मध्य रेल
Central Railway

वर्ष 2025

संरक्षा विभाग
मुम्बई मंडल
मध्य रेल

अधिकारियों और पर्यवेक्षकों के लिए संरक्षा निरीक्षण दिशानिर्देश

चंद्र किशोर प्रसाद
प्रधान मुख्य सरंक्षा अधिकारी
मध्य रेलवे

संदेश

मुझे यह जानकार बडी प्रसन्नता हो रही है, कि मुंबई मंडल के संरक्षा विभाग द्वारा 'संरक्षा निरीक्षण निर्देशिका 2025' का प्रकाशन किया जा रहा है। यह मार्गदर्शी पुस्तिका सभी विभाग के कर्मचारियों को प्रभावी संरक्षा निरीक्षण करने के लिए सहायक बनने के लिए विस्तृत रुप से बनाई गई है।

यह मार्गदर्शी पुस्तिका गाडी परिचालन तथा संरचनात्मक प्रबंधन में शामिल सभी कर्मचारियों के लिए महत्वपूर्ण संसाधन है। विभिन्न विभागों में किए जाने वाले निरीक्षण हेतु विविध कार्य प्रक्रियाओं का ज्ञान होना आवश्यक है। अधिकारियों तथा सुपरवाइजरों को निरीक्षण संबंधी जानकारी आसानी से प्रदान किए जाने के लिए इस पुस्तिका का प्रकाशन किया गया है। इसे इस प्रकार से बनाया गया है कि संरक्षा निरीक्षण की व्यापकता तथा व्यवस्था दोनों सुनिश्चित की जा सके।

यह पुस्तिका, किसी भी तरह से, सामान्य एवं सहायक नियम (जी एंड एस आर), आधिकारिक मैनुअल, सक्षम अधिकारियों द्वारा जारी निर्देशों में उल्लिखित नियमों को प्रतिस्थापित या संशोधित नहीं करती। इसके बजाय यह स्थापित संरक्षा व्यवस्था का पालन करते हुए व्यावहारिक जांच को प्रस्तुत कर स्थापित संरक्षा नयाचार का पालन करती है।

मुझे विश्वास है कि यह पुस्तक विभिन्न निरीक्षण बिन्दुओं पर संरक्षा नियमों को प्रभावी रूप से स्थापित करने में सिद्ध होगी। मुझे आशा है कि इस पुस्तिका का व्यापक रूप से उपयोग किया जाएगा तथा संरक्षा लक्ष्यों को प्राप्त करने में इस पुस्तिका का भी योगदान होगा।

चंद्र किशोर

(चंद्र किशोर प्रसाद)
प्रधान मुख्य संरक्षा अधिकारी
मध्य रेलवे

Chandra Kishore Prasad
Principal Chief Safety Officer
Central Railway

MESSAGE

I am happy to note that Safety Department of Mumbai division is coming up with the publication of 'Safety Inspection Guidelines 2025'. This comprehensive guidebook has been meticulously prepared to support staff across all departments in conducting effective safety inspections.

It is a valuable resource for all personnel involved in train operations and infrastructure management. Inspections across various departments demand knowledge of diverse working procedures. The publication of this inspection checklist book addresses this need by providing a readily accessible handbook for officers and supervisors. It is designed to assist in ensuring that safety inspections are both comprehensive and systematic.

This guidebook does not, in any way, supersede or modify the rules outlined in General & Subsidiary Rules (G&SR), official manuals, or instructions issued by competent authorities. Instead, it complements existing resources by offering practical checklists to enhance adherence to established safety protocols.

I am confident that it will prove invaluable in reinforcing a culture of safety across various inspection points. I trust that this guide will be widely utilized and contribute significantly to achieving our collective safety goals.

Chandra Kishore Prasad
Principal Chief Safety Officer
Central Railway

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मंडल रेल प्रबंधक
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Divisional Railway Manager

संदेश

रेल परिवहन में संरक्षा सुनिश्चित करना महत्वपूर्ण है, और यह सुनकर बहुत अच्छा लगा कि संरक्षा विभाग ने अधिकारियों और पर्यवेक्षकों को गहन निरीक्षण करने में सुविधा प्रदान करने के लिए "संरक्षा निरीक्षण दिशानिर्देश पुस्तिका - 2025" प्रकाशित की है। यह पुस्तिका एक मूल्यवान संसाधन के रूप में काम करेगी, जो निरीक्षण के विभिन्न पहलुओं के लिए निरीक्षण और जाँच सूची प्रदान करेगी।

संरक्षा मानकों, विशिष्टताओं, अनुसूचियों, नियमों और निर्देशों की निगरानी में पर्यवेक्षी भूमिका महत्वपूर्ण है। प्रभावी संरक्षा निगरानी के लिए विभिन्न स्तरों पर बार-बार निरीक्षण आवश्यक है। इन निरीक्षणों के परिणाम प्रेरक, निवारक, सुधारात्मक और दंडात्मक प्रकृति के होने चाहिए।

संरक्षा निरीक्षण दिशानिर्देश पुस्तिका का उद्देश्य निरीक्षण की गुणवत्ता और परिणामी संरक्षा सुनिश्चिति में सुधार करना है। इसे मौजूदा नियमों, विनियमों या निर्देशों का उल्लंघन या टकराव किए बिना संपूर्ण निरीक्षण करने के लिए एक रेडी रेकनर के रूप में डिजाइन किया गया है।

इस पुस्तिका का उपयोग करके, अधिकारी और पर्यवेक्षक यह सुनिश्चित कर सकते हैं कि संरक्षा मानकों को पूरा किया गया है, और संभावित खतरों की पहचान की गई है और उनका समाधान किया गया है। यह सक्रिय दृष्टिकोण रेल परिवहन में संरक्षा के उच्चतम स्तर को बनाए रखने में महत्वपूर्ण योगदान देगा।

हिरेश मीना
मंडल रेल प्रबंधक
मुंबई मंडल, मध्य रेल

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मंडल रेल प्रबंधक
Hiresh Mina I.R.T.S.
Divisional Railway Manager

MESSAGE

Ensuring safety in rail transport is crucial, and it's great to hear that the Safety Department has published the "Safety Inspection Guidelines Booklet – 2025" to facilitate officers and supervisors in conducting thorough inspections. This booklet will serve as a valuable resource, providing a schedule of inspections and checklists for different aspects of inspection.

The supervisory role is vital in monitoring safety standards, specifications, schedules, rules, and instructions. Frequent inspections at various levels are essential for effective safety monitoring. The outcome of these inspections should be motivational, preventive, corrective, and punitive in nature.

The Safety Inspection Guidelines Booklet aims to improve the quality of inspections and consequent safety improvements. It's designed to be a ready reckoner for conducting thorough inspections without superseding or conflicting with existing rules, regulations, or instructions.

By utilizing this booklet, officers and supervisors can ensure that safety standards are met, and potential hazards are identified and addressed. This proactive approach will contribute significantly to maintaining the highest level of safety in rail transport.

(Hiresh Mina)
Divisional Railway Manager
Mumbai Division Central Railway

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वरिष्ठ मंडल संरक्षा अधिकारी
मुंबई मंडल, मध्य रेल

प्रस्तावना

रेलवे की बुनियादी ढांचे की रखरखाव और संरक्षा सुनिश्चित करने के लिए निरीक्षण करना एक नीतिगत बहुत महत्वपूर्ण आयाम है। विभिन्न अधिकारियों और निरीक्षकों के द्वारा की जाने वाली मद /पहलू के लिए निरीक्षण की अनुसूची अलग-अलग कोड/मैनुअल/निर्देशों में निर्धारित की गई है। किसी व्यक्ति के लिए, विशेष रूप से नए पदस्थ अधिकारी के लिए, इन सभी निर्देशों को समझना मुश्किल हो सकता है।

इसे सुविधाजनक बनाने के लिए, "अधिकारियों और पर्यवेक्षकों के लिए संरक्षा निरीक्षण दिशा निर्देशिका" प्रकाशित किया गया है। इस पुस्तक में विभिन्न अधिकारियों और पर्यवेक्षकों के लिए निरीक्षण की अनुसूची का सारांश, विभिन्न निरीक्षणों के लिए जाँच सूचियाँ और निरीक्षणों के संबंध में व्यावहारिक पहलू और सुझाव शामिल हैं। विभिन्न विभागों द्वारा निरीक्षण की गुणवता मे सुधार के लिए इस पुस्तक मे कोड, मैनुअल अन्य निर्देशों को संक्षेपित एवं संकलित किया गया है । यह कोड और मैनुअल में निहित किसी भी मौजूदा नियम, विनियमन या निर्देशों को प्रतिस्थापित या अस्वीकार या संशोधित नहीं करता है।

यह आशा की जाती है, कि यह पुस्तक किसी भी निरीक्षण करने वाले अधिकारियों और पर्यवेक्षकों के लिए एक तैयार सूची के रूप में मदद करेगी, जो बदले में निरीक्षणों को प्रभावकारी और गुणवत्ता को बढाएगी। मैं उन सभी शाखा अधिकारियों एवं पर्यवेक्षकों को हार्दिक धन्यवाद देता हूँ जिन्होंने पुस्तक में आवश्यक जानकारी समेकित करने में योगदान दिया है । इस प्रकाशन में सुधार के लिए किसी भी सुझाव का स्वागत है।

एस एस सोनवणे
वरिष्ठ मंडल संरक्षा अधिकारी

S S Sonawane, I.R.T.S.
Senior Divisional Safety Officer
Mumbai Division, Central Railway

Preface

Safety Inspections are very critical tool in the maintenance strategy of Railway infrastructure. The Schedule of Inspection for different level of officials and items/aspects to be inspected is stipulated in different Codes/Manual/Instructions. For an individual, especially for a newly posted officer, it may be difficult to comprehend all these instructions. To facilitate this, "Safety Inspection Guidelines for Officers & Supervisors" has to be published.

This book contains a summary of Schedule of Inspections for various officials and supervisors Check Lists for different Inspections and Practical aspects/tips regarding inspections. In order to improve the quality of inspection by various departments, codes, manuals and other instructions have been summarized and complied in this book. It does not supersede or negate or modify any existing rules, regulations, or instructions contained in Codes and Manuals.

It is hoped that this book will help as a ready reckoner for any Inspecting officials and supervisors, which in-turn will enhance the efficacy and quality of the inspections. I extend my sincere thanks to all the Branch Officers & Supervisors who contributed in providing the necessary information consolidated in the book.

Any suggestions for improvement in this publication are most welcome.

S S Sonawane
Senior Divisional Safety Officer
Mumbai Division, Central Railway

INDEX

INSPECTION OF STATION

1. Name of Station : ……

2. Staff on duty : ……

3. Train Signal Register
   i) Whether the entries are clear and legible (cases of frequent corrections and overwriting should be indicated)?
   ii) Whether IN/OUT report is written as per BWM guidelines or not by cross checking the timings with the adjacent stations for at least 3 trains?
   iii) Whether the entries are direction wise?
   iv) Whether Block Forward / Block Back entries are made in full and in red ink or not?
   v) Whether the block Instruments indicate the condition of Block section correctly and is corresponding with entries in TSR (Train Signal Register).
   vi) Whether the name & designation of the Night Patrolman is written in red ink or not (if night patrolling is in force)
   vii) Whether the SM in-charge of the station is scrutinizing the TSR daily or not?

4. Whether Reception/Dispatch of trains is as per SWR?

5. Whether the SM/Dy.SM is in the habit of altering the points as per GR 3.38 after the arrival of stopping train?

6. Availability of rule books and manuals along with Correction slips at station.

7. Availability of safety circulars, instructions, bulletins, drives etc. (Divisional & Headquarters) and whether acknowledgement of staff including Guards has been obtained. [Give details for example
   (a) Last safety circular issued ……
   (b) Last safety drive issued …… etc.]

8. Whether controllers are taking prompt and proper action in case of Hot Axle, spring breakages, flat tyre etc.

9. Whether Fog signalmen are deputed during thick and foggy weather in semaphore signaling territory?

10. Upkeep of Axle counter, panel counters, IBH counter registers etc.

11. Whether at Guard booking station, checking of Guards personal stores for detonators, HS flag/lamp etc. is done quarterly as per SR 4.19.1?

12. Whether Sick wagon register is maintained?

13. Whether wagon exchange book is maintained? Check for any heavy detention.

14. Whether signal and point indications have been cleaned and functioning properly, if provided?

15. Traffic statistic register should be maintained and updated.

16. Safety poster/safety slogans displayed in SM/ Dy.SM office/RRI cabin.

17. Check the availability of path way and lighting arrangement where GDR is done on regular basis.

18. Whether the date of installation and last testing of Panel is painted on panel?

19. Whether button collars are properly placed on the route buttons of occupied lines?

20. Whether counter numbers & last private numbers are mentioned in SM's diary while handing/taking over charge?

21. Whether EUYN & EWN buttons are sealed properly?

22. Check the readings recorded of Axle counters, EUYN, EUUYN, EWN, OYN, COGGN etc. counters in the respective registers and tally with the respective counter numbers displayed on panel.

23. Whether the panel counters are working correctly?

24. Whether crank handle testing is being done as per schedule prescribed.

25. Whether Button stuck-up (NCR)/Point flashing/Signal blanking, buzzers are working (checked by S&T officials where possible)?

26. Whether sign ON/OFF duty is being correctly made in TSR as per BWM guidelines?

27. Whether private no. is obtained from the Gateman of interlocked gate during failure of interlocking of LC gate.

28. Cross check the private nos. with adjacent stations at least for the 3 last trains.

29. Accident Register:
    (i) Whether all the accidents & unusual are entered or not?
    (ii) Check whether all the columns are filled in the accident register like description of accident, staff held responsible, D&AR action, punishments etc. are properly maintained?
    (iii) Identify whether similar type of accidents/unusual are happening on a particular line/point to suggest remedial measures?

30. Disaster Management Plan (DMP) Display Board:
    i) Availability of latest Disaster Management Plan.
    ii) Display of Contact nos. of Railway authorities on DM board.
    iii) Display of Contact nos. of civil authorities like Collector, Tehsildar, SP, Police station, etc.
    iv) Display of contact telephone nos. (landline & mobile) number of Hospitals (Railways, Govt. & Private hospitals), Private Doctors and Dispensaries on DM board.
    v) Whether the SM is making a random check to verify the correctness of the telephone nos. once in a fortnight; and if so check record of the same.

31. Inspection register:

Sr No.	Designation		Last three date of inspections	Inspection note available or not	Compliance of irregularities (done/due)
(i)	Officers				
	(a)	Operating			
	(b)	Safety			
	(c)	Other			
(ii)	Supervisors (other than TI)				
(iii)	Transportation Inspector				
	(a)	Regular			
	(b)	Casual			
	(c)	Surprise			
	(d)	Night			

32. Inspection reports & compliance of irregularities:

a) Whether Station Manager is putting any effort to get the copy of the inspection report from the division, if not received.

b) Whether action initiated by the Station Manager on the irregularities / shortfalls related to safe operations noticed during officers' inspections.

c) If identical shortfalls / irregularities are noticed by the Officers/TI – what action taken by the Divisional Administration.

33. Surprise night inspection by Sms:

I) Whether the schedule of 2 inspections per month is followed or not?

ii) Whether there is proper spacing between inspections or not?

iii) Whether the PN of SM and name of the SCOR is recorded or not?

iv) Whether any shortfalls / irregularities, if noticed are highlighted in red ink or not?

v) Whether all the activity centres of the station such as Dy.SS office, Cabins, LC Gate, Goods Yard, Crew Lobby, etc., are covered on a rotation or not?
vi) Whether irregularities noticed during earlier inspections are complied or not?

34. Safety Meeting:

a) Safety Meetings to be held monthly at the station and acknowledgement of staff attending meeting to be obtained in two parts:-
   (i) First part for those staff who are physically present on the day of meeting; and
   (ii) Second part for those staff who resume duty after leave/sick/absent/another shift.
b) Whether the staff who were not physically present during the safety meeting have also the acknowledgement the same after reading the contain of safety meeting.
c) Whether the Guard stationed to work at station are also acknowledging it.

35. Station Diary:

i) Whether the SM in-charge is filling up the columns pertaining to him before 10:00 hours of the day or not.
ii) Whether all the columns are correctly filled or not.

36. Bio-data Register:

i) Cross check the entries with the actual Block Competency/Panel Competency, PME certificates possessed by the employees at the time of inspection.
ii) Whether they are adhering to the instructions of IRMM Para 514, i.e., staff after attaining the age of 45 years are supposed to undergo PME as per their date of birth.
iii) Ensure that Refresher/PME overdue staff are not utilized in direct train operation.

37. Categorization (Staff Gradation) Register – Check whether all the staff are categorized/graded properly and periodicity is maintained.

i) Whether gradation is done in January and July as per board guidelines or not?

ii) Details of marks obtained by the staff are written or not?
iii) By observing the details, identify the weak area of the employee/s and counsel the SM / SM in-charge and TI of the section to concentrate on those subjects/topics.

38. Weather Warning Register:

i) Whether the acknowledgement time and date is correctly written by the Officials who received the message.
ii) Whether the SM is writing the actual weather condition at the time of receipt of the weather warning message?
iii) Whether the beat books are deposited with the SM of the station or not. If available, cross check the entries of TSR & Station Diary with the beat books or vice versa.

39. Stable Load Register:

(i) Check whether the stabled load is properly secured & entries made in stable load register with ground reality, if load is stable at the time of inspection.
(ii) Whether the validity of BPC is written or not?
(iii) Whether the private number given by the SM to SCOR after securing the load or not, if so the details are written or not?
(iv) Check at the time of clearing the stable load, GDR is properly prepared and Guard and LP have signed the GDR.
(v) Cross check the stabled load formation to ensure whether the recorded details are correct or not?

40. Caution Order Message Register:

i) Whether brought forwarding is done every Monday at 0900 hrs. or not?
ii) Whether the Serial Numbers are properly maintained or not?
iii) Cross check the details with the Caution Order copies issued to the Crew.
iv) Identify such Speed Restrictions which are not

feasible to obey, for example 75 kmph + stop if required, to address the problem by writing to Engineering officials.

v) Similarly, at certain locations we may find cancellation and imposition of caution orders under one and the same message number which is irregular.

vi) Also identify such Speed Restrictions which are given for two / three block sections at a station instead of giving them individually to the block section under SM's control.

vii) Whether adequate space is left in between two Speed Restrictions for interpolating any new additions given on an emergency account.

41. Whether correct caution order issued by SM/Dy.SM when complaint of rail fracture/lurch experienced by LP while on run in section received?

42. During abnormal working check whether:

(i) Correct authorities issued and procedure followed.

(ii) Block instrument locked in TOL in case of TSL working, crossover points and derailing switches correctly set and clamped etc.

43. Whether during all communication failure:

(i) LP/Guard is personally appraised before the authorities are issued?

(ii) Time interval of 30" on double line is maintained between two trains?

(iii) Correct authorities/caution orders are issued etc.

44. During failure of block instrument check whether:

(i) T/A 1425 or T/B 1425, as the case may be, form filled up before issuing authority to proceed.

(ii) Repeated cases and duration of failure.

(iii) Whether the failure entry is made at both the stations of the block section or not?

(iv) If the failure is continued for more than one hour, whether the S&T Supervisor is attending the station or not, if 'yes' relevant record is maintained or not?

(v) If the failure time is more than 3 hours, the sectional TI of the station is supposed to visit the station to oversee the safe working. whether they are aware of it, if 'yes' whether any record is maintained or not?

(vi) Whether the SCOR is adhering to the laid down instructions of not arranging crossing on single line, not arranging precedence on single / double line | sections.

45. When sending assisting engine in Block section check whether:

(i) Proper message is taken by on duty SM regarding demand of "Assisting engine".

(ii) Correct Caution Order is issued.

46. Emergency Route Cancellation:

i) Whether the reason is correctly written or not?

ii) If route cancellation is done for a departure signal/s, whether written memo was served to the crew or not?

iii) If route cancellation is done for reception signal, whether any accident was averted, if so details?

iv) Whether the time taken for route cancellation is being recorded or not to analyze the efficacy of timer relay?

v) In case of cancellation of route using EUYN button (SI cancellation), whether SM has verified the physical clearance of concerned route and issued memo to S&T officials, to this effect or not?

47. Crank Handle testing:

a) Whether the entries are made by the officials whenever the crank handle is removed?

b) Whether the S&T Officials are testing the crank handle working as per the schedule of once in a fortnight by the ESM, once in a month by the JE/Signals and once in three months by the SE/SSE(Sig)?.

c) In the course of testing, whether all the points connected to that crank handle are tested on a rotation or not?

d) Whether all SM/Dy.SM are testing the crank handle once in a month during day hours in presence of S&T staff.

48. Relay Room:

a) Check whether the relay room is provided with double lock and relay room key register is maintained properly.

b) Check how many times relay room opened in a month for maintenance purpose, to attend the failures, for cleaning purposes, etc during day & night. Take sample check regarding opening of relay room with the permission of S&T controller.

c) Checks how many times relay room opened in a month for more than 3 hours with details like to attend the failure, for any modification, for cleaning etc.

d) Whether the opening of relay room door is interconnected with the Data Logger if so whether the same is getting registered or not?

e) Whether the fire alarm system is provided and working properly?

f) Whether sufficient number of fire extinguishers i.e. CO2 type are provided and kept at proper locations.

h) Whether Electrical MCB switches are provided outside the relay room?

49. Signal failure register:

a) Whether S&T failures are correctly recorded in the register by SM and after attending the failures remarks are recorded by S&T staff? In case of non compliance, given details of irregularities.

b) Check whether the S&T staff are timely advised about the failures through the memo issued by the SM on duty?

c) Cross check the train passing documents such as T/A 1425 to T/D 1425 & T. 369 (3b) and identify specific shortfalls including individual lapses.

d) Calculate the average failure time for the month to comment on the efficiency and swiftness shown by the S&T officials.

e) Total number of S&T gear failures in the month. Check at least the last three months data. Check how many S&T gear failure memos are issued to the S&T staff in comparison of total failures of S&T gear in the same month. Also check that timely proper S&T gear failure memo is issued by SM to S&T staff and along with timing of S&T gear failure.

f) Check repeated failures in the month and also in the previous month. Analyze the repeated failures, if any.

g) Check failures of duration more than 3 hours, in detail.

h) Check whether a proper disconnection memo is given by S&T staff for attending the failure.

i) Whenever trains are received on “Calling-On” signals due to main signal failure, check whether related failure entry is made in S&T failure register and the reason for using the calling 'ON' signal is correctly mentioned.

j) Summary of S&T gear failure to be made by S&T staff at the end of each month.

50. Maintenance of Block Instrument:

Check that maintenance of block instrument is done fortnightly and proper disconnection memo is issued. Last three month detail should be checked.

51. Disconnection & Reconnection Memo Register:

a) Check that the reason for issuing the disconnection memo is properly given on disconnection memo i.e. for maintenance purpose or attending the failures.

b) Duration of disconnection of S&T gear should be mentioned on the disconnection memo and how train working will be done during disconnection of S&T gear should also be recorded on it.

c) When a disconnection memo is issued for attending the failures, it should be cross checked with signal failure register.

d) By scrutinizing the foils pasted in the register, identify such works which involve joint works with Engineering Department. Further look for the remark “joint work with engineering” is passed or not.

e) Whether the S&T Official is ensuring track 'fit' memo / remark from Engineering Official after completing suc joint works.

f) In the course of regular maintenance of block instruments, whether the SM is passing a remark or not on the face of the Disconnection Notice that 'no train in block section'.

52. Joint Points and Crossings inspection register: Find out the last date of joint inspection done and check whether deficiencies found during inspection are complied. If deficiencies are not complied then advice concerned officials.

53. Whether the station is provided with shunting driver and exempted from issuing the shunting order T/806, if no such exemptions are given, check whether shunting order is prepared in triplicate (One for LP, one for Guard & another for station record) with precise and brief details of shunting and the signature of both Guard and LP obtained on the counter foil?

54. Whether the staff is aware that permitting back movement over a trailed through point by the LP/Shunter is prohibited?

55. Check proper issuing of train working authorities T/369(3b), T/C 1425, T/D 1425 etc.

56. Check use of private numbers between stations for granting/obtaining line clear at least for three trains?

57. Check series of Private Number sheet at adjoining stations, cabins, L.C. gates etc. Same series should not be allowed at these locations.

58. Private number sheet to be in personal possession of on duty SM/Dy.SM/Cabin Master.

59. Check that signals are put to 'ON' immediately after the arrival and departure of trains and whether slots given are put back to normal in its territory in prescribed sequence? Points should be set for vacant / less important line.

60. Check whether the SM is physically coming out and personally watching that the line on which a train is to be admitted is clear, in case of non track circuited / Axle counter stations or when track circuit / Axle counter fails?

61. Check whether all the entries of resetting of axle counter are made properly.

62. Line admission books (where in use) should be properly filled and duly acknowledged and noted by concerned staff (give the train number checked).

63. Caution order should be issued in geographical order with| correct kilometrage and sections indicated.

64. Acknowledgements of LP and Guards should be obtained when caution orders are handed over to them.

65. Whether authority to pass signals at ON [T/369(3b)] is being issued correctly and signature of the LP obtained on the counter foil and private number recorded in the space provided in case of Last Stop Signal/IBS.

66. Starting permit should be issued to all LPs of train when starting from un-signalled line?

67. Station Working Rule (SWR):

(i) SWR No. …….., Date of issue ……, Brought| into force on ……., Total No. of correction slip issued …….. & SWR is due for Re issue/Revalidation on ……..

(ii) SWR is prepared on the basis of SWRD No. …….. dated …… & SIP No. … … … … … … … … … dated … … … … … … .

(iii) Is SWR having proper SWRD, on the basis of SWR is prepared?

(iv) Whether the SWR is in new format and it is enclosed with all the appendices i.e. from Appendix "Á" to "H"?

(v) Is SWRD is matching with actual ground layout? If SWRD is not matching with actual ground layout, Write downs the discrepancies in detail?

(vi) Whether any special precautions are prescribed under para 7 for Blocking/Stabling of loads?

(vii) Whether alternate power supply arrangement like IPS is incorporated or not?

(viii) If the station is situated on a gradient steeper than 1:400, whether special precautions are prescribed and followed by staff?

(ix) Whether staff is conversant with the salient features of SWR, especially the procedure for the reception and dispatch of trains (give the names of staff tested) and staff acknowledgement if taken?

(x) Whether any changes in SWR is considered necessary?

(xi) Whether staff observes provisions of SWR?

(xii) Cross check the details with the attendance register to see, whether staff are acknowledging (before taking charge of duties) after 15 consecutive days of absence?

(xiii) Whether acknowledgement is separately taken for SMs & Pointsmen duly keeping an index with page numbers?

(xiv) The acknowledgement register shall be divided in three portions, one for fresh SWR declaration, one for any amendment received to SWR, another portion for such staff who resume duties after 15 consecutive days of absence / staff of outstation.

68. Safety Equipments: Check all safety equipments required at the station are available as per "Appendix-E" of SWR (Name the equipment which is deficient or unserviceable or short)

SN	Safety Equipment	Total No. (As per SWR)	Actual Available	Condition (Working/ Defective)	Shortfall, if any
(i)	HS flags Green: Red:				
(ii)	HS lamp/Tri colour torch				
(iii)	Clamps with padlocks				
(iv)	Slide pins/Button collars				
(v)	Detonators (Manufacturing date:…..)				
(vi)	Fire extinguishers (Last refilling date …….)				
(vii)	Safety chains				
(viii)	Wooden wedges				
(ix)	Others items, if any				

69. Whether prescribed safety equipments are adequate as per the station layout or not?
70. Whether required fire extinguishers are available and the list of staff trained in using the same.
71. Check whether fire buckets (filled with water & sand) are available at proper place with covered stand.
72. Check whether First-Aid box is complete with full compliance of equipment/medicines as per list within their expiry dates. First Aid box No. ……., date of inspection ……
73. Check station staff for:
    (i) Passage of through trains.
    (ii) Whether Points man is deputed at off side?
    (iii) Whether train crew (Guard/LP) exchange Hand signals with station staff?
    (iv) Abnormal working etc.
74. LV Board/Tail lamp is being checked by Dy. SM / DY.SM / Cabin Master/Cabin man.
75. Whether on arrival of train the Guard ensures the clearing of fouling marks in rear.
76. Whether Cabin man / DY. SM / Dy. SM on adjacent station are alert and attending promptly on block phone.
77. Whether procedure for trains delayed in section is correctly followed as checked from TSR?
78. Whether proper precautions adopted during unusual such as hot axle/flat tyre/jerk etc.?
79. Whether any unauthorized person operating the block instruments?
80. **Availability of wheel chair and stretcher at a station:**
    i) Whether the wheel chair is available or not?
    ii) If so, whether there is a display board to that effect or not?
    iii) Whether the wheel chair is in good condition or not?

81. Whether the points are clamped & padlocked during unsignalled movement?
82. Whether Guard personally supervise shunting and exhibit correct signals to LP after verifying correct setting and locking of points (name/No. of train whose shunting was watched).
83. Whether emergency crossovers are being tested regularly.
84. Availability of safety posters.
85. Condition of panel room.
86. Whether IPS provided for reliable power supply and backup is available to prevent blanking of signals.
87. Whether BPAC is provided and interfaced with block instruments?
88. Whether LED signal lamps are being used?

90. Axle Counter Re-setting Register:

a) BPAC axle counter resetting - direction-wise details are correctly recorded in the register or not.
b) Whenever resetting is done, whether the failure entry is made in the Signal Failure Register or not?
c) Loop line Axle Counter resetting – whether the co operation box is kept outside SM Office or not?
d) Whether this failure entry is also made in the Signal Failure Register or not?
e) IBS Axle Counter resetting – before resetting, whether the SM is aware what precautions are to be taken.
f) Check for the occasions when the same are reset and cross check with the Signal Failure Register entries and TSR.

INSPECTION OF CABIN

1. Name of the staff on duty:…….....
   (i) Dy.SM : ……....
   (ii) Cabin-man : ……..
   (iii) Lever-man : ……....
   (iv) Switchman : ……..
2. Alertness of staff.
3. Check whether slide pins/lever collars are placed on slides/ levers of occupied lines.
4. Testing of Emergency Cross over and recording in register.
5. Availability of safety equipments as per SWR: Check all safety equipments required as per “Appendix-E” of SWR (Name the equipment which is deficient or unserviceable or short).

6. Check List of Equipment

SN	Safety Equipment	Total No. (As per SWR)	Actual available.	Condition (Wkg/Defective)	Short fall, if any
(i)	HS flags Green: Red:				
(ii)	HS lamp/tri colour torch				
(iii)	Clamps with padlocks				
(iv)	Slide pins/Button collars				
(v)	Detonators (Manufacturing date:……..)				
(vi)	Fire extinguishers (Last refilling date ……..)				
(vii)	Safety chains				
(viii)	Wooden wedges				
(ix)	Others items, if any				

7. Date of last overhauling of lever frame: …….
8. Date of last interlocking test of lever frame: …….
9. Date of last painting done of lever frame: …….
10. Whether the fouling marks are visible from the cabins?
11. SWR is available in Hindi/English. SWR No. ……., Date of issue ……., Brought into force on ……., Total No. of correction slips issued …….. & SWR is due for reissue on ……..
12. Whether the points in rear are set for a vacant line/ less important line on complete arrival of a train.
13. Whether the communication facility provided at the cabin is adequate and found in working condition?
14. Check whether pull chart is displayed in cabin.
15. Whether the station yard diagram is properly displayed and it is correct to the latest yard layout.
16. Exchange of signals with train crew.
17. Whether the log book/train signal register, private No. sheets are maintained properly and last three entries recorded in Private No. sheet should be cross checked with the staff with whom it was exchanged?
18. Whether relay room double locking register is maintained properly and entries against relevant columns recorded properly?
19. Condition of cabin and cabin basement.
20. Display of latest safety posters.
21. Whether Cabinman is aware of following?
    (i) Procedure for shunting.
    (ii) Procedure for train working without Goods Brake.
    (iii) Procedure during signal blanking.
    (iv) Clamping and padlocking of points during un-signalled move etc.

22. Knowledge of the cabin staff should be tested in regard to following:
    (i) Symptoms of seizure of roller bearing and brake binding, distinguishing factor between the two.
    (ii) Symptoms of Hot Axle.
    (iii) Action to be taken when any unsafe condition is noticed in passing train?
    (iv) Importance of checking LV board/Tail lamp of a passing train etc.

22. Whether proper procedure of issuing memo to S&T staff on duty by Dy.SM during failure is followed or not and respective memo No. is recorded in S&T failure register or not?
23. Check S&T failure register and find out total failures occurred in a month and time taken to rectify the failures? Whether entries recorded properly in all relevant column or not?
24. Check joint inspection of points and crossings register and find out date of last joint inspection done. Whether it is done as per schedule? Whether the deficiencies recorded of points are complied or not? Number of points whose deficiencies are yet to be complied?

CHECKS TO BE CONDUCTED DURING INSPECTIONS

[A] AT STATION:

1. Staff is aware of SWR, Safety circulars, instructions, drives etc.

2. Observance of procedure during disconnection of gears.

3. Clamping of points during un-signalled move.

4. Changing of points on arrival of train before clearing the block section as per GR 3.38 & its SRs.

5. Granting line clear to a train, when reception signal / signals is / are blank.

6. Securing of stabled loads.

7. Issuing caution order when train detained in block section on double line section as per GR 6.04.

8. Procedure followed when unsafe condition detected in run| through train.

9. LP watching Guard's signal before starting.

10. Guard supervising shunting and ensuring clamping, when required.

11. LP stopping at first cabin/SM's office, when coming with divided load.

12. LP stopping at first cabin/SM's office, when noticed unusual running on track..

13. In case of unusual running on track, LP giving memo to SM on duty.

14. LP insisting for private number on T/806 when passing advance starter for shunting.

15. Block forward/back taken by SM during shunting when required.

16. Indirect reception of train in case of Hot Axle.

17. Fire buckets & extinguishers can be promptly used.

18. Checking the authorities of TTM/Tower wagon staff.

19. Engine kept unmanned.

20. LP performing shunting without Pointsman.

21. LP performing shunting without T/806.

22. Guard physically checking the last vehicle number, before signing in Train intact register.

23. Guard ensuring securing of wagons before engine is detached from the load.

24. Staff exchanging signals without observing signal aspect.

25. Testing of emergency crossover.

26. Cabinman giving private number on arrival of train before ensuring all conditions.

27. Shunting restrictions followed during shunting.

28. Empty/loaded device kept in proper position.

29. SM/cabin staff locking the panel/Block instrument while leaving the station /Cabin.

30. SM obtaining private number from Engineering gateman, where required.

31. SM/Cabin Master locking the block instrument in TOL position during TSL etc.

[B] DURING FOOTPLATE INSPECTION:

1. LP checking the correctness of authorities.

2. LP watching signal aspects continuously till it is passed.

3. LP insisting to Pointsman to show all right signal from the foot of signal in case of failure of signal protecting the point/points.

4. LP stopping at first cabin/SM's office, when coming with divided load.

5. LP stopping at first cabin/SM's office, when noticed unusual running in section.

6. In case of unusual running in section, LP giving memo to SM on duty.

7. Reaction of LP when flasher light is put On.

[C] DURING BRAKE-VAN INSPECTION:

1. Ensure that the Guard has connected the air pressure gauge in Brakevan.

2. Guard checking continuity/pressure during halt.

MONITORING OF GUARD AND INSPECTION OF BRAKEVAN

1. Detail.

Name of Guard: …… HQ ……..……

Train No. : ……... Load: ……...

Brake-van No. : ……..…….

BPC No.:…… Dated…….....

Brake power %age …….. Issuing Station…….....

BP pressure …….. FP pressure …….. .....

Total No. of cylinders ……..

No of effective cylinders ……..

Departure from: ……. Arrival To: ……

2. Check the following Brake-van equipments (SR 4.19.2):
   a) Electric Box (ETL Box) No. ……..
   b) Stretcher
   c) Field telephone (PFT/ECP) No. ……..
   d) No. of Wooden wedges ……
   e) No. of Fire extinguishers ……. (type and last refilling, inspection date).
3. Record the following information of Guard:
   Name of Guard: …… H/Q: ……
   Date of last PME : …… Next Due : ……...
   Date of last Ref. : …… Next Due : ……
   Competency certificate for Automatic signaling working renewed on (Last three dates) ……..
   Last two counseling done by …….. on……
   Whether spare spectacles available with Guard, if prescribed?
4. Whether Guard has following personal stores and being checked quarterly (SR 4.19.1).
   (a) G&SR and last correction slip No. …….updated.
   (b) Accident Manual with last correction slip No. ……. Updated.
   (c) Detachable Air pressure gauge with adapters (for Goods guards only).
   (d) LED based flashing tail lamp and a tail board of

approved design.

(e) First Aid Box No. ……. last refilled on date …… (details of medicines).

(f) Pad lock with keys available - Yes / No.

(g) Detonators …… Nos. and
date of manufacturing …….

(h) Parcel loading pamphlet available - Yes / No.

(I) LED base Tri-color battery operated torch available.

(j) 02 Red & 01 Green flag in good condition available.

(k) Complaint book available (for Passenger Guards only).

(l) Guard's Memo book available -Yes/No.

(m) Working Time table available -Yes/No.

(n) Carriage Key (for Passenger Guards only).

(o) Washers ……Nos. available.

(p) Whistle available (for Passenger Guards only).

(q) Guard's certificate book available.

(r) Guard's journal book available.

(s) Key for resetting ACP valve for air brake coaches (for Passenger Guards only).

(t) Availability of ETL Box (for Passenger Guards only).

5. Whether the Guard connect the air pressure gauge in his Brakevan.

6. Whether exchange of signal by station staff with Guard is OK.

7. Whether Guard is in possession of printed caution order inforce on date in section.

8. Check the GDR memo and ensure it was prepared properly (where applicable).

9. Knowledge of Guard to be tested in following:
   (a) Knowledge of engine whistle codes and action to be taken.
   (b) Working of part load from section.
   (c) Protection of train when train stopped at first stop signal.
   (d) Protection of train when train stopped at first stop signal where IBS signal is behind.
   (e) Protection of train when stopped in block section on double line and on single line due to unknown reason.
   (f) Checking of continuity is case of air brake stock.
   (g) Action to be taken when train stalled on gradients.
   (h) Procedure for shunting at wayside stations.
   (i) Detaching of engine of passenger train in block section.
   (j) Pushing back of train in block section etc.

S&T INSTALLATIONS

1. Control Panel:

a) Whether SM's key is 'IN', set the relevant points for the required route, check the track clear indications in the route as well as the overlap, LC Gates are closed if any, in the route as well as the overlap, and then take 'OFF' the concerned signal.

b) Whether the signal had correctly responded as per the laid down conditions or not.

c) Also notice whether points in the trailing direction is proved or not (not necessary to prove)

d) Whether entry is made in the calling 'on' cancellation register along with reasons and remarks or not.

e) Whether Veeder counters are separately provided for UP and DN direction or not Similarly, whether separate counters(for up and down) are provided for Calling-'on' Cancellation or not.

f) Any other observation.

2 Electric Point Machines:

i) Whether crank handle is kept in a sealed & locked glass box and a Veeder counter is provided on Panel or not?

ii) Whether the removal of crank handle is linked with data-logger or not.

iii) Whether free indication near point knob is disappearing when concerned track relay is dropped or not.

iv) Point should not stop in-between even if that point zone track relay is dropped after the point operation had already started. Check this.

v) Whether point TJLB is causing any inconvenience for crank handling.

vi) Place an obstruction test piece of 5 mm between stock and tongue rail at 150 mm from the toe of the switch and observe that the point does not get locked and its 'N' or 'R' indication flashes on the panel or not.

vii) Whether opening of the point is between as per IRSEM V-3 June 2021 para 19.4.2 opening of TWS is 160mm & 115mmof conventional over riding type of

switches or not and housing is satisfactory (minimum for 3 sleepers) or not.

viii) Whether the readings of the point machine are recorded and kept inside the respective point machine or not.

ix) Any other observation.

