General Managers,
All Indian Railways,
(Except NE Railway)

Sub: Maintenance and operation of electronic in-motion Weighbridges

During discussions in Seminar on electronic in-motion weighbridges at Jhansi held on 8th & 9th July, 2004, it revealed that difficulty is being faced in the maintenance and operation of the electronic in-motion weighbridges installed on Railways due to inadequate co-ordination of functions of various departments viz. Commercial, Operating, Mechanical, Civil Engg., Electrical and RPF/Security etc. in the Divisions.

Availability of weighbridges is being reviewed every month at highest level (CRB) in the Board’s office and it has been directed by Board (CRB) that keeping the weighbridges functional all the time should be a thrust area for the Railways.

In order to keep the weighbridges operational, proper maintenance of these weighbridges needs to be ensured. Railways are, therefore, advised to formulate and issue a joint procedure order as per guidelines enclosed herewith, which interalia indicates instructions for the nominated officials of various departments on Railways.

Above instructions be implemented and Board advised.

(V.K. Pabby)
Executive Director (Dev)

DA: As above.
MAINTENANCE AND OPERATION OF ELECTRONIC IN-MOTION WEIGHBRIDGES

1. The maintenance and operation of the electronic weighbridges demand co-ordination of functions of various departments viz. Commercial, Operating, Mechanical Engg., Civil Engg., Electrical Engg. and RPF/Security departments. As such ADRM should be nominated by the DRM to co-ordinate and monitor the operation and maintenance of weighbridge(s). In case of workshops, one JA grade officer of Mechanical department should be nominated by CWM.

   It would be the responsibility of the ADRM to co-ordinate and ensure that all weigh-bridges on the divisions are functioning properly, accurately within specified limits and are subjected to scheduled maintenance and testing. He will ensure that a joint check of the weighbridge installation should be carried out by the nominated officials of the Mechanical, Civil Engg., Electrical, Commercial and S&T deparments once in three months and a report sent to him. He will also ensure the State Government regulations & checks by the Inspectorate of Weights and Measures of the State Governments.

Responsibilities & functions of the:

2. COMMERCIAL DEPTT. (CUSTODIAN): -

2.1 The weighbridges will be manned and operated by commercial staff.

2.2 Chief Goods Supervisor or any other official of the Commercial Department nominated by the division will be the custodian and in-charge of the weighbridge including weighbridge house nd weighing operations.

2.3 The official in-charge of the weighbridge shall ensure that it is duly certified. Any defects or abnormal working noticed should be brought to the notice of the nominated officer/s supervisor of Mechanical Department. The control panel and the digitizer of the weighbridge shall be kept locked and sealed.

2.4 The official in-charge of the weighbridge shall maintain a break down register showing the date and time the weighbridge went out of order, date and time the weighbridge put back into commission, problem reported, remarks of Service Engineer with signatures of the weighbridge in-charge and nominated Mech. Official.

2.5 The weighbridge room shall be locked when not in use and keys kept in custody of weighbridge in-charge. The junction boxes shall also be locked. Duplicate keys should be kept in safe custody of Chief Goods Supervisor or any other nominated official of Commercial Department at the station/yard.

2.6 All doors provided on the cubical/cabinet of control equipments shall be kept locked and paper sealed mentioning time and date of seal, duly signed by the weighbridge in-charge and supplier's Service Engineer to avoid tempering.
2.7 The keys of the cubicle/cabinet and junction boxes will be handed over to representatives of the suppliers only on demand and taken back after sealing jointly as mentioned under para 2.5 and 2.6 above and entries shall be made in the breakdown register under para 2.4

2.8 No outsider or unauthorized person shall be allowed to enter into the weighbridge room.

2.9 The weighbridges shall be switched off when not required for weighment for more than 30 minutes. The weighbridge equipment shall be switched on at least 15 minutes before the weighment is to start (see para 3.4)

2.10 The weighbridge in-charge shall ensure that the weighments readings are recorded at speed less than 15 km per hour, which can be checked from the PC, monitor and visual display provided. Readings taken above this speed are not valid.

2.11 The weighbridge in-charge shall ensure that no electric connection is taken from the junction box provided between the UPS and the weighbridge computer, digitizer, etc. for any other purpose.

2.12 The working of the weighbridge shall be checked by two supervisors/staff of the Commercial Department, one for pressing the track switches sequentially and the other to monitor the functioning of the track switches as displayed on the PC monitor once in a day before use.

