

Safety Checks by S&T Officers at a Station

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Safety Officer (other than S&T department) will be checking the following points of S&T department in a Station.

1. Whether Signal Visibility is good. (more than 200M for all Stop Signals and for other Signals should be more than 400M)
2. Cross verify during a failure, failure memo is given by ASM, Relay room entry is made and dis/re-connection memo is issued within the prescribed time.
3. Proper Consent Memo, Dis/Reconnection has been taken for maintenance purpose as per SEM (Gr A, B and C).
4. Whether SWOD and Panel is matching with the site layout and also cross verify with SWR.
5. All seals are intact (CH, Panel, Reset box, Block instrument and EKT).
6. Working of all Audible and Visual indications provided by Signal dept., in the ASM room.
7. Availability of double lock for Relay room and opening should be done at least once in a month and should be linked to Data Loggers.
8. Whether Competency Certificate is available with the ESMs including all B.Instt., (any overdue of RC)
9. Ensure Advance Starter is not obeying, without taking B.Instt., to Line Clear.
10. For conflicting Routes, Signal should not obey.
11. Whether regular inspections are being carried out as per the list shown below:
 - Fortnight inspection by ESM for Block, Point, Crank Handle, Track circuits, & IPS batteries.
 - Monthly inspection by JE.
 - Quarterly inspection by SE/SSE.
 - Annual inspection by Officers.
 - Earth resistance for every 1year.
 - Cable meggering once in a year.
12. Joints Pts and Crossing should be carried out quarterly. Whether deficiencies noted are being attended on priority
13. Any infringements on SOD for any Signal gear.
14. Working of all telephones, Walkie-talkie, VHF set, PA system and updation of train timings and working of all Passenger Amenities.
15. For obstruction test of 5.1 mm, Point should not get locked and indication should not appear on panel.
16. Whether inspection with Traction department is being regularly carried out (every 3 months) and register is being maintained.
17. Safety slogans are provided in ESM room / IPS room.
18. Whether replacement of over-aged Signal gears is being regularly carried out.
19. Cable laying depth should be 1 Meter. If it is \geq 0.5 meters, concreting should be done.
20. For any unusual in the Lobby whether proper feedback given by Signal supervisor.
21. Whether all Signal gears are functioning Effectively.
22. Whether all Signal failures are being entered or not in SFR with proper Remarks.
23. Counseling of Signal staff to avoid Short Cut methods.
24. Also counseling ESM to ensure train movements while talking on Cell phones during working at site.
25. Availability of Uniforms, Retro reflective jackets, Rain coat, Shoes and following of Safety procedures.
26. Voltage and Current should not exceed beyond the tolerance limit of any Signal gear.
27. Availability of minimum 3 sources of Power supply in a station.

28. Whether any Signal gears has crossed their codal life.
29. Ensuring unnecessary route cancellations are taking place
30. During Monthly inspection, End voltages of vital relays in relay room and end voltages of Bus Bar in the field to be checked and whether it is within limits.
31. Whether Codal life of following Signal gears have exceeded their limits.
32. Whether Data logger connectivity networking done to Test Room and whether Technicians are able to take printout.
33. Whether acid proof tiles/insulator with Exhaust Fan are provided in the battery room.
34. Ensuring BATT BACKUP for Track Batt / IPS atleast once a WEEK.
35. In IPS, ensuring changeover of INVERTORS and then to CVT and reverting back to Invertors.
36. Ensure working of IPS status monitoring panel in ASM room.
37. TRACK BONDING DIAGRAM is Updated.
38. Whether Pre-commissioning Check list for Data Loggers, Generators, IPS and EI are available with both representative Signature and AMC records are being maintained properly.
39. Whether proper staggering is available or not for track circuits.
40. No track relay should be over energized beyond 300%. Ensuring of Double bonding for track circuit.
41. TSR value at track circuit should be as high as possible ie., > 0.5 .
42. Glued joint should be $> 3M$ from FM towards divergence side
43. Availability of J-type clips on GJ portion and GFN liners on track circuit portion.
44. Proper Drainage facility for Track circuited areas and any accumulation of mud and muck on berthing tracks.
45. Whether all trolleys with SSE/P.Way are insulated.
46. Ensuring proper markers, boards and Signal nos, implantation on Signals are available. Ladder blanking for its infringement, Zebra marking for infringement of Signal gears.
47. On RE areas, Provision of earth, provision of sleeve under tracks for traction bonds. Choke and fuse on negative path of track circuit.
48. Availability of Cascading and Red Lamp protection for Signals.
49. As per index list - Availability of documents in Relay room. Carrying out System Integrity test for every 3 yrs (signature on TOC copy). Availability of Final approved circuits in Relay room.
50. Boom lock testing for LCs and working of Road lights and Hooters.
51. Monitoring of Signals failures and remedial action if any depending on type of failure.
52. ENSURE working of CROSS PROTECTION and working of Standby equipment wherever available.
53. Provision of SPD/PPTC for all outdoor circuits.
54. Ensuring availability of A class protection for EI or for Lightning prone areas.

The information / views expressed in this paper is of the authors and are based on their experience. Comments / observations may be sent to the author at srinivasanhari67@gmail.com.

S Hari joined Indian railways as JE/Tele in 1991. He Worked in Axle counter Lab, VHF/UHF repairs and MW maintenance in the Railways before joining as Instructor (MW lab) at IRISSET in 2002. He became a gazetted officer in 2002. He has worked in various capacities in Open line for 12 years and also served as Asst. Prof(Sig) for one and a half year at IRISSET. He is currently working as as Sr.DSO/GTL.

