

तकनीकी ड्राईव -DLI/RSO-03/2025

विषय : ग्रीष्मकालीन ऋतु के दौरान लोको विफलता को रोकते हेतु विशेष सावधानिया ।

संदर्भ : RB पत्र संख्या 2005/Elect(TRS)/440/23 दिनांक 17.02.2025.

प्रधान कार्यालय पत्र संख्या 230-Elect/TRS/112/. दिनांक 27.02.2025.

उपरोक्त संदर्भित पत्र के माध्यम से, ग्रीष्मकालीन ऋतु में उच्च तापमान के कारण लोको में होने वाली सामान्य विफलताएं से बचने के लिए एक ड्राईव चलायी जा रही है जिसके तहत सभी चालक दल को यह निर्देशित किया जाता है कि वह निम्न मदों का अनुपालन अवश्य करें ।

1. चालक दल को लोको में उपस्थित सभी प्रकार के अग्नि शामक यंत्रों को सही प्रकार से प्रयोग करने की पूर्ण जानकारी होनी चाहिए ।
2. DDU पर आये फाल्ट मेसेज को बिना पढ़े या नोट किए बिना एकनॉलेज नहीं किया जाना चाहिए अन्यथा एक बार एकनॉलेज करने के बाद वह मेसेज DDU स्क्रीन से हट जाता है । लोको पायलट को DDU स्क्रीन पर आ रहे सुझाव मेसेज के अनुसार आवश्यक कार्यवाही करनी चाहिए।
3. ट्रेन संचालन के दौरान यदि ऐसा कोई मेसेज आता है जिसके कारण ट्रेन को रोकने की आवश्यकता होती है तो लोको पायलट के द्वारा कोस्टिंग में ब्लॉक सेक्शन को साफ करने का प्रयास किया जाना चाहिए तथा उसके बाद मेसेज पर ध्यान दिया जा सकता है।
4. यदि एक auxiliary converter आइसोलेट है, तो TSD के अनुसार, auxiliary converter को काम पर लाने हेतु कण्ट्रोल इलेक्ट्रॉनिक्स को एक बार off/on करें । auxiliary converter के आइसोलेट होने पर वेंटिलेशन का स्तर कम हो जाता है, इसलिए यह गर्मियों में, auxiliary converter को काम पर लाने हेतु, ट्रेन के scheduled/unscheduled स्टॉप पर कण्ट्रोल इलेक्ट्रॉनिक्स को off/on किया जाना चाहिए।
5. Priority-1 संदेश पर तुरंत कार्यवाही की जानी चाहिए और DDS में इसकी कार्यवाही उपलब्ध रहती है। Priority-2 के मेसेज में तुरंत कार्यवाही की आवश्यक नहीं है सिवाय बैटरी वोल्टेज लो/ MCB-100 के ट्रिप होने के । Priority-1 के मेसेज में BPFA के जलने के साथ LSF1 की लाल बत्ती जलता/बुझती रहती है ।
6. बैटरी से सम्बंधित Priority-2 के मेसेज पर समय पर ध्यान दें ताकि वह मेसेज Priority-1 में बदल कर लोको शट डाउन का कारण न बने । बैटरी चार्जर के इनपुट MCB 100 के ट्रिप होने पर हमेशा Priority-2 का फाल्ट मेसेज आता है । MCB 100 को VCB की खुली अवस्था में रिसेट करना चाहिए।
7. यदि Angle transmitter खराब हो जाता है, तो लोको पायलट के द्वारा गाड़ी की चालू हालत में स्विच 152 को पोजीशन 1 पर करके तुरंत मैनुअल मोड पर करके गाड़ी कार्य किया जा सकता है तथा इसके लिए गाड़ी रोकने की कोई आवश्यकता नहीं है।

