

SOUTH CENTRAL RAILWAY

Safety.387/Fly Leaf/03/2023

Fly Leaf No. 03 / 2023

Attention..... All Concerned

Comprehensive Guidelines to prevent SPAD cases in South Central Railway.

Railway Board vide reference letter No.2023/Safety-I/5/1 dated 22.02.2023 has advised to share action plan formulated by zonal railways to combat the issue of SPAD. To prevent SPAD cases comprehensive guidelines have now been formed based on earlier guidelines issued vide this office letter No. E.195/TRS/Safety/Vol-XXIX dated 27.08.2021 and Board's letter cited above. Action plan to prevent SPAD are reiterated again to counsel all LPs/ALPs and are detailed as under for implementation.

I. LPs / ALPs :

1. While passing signal at Caution aspect (Single Yellow), LP & ALP should be extra alert and they should not involve in any activity other than controlling the speed of the train and be prepared to stop the train before the Danger signal. They:-
 - Should not Presume the aspect of the next signal
 - Should not Follow instruction on walkie-talkie
 - Should not Exchange signals with Station, Cabin, adjacent train etc
 - Should not fill up log book, Registers, Caution orders etc.
2. ALPs to be trained in applying emergency brakes whenever required. ALP to apply EMERGENCY BRAKE, if actual distance of signal is becoming equal or less than EBD or train speed is more than the distance available for emergency braking.

EBD for BOXN HL Loaded 59+1 at various speeds															
EBD (mtrs)	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5
	1575	1400	1225	1050	900	750	625	500	400	325	250	175	125	75	30

3. LPs to suitably reduce speed while passing signals at "Caution" aspect and be prepared to stop short of stop signal at danger, as per GR 3.07. According to reports of simulation conducted in simulator for different types of trains at ETTC/BZA, while passing signal at caution aspect, the speed of 60 Kmph for coaching trains and speed of 30 Kmph for goods trains has been found safe to stop train smoothly before stop signal on falling gradient of 1 in 150 or steeper.
4. LPs to check about brake-power and quick release of brakes in BOXN HL and BCNHL rakes with BMBS and twin pipe. Speed restrictions issued for various gradients of loaded freight trains with more than 50% population of BMBS wagons to be followed strictly.
5. While approaching danger signals, use of only regenerative/Dynamic braking should be avoided. LP should use A-9 necessarily in case of trains and SA-9 in case of Light Engine(s).
6. LP and ALP both should confirm before moving ahead that whether the Signal is "OFF" and whether it's my Signal. While working trains in multiple lines they should call out the signal with line number i.e. U/D line or Up line or Down line to avoid confusion.
7. Self-declaration by LP/ALP should be given to CCC that he has taken requisite trips of LR and is conversant with the signals and topography of the section.

8. When train is detained at any station for a reasonable period of time, BP is to be kept dropped by 0.5 kgs/cm², so that when the signal is taken off, LP & ALP can doubly ensure before starting that the signal pertains to his line during the 15-20 sec time lag achieved for recreation of BP.
9. LP of EMU/MEMU/DEMU to call out signal especially at Attention/Caution/Danger aspects and call out Danger aspect repeatedly after passing Caution aspect, even if signal ahead is not visible. LPs to give Bell code (00) to apprise guard about running through station & (0) for approaching danger signal and Train Manger has to acknowledge after confirming the signal aspect.
10. