

Government of India
Ministry of Railways
Research Designs & Standards Organisation
Manak Nagar, Lucknow – 226 011

No.EL/4.2.15

Dated: 29.11.2002

MODIFICATION SHEET NO.ELRS/MS/ 0319 (Rev. 0)

Chief Electrical Engineer:

- Northern Railway, Baroda House, New Delhi-110 001.
- East Central Railway Hajipur.
- Eastern Railway, Fairlie Place, Kolkata-700 001.
- Chittaranjan Locomotive Works, Chittaranjan-713 331.

1. **Title:**

Automatic operation of flasher light on locomotives equipped with microprocessor based control and fault diagnostic system.

2. **Back ground :**

In terms of Railway Board's letter no – 94/M(L)/466/32 dated 23.2.01, modification on all Diesel and Electric Locomotives were issued to facilitate automatic switching "ON" of flasher lights in event of train parting or ACP. Adoption of Microprocessor Control and Fault Diagnostic on Electric Locomotive opened scope for further simplification in control circuit and additional diagnostic support. This scheme was put on trial on locomotives of ELS/CNB and is now being adopted on all electric locomotives provided with microprocessor control and fault diagnostic system.

3. **Object:**

To integrate operation of flasher light during alarm chain pull operation and train parting with microprocessor controlled software based system provided on locomotives. This will provide diagnostic support and log incidences of ACP operation with date & time and will also result in saving in cost of hardware (relays).

4. **Work to be carried out:**

- i) Remove time delay relay QPR1 & sequence relay QPR2 and one VFSL diode.
- ii) Add one push button switch TS and one programme switch HPAR.

The electrical connections are to be made as per the enclosed Drg. No. SKEL -4665 and the software to be modified as per the new scheme.

5. **Application to the class of locomotives:**

All a.c electric locomotives provided with microprocessor control circuit and fault diagnostic system.

6. **Materials required:**

One push button switch, one programme switch (two position).

7. **Material rendered surplus:**

One time delay relay, one sequence relay (PC8), one diode (110V).

8. **Reference:**

- i) Railway Board's letter No.EL/3.2.19 dated 9. 8.99.
- ii) CLW's control schematic. No.CLW:3W:11004.017 dated 28.4.99
- iii) ELS/CNB letter No. 230-Elect/TRS/CNB/Tech-110/610 dated 20.10.2002.

9. **Modification Drawing:**

Drg. No.SKEL.4665

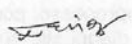
10. **Agency of implementation:**

- i) All Electric Loco Sheds and Workshops, where microprocessor control and fault diagnostic system locomotives are dealt with.
- ii) CLW for all newly manufactured electric locomotives provided with microprocessor control and fault diagnostic system.

11. **Distribution:**

- 1. Sr. DEE/TRS, Electric loco Shed, N.Rly., Fazalganj, Kanpur-208 003.
- 2. Sr. DEE/TRS, Electric Loco Shed, E.C. .Rly., Gomoh.

Encl: As above.


(S.S. Joshi)
for Director General/Elect.