उत्तर रेलवे

8. Configuration switch 160 के द्वारा लोको की गति को 15 किमी प्रति घंटे तक प्रतिबंधित किया जा सकता है तथा इसकी पोजीशन को बदलने के लिए CE को off/on करने की आवश्यकता नहीं है। हालांकि, स्विच 160 को ऑपरेट करने से पहले थ्रोटल, स्पीड 0 व रिवर्सेर का न्यूट्रल पर होना सुनिश्चित करें।
9. RDSO द्वारा जारी 3-फेज लोको के नवीनतम TSD का पालन करें और लॉबी, प्रशिक्षण स्कूलों तथा ऑन लाइन आदि में सभी रनिंग स्टाफ को तदनुसार काउंसलिंग करें।

इस संबंध में, सभी मुख्य लोको निरीक्षकों को यह निर्देश दिए जाते हैं कि अपने मनोनीत/गैर-मनोनीत रनिंग स्टाफ को उपरोक्त के संबंध में काउंसिल व अम्बुश करें तथा ड्राइव की रिपोर्ट को मंडल कार्यालय में दिनांक 16.04.25 को प्रस्तुत करें।

अ.ज. 27/03/25
वरिष्ठ मण्डल विद्युत अभियंता/परिचालन

प्रतिलिपि :-

- मण्डल रेल प्रबंधक/मण्डल कार्यालय/नई दिल्ली/उत्तर रेलवे-सूचनार्थ।
- मुख्य विद्युत अभियंता/परिचालन/उत्तर रेलवे, बड़ौदा हाऊस, नई दिल्ली - सूचनार्थ।
- मुख्य विद्युत लोको अभियंता/उत्तर रेलवे, बड़ौदा हाऊस, नई दिल्ली - सूचनार्थ।
- अपर मण्डल रेल प्रबंधक/परिचालन/नई दिल्ली/उत्तर रेलवे-सूचनार्थ।
- मण्डल राजभाषा अधिकारी/मण्डल कार्यालय/नई दिल्ली/उत्तर रेलवे-सूचनार्थ।
- प्रधानाचार्य/प्रशिक्षण केन्द्र - गाजियाबाद/शकुरबस्ती/तुगलकाबाद।
- मुख्य कर्षण नियंत्रक/दिल्ली/उ.रे. - उचित कार्यवाही हेतु।
- समस्त मुख्य लोको निरीक्षक/दिल्ली मण्डल - आवश्यक कार्यवाही हेतु।
- समस्त लोको लॉबी नोटिस बोर्ड- आवश्यक कार्यवाही हेतु।
- बेसिक प्रशिक्षण केन्द्र/तुगलकाबाद/उत्तर रेलवे-आवश्यक कार्यवाही हेतु।

Compliance of RSO Technical Drive no 03/2025 regarding summer preparedness

Total no of staff counselled.			Details of Ambush Check		
LP	ALP	LPS	No. of ambush conducted	Details of abnormality noticed	Action Taken

Counselling Details:

No. of LP counseled :

No of ALP counseled :

No of LPS counseled :

Details of the Ambush Conducted:

Total no. of ambush conducted :

Details of the abnormalities noticed during the drive period:

Action Taken against abnormalities noticed :

Northern Railway

**Headquarters Office,
Baroda House,
New Delhi**

No. 230-Elect/TRS/112/.

Dated 27.02.2025

**Sr.Div. Elect. Engg/RSO,
Northern Railway,
DRM Office,
Delhi, Firozpur, Lucknow, Moradabad
& Ambala**

**Sr.Div. Elect. Engg/Tr.
Northern Railway,
DRM Office,
Jammu Tawi.**

Sub: Summer Preparedness Drive

Ref: (i) Rly. Board letter No. 2005/Elect.(TRS)/440/23 dated 17.02.25

(ii) This office letter of even no. dtd 07.02.24.

Instructions already exist to launch summer preparedness drive on all electric locos before start of summer season so that typical failures attributed to high temperature do not occur and desired level of loco reliability is maintained. Rolling stock (operation) is advised to ensure compliance as per ACTM para no. 30514 and Rly Board's letter under reference.

All Divisions are advised to ensure completion of drive on the instructions given above in all available electric locos latest by 30.04.25.

Checklist for Electric Rolling Stock Operations is enclosed as Annexure - I.