3. Track Circuit:

i) Whether POH of track relay is carried out once in 10-12 years.

ii) Whether track relay voltage is not more than 300% of the pickup value for QT relays.

iii) Whether 'J' clips are provided on the glued joints

iv) Whether cross protection and double cutting is available or not.

4. Crank Handle:

i) Whether the crank handle is able to be extracted only when the relevant signal is in 'ON' position?

ii) Extract crank handle when the concerned signal knob in the normal position and observe crank handle out indication appeared or not.

iii) Attempt to take off that signal and observe that it should not respond.

iv) Any other observation

5. SGE Double Line Block:

i) Keep the commutator in 'TOL' position and try to take 'off' LSS which should not assume 'off' position.

ii) Whether block instrument is provided with double lock arrangement and sealed or not.

iii) Whether line voltage and line current incoming and outgoing recorded or not.

iv) Any other observation

6. Relay Room:

i) Whether double lock arrangement is available and their contact is effective or not?

ii) Whether the relays are clean and in sealed condition or not?

iii) Whether the setting of Timer of emergency route release is proper?

iv) Check whether the false ceiling is removed/not provided in relay room, as a fire prevention measure?
v) Ensure that only split/centralized ACs are provided and no window type ACs are provided for RRI relay rooms (or PI relay rooms, where provided).
vi) Any other observation.

7. Signal Post:

i) Implantation distance should be painted on all signal posts and it should be more than 2.36 mtrs.
ii) Whether arrow marks are provided for Starter signals, if they are placed on the right hand side of the track.
iii) Whether minimum 90V/118 mA at the regulator is available or not.
iv) Whether AC/DC, conventional ECR/LED, blanking/non-blanking selection in current regulator correct setting is done or not.

8. Interlocked LC Gate:

i) Whether interlocked LC Gate indications (i.e. open, close & free) is available on the panel or not? If the interlocked LC is open in the route, the corresponding signal should not assume 'off' aspect, even if its knob is turned to reverse position.
ii) The signal is taken 'off' duly closing the concerned LC Gate, the free indication of that gate should disappear.
iii) Any other observation.

9. Signal Post:

i) Whether IPS is provided or not
ii) Whether inverters are provided for signals to avoid their blanking or not.
iii) Whether Earth leakage detectors are provided to monitor the health of cable insulation

iv) Whether opening of the door from the centre of track is more than 2.5m or not.
v) Whether cable testing is being done as per schedule prescribed.
vi) Whether the value of the earth is painted on the location earth enclosure or not? It should be less than 10 ohms.
vii) Whether the value of maintenance free earth (ring earth) is below 1 OHM or not?
viii) Any other observation

10. Electronic Interlocking: When VDU is available:

i) Whether SM's key equivalent is effective, Whether all operations are possible with that
ii) Whether panel / VDU operation selection is available.
iii) Whether automatic change over to panel operation is possible when VDU fails,
iv) Whether checksums / CRC of application software and station specific software is available.
v) Whether proper maintenance free Earthing and surge protection device is available.
vi) Whether Earthing records and testing is being done specially at EI installation?
vii) Whether main terminal as well as the stand by system is in working condition.

11. Multi Section Digital Axle Counter:

i) Whether surge protection device and maintenance free earthing are available and working
ii) Whether checksum / CRC of working system verified.
iii) Whether DATA downloading / analyzing port – main terminal is available and working.
iv) Any other observation

12. BPAC:

i) Whether maintenance register, and maintenance as per manufacturers/ RDSO format available or not?
ii) Whether proper earthing equipments and reset counters are working or not?
iii) Whether resetting data entry in resetting register / signal failure register is recorded or not?
iv) Any other observation.

13. Emergency Sockets:

i) Whether testing of emergency sockets once in every 10 days and notifying the control regarding the defective sockets is followed or not?
ii) Arrange for their rectification at the earliest and also notify the control regarding the same
iii) Whether emergency circuit is connected to the section controller directly and not through the test room?
iv) Whether the testing of portable emergency telephone loaded in SLRs of trains duly connecting them to the emergency sockets as per the schedule is being done or not?
v) Any other observation

14. Change Over Panel Room And Generators:

i) Whether self-starting arrangement is available and working or not?
ii) Procedure for change over is painted near the power board or not?
iii) Whether description about changeover of power supply and status monitoring panel of DCDP is included in SWR or not?
iv) Periodical joint inspection of Automatic Change Over Panel/Fuse Unit is provided outside the S&T Room for power supply shall be carried out by joint team of supervisors of Electrical (Genl), Electrical (TRD) and| S&T Department at the interval of 6 months and record of the joint inspection to be kept at the Station.
v) Half yearly audit of all RRIs & other important locations should be done in connection with cables by a joint team of S&T, Engg. & Electrical (Genl) and record kept.

Form No. STIC – 3
Inspection Guidelines – for S&T Installations
Safety Checks –

SN	Items to be Inspected	Observations
1.	**Relay Room /Cabin Basement /Block Instrument Key -**	
(a)	Relay Room key is not taken more than once in a month for Schedule maintenance & supervisor takes it.	
(b)	Switch on Relay Room Door is as per standard arrangement & spurious logging is not there.	
(c)	Cross check relay room register with data logger records and mechanical counters / S&T control record - No. of times key taken and duration shall match	
(d)	Key for Construction work is taken as per the programme agreed by Sr. DSTE.	
(e)	Construction staff has given memo of the work done for each occasion of key taken and has also recorded in the work register to be kept in relay room by construction works.	
(f)	Block Instrument key is taken only after acceptance of either Failure Memo or under accepted disconnection notice. Check from records.	
(g)	Block Instrument key is not taken or instrument opened when it is on TOL/ Line Clear position. Check timing from TSR.	
(h)	Double locks at Relay Rooms/SER at stations are effective and it is not possible to open without proper key. Tr y with all available keys with S&T staff.	
(i)	Check for duplicate keys in Signals Technicians duties room, tool box / bag.	
(j)	Signals Technicians duty room key is with Signals Technicians and Section JE/SE/SSE only.	
(k)	Relay Room key of S&T lock remains in custody of Signals Technicians of Station/ Section.	
(l)	Exceptional report from data loggers to be checked if provided for - point failure, signal failure and delay in signal going to ON afte r occupation of controlling TC.	
(m)	All relays are properly sealed with screw fully tightened and an impression on seal is proper	
(n)	Spare relays are kept sealed in Relay Room.	
(o)	Data Loggers / modem or its reset is shif ted outside, wherever feasible.	
(p)	Panel, lever frame, SM frame, Block testing/ overhauling is done.	
(q)	Panel, lever frame, SM frame, requiredlever/slide/button collars are available.	
(r)	In Relay Room loop or extra wire are not kept.	
(s)	Air- conditioning system where provided is working.	
(t)	All the holes & gaps in the Relay Room& other S&T equipment rooms are closed to prevent entry of rats/reptiles.	

SN	Items to be Inspected	Observations
2.	**Signal Failure Register -**	
(a)	Signal Failure Memo is issued for each failure recorded in SFR.	
(b)	Each memo issued by SM is acknowledged.	
(c)	Put right time & cause of failure are entered properly by SM & S&T staff respectively.	
(d)	Signal failures, which could have been attended from outside but relay room key taken.	
(e)	Trains passed on signal during signal failure.	
(f)	Train passed on signal when relay room key was taken during signal failure.	
(g)	Total trains passed during failures as per TSR & SFR & T 369 -3 B actually Issued.	
(h)	T 369-3 B cancelled during signal failure & otherwise.	
3.	**Disconnection Notice -**	
(a)	Total nos. and adequacy of duration for the type of work done.	
(b)	No. of trains passed on signal during disconnection.	
(c)	Cross check the functioning of the disconnected gear with data loggers report and the work, if any done after reconnection.	
(d)	Reconnection of Construction work on existing gear is after testing by open line.	
(e)	All Supervisors & Maintainers are aware of the activities to be done with and without disconnection.	
4.	**Counters -**	
(a)	Check all the counters are in working conditions and increment by one only.	
(b)	Counters are getting updated in both LCPs.	
(c)	RRBU or EUYN cancellations are done after receipt of memo from SM & all memos kept serially numbered in guard file, where it is with Signal Technicians and where with SM, delay of 120 seconds is effective.	
(d)	EWN operation during TC failure corresponds with SFR record.	
(e)	EUUYN or ERRB cancellations are not too many & analysis of it.	
(f)	Proper procedure of Axle Counter/ MUX resetting is followed.	
5.	**Joint inspection of Points & Crossings and Track Circuits -**	
(a)	Quarterly schedule is followed and practically, these are inspected in terms of nos. of points& days of inspection.	
(b)	Deficiencies are not carried forward.	
(c)	Major deficiencies yet to be attended like worn out tongue rail, stock rail, machine sleepers, out of square, missing stock bolts and loose packing.	
(d)	Availability of pads& liners, condition of sleepers.	
(e)	Drainage system.	
(f)	Monthly report of pending deficiencies is made & sent to Sr. DSTEs.	

SN	Items to be Inspected	Observations
6.	**Material availability spares, standby and replacement -**	
(a)	Critical stores for regular maint enance a nd as per "Must Available List".	
(b)	Torches &Cells.	
(c)	Tools & measuring inst ruments and tools are insulated.	
(d)	Cotton waste, LED lamps, lubricating & gear oil.	
(e)	Spare material and equipment including Axle Counter, AFTC are kept tested after putting in working circuit for 24 Hrs and signed by inspecting official.	
(f)	Spare material and equipment including Axle Counter, AFTC and bonds etc. of each type are available and kept properly stored.	
(g)	Interlocked relays of spare groups are in normal position.	
(h)	Replacement of identified gears/I parts/ components/ modules is being done as per the periodicity defined in mid-life rehabilitation plan.	
(i)	All standby equipment like dual detection, IPS modules, AT supply, DG set and EI cards/ hot standby are in working condition	
(j)	Protective wears like reflective jackets, shoes, footwear, raincoats & umbrellas are given to field staff as per the directives of Railway Board.	
7.	**SSE's Depot -**	
(a)	Safety meetings are scheduled every month and all staff attended.	
(b)	Material shortage, stock / non-stock items and storage system.	
(c)	Staff grievances.	
(d)	Staff bio -data book (Gyan Jyoti) with competency certificate -cum training history book is with each maintainer and supervi sor, as issued by training school/ SSDE in-charge.	
(e)	Staff is categorized as A, B, C cate gory and 6 monthly review done.	
(f)	Staff is not due for refresher course.	
(g)	Sanctioned strength & vacancies in safety categories.	
8.	**Station staff -**	
(a)	Competency of operation is available.	
(b)	Setting of point against stabled/stationary load and report with alarm generated by data logger.	
(c)	Prescribed practice is followed for treating a point/signal defective till a written advice for its rectification from S&T staff is given.	
(d)	Point is inspected by SM/Porter after its failure.	
(e)	Station staff is aware of the emergency operations as per JPO issued by COM & CSTE.	
9.	**SWR/SWRD and Circuit Diagram -**	
(a)	SWR matches with SIP.	
(b)	SIP matches with the last work commissioned.	
(c)	Counseling of station staff is done for the last update of SWR.	
10.	**Drivers lobby -**	
(a)	Signal defects are attended within 24 ho urs and the remarks are put in.	
(b)	Repeated cases of defects reported.	

Reliability Check -

SN	Items to be Inspected	Observations
1.	**Maintenance -**	
(a)	Directed Signal Maintenance is regular as per the maintenance schedule issued for DSMG & records are kept in SMC and site book.	
(b)	Sectional JE/SE/SSE's inspections are regular & done along with DSMG and records kept.	
(c)	Quarterly inspections by SSE done along with DSMG and monitoring system by him to ensure quarterly inspection.	
(d)	P-5 Schedule by SSE and corresponding disconnection memo of adequate duration.	
2.	**Points -**	
(a)	Point motors are opened for regular maintenance & not kept sealed throughout the year except monsoon.	
(b)	Epoxy coating of motor & detector assembly in flood prone area is done.	
(c)	Ground connections are fitted as per standard drawing.	
(d)	Wear & tear of machine slides, loosenes s of pins in ground connections.	
(e)	Motor current under obstruction & normal and variation.	
(f)	Friction clutch trips under obstruction.	
(g)	WJR timing for "N" & "R" is not less than 10 seconds.	
(h)	Crank handle ward of point motor corresponds with the KLR and its effectiveness.	
(i)	Cleanliness of carbon brush& availability of chamois leather.	
3.	**Track Circuit -**	
(a)	Track circuit parameters are within limit.	
(b)	Relays are not overdue for overhauling.	
(c)	Track circuit history card are maintained every six months	
(d)	Track circuit batteries are positively wired in circuit.	
(e)	Track Relay coil terminals (R1/R2) are interchanged quarterly.	
(f)	Track feed battery charger is monitored through data logger	
(g)	Track circuit in flood prone areas and improvement needed like axle counter in parallel.	
(h)	Testing of GJ/ IBJ and replacement of IBJ/ William stretcher/ Gauge Plate Tongue attachments is done as per schedule & procedure followed during replacement.	
(i)	Glued joint is placed at 3 m from Fouling mark.	
(j)	OHE bands are available on FP/SEJ& track crossing is insulated.	
(k)	Double track lead wires are provided.	
(l)	Channel pins are replaced every six months and track lead every year.	
(m)	AFTC receiver voltage is within prescribed limits.	
(n)	AFTC bonds are provided and properly made.	
(o)	All track connections are properly made.	
(p)	No spare/released rail is lying parallel to track.	
(q)	OHE masts are connected as per manual provisions	
(r)	AFTC S/ Alfa/ Tx / Rx Bonds are replaced every 2 to 3 years or on condition basis and as per periodicity defined from time to time.	

SN	Items to be Inspected	Observations
4.	**Signal -**	
(a)	LEDS wherever provided with current regu lators are with proper setting for Conventional or LED ECR as per ECR provided.	
(b)	Cases of repeated LED Unit & CRU failure of a signal of particular make.	
(c)	Signal is secured properly and earthed.	
(d)	Rodent entry and ingress of moisture and ra in water is properly plugged.	
(e)	SPDs are provided across each aspect.	
5.	**Lever Lock & Circuit Controller -**	
(a)	Proper adjustment of bands & make in proper position.	
(b)	Serrations of holding bands and nut/split pin are intact.	
(c)	Lock is effective and releases at the required position.	
6.	**Power Equipment, Batteries & Fuses -**	
(a)	Battery conditions and year of installation, plan for replacement.	
(b)	Battery maintenance- Specific Gravity & Voltage.	
(c)	Load Capacity.	
(d)	Redundant fuses are removed.	
(e)	Programme switch contacts are made parallel,	
(f)	Working of standby fuses along with audio - visual indication of main fuses in relays& other circuits.	
(g)	Provision of PPTC fuses of proper capacity inparallel with external fuses inside relay room & location boxes.	
(h)	Charger failure & alarm for Track Circuit batteries& other.	
(i)	Fuses of proper capacity of equipment are provided and in signaling circuit capacity is 2 to 3 times of peak current.	
(j)	All equipment of IPS are working in n+1/2 configurations.	
(k)	Cold standby of IPS where provided are properly functional.	
(l)	Alarm for IPS functioning is working properly.	
(m)	Protection arrangement of IPS is working properly.	
(n)	Logs for IPS working to be checked through Data logger and Potential free contacts are connected to Data logger.	
(o)	Earthing and surge protection arrangements is effective and earth resistance is within limits.	
(p)	Separate power supply equipment/modules are provided for either side signal/ track circuits and line wise also.	
(q)	Power Supply Bus bar for various supplies on either side is in ring formation.	
(r)	Distribution of power supply for various gears inlocation is not done on single fuse but separate fuses are provided.	
(s)	Temperature measurements being done and recorded regularly.	
7.	**BPAC & Axle Counters -**	
(a)	Co-operative reset is effective & for point zone it is from site.	
(b)	Resetting of axle counter - analysis, repeated resets and cause thereof.	

SN	Items to be Inspected	Observations
7.	**BPAC & Axle Counters -**	
(a)	Co-operative reset is effective & for point zone it is from site.	
(b)	Resetting of axle counter - analysis, repeated resets and cause thereof.	
(c)	Channels voltages are within limit.	
(d)	Resetting of MUX and analysis of it.	
(e)	Quad cable is terminated on M6/Link disconnect terminals plan for removing 8-way.	
(f)	OFC channel wherever provided for back up is with changeover arrangement and OFC channel is added with 17 dB attenuation or as required for proper functioning.	
(g)	Availability of spares, cards, field units & measuring instruments	
(h)	Checking system of spares, put for one day in working system.	
(i)	Storage of spare cards.	
(j)	Axle Counters/MUXs are provided with better earthing through resistance improvement compound.	
(k)	SPDs are provided for each channel.	
(l)	Shielded cable is used for channels connection to evaluator.	
(m)	Spurious or induced voltage in channels w.r.t. earth is not there.	
(n)	Telecom cable joints are not buried in ground but protected in locations.	
(o)	Deflector plates are provided.	
8.	**Panel/VDU -**	
(a)	Integrity Check of interlocking is done as per schedule of 5 years.	
(b)	Record of Integrity Check of interlocking is kept at site, check the LT/ST on which testing done and signed by testing official. Each time the new print of LT/ST to be used for testing and no hand written LT/ST or earlier used one to be taken.	
(c)	Date of testing is painted on panel.	
(d)	Cable from relay room to panel is in protected pipe.	
(e)	EUYN/RRBU operation is not free and password protected.	
(f)	Both VDUs are functional	
(g)	Login in any of the VDU is possible.	
(h)	Analyze system/field level alarms wherever provided.	
(i)	Communication between VDU and EI is effective. Wherever two OFC/Cables are provided for interconnection, both cables/OFC are working.	
(j)	Installation is dust free.	
(k)	All indications/ Alarms for various equipments are functional.	
(l)	Logs of Critical Alarms are recorded in the Log Register & also alarms are analyzed 8 & remarks put up/ action taken on daily basis .	

SN	Items to be Inspected	Observations
9.	**EI -**	
(a)	Schedule maintenance is done.	
(b)	Proper voltages for CPU, VO Cards &Misc. equipment are available.	
(c)	Earthing and surge protection arrangements is effective. Perimetry earth is provided as per RDSO scheme.	
(d)	Standby systems are working and seamless changeover in case of hot standby is working. In case of Warm standby, system changeover is effective and being done regularly.	
(e)	Communication with other EI/Panel /VDU is working. Media for communication wherever provided in redundant mode are in proper working conditions.	
(f)	There are no loose wires.	
(g)	Separate 12 V supply is provided for each 'A'& 'B EI system with redundancies	
(h)	All the supply modules like 12V, 24V or as required by EI make are wired in redundancies.	
(i)	Potential free contacts of all types of DC-DC converters used in EI are wired in data Logger & SMS generated in case of failure of any DC -DC converter.	
(j)	Instructions for Dos & Don'ts are displayed in front of EI including CPS Clearing & procedure for system rebooting	
10.	**Interlocked LC Gates -**	
(a)	Gate opening and closing is smooth and trouble free.	
(b)	Boom locking is effective and dual magnetic proximity switches are provided.	
(c)	All indications and buzzers on control Panel are working.	
(d)	Audio visual warning for Road user where provided is functional.	
(e)	Switches are provided to put back signals protecting the gates as well as Road Signal to ON in case of emergency and are functional.	
(f)	Approach lock is functional & me delay of 60 seconds is provided or as per Circuit	
11.	**Cable Testing -**	
(a)	Cable Testing as per maintenance schedule	
(b)	System of monitoring cable testing as per schedule.	
(c)	Availability of left over spares in existing cables	
(d)	Age & insulation value left.	
(e)	Need for replacement of defective cable & quantity.	
(f)	Tail cables of all electrical gears are tested as per schedule.	
(g)	Critical points are provided with dedicated spare cable fully terminated at either end for instant switching.	
(h)	Minimum 20% spare conductors are available in each of the cable and on overall basis from end to end on either side upto home signals.	
(i)	Line wise cables are laid and cable core conductor allotted with spare cables for each direction.	
(j)	Availability of External Power Supply Bus Bar of 60V/24V DC & 110 Volts AC along with ring protection arrangement and proper location diagrams.	

SN	Items to be Inspected	Observations
12.	**Foot Plate Inspection -**	
(a)	Continuous visibility of Signal obstructed by tree/OHE mast.	
(b)	Visibility/Illumination of RYYY/DG aspect of signal& aspect of LED signal required to be replaced.	
(c)	Illumination of A/AG marker of Signal too b right & required to be reduced.	
(d)	Proper size of P/A/AGIC boards provided on Signal post.	
(e)	Proper size of signal number plate.	
(f)	Availability of proper size arrow mark as per drawing no. TYP/14/0015 & colour on shunt signal/main sig nal towards the concerned line.	
(g)	Condition of Warning Boards.	
(h)	Availability of alternate Black & retro reflective Yellow strips on Warning Board & its post and on the post of Double Distant Signal.	
(i)	Availability of alternate retro reflective blue & white strips/board on modified Semi-Automatic Signal.	
(j)	Canopy provided on top of signal post with offset bracket.	
(k)	Condition of painting of Signal posts.	
(l)	Calling out of signal aspect between Loco P ilot & Assistant Loco Pilot.	
13	**Signal Failures -**	
(a)	Incidences of a particular gear failing repeatedly.	
(b)	Repeated causes.	
(c)	Broad analysis and input needed for improvement.	
(d)	Maintenance and inspection of signaling and telecom equipment is being done as per periodicity defined in maintenance schedule.	
(e)	Long duration of failure & reason and action taken to avoid repetition of such incidences.	
14	**Documents -**	
(a)	Prints of approved tracing of completion circuit of the last alterations are available.	
(b)	Modifications, if any done, it as per approved circuit & approved diagrams for that are available.	
(c)	All documents as per list are available.	

(भारत सरकार) GOVERNMENT OF INDIA
(रेल मंत्रालय) MINISTRY OF RAILWAYS
(रेलवे बोर्ड) RAILWAY BOARD

2022/Sig/25-Conf/PCSTE/1 New Delhi, Dated:08.02.2022

PCSTEs
All Indian Railways,
KRCL, Metro Kolkata & CORE Prayagraj

Sub: Items to be covered during Signalling Inspections by officers.
Ref: (i) Safety Drive No. 2022/SAFETY-I/3/2, Dtd: 25.01.2022.
(ii) VC with GMs & DRMs on 06.02.2022 chaired by CRB & CEO.

The signaling items which should be covered during inspections undertaken in the safety drive should in addition to other items essentially include the following:

1. Aspect Control chart mentioned in SIP/SWRD shall be cross-checked with field aspects especially where two signals are combined.
2. Calling-ON track circuit length is 5 rail lengths (65m). Ca-ON Board is placed at appropriate place.
3. Point & crossing defects should be 100% attended and complied. Officers to check joint point and crossing inspection registers during their inspection.
4. Earthing and Surge protection should be checked and ensured.
5. Proper working of Alarm systems like Earth leakage detector and Fuse Auto Charger System (FACS) to be ensured.
6. Diagnostic of repeated failures and assets due for replacement should be ensured.
7. Officers and staffs should be briefed about S&T disconnections and failure memos to be taken during attending the failures and maintenance.
8. They should be counseled with respect to precautions to be taken for their personal safety while working on open line.
9. Ensure proper implementation of maintenance contracts wherever applicable.
10. S&T staff to be counseled against adopting shortcut methods while working/ attending failures.
11. Correspondence between SWRD/SWR and SIP should be checked and ensured.
12. Track locking on points should be ensured.
13. Proper working of emergency cancellation counters should be ensured.
14. Record of uses of emergency cancellation should be checked from counter readings vis-à-vis entries in register.
15. Proper working of timers in case of route cancellation and holding of route etc. should be checked.
16. Check sum of EI installation should be checked.
17. Error logs in maintenance terminal of EI should be checked and their rectification ensured.
18. Proper working of data logger should be ensured.
19. Proper working of redundant cards/systems should be ensured.
20. Relay room lock key register should be checked. Functioning of relay room door opening and closing indication proving in data logger should be ensured.

Tomar 08/02/2022

(Arjun Singh Tomar)
Executive Director (Signal)

Copy to: DG/IRISET, Secunderabad

FOOT PLATE INSPECTION

1. Train No :

…….....……

Loco No :…….....Cab No.....….

Base :..... Sch. due. .....

Load : …….....…

BPC No. : ……..... Dated ……..……

Brake power Percentage age ……..…. Issuing Station

BP pressure ……..... FP pressure ……..……..

Total No. of cylinders …….....

No of effective cylinders …….....

Departure from : …… Arrival To: ……..…

2. Name of LP : ……H/Q: ……..…

Date of last PME :……Next Due :…….....

Date of last Ref. : ……Next Due : …….....

Date of last Psycho test : ……..…..

Safety performance category: …….....

Competency certificate for Automatic signaling working renewed on ..... …….....

Name of nominated LI :…… and date of nomination …….....

Last two counseling done by nominated LI on…… & ……....

Whether spare spectacles available with LP, if prescribed? Yes/No

3. (a) Whether LP has following personal stores and being checked quarterly by Depot Incharge of Lobbies (SR 4.19-3).
   (i) G & SR book with all correction slips updated.
   (ii) 2 Red and 1 Green flag in good condition.
   (iii) Detonators-10, Lot No. & Date of manufacturing.

(iv) One tricolor hand signal torch. (GR- 4.19-16C)

(v) Accident manual with all correction slips updated.

(vi) Tool box with standard tools.

(vii) Other items as per SR 4.19-3 & Walkie-talkie, WTT & LP memo book.

4. Name of the ALP ……..HQ .....
Last refresher done.....Next due …….....
Last PME done .....Next due …….....

5. Ensure that ALP is having all items of personal stores as per the list.

6. Alertness of crew & their performance: Does the LP gets down the cab to take round of the loco, examine its under gear visually and take corrective action required, if any, at stations where the train has its schedule stoppage.

7. Whether engine equipments head light/electrical speedometer/mechanical speedometer/flasher light/marker lights are in working order.

8. Whether LP check the brake power of his train at the first opportunity.

9. Whether speed recorder is provided?

10. Whether proper BPC is available with LP/ALP.

11. Whether printed caution order form is available with LP & ALP.

12. **Check :**
    i) Whether LP follows correct procedure while passing a defective signal at ON.
    ii) Whether LP follows correct procedure while passing an Automatic signal/IBS/ Gate signal at ON.
    iii) Whether LP checks personally all the authorities

issued to him by station staff and acts accordingly.

13. Whether engine crew exchange all right signal correctly with the Guard of train, station staff, with train crew of train passing on adjacent lines.

14. Whether LP/ALP whistle freely while approaching station, cutting & curvature.

15. Whether LP/ALP whistle properly (4 long whistles intermittently) while passing LC gates.

16. Whether the engine crew look back frequently particularly on curves to ensure safe and complete running of trains?

17. Whether LP/ALP look back while passing manned level crossings and worksite to see if any danger signal exhibited.

18. Whether the LP observe following correctly:
    (i) Permanent speed restriction.
    (ii) Engineering temporary speed restriction.
    (iii) Speed limits while entering and leaving from loop line.
    (iv) Maximum permissible speed of Mail / Express / Passenger / Goods train.
    (v) Other speed restrictions.

19. Whether LP stops and starts the train without jerk?

20. Whether LP ensures that while stopping his train, fouling mark is clear?

21. Whether Calling out of signal aspects between LP & ALP is proper?

22. Whether LP checks continuity of air pressure enroute during any attaching & detaching.

23. Whether Ghat competency certificate is available?

24. Whether any unusual occurrence observed on run?

25. Whether any unauthorized person is traveling in loco?

26. **LP's knowledge to be tested in following:**
    (i) Protection of adjacent line on top priority during accident.
    (ii) Use of flasher light, when train stopped in section.
    (iii) Train delayed in block section.
    (iv) Train stalled in rising gradient.
    (v) Procedure to be followed to pass Automatic / IBS / Gate signal at ON.
    (vi) Procedure to be followed when experienced unusual running in section.
    (vii) Ghat working rules.
    (viii) Procedure for working load without BPC.
    (ix) LP's duty during TSL working.
    (x) LP's duty during all communication failure.
    (xi) Working of trains during train parting.
    (xii) Knowledge of whistle codes.
    (xiii) Speed of train when headlight bulb is fused.
    (xiv) Working of train when headlight and marker light both are failed or not working.
    (xv) Whether LP/ALP is in habit to write defects of signals and track in memo book put right to these defects in lobbies?
    (xvi) Brake binding, hot axle, flat tyre, wheel skidding & locked axle.
    (xvii) Use of fire fighting equipments.
    (xviii) Safety consciousness & knowledge of safety rules of LP & ALP.

27. **Availability of safety equipments:**
    i) Wooden wedges- 04 nos.
    ii) Fire extinguishers – 04 nos.(along with last refilling/inspection date, 02 Nos. in each cab)
    iii) VCD in working condition.
    iv) Audio visual indicators for air flow meter in working condition.

28. **During shunting operation enroute:**
    i) Check whether the LP performed shunting from leading cab.
    ii) Check that the LP/ALP do not leave the loco unmanned.

29. Whether Rest availed by crew before signing ON as per eligibility?

30. Whether the crew is in sober condition?

31. Whether they are in the list of alcoholic prone crews?

32. Whether LP referring the loco log book remarks after taking over the charge?

33. Whether personal mobile & CUG switched off by the LP while on run?

34. Ensuring functioning of loco hand brake by crew.

35. Ensure functioning of loco parking brake.

36. Obtain information from the crew whether they are in the habit of recording unusual of signal and track related matters while signing OFF and getting feedback on compliance promptly.

37. Any other irregularities noticed during run related to various departments.

Central Railway

PCEE's Office
2nd Floor, Parcel Building
CSMT Mumbai 400001

No.L.256.AC.155/Inspection Others

Date: 16.02.2022

Sr. DEE (TRO) BB/BSL/NGP
Sr. DME (OP) PA
DME (OP) SUR

Sub: Revised inspection format for Running Room & Crew booking Lobby.

Revised format for inspection of Crew booking Lobby and Running Room is attached. It is advised to issue the copy of the inspection format to all the Lobbies and Running Rooms and also ensure that each point of the format is completely complied.

Kindly acknowledge the receipt of the same.

Prafulla Chandra

Digitally signed by Prafulla Chandra
DN: cn=Prafulla Chandra, o=IR, ou=CR, email=ceeopcr@gmail.com, c=IN
Date: 2022.02.16 12:55:46 +05'30'

(Prafulla Chandra)
CEE (OP) Central Railway

Copy :- PCEE/CR :- for information please

CREW BOOKING LOBBY INSPECTION			
1	1	DATE	
	2	LOBBY	
	3	STAFF ON DUTY	
2		ALL SIGN ON & OFF SHOULD BE IN CMS ONLY	
3		BA TEST RECORD TO BE MAINTAINED FOR EACH RUNNING STAFF	
4		BIO-DATA REGISTER-HOW MANY LPS/GDs OVERDUE PME/REF/SAFETY CAMP	
5		BA INSTRUMENT ALONG WITH DISPOSABLE STRAW IN WORKING CONDITION BA EQUIPMENTS AVAILABLE	
6		BOARD INDICATING STAFF WEARING GLASSES DISPLAYED IN THE LOBBY	
7		BOARD INDICATING CORRECT SAFETY CIRCULARS, SAFETY HQ BULLETINS ARE DISPLAYED IN THE LOBBY	
8		ACKNOWLEDGEMENT OF STAFF ARE OBTAINED IN CMS	
	1	SAFETY CIRCULAR	
	2	ORDER/INSTRUCTION BOOK	
	3	CAUTION ORDER	
	4	SAFETY BULLETINS	
9		WHETHER CAUTION ORDER FOILS ARE RECEIVED AND FILEC BROUGHT FORWARD IN CAUTION ORDER REGISTER EVERY MONDAY	
10		WHETHER CAUTION ORDER BOARDS DISPLAYS CAUTI(IMPOSED SECTION WISE AS PER CAUTION ORDER	
11		UNUSUAL INCIDENTS IS MAINTAINED IN CMS ON DAILY BASIS.	
12		STAFF DETAIL BOOKS ARE MAINTAINED	
13		WHETHER FIRST AID BOX IS AVAILABLE IN LOBBY & HA MEDICINES AS PER FIRST AID BOX LIST AND IS BEING REGULARLY CHECKED.	
14		CHECK SAFETY MEETING REGISTER AND FIND OUT WHETHER SAFETY BEING CONDUCTED EVERY MONTH.	
15		WHETHER G&SR, ACCIT MANUAL WITH THE LATEST CORRECTIOI POSTED UPTO DATE ARE AVAILABLE WITH LOBBY IN CHARGE	
16		WHETHER STAFF COMING ON DUTY ARE IN PROPER UNIFORM POSSESION OF SAFETY PERFORMANCE CARD	
17		WHETHER LIST OF STAFF ADDICTED TO ALCOHOLIC DRINKS IS WITH LOBBY INCHARGE	
18		WHETHER LIST SR.LPGs WHO ARE SCREENED AND Fore PASSENGER TRAINS IS AVAILABLE WITH LOBBY INCHARGE.	
19		SAFETY POSTERS AND SAFETY SLOGANS ARE DISPLAYED IN THE LOBBY	
20		9 HOURS PERFORMANCE OF LOBBY	

21	PDD PERFORMANCE OF LOBBY	
22	FORT NIGHT WORKING HOURS PERFORMANCE IN CMS	
23	HQ REST AND PERIODIC REST	
24	SELF LEARNING MODULE AVAILABILITY	
25	CCOR NIGHT SURPRISE INSPECTION REGISTER.	
26	LI MONITORING REGISTER	

27		LEARNING ROAD (LRD)	
	1	LRD OVER DUE REGISTER	
	2	YARD LAYOUT/SIGNAL LAYOUT/STATION LAYOUT COUNTE BY THE CONTROLLING OFFICER IS AVAILABLE OR NOT	
	3	CONFUSING/CONFLICTING SIGNAL AND ANY ONE LAYOUT MADE BY AUDRING SIGN OFF.	
28		LP AND ALP PERSONAL STORE CHECKING	
29		WALKIETALKIE SYSTEM MAINTAINANCE	
30		CONDITION OF FURNITURE	
31		LP AND ALP REST/SEATING AREA	
32		SUPPLY BACKUP OF CMS AND LOBBY WORKING	
33		RUNNING STAFF USED ON STATIONERY WORK IN LOBBY	
34		CMS WORKING SYSTEM MILLAGE SHEET GENERATED	
35		CMS OUT SOURCING OF DATA ENTRY	
36		GRADIENT CHART	
37		MONTHLY INSPECTION REGISTER TO BE MAINTAINED TO ENSURE PROPER MAINTENANCE OF LOBBY (ENG/ ELECT/ S&T ETC.)	
38		STAFF GREAVANCE REGISTER SEEN BY WELFARE INSPECTOR.	
39		GENERAL UPKEEP OF THE LOBBY	

Inspection of Running Room			
1	i	NAME OF RUNNING ROOM/STATION	REMARKS
2	ii	DATE OF INSPECTION	
3		STAFF ON DUTY	
	I	BEARER	
	II	SUPERVISOR	
	III	COOK	
4		GENERAL CLEANLINESS OF PREMISES INCL BEDROOMS/READING ROOMS/TOILET/DINING ROOM/KITCHEN	
5		ACCOMODATION-ADEQUATE/ CONGESTED/ANY PROPOSAL FORMULATED FOR OVERCOMING SHORTAGES	
	i	SUFFICIENT NO. OF BEDS AVAILABLE	
	ii	SUFFICIENT NO. OF BLANKETS AVAILABLE	
	iii	SUFFICIENT NO. OF MOSQUITTO NETS AVAILABLE	
	iv	SUFFICIENT NO. OF TABLE & CHAIRS AVAILABLE	
	v	ADEQUACY OF STOCK OF LINEN	
	vi	AVAILABILITY OF CROCKERY, CUTLERY COOKING UTENSILS.	
	vii	ADEQUATE PROVISION OF LIGHT, FAN, NIGHT LAMP, WATER COOLER, DESERT COOLER	
6		CONDITION OF COTS-SAGGING/OLD/GOOD	
7		CONDITION OF MATTRESS, PILLOWS OF	
8		CONDITION OF LINEN-BEDSHEETS, PILLOW, COVERS, MOSQUITTO NET WITH FREQUENCY OF CHANGING	
9		CONDITION OF BLANCKETS AND WHETHER IT IS BEING WASHED PERIODICALLY	
10		CONDITION OF KITCHEN	
11		CONDITION OF BATHROOM	
12		ARE NEWSPAPERS BEING SUPPLIED	
13		IS THERE ANY NUISANCE FROM OUTSIDERS	
14		ARE THE COOK AND BEARER CLEAN AND HYGIENIC	
15		COMPLAINT BOOK AVAILABLE OR NOT	

16		AVAILABILITY OF SAFETY POSTERS AND FIRE EXTINGUISHERS	
17		ANY SUGGESTIONS CONDITION OF RR	
18		FURTHER IMPROVEMENT REQUIRED FROM ENG/ELECT (G)	
19		POWER SUPPLY BACK-UP	
20		RECEPTION SYSTEM	
21		FURNITURE, COTS, LINEN NEEDS REPLACEMENT (INDICATE IN DETAILS)	
22		CENTRALISED COOLING/ AIR CONDITIONING SYSTEM	
23		CONDITION OF TOILETS AND IMPROVEMENT REQUIRED	
24		SUBSIDISED MEAL AVAILABLE/NOT AVAILABLE	
25		DOOR, WINDOW & CURTAIN CONDITION	
26		DRAINAGE SYSTEM	
27		ROOF LEAKAGE AND WALL CONDITION	
28		BOUNDARY WALL CONDITIONS	
29		FOOT LAMP IN ROOMS	
30		CUBICLE PARTITION IN RUNNING ROOM	
31		RECREATION ROOMS CONDITION INCLUDING SOFA, NEWS PAPER, MAGAZINE etc	
32		PROVISION OF FOOT MESSAGER AND SHOE POLISHER.	
33		YOGA ROOM CONDITION AND FACILITY	
34		PROVISION SOLAR HOT WATER/ GEASER AVAILABLE	
35		GRADING OF RUNNING ROOM A,B,C	
36		GROSS HAPPINESS INDEX OF THE RUNNING ROOM	
37		AVAILABILITY OF SEPARATE ROOM ALONGWITH ATTACHED BATHROOM FOR LADY RUNNING STAFF	

INSPECTION OF MANNED LEVEL CROSSING

1. Level crossing gate No. : …….....…….
   [Interlocked/Non interlocked leaf/Lifting barrier]
   Location : …….....

2. Name of the gateman : ….....…….
   PME done on ……..... Next due.....
   Refresher course done on……Next due ……
   Gate competency certificate issued by ……on ……
   and valid upto ……..

3. Last Gate census was done on …….. and TVUs was …….

4. Safety equipments available at gate as per SR 16.02-1
   (The list given in Gate Working Rules).

5. Gate phone is in working condition.

6. Gate working instructions dated ……. available in Hindi/English. Revalidation due on …….

7. **Records available at gate:**
   (i) Gate working instructions (GWR) in vernacular and English/Hindi languages.
   (ii) Gateman's rule book.
   (iii) Gate Inspection Book.
   (iv) Duty Roaster.
   (v) Public complaint book etc.

8. Gate protection diagram painted in gate lodge.

9. Private Nos. conveyed to adjacent SM by the Gateman of non-interlocked gate. Cross check last 3 private Nos. If any irregularities noticed, give details. Check whether proper printed private number sheet is in use, in case of non-interlocked LC gates check the availability of private number sheets.