2.13 In case of failure of electric power supply from the main source, the weighbridge in-charge shall start the mini generating set provided for operation of the weigh filling up of the generating set with consumables like petrol, kerosene etc. shall also be done by the staff of commercial department.

2.14 The operator of the weighbridge should be duly certified by OEM and nominated official of commercial deptt. after proper training.

2.15 Instructions for operation of weighbridge are enclosed as Annexure-I.

3. **MECHANICAL DEPTT:**

3.1 The Mech. Deptt. shall be responsible for entering into Annual Maintenance Contract (AMC) and its satisfactory execution with the original equipment supplier (OEM) for the weigh bridge as per extant Railway Board’s guidelines on the subject.

3.2 ADRM shall nominate an AME or SSE of Mechanical deptt. available at the nearest station for liaison with the supplier for preventive and break down maintenance during the warranty period as well as during the annual maintenance contract. The nominated official of Mechanical department shall co-ordinate with other departments responsible for maintenance and ensures that it is maintained properly.

3.3 The nominated official of Mech. Deptt. shall see that break down register is being maintained properly by weighbridge incharge.

3.4 **Testing of weighbridges will be done as per Annexure--II**
OPERATING DEPARTMENT (CYM/STATION MASTER): -

CYM/SM shall arrange to pass the rakes for weighment through the weighbridge line without stopping short of the weighbridge so that the full rake can be passed at a uniform speed not exceeding 15 Km per hour.

“Weighbridge Ahead” boards are provided on both sides of the weighbridge about 300 ms in advance of the weighbridge, with special marking to indicate to the driver that they are passing over the weighbridge.

The drivers of the trains passed for weighment purpose shall be suitably instructed and trained. They should be given necessary instructions before entering into the loop line on which weighbridge is located.

As far as possible trains other than those requiring weighment shall not be passed on or stabled on the loop line on which weighbridge is installed. Transit loads not requiring weighment should be passed or stabled over the loop with the weighing equipment in switched off condition (see Para 2.9).

In track circuited territory physical verification for non occupancy by vehicles on bypassed weighbridge line shall be done by CYM/SM before accepting any train on the weighbridge line. Necessary Para should also be added in the SWR of the controlling station.

ENGINEERING DEPARTMENT: -

Duties of PWI:

(a) The PWI shall maintain level gradient not exceeding 1 in 300 for 100 meters on either side of the weigh rails. The approach rails shall be 52 Kgs/m on ST sleepers. (PRC sleepers preferable) with adequate ballast and maintained properly. The approach track should be maintained so as to allow smooth entry/exit on weigh rails. Creep anchors be provided to avoid creep

(b) The PWI will ensure proper drainage of the track over the weighbridge and adjoining track for 100 meters on either side of the weighbridge.

(c) Indication Boards with marking of “Weigh-Bridge Ahead” shall be provided and maintained at a distance of 300 meters on both sides of the weigh bridge

Duties of SSE (Works)

(a) The Engg. Deptt. shall be responsible for maintenance of the room, security grills on windows, doors and opening for air conditioner. All doors for the rooms shall be fitted with godown lock for ensuring security of the equipment.

(b) A water connection near the weighbridge should be provided and maintained for wetting of the earth pit.
ELECTRICAL DEPTT:-

4.1 The Electrical Deptt. shall provide two separate 230V AC power supply points of adequate capacity, one for weighbridge equipment and the other for AC and lighting load in the weighroom from the nearest SEB supply point.

4.2 The alternative arrangements for standby power supply through generating set, if any, and also the maintenance of the generating set, shall be by the Electrical Department. (Commercial department staff shall operate these sets as and when required)

4.3 Provision of earthing and its maintenance as per 153043-1966 shall be ensured by Electrical Department. The earth resistance and its continuity shall be subjected to annual checks.

4.4 The electrical deptt. shall maintain lights, fans and AC unit provided inside the weigh room and also in the general area around the weigh rails and track side switches for security reasons.

4.5 The AMC of the associated electrical equipment viz. UPS, air-conditioner, voltage-stabilizer etc. necessary for proper operation of the weighbridge will be arranged by the Mechanical Department as covered under para 3.1. The Mechanical Department shall also be responsible for co-ordination with the contractor for this purpose.

S&T DEPARTMENT: -

7.1 S&T department shall maintain the jumpers for the track circuit wherever provided by passing the weigh rails.

7.2 RDSO type block joints shall be provided and maintained on both sides of the weigh rails to provide electrical isolation of weigh rails.

