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Annexure – B1

Diesel Electric ALCO Locomotive with Microprocessor based control System (Recommended Preventive Maintenance)

I. Preventive maintenance for Microprocessor Control System (To be finalized in line with clause 3.0 of the special condition of contract & to be approved by Z. Rlys)

Cables and Electrical items in the C.P. other than Microprocessor system are not included in the Comprehensive maintenance contract. However the functioning of CP items or any other component related to  $\mu$ P control system performance & functioning to be tested during routine checks to ensure reliable service in field. However special cables (like shielded cables) of microprocessor & Transducers are included in contract. The major components lists of various make of Microprocessor Control System is placed at Annexure B3.

- Software up-gradation and related adequate training for the Shed staff will be done free of cost.
- Hardware up-gradation will be on chargeable basis. However the hardwares (i.e. card etc) failing frequently should be replaced/upgraded free of cost.
- Preventive maintenance schedule has to be prepared by OEM in consultation with IR & should get it approved.

II. The activities to be carried out during Preventive maintenance shall be:

- Visual Checks for physical condition of the Equipment.
- Cleaning of Electronic assemblies and other Electrical / Electronic parts by blower.
- Tightness checking of all MS Round Connectors, Inputs and Outputs Terminals Connections.
- Checking of clamping of all cables and Cable assemblies.
- Checking of all Digital Inputs and outputs working in the Manual Test Mode. Checking of Self Load Test if facility is available.
- Functional Checking with different simulated input conditions as may be possible in the installed condition on the loco.
- Event recorder Data Downloading and analysis for ensuring its continued Functional Health.
- Fault Data Downloading and Analysis for identifying the faulty circuits / components. It is possible to identify components which may fail in future by proper analysis of the fault data pack. This will help bring down online failures of Locos.
- Study of Driver Log book or Power control reporting.
- Addressing any shortcoming/ deficiency in the system reported by Shed or noted by firm's representative during preventive maintenance.
- Replacement of the items with Limited life like rubber gaskets etc as per the scheduled maintenance.
- Contractor to inspect the complete microprocessor control system & various transducer /sensors as special wiring to ensure the fail safe operation on line till next scheduled maintenance. Any component failure on line due to improper maintenance/preventive action slackness will be the contractors responsibility.
- Load Box testing /self Load box test as applicable.

III. The various maintenance (prevailing on date) schedules of the Locomotives are

- Trip schedule
- Monthly
- M4
- M8
- M12
- M24
- M48
- Out of course

For MEDHA SERVO DRIVES PVT. LTD.

Manager (Marketing)

विशेषज्ञ  
30/10/12

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