

भारत सरकार-रेल मंत्रालय
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Government of India
Ministry of Railways
Research, Designs &
Standards Organization,
LUCKNOW-226011



No. EL/3.2.19/3-Phase/Pt-1

Dated: As signed

Principal Chief Electrical Engineer,

1. Central Railway, Mumbai CST-400 001.
2. Northern Railway, Baroda House, New Delhi-110001.
3. North Central Railway, Subedarganj, Allahabad- 211001
4. North Eastern Railway, Gorakhpur-273 001
5. Eastern Railway, Fairlie Place, Kolkata -700 001.
6. East Central Railway, Hazipur-844101.
7. North Western Railway, Opp. Railway Hospital, Jaipur-302 006
8. East Coast Railway, Chandrashekharpur, Bhubaneswar-751 016.
9. Southern Railway, Park Town, Chennai-600 003.
10. South Central Railway, Secunderabad-500 371.
11. South Eastern Railway, Garden Reach, Kolkata -700 043.
12. South East Central Railway, Bilaspur-495004
13. South Western Railway, Hubli (Karnatka)-580 020
14. Northeast Frontier Railway, Maligaon, Guwahati-781 011
15. Western Railway, Churchgate, Mumbai-400 020.
16. West Central Railway, Jabalpur-482001.

Sub: Draft Modification Sheet for Provision of BP Pressure drop Audio Visual Indication in Banker Electric locomotives.

Ref.: CELE/SECR letter no. SECR/Elect./315/Safety/24 dated 01-01-2025 and 04-06-2025

Vide references above, the proposal of SECR has been examined by this office and DRAFT MODIFICATION SHEET No. RDSO/2025/EL/MS/XXXX Rev. '00', Dated---- for Provision of BP Pressure drop Audio Visual Indication in Banker Electric locomotives has been prepared and hereby being circulated for comments and suggestions within period of 15 days. The comments and suggestions shall be furnished as per Annexure-1 enclosed.

The DRAFT MODIFICATION SHEET No. RDSO/2025/EL/MS/XXXX Rev. '00', Dated---- has been uploaded on RDSO website which may be downloaded under the link below:
https://rds.indianrailways.gov.in/view_section.jsp?lang=0&id=0,4,6523,7086,7089

This issues with approval of competent authority.

Encl: Draft MS

Copy to:

Secretary (Electrical), Railway Board, Rail Bhawan, New Delhi-110001
(Kind Attention: Shri Avinash Singh Kushwah, ED/RS/RB) -For kind formation please.

(Rajesh Kumar)
Director Standard Electrical/Pn

Encl: Draft MS

(Rajesh Kumar)
Director Standard Electrical/Pn

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No. EL/3.2.19/3-Phase/Pt-1

Dated: As Signed

All Principal Chief Electrical Engineers,

DRAFT MODIFICATION SHEET No. RDSO/2025/EL/MS/XXXX Rev. '00', Dated----

1.0 Title: Modification sheet for provision of BP pressure drop audio visual indication in Banker Electric Locomotives.

2.0 Object: To provide a provision of audio visual indication in Banker locomotives in the event of BP dropping by lead locomotive in the train formation, so that banker loco pilot may act appropriately in time.

3.0 Existing arrangement with cross references of respective design document: NIL

4.0 Modified arrangement to replace existing arrangement as given above in 3.0:

4.1 A pressure switch shall be mounted suitably in cab-1 and to be connected with BP pneumatic Line. Tapping from BP pneumatic line for different make of brake system may be taken from cab-1 BP gauge pipe line below the driver desk. The electrical circuit schematic shown in figure-1 is for indicative purpose only and applicable for modification in both cab of locomotives. The 110V DC Battery supply shall be taken from cab-1 of 3-phase electric locomotives with terminals 2095(+ve) & 2050(-ve) and for conventional locomotives cab-1 SB terminals 003(+ve) & B(-ve). Sheds may carry out above said modification in locomotives based upon extant local conditions and their requirement of banker Locomotive operation.

4.2 A BPDIES (toggle switch) has been provided in both cab to enable/disable this modification when locomotive work in Banking/non-banking service. When Loco pilot of lead locomotive drops BP in lead locomotive, this BP reduction will be sensed by BPPS pressure switch in banker locomotive and BPPS closes the circuit on BP dropping to 4.6 Kg/cm². This will make BPDALRM (BP drop alarm) to sound and BPDIL (BP drop indication lamp) to glow. Location of BPDIL, BPDALRM and BPDIES should be in combined arrangement and should be mounted in front of loco pilot in each cab as shown in Fig.3.

