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GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

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New Delhi, dt. 18.08.2010

The Chief Safety Officers
All Zonal Railways.

Sub: Train Accidents on Account of Failure of Railway Staff.

A review of the cause-wise reasons for the Consequential Train Accidents during the last 8 years has revealed that, as a percentage, accidents on account of "**Failure of Railway Staff**" constitutes between 40 to 50% of the total number of accidents. Such a high proportion on this account is a cause of concern despite the fact that in terms of numbers, there is a reducing trend.

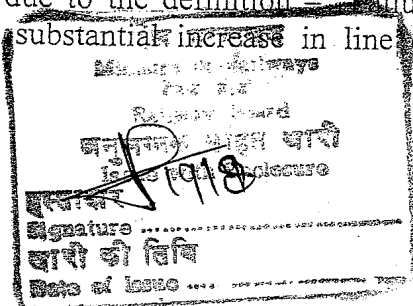
We ourselves lay down norms for recruitment, and of training of staff, of supervision over staff by senior subordinates, lay down rules/instructions for working by the staff, decide periodicity of refresher and other training courses etc.; in short of, for negligence in the working of Railway Staff, the role of the management cannot be lost sight of. Hence a substantial number of accidents on account of 'failure of railway staff', if continuing over a long period, reflects adversely on the systems put in place and monitored by the management.

As the above contention apparently is not true, the reasons for the high number of cases of train accidents under the head of 'failure of railway staff' were analyzed. Two heads, viz. "Failure of Railway Staff" and "Failure of other than Railway Staff" (i.e. unmanned level crossing accidents) constitutes around 90% of the total.

It is surprising that train accidents on account of "**Failure of Equipment**" has come down to a negligible percentage of the total i.e. 5% in the year 2002-03 to less than 1% in the year 2009-10. In fact during the year 2008-09 there was no accident on account of 'equipment failure'; and there was just one case of this account during the year 2009-10. The reasons for such low figures were gone into. It appears that the norms for compilation of statistical data as recorded in the Manual of Statistical Instructions need a review.

The analyses of provisions of the Statistical Manual given in Annexure brings out the following revealing inadequacies in compilation of cause wise analyses of accidents:-

- a) Under the sub-head "Collisions" - failure of equipment cases hardly get reflected due to the definition - "Failure of Signalling apparatus on unsafe side". With the substantial increase in line capacity utilization there is a considerable



pressure on the ASM/SM to be continuously alert even in a normal operation. In case of a "Failure of Signaling Equipment", on the normal safe side, rules provide for the ASM/SM to take additional precautions in train operations. This increases the burden on an over-worked ASM/SM. Any mistake committed by the ASM/SM under these circumstances leading to an Accident, the cause is taken at present as "Failure of Railway Staff". *It is this anomaly which needs to be reviewed. We may examine if it would be better if we attribute 50% cause each on account of 'Equipment Failure' and 'Failure of Railway Staff' in such a situation.*

b) In case of an accident (derailment) on account of a weld failure, the cause is presently attributed to "Failure of Railway Staff". The staff accordingly is held responsible on account of improper maintenance of rail, and for not taking timely action either to detect the unsafe weld, or to replace the weld. This is not a correct system of recording the cause of accident. In such cases, the cause of the Accident should be on account of 'Failure of Equipment – Pway'.

c) In derailments which constitutes a major chunk of accidents (around 50% of the total) the responsibility for such an accident is not being shown under the head of "Technical Failure" but under "failure of railway staff" in the statements sent by the Zonal Railways. There is a need that we change the sub-heading of the classification from "Technical Failure" to Equipment Failures' under the head of derailments both in Volume I & II of the Manual of Statistical Instructions.

The above examples indicate a need for making suitable changes in the format/systems of reporting by Zonal Railways in the Statement 18 (of Vol. I), and 41 (of Vol. II), under Tables 1 to 7, to redefine the parameters for cause of Train Accidents as recorded in the Statements. Few examples are given as under:-

- *Cases of Derailments on account of Rail Fracture/Weld failures will come in the category of equipment failure – Pway. The present classification under "Technical Defect" need to be modified.*
- *Cases of "Failure of Signaling apparatus on the unsafe side" can be retained as failure of equipment.*
- *Cases of "Failure of Signalling apparatus on the Safe Side" may be attributed under "Combination of Factors" – i.e. 50% under "Failure of Equipment – Signalling", and 50% under "Failure of Railway Staff".*

The above analysis needs to be gone into by the Zonal Railways. We may discuss this during the CSO's Conference on 9th and 10th September at IRITM/LKO.

Encl: As above.

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NoteCompilation of Statistical Figures of Train Accidents

While Volume I of this Manual is regarding periodical/monthly statistics, Volume II of the manual is regarding Annual Statistics. There is, however, a similarity in the system adopted in both volumes. The Statistical Data of Consequential Train Accidents (cause wise) is given under Table I of the Statement 18 of this Manual; the returns are to be submitted in the prescribed format by Zonal Railways as laid down in this Manual. On a similar basis the annual returns are to be submitted by the Zonal Railways as per statement 41 (Table 1 & 7).

Manual of Statistical Instructions- Statement 18; Table I:-

As per the Manual of Statistical Instructions, Volume I(1983), under **Statement 18, Table I**, there is a head of "Failure of Equipment", "Defect in Equipment" or "Technical Defects" under each of the respective Sub-heads of the type of Train Accident, viz., "**Collisions**", "**Derailments**", "**Fire in Trains**", "**Level Crossing Accidents**", etc.

Under the sub-head – "**Collision**" there are three items of "Equipment Failure" as under:-

- Failure of Brake Power
- **Failure of Signalling apparatus on unsafe side**
- Defects in Loco causing distraction to driver, resulting in a collision, e.g. bursting of gauge glass.

Similarly under the sub-head - "**Derailments**", there is a sub item "**Technical Failures**" (and not "Equipment Failure"). Under this head is defined:-

- Loco defect
- EMU defect
- C&W defect
- Track defect
- Electrical defect
- Signalling Apparatus defect
- Defects in other structures.

Further, under the sub-head – "**Fire in Trains**", there is a sub-item:-

- Electrical defects (defects in or failure of electrical equipment or short circuiting of electrical wires).

However, under the sub-head – “*Manned Level Crossing*”, there is no sub-item of “Failure of Equipment” or of “Defect in Boom/Gate/Locking arrangement”.

Manual of Statistical Instructions – Statement 18; Table II:-

The Manual of Statistical Instructions, Vol. I, gives in Page 292, Guidelines for compiling the “*Statement of Accidents*”, i.e. *Statement 18 in Table II under a heading :- Number of Accidents due to failure of Equipment, Casualtiesetc.*”. Here the “Failure of Equipment” are defined more for the purpose of statistical compilation rather than attributing a cause of an Accident. For instance, failure of loco is linked to a “time failure” concept (when it is over one hour). In this “Statement of Accidents”, there is no column of cause wise reasons of accident.

Hence, the cause of the accident is not linked in the Statistical compilation of Accident with the ‘Failure of Equipments’ defined under this table (Table II) under the head of Rolling Stock, Pway, Signalling etc.

The only basis which remains for deciding the cause of a Train Accident, whether on account of “Equipment Failure” or “Technical Defect of the Equipment” etc. is the one given in Paras under *Table I*. This has been detailed above.
