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**East Central Railway
Signal & Telecommunication Department**

TECHNICAL CIRCULAR NO. 12

Sub: Functional Requirements & Exception Report from Data Loggers installed in EI/PI/RR1.

**Ref: (i) S&T Technical Circular No. - 03/2007, dated-16.07.07
(ii) Data Logger system for Railway Installation, Specification No. IRS S 99/2006**

1. It is observed from existing installations of Data Logger that logic for all exception report given in RDSO/SPN/99/2006 for Data Logger are not faithfully implemented and due to above full potential of Data Logger for predictive maintenance and fault finding is not being utilized. Therefore in continuation to above referred technical circular & RDSO Specification No. - IRS S 99/2006, it has been decided that while installing new Data Logger it may be ensured that all Digital and Analog inputs are provided and exception reports given below are implemented.

2. The system shall generate audiovisual alarm in ASM's/Signal Maintainers's room in the case of power supply failure (battery voltage low) or battery charger defective with acknowledgement facility.

3 Exception Reports --

3.1 The Data Logger equipment shall be capable of generating exception reports -

- i) Battery charger defective
- ii) Under wheel flashing of points
- iii) Signal lamp failure
- iv) Blanking of Signals
- v) Route section not released after passage of train due to track circuit failure
- vi) Point Failure – point detection not available after set time period
- vii) Track circuit failure
- viii) Fuse Blown OFF
- ix) Timer not properly set for 120 Sec.
- x) Sluggish relay operation
- xi) Signal Cable low insulation
- xii) Route not set when operation is valid
- xiii) Push button stuck
- xiv) Signal over shoot
- xv) Wrong operation
- xvi) Axle Counter RX low level
- xvii) Bobbing of track, point, signal, crank handle, Level X-ing or ground frame repeater relay
- xviii) Point repeated operation
- xix) Non sequential shunting of track

3.2 Central Monitoring Unit Computer unit installed at central place with networked datalogger and/or computer unit installed with individual datalogger shall be capable of generating following additional exception reports -

- i) Emergency cancellation of route
- ii) Panel failure due to power failure
- iii) Late start of a train (train operation)
- iv) Late operation of signals with respect to local trains (train operation)
- v) Route failure online indication with analysis of the stage at which it had failed
- vi) Non – signal movement (train operation)
- vii) Total on time of lamp (to assess working life of signal lamp)
- viii) Total number of operation of the relay (to assess life of relay)