4.3 Instructions to crew as indicated in Figure-2 shall be affixed at suitable location that is clearly visible to crew.

5.0 Application to Class of Locomotives: Electric locomotives working as banker loco without functional DPWCS.

6.0 Material Required:

SN	Description	Qty/Loco	Remark
1	Pressure Switch with suitable mountings (Closes the circuit	01	Make: 1. Eaton / Knorr-Bremse / Faiveley for 3-Phase locos

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	when sensed the BP drop 5.0 to 4.6 Kg/cm ²)		2. CLW Item ID: 2100924 for conventional locos
2	Alarm Alerter/Buzzer	02	CLW Item ID: 2100117
3	Switch Toggle	02	CLW Item ID: 2100927
4	Indication Lamp/LED	02	CLW Item ID: 2100382
5	Copper Pipe & fittings	As per requirement	CLW Item ID: 2100096
6	Control cable	As per requirement	RDSO Item ID: 3100272 for 3-Phase locos. RDSO Item ID: 3100270 for Con Locos
7	Drivers Instruction plate	02	As per Fig.2
8	Box (Suitable size) for combine arrangement	02	As per requirement

7.0 Material Rendered Surplus: Nil

8.0 References: CELE/SECR letter no. SECR/Elect./315/Safety/24 dated 01-01-2025 and 04-06-2025

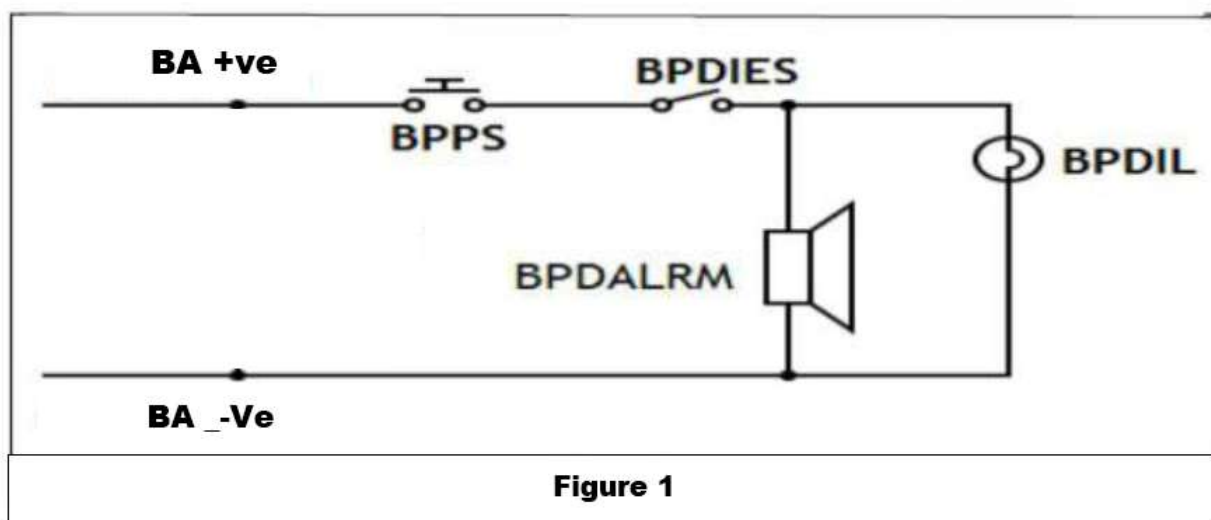
9.0 Modification Drawing: The electrical schematic circuit diagram of aforesaid circuit Modification has been indicated in Figure-1 (enclosed).

10.0 Agency of Implementation: All Electric loco sheds and all Diesel loco sheds (Having holding of Electric Locomotives) of all Zonal Railways as per the requirement of banker locomotive operation.

Encl: As above

Director Standard Elect./Pn

Copy to : As per Standard Mailing List No. EL-M-7.5.3-19 Latest Revision.



LOCO PILOTS TO NOTE

BP DROPPAGE AUDIO / VISUAL INDICATION

1. Toggle switch ON position : When Loco in Banking Service
2. Toggle switch OFF position: When Loco in Normal service.

The Toggle switch should be kept in ON position while the loco is used as a banker , to get Audio /Visual indication of BP droppage when BP is dropped from the leading Locomotive.

When the Loco is used in normal service, the Toggle Switch should be kept in OFF position

Figure-2



Figure-3

Annexure-1

Comments/suggestions on DRAFT MODIFICATION SHEET No.
 RDSO/2025/EL/MS/XXXX Rev. '00', Dated---- for Provision of BP Pressure drop
 Audio Visual Indication during working as Banker locomotives.

Clause no	Description	Comments/suggestions	Remarks/Justification
1			
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