It is advised to organize drives on the instructions given above and conduct ambush check to sensitize field maintenance and running staff and supervisors. Record of the progress/ compliance (point wise) should be sent to HQ every week.


(Kamal Kant Bhatnagar)
Dy.Chief Electrical Engineer/Operation.

Copy to: PCEE, CEE/OP & CELE - for kind information please.

Checklist for Electric Rolling Stock Operations

S. No.	Instructions	Locos Completed
1	Temperature checking of axle box, MSU and TM bearing through Infrared temperature gun on arrival of locomotive at destination station/ outplt. Proper record should be maintained to timely detect any abnormality and to arrest the failure of bearings on line.	
2	Check for any oil leakage from transformer, Tap Changer (GR), MPH circuit, traction converter, oil pump and other accessories & ensure appropriate oil levels in all these equipment between minimum and maximum levels.	
3	Ensure topping up of water in batteries	
4	Ensure working of cab fans. All conventional & 3-phase locos fitted with cab-air conditioning should be in operational condition.	
5	WAG-7 locos fitted with compact RSI blocks with 3 bridge design should preferably be utilized in MU formation. Similarly WAG-5 locos for freight operation should work only in MU configuration.	
6	Prescribed type and number of fire extinguishers should be provided on each locomotive and loco crew are trained to operate these when required.	
7	Fire prevention measures for three phase locos issued by RDSO vide letter No. EL/3.1.35/2 (Elect), dated 29.01.13 should be implemented. Compliance of RB letter No. 2008/Elect(TRS)1113/5/Pt. dated 08.12.16 on fire prevention shall be ensured.	
8	Provision of roof clamp shall be ensured	
9	Condition of air filters and OCU gasket to be ensured	
10	Any fault message in DDS should not be acknowledged without reading and follow up as suggested. Once acknowledged, the message gets lo	
11	Any such messages requiring train to stop, efforts should be made to clear the block section in coasting and then attention to the message can be given.	
12	If one auxiliary converter is isolated, then as per TSD, switching OFF & ON electronics is advised once for normalizing the working of auxiliary converter. Since the isolation of auxiliary converter reduces the ventilation level, it is prudent that, in summers, switching OFF & ON of electronics should be tried again later on during stops, to normalize the working of auxiliary converter.	
13	Priority-I message have to be immediately acted upon & course of action is also available in DDS. P-II message need not be acted immediately except for battery voltage low /MCB 100 tripped. P-I message come with a red flashing of LSFI in addition to BPFA.	
14	Timely attention to Priority-II battery messages so that loco does not shut down with PI message later on. Tripping of battery charger MCB 100 invariably leads to Priority-II battery messages. Switching ON MCB 100 has to be done with VCB in OFF condition.	
15	In case Angle transmitter goes defective, immediately switch over to manual mode using switch 152 in running condition. There is no need to stop.	
16	Configuration switch 160 restricts loco speed to 15 kmph & can be corrected without switching electronics OFF/ON in much lesser time. However, the loco has to be stopped before operating switch 160.	
17	Follow the latest TSD of 3-Phase locos issued by RDSO and counsel all running staff in lobbies, training schools, on line etc. accordingly.	
18	In order to prevent fire hazards in locomotives, thorough blow outs, cleaning of underslung power equipments, removal of spillages from engine areas and functioning of fire safety equipments may also be ensured	



भारत सरकार Government of India
रेल मंत्रालय Ministry of Railways
रेलवे बोर्ड (Railway Board)



No. 2005/Elect(TRS)/440/23

New Delhi, Dated:17.02.2025

General Managers (Elect.)
All Zonal Railways.

Sub: Summer preparedness - Electric & Diesel Locomotives.

Electric Locomotives

- 1.0 Instructions already exist in ACTM para No. 30514 for taking precautions before onset of summer. Railways are advised to ensure seasonal precautions instructed vide ACTM para No. 30514. Copy of relevant pages of ACTM is enclosed herewith for ready reference.
- 2.0 In addition to the instructions contained in ACTM, some of the other important measures to be taken for maintenance of electric and diesel locos are as under :
 - 2.1 Ensure completion of summer precautions within 30th April 2025.
 - 2.2 Check for any oil leakage from transformer, Tap Changer (GR), MPH circuit, traction converter, oil pump and other accessories & ensure appropriate oil levels in all these equipment between minimum and maximum levels.
 - 2.3 Ensure topping up of water in batteries.
 - 2.4 Prescribed type and number of fire extinguisher should be provided on each locomotive and loco crew are trained to operate these when required.
- 3.0 Besides above, following instructions are also to be followed by homing sheds and loco pilot working on electric locos to curb loco failure on line
- 3.1 Fire prevention measures for three phase locos issued by RDSO vide letter No. EL/3.1.35/2 (Elect), Dated 29.01.2013 should be implemented along with modification to provide mechanical locking arrangement in ~~primary-over current relay of 3-phase locomotives as per modification~~ sheet No. RDSO/2013/EL/MS/0420 Rev'0', dated 23.01.13, issued by RDSO should be ensured. Compliance of RB letter No. 2008/Elect (TRS)/113/5/Pt. dated 08.12.2016 on fire prevention shall be ensured.
- 3.2 Ensure temperatures strips of range 40-70°C and 60-100°C pasted on DE side bearing in compliance to the comprehensive maintenance instructions advised by RDSO vide SMI No. RDSO/2013/EL/SMI/0278 (Rev.'0'), dated 24.12.2013 for fitment of traction motor (6FRA6068) Drive End bearings NU2236 used in 3-phase locos during overhauling to avoid WAP7/WAG9 locos traction motor bearing failure.

- 3.3 Air delivery measurement in 3-phase locos to ascertain proper cooling and pressurization of machine room advised by RDSO vide SMI No. RDSO/2009/0255 (Rev."0") dated 06.05.2009, to avoid dust ingress and proper cooling of electronic cards as a schedule activity.
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- 3.4 Filter cleaning as per RDSO SMI No. RDSO/2016/EL/SMI/0286(REV.'0'), Dated 09.06.2016 shall be carried out.
- 3.5 Improvement measures to maintain pressure in the machine room and make it dust free as per RDSO guideline circulated vide letter No. EL/3.1.35/10 dated 11.04.16.
- 3.6 Cleaning of heat sink and filter of hotel load converters should be ensured as per RDSO's SMI No RDSO/2016 /EL/SM1/297 (Rev 1) dated 13.11.2024. Ensure redundancy in UIC for HOG operation, vide RDSO letter no EL/11.5.5/6 dated 27.06.2024
- 3.7 To improve the effectiveness and reliability of wiper in electric locomotives, zonal railways should follow RDSO SMI no. RDSO/2024/EL/SMI/0333 Rev'0' dated 11.12.2024
- 3.8 Ensure that no locomotive should turn out from the shed without a functioning cab air conditioner.
- 3.9 Removal of dust from machine room by industrial vacuum cleaner and plugging leak holes by rubber grommet/gasket /RTV.
Provision of roof clamp shall be ensured.
- 3.10 Condition of air filters and OCU gasket to be ensured
- 3.12 Application of conductive grease on knife switch contact of BUR.
- 3.13 Implementation of RDSO modification No. RDSO/2018/EL/MS/468 (Rev. "0") dated 06.02.18 for Hotel Load Converter.
- 3.14 Modification to avoid cab changing in case of failure of processor cards of VCU as per RDSO/CLW's guideline.
- 3.15 Implementation of RDSO's modification sheet no. RDSO/2018/EL/MS/0475 for switch OFF/ON of control electronics.
- 3.16 Any fault message in DDS should not be acknowledged without reading and follow up as suggested. Once acknowledged, the message gets lost.
- 3.17 Any such messages requiring train to stop, efforts should be made to clear the block section in coasting and then attention to the message can be given.
- 3.18 If one auxiliary converter is isolated, then as per TSD, switching OFF & ON electronics is advised once for normalizing the working of auxiliary converter. Since the isolation of auxiliary converter reduces the ventilation level, it is prudent that, in summers, switching OFF & ON of electronics should be tried again later on during stops, to normalize the working of auxiliary converter.
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- 3.19 Priority-I message have to be immediately acted upon & course of action is also available in DDS. P-II message need not be acted immediately except for battery voltage low /MCB 100 tripped. P-I message come with a red flashing of LSFI in addition to BPFA.
- 3.20 Timely attention to Priority-II battery messages so that loco does not shut down with PI message later on. Tripping of battery charger MCB 100 invariably leads to Priority-II battery messages. Switching ON MCB 100 has to be done with VCB in OFF condition.