10. Whether entries are separately made for UP & DN trains in the log book by the Gateman.

11. Whether SM/TI, JE/SE/SSE(P.Way) and JE / SE / SSE(Signal), as the case may be are inspecting the gate regularly & their observations recorded in Inspection Register provided at the Gate Lodge.

12. Whether chains provided are of correct length and have proper hooks at either end for immediate use with locking arrangement.

13. Whether drainage facility is available & has clear passage or not?

14. Compliance of deficiencies in inspections.

15. Display of safety posters/Safety slogans.

16. Whether whistle boards for trains are provided at 600 mtrs distance on either side?

17. General condition of road surface within the track portion & on approaches.

18. Whether road surface is level upto 15m or beyond in Special Class (class I road)? In case of other class of roads, 8m surface shall be level.

19. **Availability of Road sign boards:** Double strip (200 mtr), single strip (50-100 mtrs), Road warning board (within Rly. boundary), Speed breaker board (5-10 mtrs from speed breaker) & Speed breaker board (rail post to 20 mtr distance or within Rly boundary) whether provided as per standards?

20. Sign boards are put at proper location and painted with fluorescent paint

21. Weather stop boards are available along with spare board.

22. Whether adequate fencing to restrict unauthorized movement is provided.

23. Effective wicket gate available (Mandatory at manned LC gates).

24. Whether height gauge available at proper location on either side and provided with 25 KV danger board. (for gates located in electrified section).

25. Whether the parameter i.e. vertical clearance and contact wire height are painted on height gauge.

26. Weather relay room at the gate is locked and keys available with S&T staff and not with gateman, if gate is interlocked.

27. Check whether the height of boom from the road surface in close condition of gate is within 0.8 mtr to 1.0mtr.

28. Functioning of gate bell/hooter.

29. Whether the gate has a clear visibility of 600 mtrs for rail and road users.

30. Whether the gate lamps are clean and properly focused towards the road in case of mechanical non-interlocked gates where provided.

31. Whether the check rail clearances are clean? Prescribed Lateral, Vertical clearances of check rails (Lateral = 51 to 57 mm, Vertical minimum 38 mm).

32. General upkeep of the gate and condition of gate lodge.

33. Test the efficacy of the interlocking in case of interlocked LC Gate by trying to lift the lifting barrier after transmitting the EKT/releasing the Slot for taking off the Signals.

34. Proper whistling by train crew from whistle board to level crossing.

35. Is there necessity to up-grade the gate (justification should also be given).

36. Is there necessity to interlock the gate (justification should also be given).

37. Weather any other suggestion is made. (Give it in detail)

38. **Whether Gateman conversant with following rules:**
    (i) Symptoms of seizure of roller bearing and brake binding and distinguishing factor between the two.
    (ii) Symptoms of hot axle/flat tyre.
    (iii) Train parting precautions to be taken.
    (iv) Use of whistle.
    (v) Knowledge of gate working instructions.
    (vi) Precautions to be taken when signals blank.
    (vii) Precautions to be taken while opening the gate.
    (viii) Action to be taken when unsafe condition is noticed and gate phone has gone defective.

39. Weather length of check rail is more than 2.00m from gate width.

40. Weather proper earthing has been done for the gate /Iron fencing provided at level crossing situated in electrified section.

41. Whether 25 KV caution board is provided outside the gate lodge in electrified section.

42. Whether the tumbler switch provided for replacing the signals to danger in emergency, is working properly.

43. Check whether the competency certificate issued to Gateman at interlocked gates is jointly signed by S&T and Engineering/Operating supervisors, as the case may be.

44. Whether sliding boom provision is available and in working condition which will be used during damages to lifting barrier. Whether the sliding boom is also having inter locking provision.

45. Whether the audio buzzer is properly functioning and audible while closing/opening the lifting barrier. Is the buzzer is interlinked with the movement of lifting barrier or to be switched on manually?

46. The crank handle where provided should be kept in a sealed box, and record of its use should maintained.

47. Check the records for the last damages caused to lifting barriers – In case of interlocked LC gates, whether Private Number was exchanged by Gateman with SM till the lifting barrier is restored/repaired.

48. Check the general condition of gate lodge with regard to Civil/fabricated structure and electrical fittings, alternate power supply, water source etc.

49. Whether the infrastructure is enhanced according to the class of LC Gate as per Annexure 9 of IRPWM?

50. Whether the Gateman are functioning as per official roster.

INSPECTION OF UNMANNED LEVEL CROSSING

1. Level crossing gate No. ……..... Location of the gate ……

2. Check for the minimum visibility of 800m for both road & rail user. If not, whether any speed restriction is imposed or not. Any suggestion for Improving visibility for rail/road users?

3. Whether W/L boards is available at 600 mtrs & 2nd W/L board at 250 mtrs for whistling till passing the LC.

4. Whether check rails have been provided.

5. Lateral, vertical clearances of check rails (lateral 51 to 57mm; vertical >38mm). Length of check rail & road width should be as per standards (length of check rail = road width + 2.0m). (road width for class-I: 9.0m; class-II: 7.5m; class-III: 5.0m)

6. **Availability of Road sign boards:**
   Double strip (200 mtrs), Single strip (50-100 mtrs), Road warning board (within Rly boundary), Speed breaker board (5-10 mtrs) from speed breaker & Speed breaker (rail post to 20 mtrs distance or within Rly boundary) whether provided as per standards.

7. Whether speed breakers are provided.

8. Whether height gauge is provided at proper location. (For gates located in electrified section).

9. Condition road surface - Good/Bad/Satisfactory.

10. Whether channel for wheel flange is kept clean with proper gap.

11. Whether the gate is visible to Rail/Road users from 600 m.

12. Whether stop board of size (675mm x 525mm) provided 5 m from center line of track.

13. Whether train crew whistling properly from whistle board to the level crossing.

14. Whether the existing TVUs qualify for manning? Whether barricading is available for both Road & Rail side.

15. Feasibility for closure by diverting or by providing limited height subway or for clubbing.

16. Whether approach road gradient (beyond 8 mtr) is 1 in 20 for Class III roads, 1 in 15 for Class IV roads.

17. **Ambush checks:** Whether road users are following the following instructions:
    (i) Stop short of sign board.
    (ii) Driver/Conductor get down.
    (iii) Watch in either direction for approaching train.
    (iv) Pass cautiously.
    (v) Do not take risk of crossing in the face of an approaching train.
    (vi) Check the traffic census figure.

INSPECTION OF STATION YARD/POINTS AND CROSSINGS

Name of station	**Point No. On Straight/curve**	**Xing angle T/out laid on**
SN	**Description**	**Observation**
1	Whether the yards are properly cleaned and provided with proper drainage	
2	Whether any spot is found water logged due to water seepage of any underground pipe or overflow of water.	
3	Provision of standard fouling marks for conversing lines.	
4	Whether the berthing track has clean ballast and ballast is not touching the rails?	
5	Whether the block and insulated joints are maintained in good condition and having all fitting intact?	
6	Whether joint point and crossing inspection has been carried out by JE/SSE (P.Way) & JE/SSE(Sig) as per the schedule laid down and compliance carried out promptly.	
7	**Following items should be checked from safety aspects:**	
(i)	Whether tongue rails are out of square	
(ii)	Condition of tongue rail, whether damaged / worn out chipped off*/ cracked*	
(iii)	Whether tongue rail housing properly with stock rail? (for 1:12 turnout minimum upto 4 sleepers, 1:8½ upto 3 sleepers).	
(iv)	Whether tongue rail fittings i.e. stretcher bar, switch sto ps, stud bolts, plate screws etc. are intact & effective?	
(v)	Whether proper heel block with heel distance blocks are provided maintaining specified heel diversion.	
(vi)	Whether proper bent fish plate is provided at loose heals joint?	
(vii)	Whether throw of switch is maintained in the range of 95mm to 115mm?	
(viii)	Whether clearance of first stretcher bar under the stock rail is 1.5mm to 5mm?	
(ix)	Whether correct gauge and cross level is maintained at toe of switch?	
(x)	Whether crossings assembly is worn out on 'V' and wing rails? [Maximum permissible vertical wear*** at crossings LH RH Nose to be measured at 100mm from ANC]	
(xi)	Whether all the fittings and bolts are provided in built up/CMS crossing assembly?	

(xii)	Whether all fitting in switch & crossing portion are intact and effective	
(xiii)	Whether correct clearance of check rail opposite the crossing is maintained	
(xiv)	Whether proper ERCs, liners & rubber pads are provided in switch and crossing portion or not?	
(xv)	Whether proper packing in switch and crossing portion is available during movement of train	
(xvi)	Operation of locking and detection without test piece and with 5mm test piece	
(xvii)	Clearance of rodding including ground connections with respe ct to sleeper and rails	
(xviii)	Condition of nylon insulated joints at track circuited points	
(xix)	Cleaning and lubrication of points	
(xx)	Whether tongue rail twisted or bent causing gap of 5mm or more at toe.	

*Chipped off/cracked over length aggregating to 200mm within distance of 1000mm from toe (where worn out for a depth of more than 10mm over continuous length of 10mm).

*** Maximum permissible vertical wear for Built up Xing for good practice is 6mm (max 10mm)and for CMS Xing is 8mm (for CM S crossing deduct 2mm for 52kg & 2.5mm for 60kg crossing from measured wear).

ENGINEERING ASPECTS

1. Track maintenance- longitudinal level, cross level, alignment and correct curvature and super elevation on curve.

2. Condition of track- Rails sleepers, tight and complete fittings, specified ballast in required profile and stable formation.

3. Schedule of inspection by Engineering Officials and compliance of deficiencies noticed.
   (i) Section inspection by push trolley/ motor trolley / moped trolley / LV / Engine.
   (ii) Points and crossings.
   (iii) Curve.
   (iv) Creep and gap survey in yard.
   (v) Level crossing.
   (vi) Joint inspection by engineering with other department i.e. with S&T.
   (vii) Rail testing by USFD Machine.
   (viii) Bridge/Tunnels/Cuttings.
   (ix) SEJ/LWR.

4. Deployment of competent and capable staff at work site for departmental as well as contractor's work.

5. Replacement of IMR and REM marked rails by USFD.

6. Replacement of unserviceable rail, sleepers and fittings in time.

7. **Pre Monsoon precautions:**
   (i) Cleaning/making side/catch water/ cross drains.
   (ii) Preparation of Monsoon patrol charts.
   (iii) Arrangement of tools/ equipment for patrolling.
   (iv) Selection and training for patrolmen for action to be taken in emergency.
   (v) Cleaning water ways at bridges.
   (vi) Stock of boulders/coal ashes at nominated location/station.

(vii) Monsoon rake ready loaded with boulders/coal ashes.
(viii) Attention to Major/ minor repairs to the bridges.
(ix) Removal of land/boulders slide location.
(x) R.H. girders and Iron test.
(xi) Painting of HFL,DFL on bridges.
(xii) Inspection and getting timely repair of Rly. Affecting Tanks & Rly. Affecting Works.

8. **Observing correct method as regards to:**
   (i) Issue of Caution order.
   (ii) Track protection.
   (iii) Work to be done under caution order or under block protection.
   (iv) Planting of temp. caution/ speed/termination indicator boards.

9. Stacking of P.Way material as per current instructions, well away from running track & in guarded location.

10. Issue of tools/ equipment to Engg. Staff.

11. Field telephone/First Aid boxes provided to PWIs.

12. Standard sand humps and provision of buffers in yard.

13. Provision of cotter bolting arrangement to Hand point.

14. Provision of wind velocity meter in specified location.

15. Provision of fouling mark in yard.

16. Removal of rail closure from running track.

17. Maintaining ZMF (Zero missing fittings).

18. Adequate precautions during special track work involving safety aspect.

19. Adequacy of P.Way material on break down train.

20. Maintaining a list of vulnerable location in section and special watch on such locations.

21. Training to the staff for Hot weather, cold weather, monsoon and security patrolling.

22. Action to be taken to remove Worn out, corroded and broken fittings from track.

23. Temperature record.

24. Distressing of LWR in correct manner and in correct temperature.

25. Timely pulling back of rails and provision of adequate gap at fish plated/joint.

26. Provision of adequate ballast on outer side of curve on LWR track.

27. **Special attention to:**
    (i) Fish plated joints, SEJ.
    (ii) Points and crossings.
    (iii) Availability of adequate gap at fish plated and SEJ.
    (iv) Unstable formation patches.
    (v) Approaches of girder bridge, level crossings, points and crossings junction of two type of track structure having different strength potential.
    (vi) Steep gradient.
    (vii) Curve particularly transition portion and vertical curves.
    (viii) Lubrication of fish plated joints, SEJ in time.
    (ix) Greasing of gauge face of outer rail on sharp curves.
    (x) Fracture prone areas.
    (xi) Condition of switches and crossings in points and crossings.
    (xii) Junction fish plated joints.
    (xiii) Scabbed, battered and hogged rail joints & pitted rails.

(xiv) Track in deep cutting and on high bank/turn out and turn in curve.
(xv) Track having poor ballast cushion, scanty ballast and low and inadequate cess.
(xvi) Stretches having mud pumping.
(xvii) Booking of staff for PME, Refresher course.
(xviii) Watching the behavior of SEJ in LWR and timely action for gap adjustment and destressing to prevent buckling.
(xix) Provision of whistle boards for level crossings, Road/warning, standard height gauge on electrified section.
(xx) Soil Erosion/Boulders slide location in deep cutting.
(xxi) Pucca drainage system in cuttings.
(xxii) Special anticorrosion treatment should be provided for rails in tunnels.
(xxiii) Approaches of bridges to be given due attention especially during monsoon.
(xxiv) Rail jumpers should be used rail replacement work in electrified section.
(xxv) Verification of land boundaries in section and in yard.

INSPECTION OF CURVE

Curve No.		**UP/DN/Single Line**		
1	Location		Bet. stations	
2	Degree		Radius :	
3	S.E.		TL	
4	Curve board available		LH/RH	

Date of Inspection : …….

KMs & TPS	Obligatory points	Station Nos.	Theoretical		Actual		Gauge
			Versine	Cant	Versine	Cant	

1. Details of curve particulars i.e. LWR number, laid on, date of distressing, temperature, length of transition, length of circular portion, length of curve, super elevation should be displayed on board.
2. Maintain correct Super Elevation (SE) in transition and circular portion of the curve. Limits of station to station versine variations should be maintained properly as follows:
   a) For speed 160 kmph and upto 110 kmph : 10 mm or 20% of the average versine on circular curve, whichever is more.(15 mm for speed of 110 Kmph)
   b) Below 110 kmph & upto 50 kmph: 20 mm or 20% of the average versine on circular curve, whichever is more.
   c) For speed less than 50 kmph : 40 mm or 20% of the average versine on circular curve, whichever is more.

NOTE: If more than 20% of stations are having versine variations above limits prescribed, complete re alignment of curve should be planned within a month.

3. Curve register of group A & B routes should be provided with cumulative frequency diagrams for each curve to get a graphic idea about the condition of geometry of curve.

4. Rail joints on curves must be laid square at beginning and at the end of the curve.

5. Wear on outer rail of curves can be reduced efficiently by periodical lubrication of the gauge face of outer rails on the curve, once in fortnight by Keyman.

6. Whether joggle fish plates for the AT welds on the outer rails of the curve are provided with proper clamps or not .

7. Whether greasing of ERCs on gauge face corners is done as per schedule or not.

8. Whether adequate ballast provided for outer rail of the curve, any deficiency of ballast noticed.

INSPECTION OF SWITCH EXPANSION JOINT (SEJ)

SN.	Item	Details
1	SEJ No.	
2	Temp Zone	
3	Type of Sleeper	
4	Type of Rail	
5	Sleeper Density	
6	De-stressing Temp.	
7	Date of Last de-stressing	
8	Time of measurement	
9	Rail temperature at the time of measurement	
10	Availability of Ref. Pegs for measurement of Gaps	
11	Measurement of Gap between chord and Tip of TR/SR of LWR side	LH */**
		RH*/**
12	Condition of Fittings	
13	Condition of TR/SR	
14	Availability of ballast and condition of fittings in breathing length	
15	Whether angle tie provided or not.	
16	Any Other Details	

INSPECTION OF BRIDGES

1. Whether danger level is marked, whether HFL marked or not and whether availability of flood gauge or not. Whether guard rails provided with major bridges or not. Check the lateral clearance between guard rail and running rail (200 to 300 mm).

2. Top table of guard rail should not be lower than that of the running rail, by more than 25 mm or not.

3. Check the gauge & cross-levels on the bridge (straight including curves of 350m radius or more -5 mm to +3 mm, for curves less than 250 m radius upto + 10 mm i.e., 1686 mm).

4. Whether pathway provided in the center of track over sleepers properly/intact or not for the purpose of inspection of Engineering Officials. Ensure overlapping pathway plates are fixed properly.

5. Whether the entire hook bolts are intact and position of arrows on top of the bolts should be at right angle to the rails pointing towards the rail.

6. Whether all the nuts, hook bolts etc, are oiled periodically or not, (to avoid rusting) whether vent-way is clear of obstruction or not. Whether joggled fish plates of the AT weld on the bridge along with its approaches upto 100 m is done using proper clamps or not.

7. Whether prescribed trolley refuges/main refuges are provided or not (on bridge with main spans of 100 m or more – a refuge over each pier, On ballasted deck bridges-50m).

8. Any other observation.

INSPECTION OF TRACK MACHINES

1. Whether the Operator is trained and in possession of a competency certificate? Does the Operator possess sectional knowledge?

2. Whether the Operator underwent PME on par with train LP and having the certificate?

3. Knowledge of the Operator in observation of G&SR rules (normal and abnormal).

4. Whether the prescribed equipment is available in working condition or not?

5. Whether Track Machine secured properly when stabled.

SSE/P-Way Office and Store

1. Whether all requisite entries are being made in TMS?

2. Whether all codes, manuals, circulars, inspections notes are available?

3. Whether Store and Office is neatly maintained?

4. Whether all Consumable and Perishable (C&P), Tools and Plants (T&P) are recorded in ledgers?

5. Whether disposal of scrap, including proper weighment is being ensured?

6. Whether submission of Material At Site (MAS) Returns, Revenue Returns, test check of stores being compiled by SSE?

7. Whether Periodical Medical Examination (PME) of all Safety category staff/Supervisors are ensured by SSE?

8. Whether all service records, leave records etc. of staff are maintained properly and being updated regularly?

9. Whether all C&P and T&P available as per scale?

10. Whether proper water supply, electric supply and toilet facilities are available?

MECHANICAL INSTALLATIONS

1. DIESEL SHED INSPECTION

- Cleanliness of shed / Office premises.
- Alertness / Attendance of staff on duty.

2. DIESEL SHED

- Check of repair books and action taken and being taken on the repairs booked by the Loco Pilots.
- Maintenance facilities to ensure that relevant maintenance procedures are being followed.
- Quality of failure investigations, trend of failures and preventive actions being taken to be taken.
- Corrective / Punitive action taken in case of failures on account of maintenance lapses.
- Inspection of outgoing Locomotives in respect of quality of schedule attention, out of course repairs and items of any special drives based on failure analyses have been carried out and being recorded.
- Attention to and monitoring of high lubricating oil consuming locomotives (LOC). Availability of critical spares.
- Position of Locomotive in shed specially which have been waiting for more than 3 days and action being taken.
- Vacancy and attendance position, administrative action being taken for long unauthorized absentees.
- Trend of expenditure and economy measures.
- Summer drives, Monsoon drives, if in progress.
- General house keeping of shed.
- Washing, cleaning and radiator blowing of Locomotives.
- Holding of locos and ineffective percentage.
- Cleanliness of premises and pits.
- Attendance of staff for carrying out booked / schedule repair.
- Progress of Schedules and out turn.

- Progress of loco under schedule.
- Reliability of stores.
- Availability of unit exchange items.
- Availability of Demineralised water and lub oil etc.
- Tests of water and oil samples in laboratory and availability of chemicals.
- M&P whiting jacks, M&P.
- Machine shops.
- EOT
- Condition of building, pathway and drainage system.
- Lighting system of the shed.
- Condition of canteen and test shelter.

