaser’s representatives.

2. There have been few cases in recent past when passengers were hit by Trolley/material kept on the edges of the platform or closed to the track. To avoid such occurrences, it should be ensured that unloading, stacking of construction materials, trolleys / vehicles are not kept on the edges of platforms and are kept clearing the standard moving dimensions from the platforms / running lines, so as to pose no danger to passengers/rail traffic. It should also be ensured that the T&P items and other materials required for carrying out the work on one line do not infringe the other line.

I. **Gist of extracts from documents of Southern Railway:**

1. If and when, in the course of the work there is likely to be any danger to person in the employment of the contractor due to running traffic while working in the Railway siding and premises, the contractor shall apply in writing to the purchaser to provide necessary protection i.e. Flagman, Flag etc. for protection of working persons near/on the track.

2. Railway reserve the right to stop the work in the absence of proper safety gear and no claim shall be entertained in this regard. Decision of the Engineer-in-charge will be final and binding upon the contractor. The cost of all safety gear is deemed to have been included in the rates quoted and nothing extra is payable under this contract.

J. **Other suggestions**

1. Besides including safety precautions in tender paper, the officer-in-charge must also circulate the instruction to his supervisors, contractors staff under his own signature.

2. Training of supervisors, staff is a must for TRD, RE & construction organizations.

3. While conducting their inspections, RE, TRD & construction department officer must inspect the safety aspects as well pertaining to their respective portion.
INSTRUCTION WHICH NEED TO BE REITERATED

Safety is paramount & cannot be infringed at any cost. In view of this following existing guideline need to be followed strictly:

(b) Provisions laid down in P. Way manual paragraph nos. 801, 802.
(c) Provisions laid down in G & SR chapters 15, 17

No of instructions exist in the manuals, circular & those issued by various Zonal railways. Some of these instructions are reiterated below which are only indicative & not exhaustive:-

1. Work involving Danger to Train or traffic:

A gang shall not commence or carry on any work which will involve danger to trains or to traffic without the previous permission of some competent Railway servant appointed on this behalf by special instructions. The Railway servant who has given the permission should be himself present at the site to supervise the work. For look out caution, only Railway personnel should be authorized.

2. Precautions before commencing operations which would obstruct the line:

The work which may lead to obstruction to the track shall however be done only during the traffic block, the written confirmation for which shall be obtained from the concerned Station Master.

3. Strict adherence to the relevant provisions of the ‘General Conditions of Contract’ and the ‘Special Conditions of Contract’ pertaining to safety of both men and material not only of the Contractor but also of the Railways. Accordingly, provision need to be made in the contract document along with the detailing so required. Besides including safety precautions in tender paper, the field officer-in-charge must also circulate the instructions to his supervisors, contractors staff separately under his own signature. Acknowleagement should be taken from supervisors of contractors for having understood the same.

4. Only eligible and competent staff shall be employed by Contractors and they must wear identity card while working on line and no person without identity card should be allowed. This clause should be made part of the contract document.

5. Contractor’s Site In-charge must keep 2 Red flags & one Green flag during day time, multi coloured lamp/torch light (having red & green colour) during night time and a whistle. Detonators, fusee should be available on site.
6. The work should be carried out only when good day light is there. However, if the work is required to be done in the absence of adequate natural light, contractor must make adequate provision at work site. Provision can be made in the tender schedule for unloading/loading, released or new material along the tracks, edges of platforms. the Contractor must ensure that the material is not infringing the schedule of dimensions and keep them safely away.

8. Training of supervisors, staff is a must for TRD, RE & construction organizations. Proper record for this needs to be maintained. Even contractor's supervisor should be trained and acknowledgement taken in this regard.

9. Assurance register at site:- To be signed as acknowledgement by Railway personnel as well as contractor's supervisor, staff for having understood all safety precautions that are required to be taken at site.

10. In tender schedule, some safety items can be even provided for ensuring safety for eg. barricading, provision of luminous tape lighting provision etc. This will ensure that contractor is not hesitant in spending money on safety items.

11. Resort to barricading wherever required.

12. While conducting their inspections, RE, TRD & construction department officer must inspect the safety aspects as well pertaining to their respective portion. Periodicity in this regard may be laid down by respective Chief Electrical Engineers.

13. Working of ladder trolley

(a) The provision of GR 15.27 has to be followed in totality for protection of the work site by flagman and no shortcuts should be allowed to be adopted. The Supervisor in-charge of the work must strictly adhere to the protection of line during a line block. The flagman should be supplied with mandatory tools/signals to carry out their work. The working of Ladder Trolleys should be governed in accordance with GRs paras 15.18 to 15.28.

(b) No shortcut methods like the use of Walkie-Talkie etc. should be used for obtaining and clearing traffic & power block. Similarly, the cancellation of the traffic block can be done only on the positive proof that the ladder trolley or lorry is removed from the track. The positive removal of lorry/trolley is to be ensured.

4. Use of integrated traffic blocks should be made use of to the two maximum extent possible so that block requirements come down.

5. First aid box should be available at each of the work sites and the supervisor-in-charge on site must be aware of the nearest hospital/doctor so as to approach in case of emergency.
16. The workers on site must be equipped with safety gadgets like helmets, safety belts, welding goggles, gloves, gum-boots/industrial shoes etc.

17. While digging near to the track, the same has to be done very carefully in order to avoid any possible chance of track sinking taking place as a result of this. This precaution becomes all the more essential in rainy season.

18. In case of any change in sectioning diagram of TRD, the same has to be immediately brought to notice of all concerned.

19. Availability of different kinds of TRD bonds is a must and any kind of construction activity should not result into its breakage.