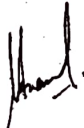
- 3.21 In case Angle transmitter goes defective, immediately switch over to manual mode using switch 152 in running condition. There is no need to stop.
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- 3.22 Configuration switch 160 restricts loco speed to 15 kmph & can be corrected without switching electronics OFF/ON in much lesser time. However, the loco has to be stopped before operating switch 160.
- 3.23 Zonal Railways are also advised to follow the latest TSD of 3-Phase locos issued by RDSO and counsel all running staff in lobbies, training schools, on line etc. accordingly.
- 3.24 Review progress of latest Reliability Action Plan as issued by RDSO & also available at its website.
- 4.0 In addition to above, to prevent fire hazards in locomotives, thorough blow outs, cleaning of underslung power equipment, removal of spillages from engine areas and functioning of fire safety equipment may also be ensure.

Diesel Locomotives

- 5.0 As the summer season is approaching, Zonal Railways are also advised to ensure the following instructions to avoid fire incidences on diesel locomotives:
- 5.1 No leakage of Lube oil and Fuel oil.
- 5.2 Fuel cross over pipe is properly secured and is not rubbing with Engine block.
- 5.3 Engine room must be maintained oil free and no foreign material like cotton waste, etc are lying there.
- 5.4 The electrical cables should be adequately protected, covered from leaking diesel oil, which could spill on these cables.
- 5.5 Oil spillage from diesel engine in to the Alternator/Generator room to be prevented.
- 5.6 Leakage of oil through partition plate and leakage of oil from crank case exhaust pipe shall be checked.
- 5.7 IR values of power and control cables shall be checked.
- 5.8 To avoid sparks, wiring at junctions/interfaces should be tightened properly.
- 5.9 Tightness of terminals and sealing at terminal box to be checked and dust particles shall be cleaned periodically.
- 5.10 Carbon brush condition, brush spring pressure, freeness of carbon brush, arcing horn gap and commutator surface cleanliness shall be checked periodically.
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- 5.11 Milli volt drop shall be checked across the WSR with traction motors in series and parallel conditions.
- 5.12 To prevent oil entry in to the traction alternator connection box, adequate sealing arrangement should be maintained.
- 5.13 It must be ensured that thermal insulation is provided on exhaust manifold and compressor intercooler pipes.
- 5.14 Radiator core should be cleaned periodically by blowing.

- 5.15 Static pressure of all Traction motor should be checked periodically and Traction motor air duct boots should be examined thoroughly and any suspect ones replaced. It should be also ensured that all the inspection covers of traction motors are tightened and sealed properly.
- 5.16 Prescribed type and number of fire extinguishers should be provided on each locomotive and loco crew are trained to operate these when required.
- 5.17 All rotating Electrical equipment like Traction Alternator, Traction Motor, Dynamic Blower Motor, radiator fan and Rectifier should be thoroughly blown out with dry compressed air.
- 6.0 A drive may be launched to conduct ambush checks to sensitize field maintenance & running staff & keep records of the progress made on cyclic checks. Feedback may be communicated to Board on completion of the same. The above points are not exhaustive and any other instruction, issued time to time may be incorporated in the drive to ensure safety and reliability of electric and diesel locomotives.

DA: Relevant extracts from ACTM.

 Digitally signed
by Vikash Anand
Date: 2025.02.17
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(विकाश आनंद)

निदेशक विद्युत अभियांत्रिकी (चल स्टॉक)

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