3. RAILWAY DIESEL INSTALLATIONS

- Performance of flow meter.
- Electric fuel pump.
- Diesel pump.
- Availability of fire extinguishers, sand and water buckets.
- Changing of filters of filter housing.
- Condition of decanting pipe and fueling pipe.
- Locking arrangements of fuel points.
- Disposal of spilled HSD oil.
- Missing tank wagons.
- Decanting of Tps.
- Accountal of HSD oil.
- General cleanliness and upkeep.

Inspection of checking under frame equipment of Loco in Shed-

Sr. No	Item of check	No. of locos eligible	No of locos completed	No of Deficiencies noticed	Details of Deficiencies	Action taken/Remark
1	Bogie frame crack.					
2	DPT of Bogie frame.					
3	Schedule repair.					
4	Availability/condition of fire extinguishers.					
5	Securing of traction motor : Traction motor nose pad suspension and traction motor mounting.					
6	Condition of buffer and cattle guard.					
7	Battery box mounting.					
8	ECC box mounting and securing of its cover.					
9	MR tank mounting bracket. i) Tightness of MR tank mounting bolts. Ii)Provision of additional washer if there is gap between MR tank bracket and mounting bracket.					
10	Fuel tank mounting arrangement. i) Tightness of fuel tank mounting bolts. ii) DPT of fuel tank mounting bracket of 13 & 14 series locomotives.					
11	Brake hanger & under gearing.					
12	LP/ALP counseling.					

EMU CAR SHED AND STABLING YARD

A. HUMAN RESOURCE UTILIZATION

- Availability of man power
- On Roll
- Actually Present
- Unauthorized absent

B. TECHNICAL KNOWLEDGE OF STAFF

- Knowledge/ Skill of staff. (few staff to be interviewed)
- Knowledge of staff about their assigned job.
- Safety Consciousness among staff.
- Availability of Technical Circulars /details in shed.
- Availability of proper tools.
- Review of training.

C. SAFETY CHECKS ON EMU RAKES

- DRIVING CAB
- Head light
- Blinker / Flasher light
- Availability of Fire extinguishers.
- Visual inspection of under gears.
- Brake System --
- Function of brakes- EP & auto
- Drainage of Reservoirs.
- Functioning of PA System
- Functioning of TMS (Train Management System).
- Functioning of audio visual in Ladies compartment. (Connected with ACP).
- Compliance of items of defect cards.
- Isolation of any traction equipment.

D. PASSENGER AMENITY ITEMS

- Cleaning of Rakes.
- Functioning of carriage fans/ tube lights / windows etc. 30
- Functioning of Emergency lights in Coaches.

E. WORKING CONDITIONS

- Condition of Pits (for Shed).
- Condition of Stabling lines (for stabling yards).
- Illumination level.

F. AVAILABILITY OF MATERIALS

- Availability of materials in the depots as per the list.
- Condition of the materials/ assemblies lying in the depots.
- Non- availability of safety and vital items (for shed)
- Upkeep of material storage.

MEMU RAKES IN SHED STABLING LINE.

I Human Resource Utilization

- Availability of manpower
- On Roll
- Actually Present
- Unauthorized absent.

II Deployment Of Staff

- Availability of Technical Circulars in the shed.
- Knowledge/ Skill of staff. (few staff to be interviewed)
- Knowledge of staff of their assigned job.
- Safety Consciousness among staff.
- Review of training of staff in shed and terminals/ Stabling lines

III Safety Checks On EMU / MEMU driving Cab – Inside & Outside

- speedometer working in both cabs.
- Headlight in working order.
- Flasher light in working order.
- Tail lamp in working order.
- Cab light in working order.
- Both low tone and High tone horns working

- Wiper in working order.
- Parking brake working
- Availability of fire extinguisher duly filled
- Availability of wooden wedges 4 Nos.
- Availability of Emergency phone

IV UNDER – GEAR INSPECTION

- Intactness of Traction motor junction box covers and inspection covers.
- Availability of safety chains and their proper use.
- Leakage of transformer oil, compressor oil etc..
- Proper fitting of cables.
- Drain cock operation to drain out water.

V VISUAL INSPECTION

- Tyre heating / Crack
- Proper application and release of brakes.
- Axle box temperature.
- Sleeve bearing temperature.
- Noise level of different auxiliaries.
- Transformer oil spilled over in HT compartment
- Oil in compressor tray

VI Battery And Battery Charger

- All DMC's battery Voltage
- Electrolyte condition 31
- Battery lugs
- Distilled water topping
- Other maintenance of batteries.
- Proper functioning of battery charger.
- Working of COS (Charge over switch)

VII Safety Items With Motor Man

- Detonators 10 Nos.
- Proper and valid Brake Power Certificate (BPC)
- Two Red & One Green flags Separately available with Motorman.
- Tricolor Torch with cells.

- G&SR updated with correction slip.
- Troubleshooting book.
- Working time table and Detail book.
- Health Card and performance book.
- Accident Manual.

VIII Availability Of Materials In Emu/memu Shed And Platform Depots

- Availability of materials in the depot as per list
- Condition of materials / assemblies lying in depot
- Non – Availability of vital and safety items
- Upkeep of materials

IX OHE Fittings

- The isolator blade is fully in and also foreign to sparking or overheating.
- Insulators for any chipping/flash marks / damages.
- Sign of heavy sparking on OHE when the train passes.
- Whether a normal minimum clearance of 500 mm. is available between the two OHE in an insulated overlap and 200 mm in the case of un-insulated overlap.
- Check up whether lifting of out-of-run contact wire is correct.

CHECK SHEET FOR SAFETY CHECK OF EMU RAKES

s.no.	Description	Remark
1.	Check bogie for cracks at	
a	Bogie solebar	
b	Bogie headstock	
c	Bogie transom	
d	Check condition of Nose suspension arrangement of Traction Motors on Transom	
2.	Check for cracks/hitting marks on Axle box and its grease leakage from inner side.	
3.	Check intactness of foundation bolts of following items:	
	Transformer	
	APC Magnet	
	Main Compressor	
	Air Drier	
	Battery box	
	Cattle guard	
	Buffer height.	
	Traction Motors and its blowers	
	All reservoir tanks	
	A. Main reservoir	
	B. Auxiliary reservoir	
	C. Air suspension main tank(150 litres) (with safety straps in Siemens rakes)	
	D. Air suspension 20 litres tank along with safety straps	
	E. Parking reservoir along with safety strap	
4.	Check intactness of following parts of Drawbar	
I	Yoke	
Ii	Forkeye	
Iii	Allen screw	
iv	Ferrozle Bush	
5.	Check for availability of fire extinguishers and its expiry date.	
6.	Check working of flasher lights, headlights, horns,guard emergency handle.	
7.	Check condition of fuses	
8.	Check condition of MCBs (whether in bypass or in position)	

Night inspection Checklist of EMU

Unit no: ---------- **DEPO: ----------** **Line no. :----------**

Rake formation : ----------

Last Sccedule :---------- **Last Stabling :----------**

A) D-CAB :----------

No.	Items to be checked.	Kalyan coach	Bombay coach	Remark
1.	Carry out detail check of log book for any unusual occurrence by M/Man.			
2.	Check MR/BP pressure after charging the Rake and check BP charging time.			
3.	Check the condition of Head light , Tail light , Head code illumination, Flasher ,Blinker, Audio/visual in both cab.			
4.	**Check the provision of Wooden Wedges and Fire Extinguisher.**			
5.	**Check the passenger Alarm bell sounding in both cabs by pulling chain pressing switch from anyone coach.**			
6.	**Check the operation of Panto raising & lowering electrically.**			
7.	**Test the horns both side in both D/cab**			
8	**Test working of wiper (in Rainy season)**			
9.	**Check function of both Signal Bell.**			
10	**Test Brake Controller at each driving position for correct operation. Particular ensure proper Brake Pipe pressure**			
11	**Test Dead Man's Handle device in each driving cab for its operation (Speed in Siemens/BT rake/Medha/AC > 5 kmph for testing)**			
12	**Test PBC by bringing to emergency position in each Driving Cab.**			
13	**Check Brake Apply time (3-5 sec)/ Release time (6-8 sec).**			
14	**Check Sun Screen of Lookout glass.**			
15	**Check the function of PBC/TBC in AC rake after opening of MC.**			
16	**Check the condition & function of Compressor bypass Switch in both D/Cab of AC rake.**			
17	**Check Guards Emergency Brake by operating the handle**			
18	**Check the function test of AWS.**			
19	**Check the function of PAS and I/com./PIs&Check the head code electronic display.**			
20	**Check the function of coach Light & Fan set & trip.**			
21	**Check the condition of Motorman & Guard Seats and their hooks.**			
22	**Ensure all indication lamps functioning in both 'D cabs.**			
23.	**Check the condition of latching arrangement of door of HT compartment and 'D cab. Along with availability of 2 nos**			

	panel keys in both D'cabs.						
24	**Check REBS Wheel Flange Lubrication system from both D'cabs.**						
25	**Check the function of Hand Brake (Check physically grip of Brake Block on P2 & P3 wheel in application condition after releasing EP/Auto Brakes)**						
26	**Check the function of parking Brake in available Coaches**						
27	**i) Check the condition of Rake from MMIVHMI/DDU In AC Rake.**						
	ii) Check the RDM & DMH/ PBC function test.						
28	**Check healthiness of ETB (Emergency Talk Back) unit &Intercom through ETB console in both D cabs,**						
29	**Ensure proper position of MCBs & Switches in DICabs after checking the rake.**						
30	**Energy Meter Reading**	U1	U2	U3	U4	U5	U6
a	**Consumption**						
b	**Re-generation**						
c	**Total Kilometer Reading**						

B) ELECTRICAL

No.	**Items to be Checked**	**Remarks/ Change of Equipments**
1.	**Check the function of baby Compressor (AC Retro)**	
2.	**Check the functioning of Auxiliary Motor.**	
	a) Compressor.	
	b)Check the working of Compressor, Transformer & Inductor Cooling Fans, HT pressurized Blow Fans (ACIDC Rake)	
3	**i) Check working of Light & Fan circuits of all compartments.**	
	ii) Check the working of ventilator (AHU) in AC Rakes.	
4	**Check Jumper continuity visually & visual checking of condition of Jumper & Socket of all motor coach.**	
5	**Check Battery Voltage (in 'D' cabs) of all motor coach.**	
6	**h) Detect Ground fault in AC Rakes.**	
7	**Visual checking of Pantograph & roof equipment from pathway**	
8	**Check level of lubrication Oil in main Compressor & T/motor**	
9	**Check the EP brake continuity.**	
10	**Check the oil level of transformers in AC rakes, check whether any oil leakage from transformer chock radiator and its pipeline.**	
11	**Checking of Air suspension in BT rakes.**	

C) Mechanical

No.	**Items to be Checked**	**Remarks/ Change of Equipments**
1.	**Check the wheel by wheel tapping to detect slack tyre crack and any other defect.**	
2.	**Visual Checking Of wheel for any sign wheel skidding, if any remark given by crew in Log Book.**	

3	Check condition of brake blocks, brake rigging, truss bar, Axle guide spring/ bolstar spring swing link, bogie frame and replace brake block if required.	
4	Check vertical line alignment along with intactness of conical spring	
5	Check Axle bearing/ intactness of Axle Cover, Grease leakage/TM bearing for any abnormality visually, if found abnormal, feel the temperature by touching and unfit, if not deemed fit for service.	
6	Check the Helical Spring for breakage.	
7	Visual checking of Bogie Solebar and Head Stock.	
8	Visual inspection of mechanical undergear, Suspension Box and Gear Fixing Bolts, Safety items like Bolster Hanger, Saddle Block, Pins and BSS Brackets for slackness crack/broken, Pins bend Shock Absorber, Gear case Suspension bolt etc.	
9	Check all Safety Straps are in positions.	
10	Fitting between two Coach, Buffers, Hooks of 'D' cabs & condition of Cattle Guard.	
11	Check the position of isolating cocks of bogie, EP/ Auto unit, Compressor isolating, Air suspension, in between MR & BP and õther isolating cocks for any abnormality.	
12	Check if noticed leakage in compressed air system and air hose pipe.	
13	Drain out water from all Reservoir Dirt Collector, Inter Cooler &After cooler.	
14	Check the function of Brake Cylinders by applying EP & Auto & Emergency Brakes.	
15	Availability of oil in Gear Case of TM (if found heavy leakage or abnormally Hot)	
16	Visual checking of APC Magnet, AWS Engine Magnet, Speed Sensor, Techo-Generator and connecting Cable.	
17	Functioning of Air Drier.	
18	Visual checking of suspension of Transformer Inductor, Compressor, Air Dier, TM, Battery Box, Tap Changer, MR and Auxiliary Tank.	

D) Other Undergear Items

No.	Items to be Checked	Remarks/ Change of Equipments
1.	Air Suspension Bogie.	
2.	Check the condition of Air Spring complete and its allied equipments.	
3	Air Spring (intact/ not intact)	
4	Leakage in Hose Pipe (Yes/No)	
5	Levelling Valve (Arm Straight/Not Straight)	
6	Check Fixing Bolts of Air Spring joining with Cradle (to the extent visible.)	
7	Check the Fixing Bolts of Vertical Shock Absorber and Levelling Valve.	
8	Check the MR Pressure (6.5kg/cm-7.5kg/cm) (SAC rake) & 6.0kg/cm - 7.0kg/cm (BT Rake MR Pressure)	

D) General

No.	Items to be Checked	Remarks/ Change of Equipments
1.	Final testing from both Cabs, ensure Brake Power and flash Test all M/chs are coming on power.	
2.	General cleanliness of all Coaches.	
3	Check and ensure the Cleanliness of Look Out Glass and Head Code Glass.	
4	Check the condition of AC Flap.	
5	Check the condition of Windows and Doors in Coaches.	
6	Locking of M/ch Door cab along with RPF.	
7	Check the Log Book Defect and attend. Inform to PPIO/EMU Control for any abnormality.	
8		

E) Other remark, if any

DEPOt: ----------

Date: ----------

Name and signature of SSE/JE/A-TSRT

COACHING DEPOT

1. Aspects To Be Checked On Coaching Rake On Pit Line:

1. Check whether the rake is secured by providing wedges and application of hand brakes in front and rear SLR are done or not?
2. Check whether the point was set against blocked line, clamped and pad locked.
3. Check whether the rake placement memo was issued on standard form T/431 by Dy.SM on duty immediately after the placement and obtain the acknowledgement.
4. Adequacy of Pit-examination time for various rakes as laid down in Policy Circular.
5. Availability of berthing slots & spare coaches.

2. Infrastructure availability and adequacies of the following;

1. Approach road.
2. Pathways for material movement.
3. General lighting.
4. Pit light for night examination.
5. Availability and functioning of Air compressor and rake test rig.
6. Welding facilities
7. Drainage & Dewatering pump for monsoon season.
8. Solid waste disposal system
9. Storage of rubber items, oil & grease.
10. Welding point, AC charging point 440V provided safe guard
11. Earth pits are properly covered.
12. Whether Yard & Coaches are free from outsiders/ miscreants.

3. QUALITY OF REPAIRS

1. Proper attention paid to under gear examination and air brake testing.
2. Leakage rate of rake & hand brake working ensured.
3. Timely attention of schedule.
4. Check gauges are calibrated.

5. Brake van equipments available in guard van with OTL and list displayed.
6. Condition of emergency windows, main doors & vestibule.
7. Condition of hand rail, foot board & Door latch.
8. Periodical inspection of ACP system.
9. Availability of safety and vital materials as per AAC.
10. Roof ventilator and roof panel intact and free from garbage.
11. Electrical fuse terminal box and junction box are proper, covered and free from garbage.
12. Whether properly trained Rly/contractor's staff for operating mechanised cleaning equipments.
13. Check proper lubrication of moving parts.
14. Coaches tested with single car test rig.
15. Whether adequate number of trolley/ Wheels supplied from POH shop.
16. Buffer height adjustment and check done at zero level track.
17. AMC of over head crane and compressor.
18. Scrap disposal ferrous/ non ferrous.
19. Quality of failure investigation, trends of failure and preventive action taken.

4. Whether coach failure analysis, reporting system and follow up action is being carried out.

5. Schedules done/arising/overdue including POH.

6. Any other observations.

7. ASPECTS TO BE CHECKED ON COACHES IN SICK LINE/IOH REPAIR SHED:

1. Infrastructure
2. Condition of machinery & plants
3. Condition of building, covered shed & line capacity
4. Approach road.
5. Pathways for material movement.
6. General lighting.
7. Functioning of lifting facilities.
8. Welding facilities.
9. Drainage and Dewatering pump especially for monsoon.
10. Scrap disposal ferrous/ non ferrous.

11. Proper insulation and safeguards are available for Welding points & Charging points.
12. Earthing of all machinery.
13. Special Storage facility of rubber items & welding electrode.
14. Availability of tools and personal safety gears with staff.

8. Any other observations.

9. ASPECTS TO BE CHECKED ON COACHING RAKE ON PLATFORM

a) SYSTEM OF ROLLING 'IN' EXAMINATION OF PASSING TRAINS –
   1. Availability of powerful lights for conducting this examination on either side of all platforms.
   2. Check the availability of non-contact Thermometer, whether it is being used during rolling 'in' examination?
   3. Availability of shelter for the staff provided or not.
   4. Whether rolling in point is in safe place, have adequate distance from nearest track.

b) Check whether JE/SE/SSE-C&W record correct levels of air-pressure on loco and SLR? Does he conduct checks for Passenger Alarm Device? Do the Fitters have proper tools, lights & personal safety gear?

c) Whether padlocking of terminating trains was done?

d) Any other observations.

10. COACHING STOCK INSPECTIONS:

1. Brake power check: Count effective Nos. of Brake Cylinders and divide the same by the total No. of Brake Cylinders available on the train for calculating the available break power of the train.

2. Continuity of Air Pressure from loco to brake van up to the last vehicle, i.e. Brake van should be checked by operating the guards Van Valve.

3. Condition of Brake Blocks and their gripping against the tread of the wheels for getting effective brake power.

4. Position of angle Cock: The position of angle cocks in line with the feed pipe and the brake pipe shall indicate open position, and if it right angles to the feed pipe/brake pipe it should indicate closed position.

5. Position of isolating handle of the DV: If the isolating handle is horizontal to the ground, it will be termed as DV isolated and if vertical to the ground, then the DV shall be termed as Non- isolated and connected to the air- brake system.

6. Hand Brake of brake van should be in working condition.

11. Under gear checks:

a) Availability of safety loops for brake beam/push rod/pull rod etc. Loose hanging parts, if any and if found so they should be secured properly.
b) Condition of wheel profile for sharp flange, thin flange, flat tyre and other defects.
c) Condition of buffers: The buffer plungers generally have a curved profile so as to have only a point contact between the two buffers, In service, the buffers worn out and the buffer screw may come out which may entangle with the adjacent buffer on curves and cause derailments.
d) Condition of primary suspension and secondary suspension (bolster coiled springs). No springs should be cracked or broken.
e) Condition of Dash-pot oil level.
f) Oil level in side bearers.
g) Height of buffers from the rail level. Not more than 75 mm difference between the two adjacent buffers is allowed. Buffer height from rail should be between 1030mm to 1105 mm.

8. Smooth working of emergency windows.

9. Effective working of Alarm chain apparatus of each coach.

10. Calibration of BP/FP gauges in SLR of either ends.

11. Brakevan equipments should be complete, sealed with OTL and list of the equipments should be displayed.

12. Condition of vestibule – Whether UIC type or Ballow Type Check connection along with condition of fall plate.

13. Condition of safety rail of upper berth & berth chain for middle berth.

14. Condition of ladder for landing on upper berth.

15. Condition of hand rail of main entry door and smooth working of doors.

16. Availability of Fire Extinguishers and hammers in AC coaches.

17. Indications of emergency window location.

18. In case of LHB coaches, check:
    (i) Ensure modification of locking pin fitment to tight lock coupler.
    (ii) CBC operating handle with locking pin should be ensured.
    (iii) Wheel Slide Protection (WSP) system should be in working condition.
    (iv) There should be no crack in brake disc.
    (v) Speedometer system should be intact.
    (vi) Brake indicator system should be in working condition.
    (vii) There should not be any air leakage in brake system.
    (viii) Passenger emergency alarm system device (PEASD) provided inside the coach from where

resetting is to be done, should be in working condition.