SECURITY DEPTT. :-

INSPECTION/RPF Incharge of the area shall exercise the necessary superintendence for the security of the weighbridge ensuring general security of the weighbridge installation.

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INSTRUCTIONS FOR OPERATION OF WEIGHBRIDGES

1. Weighbridges will be manned and operated by commercial staff.

2. As soon as the rake is placed for weighment, the commercial staff posted at weighbridges shall complete all formalities of enlisting wagon numbers, its tare weight, carrying capacity and type of wagons with permissible carrying capacity of the loaded commodity etc.

3. The staff will feed all these information in the software provided at weighbridge.

4. After completion of all above, he will permit a train to pass through Electronic-in-motion weighbridges.

5. As soon as the weighment is completed the staff will scrutinize the computer generated report and ascertain quantum of overloading.

6. If the wagons are found overloaded beyond permissible quantity of a particular commodity then he will initiate action for levy of penal freight demurrage and handling charges as prescribed in commercial rules.

7. Intimation about overloading will also be sent to all concerned including originating and destination station for recovery of charges levied.

8. In case it is observed that weighbridges are not functioning as per the prescribed specifications then necessary advice will be sent to mechanical as well operating departments for necessary action.

9. The staff concerned at weighbridges will exhibit the certificate about satisfactory functioning of the weighbridges issued by the Weights and Measurements department in co-ordination with Mechanical department (see Para 4, Annex. II)

10. The operator shall keep both the copies of print out after weighment in the record. First copy, which do not show wagon number, CC and tare, second copy showing weighment results along with wagon particulars.

11. While informing, the consignee and all concerned about the over loading wagons, the copy of print out shall not be sent. But the details of wagon found over-loaded shall be furnished. CC of empties should not be recorded and details of empties should not be sent to anybody.

12. Whenever, the operator finds any kind of anomaly in the readings of the weighbridges, he shall immediately inform concerned CWS in terms of Para 10.8, who will investigate the reasons and call the service engineer of the weighbridge.
13. The present procedure of joint check of CMI concerned of weighbridges is considered to be satisfactory and shall be continued.

14. The goods clerk records wagon numbers and their particulars in the system as per serial order and the same are inserted against weighment. The particulars in serial order to ascertain its correctness, random checks of concerned places/sites should be done so that there is no possibility of changing serial. This will help the administration in maintaining accuracy and weighment particulars. The checks will be conducted by CMI under the instructions of Sr.DCM/DCM.

15. Back up: As of now, the information is available only in the hard disc of the PC. The back up needs to be kept on floppy regularly. Floppy should be sent to Sr. DCM every fortnight.

16. An imprest of Rs.1000/- (Rupees one thousand only) be provisioned for procurement for fuel (petrol/diesel/kerosene) required for generator set so that wagons are not moved without weighment when there is no supply of electricity.

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INSTRUCTIONS RELATED TO TESTING OF WEIGHBRIDGES

The electronic weighbridge shall be tested with duly calibrated test wagon every month, as per procedure prescribed by the manufacturer and a certificate given to the Coml. Deptt. jointly signed by the weighbridge in charge and the officials of the Mech. Deptt.

In addition to testing with the test wagon, repeatability test of the Electronic in-motion weigh bridge shall be carried out after every three months along with the Service Engineer of the manufacturer as per procedure prescribed by the manufacturer.

In case any major repair is carried out on the weighbridge by the Service Engineer re-testing will be done at the time of re-commissioning.

The officials of the Mech. Deptt. nominated shall ensure that the weigh bridge is got tested by the Weigh and Measurements Deptt. of the State every year by the supplier as a part of the AMC contract. The supplier shall carry out required adjustment, if any, during last testing and covering of the digitizer panel shall be locked and sealed. This cover shall only be opened by the ‘Service Engineer’ of the supplier after obtaining key from the officials of the Mechanical department after having made an entry in the maintenance register.

Whenever a call is received by officials of Mechanical Deptt., from Weigh bridge Incharge that the weigh bridge is out of order or behaving erratically, staff must be sent to study the defect and call the Service Engineer of the weigh bridge supplier for attending to the defects for which kproper record shall be maintained.

The maintenance of the mini generating set provided to cater for the load of the weighbridge and lighting equipment shall also be carried out by mechanical department through maintenance contract, departementally or from market sources as per requirement.

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