(ix) Bio-toilet tank safety rope, under-slung water tank fittings should be intact.

(x) Earthing cable between bogie & body should be intact.

(xi) Control Arm Supporting plate bolts should be properly tightened.

12. UNDERGEAR COMPONENTS:

i. Bogie frame crack.
ii. Eddy current test/DPT on wheel disc crack.
iii. Condition of control arm in LHB coaches.
iv. Securing of underslung fitted water tank/ Air reservoir.
v. Availability & condition of fire suppression system.
vi. Availability & condition of fire extinguishers.
vii. Rolling gears.
viii. Other components.

13. FIRE SAFETY MEASURES:

i. Availability of fire extinguishers & its Expiry.
ii. Availability & working of fire detection & alarm system of coaches.
iii. Fire suppression & smoke detection system of pantry cars & power cars.

WAGON DEPOT

A) Aspects To Be Checked On Air-Brake Rake:

1. Whether the air brake test rig is being used for testing of brake power and brake system by using the air compressor?

2. Whether the brake power maintained 100% in case of CC rakes, 95% in case of Premium rakes, 90% in case of End-to-End rakes.

3. Whether the quick coupler for fitment of air pressure gauge was available in Guard Brake Van and whether it is in working condition? Hand brake in working?

4. (a) Condition of BP/FP air hoses to be checked to see whether there is leakage from these pipes.
   (b) Whether the condition of DV Isolating cock, cutoff angle cocks, loaded /empty device & hand brake wheels were checked and ensured for proper functioning?

5. Whether the condition of Distributor Volve, Isolating cock, cut-off angle cocks, loaded/empty device and hand brake wheels were checked and ensured for proper functioning?

6. (a) Whether the condition of CBC components, brake gear components, wheel profile, springs, elastometic pads, brake beam, brake block, hangers, brake pins and split pins were checked and ensured for proper fitment and functioning.
   (b) Availability of safety loops for brake beam/push rod/pull rod etc.
   (c) Condition of primary suspension and secondary suspension (bolster coiled springs). No springs should be cracked or broken/shifted.

7. (a) Automatic twist lock (ATL) should be intact & in working condition.
   (b) Load sensing device (LSD) should be intact & in working condition. Also ensure that there is no leakage in flexible pipes of LSD.

8. Whether all the Brake Cylinders are released manually and ensured the brakes released completely before handing over the rake for Traffic use?

9. Any wagon is due for ROH/POH and allowed in the formation without detachment.

10. Whether the train was tested for brake continuity before signing the BPC by the Guard?

11. Whether the BPC issued is in proper format (CC rakes or Premium rake or End to End) and necessary log sheets enclosed?

12. Whether the doors of both empty & loaded wagons are in closed and secured condition?

13. Running of CC-rake and Premium rake trains even after expiry of BPC, without offering for TXR Check at nominated Depot. Further such rakes placing for loading and moving trains on GDR Check by ignoring the JPO.

14. In case of CC+8 /CC+6 loaded rakes, the individual wagon wise weight particulars copy required to be handed over along with the speed restriction memo.

15. Analysis of train running with invalid BPC.

16. Ensure working of twin pipe system of BOXNHL & BCNHL.

17. Load arrival on yard communicated in advance by operating department to C&W for rolling in examination.

18. Quality of failure investigation, trends of failure and preventive action taken.
19. Whether load has been secured in case of stabled trains.

20. Any other observations.

B) Aspects To Be Checked During Roh Of Wagon

1. Infrastructure adequacies of ROH/Sick line-covered Shed, line capacity for ROH/Sick attention, availability of materials, Tools & Plants, Pathway and lighting

2. DURING ROH, the following bogie components to be stripped 'off', examined and if required, to be replaced / repaired.
   (i) Brake beam and brake-gear pins.
   (ii) Brake-gear levers and rods.
   (iii) Brake-gear pin bushes.
   (iv) Brake shoe and hanger.
   (v) Brake beam safety straps.
   (vi) Springs and spring suspension arrangement.

3. Check whether the Centre-pivot was checked with gauge for worn out.

4. Check whether springs free height measured and grouping made before replacement.

5. Check whether the AR is drained out.

6. Check whether the dirt collector filters cleaned.

7. Check whether the bogie frame alignment was checked with trammeling gauge.

8. Check whether the CBC components dismantled and examined.

9. Check whether all the knuckles and bogie frame were subjected for Dye-penetrant test.

10. Check whether all the wheels are subjected for UST and axle box cap bolts are tightened with torque wrench with proper torque and in no case old locking plates are to be reused.

11. Whether the brake power of wagon was tested by connecting single car test rig with air compressor.

12. Quality of failure investigation, trends of failure and preventive action taken

13. Any other observations

FREIGHT TRAIN EXAMINATION

1. **Brake Power check:**
   a) No of effective Brake cylinders working (to be counted and divided by total No. of Brake cylinders to obtain Brake Power percentage).
   b) Condition of BP-FP air hoses to be checked to see whether there is leakage from these pipes.
   c) Empty/Loaded device lever to be seen whether kept in empty or loaded condition.
   d) Angle cock condition and position to be examined.
   e) Load sensing device (LSD) should be intact & in working condition. Also, ensure that there is no leakage in flexible pipes of LSD.
   f) Condition of Slack Adjusters (SABs) and the proper "A" Dimensions for effective brake power, in conventional stock.

2. **Under gear check:**
   a) Availability of safety loops for brake beam/ push rod/pull rod etc.
   b) Loose hanging parts, if any and if found so they should be secured properly.
   c) Condition of wheel profile for sharp flange, thin flange, flat tyre etc.
   d) Condition of buffers: The buffer plungers generally| have a curved profile so as to have only a point contact between the two buffers. In service, the buffers worn out and the buffer screw may come out which may entangle with the adjacent buffer on curves and cause derailments.
   e) Condition of primary suspension and secondary suspension (bolster coiled springs). No springs should be cracked or broken/shifted.

3. Automatic twist lock (ATL) should be intact & in working condition, in case of BLC wagons.

4. CBC assembly with operating handle intact & within their wear limit.

5. Draft gear support plates should be properly secured.

6. **General:**
   a) Whether load has been secured in case of stabled trains.
   b) Validity of Brake Power Certificate.
   c) Whether doors of the wagons are closed in case of both empty and loaded stock.
   d) Condition of brake regarding working of brake van valve.
   e) Availability of pressure gauge in the Brake Van.

ACCIDENT RELIEF TRAIN

1. Condition of Rolling stock

2. Complete ART formation is to be stabled in one hook and the double entry facility to be made available for all ARTs to facilitate quick turn out.

3. List of nominated staff with phone number to be displayed.

4. List of other nearest resources with phone number of Hospital/crane services/ ambulance services to be displayed.

5. Check whether standard items list display board is provided with location plan by the Mechanical, S&T, Engineering, Electrical and Medical Departments.

6. The full-fledged Disaster Management exercise to be organized periodically to have the practical experience to ART nominated staff.

7. **Hydraulic Re-railing equipment- Lucas/MFD equipment.**
   a) Running of Power pack, under load & on No condition.
   b) Condition of wire ropes, ropes and packing required during salvaging operation. Confirmation that no wire ropes are overdue testing.
   c) Generators (Fixed or portable): Running of DG generators and portable generator.

8. **Lighting equipment:**
   a) Check all lightening i.e. Flood light stands, their reflectors, and glass for their proper fitness condition.
   b) Check whether spare bulb pins, switches and cable are available with sufficient quantity/length.
   c) Condition of Halogen lamps and their stands with their securing arrangements.

9. **Petromax:**
   a) Check petromax for their proper burning/lighting.
   b) Check mantles and their condition.

10. **S&T equipment:-**
   a) Check Public Address system. Satellite phone, FAX machine, working of V-set for video conferencing, Availability of different companies SIMS for immediate connectivity.
   b) VHF sets: Check whether the set is in proper working| condition and gives clear voice and its frequency range is correct.
   c) Walkie-Talkie: Check whether all the Walkie-Talkie sets are in working order.
   d) Check the portable telephones for proper functioning and voice check whether regular inspection/testing being carried out by S&T department and record is being maintained in the Register and Inspection Book.

11. **Fire Fighting Equipment:**
   i) Check whether all the sand and water buckets are filled with sand and water and hung properly on the stand.
   i) Check whether the fire extinguishers are available in required quantity within their due date for refilling / testing and placed at proper location, knowledge of staff to operate the fire extinguisher.

12. **Detonators:** Check the manufacturing date and due month/year for replacement of the detonators.

13. **Compressor:** Check the running of compressor in idle and in working condition.

14. **Availability and adequacy of other equipment:**
   a) Jacks - Hydraulic/Screw(manual).
   b) Hard Wooden packing:
      (i) Check whether the wooden packing are in good condition and their both ends are secured with iron strips to avoid cracking/breakage.

(ii) Check whether wooden wedges, iron wedges are available as per standard list and they are kept in good condition and some of them provided in all the coaches for emergency requirements.

c) Gas cutting equipment:

(i) See both Acetylene and Oxygen cylinders are available as per ART's requirement.

(ii) Inspect whether these cylinders are placed properly on their stand and their securing arrangement.

(iii) Check that both the cylinders are replaced as per schedule and when exhausted/used at site and their replacement date are observed.

d) Cold cutting equipment:

(i) Check the Running of cold cutting equipment.

(ii) If necessary take practical demonstration by operating the same.

e) Camera: Check the camera and its flash for its proper operation.

f) Kitchen ware, Cooking Gas etc.

(i) Check all the kitchen ware for their proper cleanliness.

(ii) Check whether the raw material for cooking food is available in fresh stock.

(iii) Check the cooking gas cylinder and its connections are properly fitted.

g) Tools and equipment:

(i) Check the tools and equipment list and see that the tools, gauges, spanner etc. are available in ART as per revised list.

(ii) Check all the measuring instruments are also kept as per requirement & calibration due date.

(iii) Hydraulic Rerailing Equipment, running of power pack under load and no load condition and test the jack for its efficient working.

(iv) Availability of spare kits for all type of jacks.

(v) Functioning of inflatable air bags.

h) First Aid equipment.

(i) Check the stretchers and their condition.

(ii) Check whether the first aid box material has been inspected and replaced as per schedule.

15. Check AMC is available for critical items like HRE, HRD and inflatable lights etc.

16. **Diesel crane:**
    (i) Check examination date and due date of wire rope and chains of the crane.
    (ii) Check brake and hand brake of the crane for its proper working and all brake riggings.
    (iii) Check all spring, hangers and their condition.
    (iv) Check all operating levers and connection for free operation.
    (v) Check all the brakes, i.e. of Main and Auxiliary hoses, turning table Jiti's operation etc. whether they operate properly.
    (vi) Check that schedule repairs are carried out.

17. **Miscellaneous items:**
    (i) Check inspection register whether the inspection of ART has been carried out as per directives.
    (ii) Check chains and wire rope testing register, whether the entries of testing wire rope and chains have been made regularly as per schedule.
    (iii) Check G&SR and Accident Manual whether the latest correction slips have been included in them.
    (iv) Check ART log book whether the entries of the ART movement at the site of accident whenever ordered is made till date of inspection.
    (v) Check that the ART is kept in one formation and can be taken out with minimum delay.
    (vi) Check whether mock drills are conducted or not and number of staff present during mock drill.

18. Check Exit end shunt signal facility for direct movement without authority (T/511).

19. Check the regular actual movement & mock drill of ART in movement register as per Accident Manual Para 401(6) to increase staff efficiency.

20. Last joint inspection of ART led by DRM/ADRM with Branch officers of division for staff and equipments working efficiency.

21. **140 T crane and ART should be kept on separate line with covered shed & pit facility for intensive Examination:-**
    i) Check for cranes working, propping beam and its hydraulic piston jacks and its seals for leakage.
    ii) Whether all maintenance schedules have been carried out.
    iii) Check whether 'special safety precautions for operation of 140 T crane' are prominently displayed in the driver's cab both in English and Vernacular language.
    iv) Availability of at least two sets of well trained staff who can operate the crane with valid competency certificate.
    v) Check for proper working of safe load indicator.
    vi) Check all the systems lift/lower, derrick in/out, slew, haul and travel are working.
    vii) Check whether AMC is available for main engine and Safe Load Indicator.
    viii) Check whether joint inspections are carried out as per schedule
    ix) Check whether mock drills are conducted or not and number of staff present during mock drill.
    x) Check the 140 ton crane chains and wire ropes safety testing done and due dates and competency certificates of crane drivers.
    xi) Any other observations.

ACCIDENT RELIEF MEDICAL VAN

The name of the Doctor In-charge and the last inspection should be pasted inside the Medical Van. The internal condition of the Medical Van should be absolutely clean of dust etc. The other items to be checked for Medical Vans are detailed as under:

1. Condition of Operation Table and working of lifting/ lowering arrangement.

2. Condition of light for Operation Table.

3. Oxygen Cylinder and the quantity available in the same.

4. Sterilization facility for Operating Tools.

5. Fumigation of OT Room & its record.

6. Availability of gas cylinders.

7. Condition of Rubber gloves for handling of gas cylinders.

8. Condition and the quantity of availability of medicines and to ensure that the expiry date is not over.

9. Availability of fresh cloth pieces(shrouds) for covering the dead bodies.

10. Availability of Disposal syringes, Refrigerator in working order, Drinking water and the date of cleaning and filling the water, Light weight aluminum folding stretchers, Milk powder and tea leaves, Biscuits and snacks and other eatable foods within expiry date.

11. Check whether the inverter of suitable capacity is available.

ITEMS IN THE AUXILIARY VAN(RHV)

1. Condition of Power Pack for working the expander and cold cutting equipment. The Power Pack should be periodically checked.

2. Working of DG sets for “illuminating' the site of accident.

3. Availability of Walkie-talkie, mobile charging facility

4. Check Exit end shunt signal facility for direct movement without clamping the points.

5. Last joint inspection of ARMV led by DRM/ADRM with Branch officers of division for staff and equipments working efficiency.

6. Last actual movement and details of staff attended /turned up and turn out timing from siding.

7. Whether mock drill conducted, if there is no accident/ actual movement in last three months.

INSPECTION OF PANTRY CAR

Train No. _____Pantry Car No. _____

Division/Depot_____

1. Check for presence of any inflammable materials like patrol, kerosene etc and gas cylinders are kept inside the nominated room/compartment with proper clamping arrangement.

2. Check whether LPG connections are periodical checked and certified by authorized agent during every trip. Daily and 30 day check certificate should be available with pantry car manager.

3. Check whether gas regulators, fire back arrestors & pressure gauge are in working order.

4. Check whether the specified no. of outlets only is being used.

5. Check whether fire extinguishers (8 nos.) in pantry car are kept in proper location duly clamped and not overdue for refilling.

6. Check whether the pantry car staff is having adequate knowledge in use of fire extinguishers and aware of the action to be taken in case of fire in pantry car.

7. Check whether the ACP apparatus is working in pantry car.

8. Check the exhaust fans are available and they are in working order.

9. Check whether all main doors are free to open and the passage kept free for movement.

10. Check whether any empty cartoons, gunny bags, plastic crates/bags or any other material kept in gas room.

11. Ensure vestibule area, passage of pantry car and gas cylinders' room are kept clean.

12. Check proper rating and types of fuses are used for battery, fan circuit, light circuit in junction boxes. Re wirable fuses are not to be used in place of HRC fuses.

13. Check for earth in wiring, if any earth is noticed, investigate and remove earth.

14. Check if any excessive sparking is noticed in fans.

15. Check whether electrical equipments provided are as per prescribed standards. No any additional equipment, non standard equipment should be connected.

16. Check the plug & sockets for loose connection, burnt marks, and tightness of terminal connections at junction boxes, EFT terminals & battery terminals.

17. Check the register for maintenance of electrical equipment. The equipments are to be periodically maintained and tested.

18. Check the condition of inverters for any overheating. Check sufficient natural ventilation for the inverters.

19. Check over voltage protection is working in rectifier-cum regulator unit (RRU).

20. Check proper sealing of fuse distribution board to avoid entry of foreign material.

21. Ensure no perished/damaged cables and no open wiring in the pantry car.

22. Ensure the unauthorized tapping of electrical connection is not resorted to.

23. Check the presence of pest and rodents.

24. Any other observations.

SAFETY ASPECT OF ELECTRICAL DEPARTMENT

Following items in different electrical installations may be checked in general during Safety inspections:

1. **TRD Depot:**
   (i) Upkeep of ladders, tools (Tirfors, Pull lifts, Come along Clamps, Dynamometer, Bond making Zigs and fixtures, Discharge Rods, Meggars, Multimeters, etc. including their periodical testing).
   (ii) Competency Certificates of all the eligible staff.
   (iii) Working of TPC phones and auto phone.
   (iv) Inspect the foot patrolling reports and their compliances.
   (v) Upkeep of OHE Inspection Car. (Maintenance Register, periodical checking by TXR, Diesel Engine and Drive Gear (U/G).
   (vi) Use of helmets and safety belts by staff.
   (vii) Method of working, use of correct tool and quality of work.
   (viii) Cancellation of power block and charging of OHE with proper exchange of private nos.
   (ix) Knowledge of staff and supervisors for fire fighting.
   (x) Ensure Tower Wagon is properly secured when stabled in Shed.

2. **Traction Substation:**
   (i) Battery Sp. Gravity.
   (ii) Last recorded earth resistance readings.
   (iii) Buried Rail connection.
   (iv) Availability of fire buckets and fire extinguishers, First aid box, Shock treatment chart, tools and plants.
   (v) Working of TPC phones, emergency sockets, Railway auto telephones if provided and BSNL phones.
   (vi) List of telephone nos. of nearest Doctors and hospitals.
   (vii) List of telephone nos. of fire stations.
   (viii) List of authorized persons.
   (ix) Availability of cable trench cover.

3. TRD worksites inspection:

(i) Competency Certificate to the staff operating the power block.

(ii) Proper isolation of OHE section and earthing before commencing work of OHE during power block.

(iii) No vehicle is attached behind the tower wagon since not permitted.

(iv) Measure the implantation of OHE mast which should not be less than 2.36 mtrs for existing sections and 2.8 mtrs for new sections on M/L.

(v) No work shall be done above or within a distance of 2 mtrs from live OHE.

(vi) Each working party shall be protected by atleast 2 independent earth rod.

(vii) Earth rod does not exit 100 mtrs.

4. Electric loco sheds:

(i) Preparation of loco shed/Trip shed for managing emergencies to prevent accidents like moving locos with floating wheels, tools and skill for lifting of wheels.

(ii) UST test of axles.

(iii) Dye penetration test for detection of cracks on traction motor support on bogie transom.

(iv) DGA test on transformer oil in all loco transformers.

(v) Under gear examination of locos for correctness of safety fittings.

(i) Periodical test of wire ropes and slings of cranes by authorized agencies.

(ii) Whether staff are using suitable gadgets while working at the electrical & rotary machines.

(iii) Whether supply is made dead & earthed before working on power/equipment.

(iv) Whether safety belts are used when attending equipment at heights?

(v) Availability of fire extinguishers & whether staff is familiar with fire fighting & fire prevention measures?

(vi) Availability of first aid box with prescribed medicines.

(vi) Ensure whether proper earthing is done to the equipments through earth pits and earth connection is properly maintained.

(vii) Ensure that due safety precautions are being taken while attending electrical work.

(viii) Ensure that the calibrated & standardized tools like torque wrenches, pressure gauges & testing equipment (electrical & mechanical) are being used for maintenance.

5. Coach maintenance depot/coaching stock:

i) Availability of DCP type fire extinguishers in AC coaches and brake vans.

ii) Knowledge of AC mechanic and AC attendants for| operating the fire extinguisher.

iii) Knowledge of first aid to AC mechanic and AC attendants.

iv) Earth leakage test of coaches before dispatching from the depot.

v) Ingress of the foreign material like paper, bidi ends etc. in the distribution boxes.

vi) Availability of correct rating of fuses in junction boxes (HRC) Battery junction boxes and distribution fuse boards of coaches.

Recommended fuse ratings are as given below:

SN	Circuit fuse	Fuse location	Fuse size/Rating
1.	Positive/negative branch fuse	DFB	6A HRC
2.	LI, LH & F+	Junction box	16A HRC
3.	SPM-I & SPM-II	--Do--	16A HRC
4.	Main negative	--Do--	40A HRC
5.	Battery fuse	Battery box	32A HRC

6. Stations:

(i) Knowledge of Station Master regarding working on electrified sections and opening and closing of OHE isolators.

(ii) Competency certificate of SM/Cabin Master / Pointsmen for operating of OHE isolators.

(iii) Availability of protective screens on FOB/ROB and also availability of 25 KV caution boards on the screens.

(iv) Adequate insulation on structure bond beneath the rail passing through in the track circuited area to avoid shorting of TC rails.

(v) Availability of bonds in the track circuited areas.

(vi) Earthing of COP, steel structures, steel fencing panels and FOBs/ROBs.

(vii) Keys of isolator usually in the custody of SM's concerned.

(viii) Use Hand glows for operation of isolator.

CHECKLIST FOR UPKEEP OF TRIP SHED

1. Whether supply is made dead & earthed before working on power/ equipment.

2. Availability of fire extinguishers & whether staff are familiar with fire fighting & fire prevention measures

3. Availability of first aid box & whether all the staff is familiar with rendering first aid to the electrocuted.

4. Whether the staff observing safety precautions during their work & protecting the work spot and himself.

5. Ensure whether proper earthing is done to the equipment through earth pits/ earth resistance.

6. While attending electrical repair works, ensure proper power block/ OHE isolation. Also the boards like 'MEN AT WORK', 'SUPPLY OFF', SUPPLY ON' to be ensured at switching panels and distribution boards.

7. Check whether calibrated recommended standard tools like pressure gauges, meters & testing equipment (electrical & mechanical) are being used.

8. General upkeep of shed premises & proper environment.

9. While dispatching the locos from trip shed whether all safety items and safety fittings are intact and in function or not?

10. Securing locomotives as per the procedure or not?

11. Availability of sand and water at welding locations.

12. Proper locking of 'Isolator' handles of OHE.

13. Proper condition of earth discharge rods.

14. Condition of distribution panels.

15. Availability of spares and their condition.

16. Use of proper tools by staff.

17. Attention to look out glasses.

18. Availability of dry and sieved sand.

19. Usage of personal safety items viz. helmets and shoes by staff.

20. Proper lighting of shed and pit line.

21. Knowledge of proper procedure of providing discharge rods.

22. Staff knowledge to attend different class of locomotives.

23. Safety and fire hazard posters.

24. Display of electrical and pneumatic circuits. 25. Any other items noticed related to safety.

ANNEXURE-1

APPROACH TO EQUIPMENT FAILURE INVESTIGATION

A. On Failure Aspects

- Occurrence
- Date of occurrence
- Past similar occurrences if any
- Analysis of failure i.e. why did it happen?
- Whether the rate of failure is worse than other installations?

B. On Maintenance Aspects

- Whether schedule maintenance & required testing have been carried out on the failed equipment as per norms stipulated?
- Does the frequency of maintenance require change?
- Was the work properly supervised?
- as any RDSO modification required to be done?
- Is any modification possible to avoid failure?

C. About Staff

- Is the quality of work done satisfactorily?
- Is the skilled staff properly trained to carry out the work?
- Is the SMI available with them? 4. Are proper tools available with the staff?

D. About Material

- Is the material received from approved source?
- Whether the material is as per approved specification?
- Can a better material be used?

E. About Testing

- Is the testing equipment available?
- Could testing procedure be improved to weed out the failures?
- Whether testing equipment are calibrated?

F. General Points Whether following points were checked / performed properly?

- Proper contact
- Clearances
- Capacity
- Proper contact pressure
- Crack detections
- Cleaning
- Proper connections/alignment
- Cross checks/super checks.

ANNEXURE-2

Proforma for Communication Repeated Defect/Deficiency/ Failure of Particular Type to Home Shed Name of Reporting Trip Shed: Name of Locos Home Shed: ……. Period under Observation: …….to……. Type of Failure/Defect/Deficiency Observed: ……..

……

……

Details of locomotives

Sr.N.	Date	Loco Type & No.	Defect/Deficiency Noticed	Action Taken
1				
2				
3				
4				
5				
6				

Trip Shed In charge:

Name:

Designation:

Contact No

Safety check of Locomotive at Central Railway

Shed: **Loco No:** **Date :**

Time of Inspection: **Name of Officer/Supervisor :**

Sr.No	Item	Observation
1	UST status of axles Latest record to be confirmed.	
2	Wheel profile measurements & recording Latest record to be confirmed.	
3	Bogie Clearances measurements & recording. Latest record to be confirmed.	
4	Condition of foundation of under slung equipments/ MPT & DPT status (Battery Box, SL,CPs, Air dryer, MR tank, TFP etc.) (MPT/DPT Latest record to be verified).	
5	Availability of safety slings, check nuts, as prescribed, for under slung equipments & brake rigging. a- Traction Bar – 1 No. at either end. b- Brake hanger (WAP-7) – 5,6,19,20 c- TBU/ PBU – all in cross wise manner. d- Tie Bar – 1 No. each either end e- Compressor – 2 Nos. on each. f- Safety Sling for TM – 2 Nos. On each.	
6	Condition of Traction Motor nose &sandwich mounting assembly, intactness of nose vertical & horizontal pins & split pins. Measurements & recording of clearances latest record to be verified.	
7	Condition & tightness of hardware of Gear case & MSU	
8	Condition and tightness of foundation bolt cattle guard, buffers,screw & CBC coupling and status of DPT.	
9	Proper mounting of cattle guard, buffer & CBC coupling.	
10	To ensure for operation & locking of CBC.	
11	Visual checking of all main reservoir (M4 1-4,auxillary Control reservoir) proper welding/for any crack of foundation bracket and status of DPT.	
12	Checking the foundation and welding of foundation plate/angle plate of the under frame part i.e. SL Box, Battery box, Air dryer, After cooler, Hand Brake chain pulley and status of DPT.	
13	Checking the condition of Draft gear, yoke, Draft gear foundation plate, foundation bolt tightness and status of DPT.	
14	Condition of Equalizer beams & its cotter pin. Safety bracket, tie pin, helical spring.	
15	Availability & intactness of dampers and side bearers.	
16	Visual checking of cracks in TM support, traction motor holder plate, centre pivot flange & housing joint and status of MPT & DPT. Latest record to be confirmed.	
17	Gap between Aclathan ring and centre pivot retaining plate to be check.	

Sr.No	Item	Observation
15	Availability & intactness of dampers and side bearers.	
16	Visual checking of cracks in TM support, traction motor holder plate, centre pivot flange & housing joint and status of MPT & DPT. Latest record to be confirmed.	
17	Gap between Aclathan ring and centre pivot retaining plate to be check.	
18	Check traction link assembly for any damage (it should not come down) also check intactness of fasteners and their locking. Status of MPT & DPT, Latest record to be confirmed	
19	Visual checking of Spheri blocks of gear case support arm (for WAP-5), TM support arm and Axle guide link.	
20	Ensure intactness of all fasteners.	
21	To ensure availability of gear case oil up to half mark.	
22	Any other observation related to safety/ any hanging parts etc.	
23	Visual checking of TM nose stay(lug) and lifting lug for any crack on welding	
24	Visual checking of top/bottom gear case mounting lug plate for any crack	
25	checking of Foundation of TM end shield for any crack	
26	Checking o TM Bolts for any looseness	
27	Checking of Holder bolts for 3 Phase TM	
28	Checking of Holder plate Lug MPT during Schedule	

Check list for Inspection of TSS

<table>
<tr><th>Sr.No</th><th>Observation</th></tr>
<tr><td>1.</td><td>On duty staff available:</td></tr>
<tr><td>2.</td><td>Staff Attendance register of checked, status is found as-
<table>
<tr><td>SN</td><td>Designation</td><td colspan="2">Men on Roll for</td></tr>
<tr><td></td><td></td><td>Operation</td><td>Maintenance</td></tr>
<tr><td>1</td><td>SSE</td><td></td><td></td></tr>
<tr><td>2</td><td>JE</td><td></td><td></td></tr>
<tr><td>3</td><td>MCM</td><td></td><td></td></tr>
<tr><td>4</td><td>L/M</td><td></td><td></td></tr>
<tr><td>5</td><td>Fitter</td><td></td><td></td></tr>
<tr><td>6</td><td>Tech</td><td></td><td></td></tr>
<tr><td>5</td><td>H/KH</td><td></td><td></td></tr>
</table></td></tr>
<tr><td>2.(a)</td><td>Staff found on long leave/sick/IOD/ unauthorized absent.</td></tr>
<tr><td>2.(b)</td><td>Whether attendance register is maintained neatly in Rajbhasha?</td></tr>
<tr><td>2.(c)</td><td>Whether Staff grievance register is kept in TSS? Visit of Welfare Inspector</td></tr>
<tr><td rowspan="2"></td><td>Whether Staff needs t raining in AC Traction & Whether Competency certificate is issued to staff as per provision of ACTM.</td></tr>
<tr><td>Whether Staff needs to train in use of fire extinguisher, to render First aid and operation of isolators?</td></tr>
<tr><td>2.(d)</td><td>Whether Names of all files/registers are maintained in bi -lingual form, all stamps in bi -lingual (Rajbhasha is first), all TA bills, Leave Application & Pass application of staff in Rajbhasha?</td></tr>
<tr><td>2.(e)</td><td>Whether Copy of maintenance instruction issued by HQ/CEDE, Sr.DEE/TD/CSTM are available with SSE , whether acknowledged by all supervisors, JE/Artisan even working as operator at all TSS.</td></tr>
<tr><td>2.(f)</td><td>Whether Assets failure register is maintained at each TSS/PSI depot and photographs of failed components pasted in the register?</td></tr>
<tr><td>2.(g)</td><td>Whether power supply a uthority telephone/mobile number with name displayed</td></tr>
<tr><td>2.(h)</td><td>Whether copy of ACTM, Electricity AC -2003, Railway ACT, G&SR & SOD -2004 with correction slips are available at each OHE/PSI depot, SP/SSP/TSS. .</td></tr>
<tr><td>3.</td><td>Following Safety items of TSS to be checked,</td></tr>
<tr><td>3.(a)</td><td>Schematic / sectioning diagram of TSS</td></tr>
<tr><td>3.(b)</td><td>Shock treatment / first aid chart</td></tr>
<tr><td>3.(c)</td><td>First aid Box No.... last refilled on.....
Refilling of first aid box is to be ensured on quarterly basis.</td></tr>
<tr><td>3.(d)</td><td>Nearby medical facility board is provided,correctness of telephone numbers to be ensured.</td></tr>
<tr><td>3.(e)</td><td>Stretcher is provided, needs regular cleaning.</td></tr>
<tr><td>3.(f)</td><td>Nearby fire-fighting facility also displayed nearby Operator’s table.</td></tr>
<tr><td>3.(g)</td><td>Fire bucket provided duly filled with sand.</td></tr>
</table>

<table>
<tr><td>3.(g)</td><td>Fire bucket provided duly filled with sand.</td></tr>
<tr><td></td><td>Fire extinguisher ….nos. are provided, refilling status of same is given below:
<table>
<tr><td>SN</td><td>Capacity & type</td><td>Refilling Due on</td></tr>
<tr><td>a.</td><td>.....</td><td>.....</td></tr>
</table>
Refilling of fire extinguishers is to be ensured at each AC TSS, SP & SSP. Whenever fire extinguishers send for refilling the same to made empty to train the staff in operation of fire extinguisher.</td></tr>
<tr><td>3.(h)</td><td>Communication facility TPC & Auto phones has been provided and found in working condition.</td></tr>
<tr><td>3.(i)</td><td>Isolator/Interconnector Key Box is provided with marking of Keys.</td></tr>
<tr><td>3.(j)</td><td>Safety T&P available in TSS is checked, status is given as:
<table>
<tr><td>SN</td><td>Item description</td><td>Qty. Available</td></tr>
<tr><td>1</td><td>Discharge rod</td><td></td></tr>
<tr><td>2</td><td>DO rod</td><td></td></tr>
<tr><td>3</td><td>Helmet</td><td></td></tr>
<tr><td>4</td><td>Insulating hand gloves</td><td></td></tr>
<tr><td>5</td><td>Gumboot</td><td></td></tr>
<tr><td>6</td><td>Rain coat</td><td></td></tr>
<tr><td>7</td><td>Test Lamp – 230 V AC,</td><td></td></tr>
<tr><td>8</td><td>Torch for emergency light</td><td></td></tr>
<tr><td>9</td><td>Safety jacket</td><td></td></tr>
<tr><td>10</td><td>Earth resistance meter</td><td></td></tr>
<tr><td>11</td><td>Ladder</td><td></td></tr>
</table>
Availability of above mentioned M&Ps is to be ensured and status to be displayed on a board at each TSS/SP/SSP.</td></tr>
<tr><td>3.(k)</td><td>Insulating mat is provided in front of all operating panel.</td></tr>
<tr><td>3.(l)</td><td>Prohibited area, danger board, photography prohibited, name of TSS board etc, to be ensured at each TSS/SP/SSP on all entry.</td></tr>
<tr><td>3.(m)</td><td>Insulating mat is provided in front of all operating panel.</td></tr>
<tr><td>3.(n)</td><td>Prohibited area, danger board, photography prohibited, name of TSS board etc, to be ensured at each TSS/SP/SSP on all entry.</td></tr>
<tr><td>4</td><td>Condition monitoring of critical items of TSS is reviewed, status is found:
<table>
<tr><td>SN</td><td>Item</td><td>Frequency</td><td>Last done on</td></tr>
<tr><td>1</td><td>DGA of TR oil</td><td>Yly</td><td></td></tr>
<tr><td>2</td><td>BDV of TR oil</td><td>Yly</td><td></td></tr>
<tr><td>3</td><td>Acidity & moisture content of TR oil</td><td>Yly</td><td></td></tr>
<tr><td>4</td><td>Measurement of Tan Delta of TR bushing & winding.</td><td>Yly</td><td></td></tr>
<tr><td>5</td><td>Measurement of capacitance of TR bushing and winding.</td><td>Yly</td><td></td></tr>
<tr><td>6</td><td>Relay testing</td><td>Yly</td><td></td></tr>
<tr><td>7</td><td>Thermal imaging of TSS switch yard</td><td>H/yly</td><td></td></tr>
<tr><td>8</td><td>THRC measurement of LA</td><td>Yly</td><td></td></tr>
<tr><td>9</td><td>Inspection of buried rail</td><td>Yly</td><td></td></tr>
<tr><td>10</td><td>Checking of CBs with CB Analyzer</td><td>Yly</td><td></td></tr>
</table>
Maintenance of above items needs to be ensured as per prescribed schedule and status to be displayed on board at each TSS/SP/SSP</td></tr>
</table>

5	Total .... earth pit provided in TSS. Earth resistance value last measured on ..... Combined value was ..... Ohms. Following needs to be ensured: The resistance value of earth pits to be ensured on interval of 6 month preferably before on set of monsoon (Apr/May) and after monsoon is over (Oct/Nov). Earth pit for each LA Duplicate independent earth of C & R panel. Duplicate independent maintenance free earth of RTU. Each group of earth value to be displayed on board with last date of measurement but combined value of only earth grid is to be displayed.
6	Whether SCADA is found in working order, & RTU maintenanc e (Qrly)
7	Whether Maintenance of TSS equipment is as per check sheet issued by HQ within prescribed interval.
8	Cause wise analysis of all CB trippings is to be carried out.
9	At each TSS/ SP/ SSP compliance of following is to be ensured. : 1. Reliability action plan. 2. Pre-monsoon, pre-summer and pre-winter action plan.
10	Battery maintenance record inspected, status is found as : i. ..... AH capacity battery, Jumbo make commissioned on ..... and replacement is due on after 04 years. ii. Last weekly maintenance done on ..... Cell voltage is recorded 2.0 V and specific gravity is varying from 1200 to 1210 against standard value of 1180 – 1220. iii Last monthly schedule of battery done in the month of ..... along with BC-1 & BC-2. iv AOH of Battery and BC-1 & BC-2 done on ..... v. Hydrometer and cell voltmeter needs to be calibrated.... vi. Exhaust fan and light were found in working order in batter room..... vii. Condition of floor of battery room is okay, anti acid tiles provided.. viii. Weekly maintenance/checking of battery is done by TSS Operator (SSE/JE/L/man), SSEs In-charge are advised to see and counter signed the report of weekly maintenance n subsequent date....
11	Modification to be ensured / good practices to be adopted : i. Battery low DC voltage modification for alarm / cut off as per RDSO TI No. TI/PSI/PROJECT/ STATIC/12 dated ..... is to be ensured. ii. LBB (Local Breaker back up) as per RDSO TI No.TI/IN/P&S/0028, is to be ensured.

Check sheet for Checking Electrical items for prevention of fire in LHB Power Car

Place:-……. **Date of Checking:-……**

Power Car No……..

A set Make of Diesel Engine/Sr.No……..

B set Make of Diesel Engine/Sr.No……

The following Electrical items are to be checked.

A-Part

Safety System

Sr.No.	Activity	Remarks
1.	Check the available of ABC type fire extinguisher	
2.	Check fire extinguisher inspection date	
3.	Check material storage near emergency accessories	
4.	Check the availability of water sprinkler system	
5.	Check the easy access for safety accessories	

B-Part

Fuel System

Sr. No.	Activity	Remarks
	FUEL LINE HOSES	
1.	Check the all the fuel line hoses have separated from engine body	
2.	Check the condition of all fuel line hoses & proper clamping	
3.	Check for crack/ building in hoses	
4.	Check for leakage	
5.	Condition of clamps, alignment and tightness	
6.	Check fuel tank breather	
7.	Check fuel strainer	
8.	Check fuel tank for any leakage	
	FUEL PUMP & WATER SEPARATOR	
1.	Check any leakages from fuel pump weep hole	
2.	Check leakage and condition of water separator	
3.	Drain the water from separator(Use tray)	

C-Part
Cooling System

Sr.No.	Activity	Remarks
1.	Condition of radiator cap	
2.	Check condition of radiator hoses, clamp for coolant leakage and attend if required.	
3.	Check the condition of radiator core & gasket joints	
4.	Check condition of Radiator fan bolts for tightness and attend if required.	
5.	Check air flow using anemometer	
6.	Ensure proper doors, latches, ceiling and intactness of baffles etc for radiator chamber	
7.	Check foehot air recirculation	
8.	Check for condition of clamps & Tightness	
9.	Check for Cracks/ bulging in Hoses	
10	Check for Routine of all hoses	
11	Any leakage in Cooling system	
12	Check for coolant pipes / hoses alignment	
13	Check and ensure fouling of coolant pipes & hoses with body, base rail or any other parts	
14	Check the radiator fan inspection door always closed	
15	Check condition of fan blade	
16	Check crack/damage in fan blade	
17	Check for fan belt alignment & condition	
18	Check for fan hub conditions	
19	Check fan & belt guards in place	
20	Check leakage from water pump & seal	

D - Part
Cooling System

Sr.No.	Activity	Remarks
2.	History of P/car last One year for Any Major/Minor abnormal leak from turbocharger over leak/ leakage of oil seal, over speed, Engine Bank wkg.	

Name/Designation & Signature of Supervisor

Safety Inspection Guidelines For Officers & Supervisors

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Year-2025
Safety Department
Mumbai Division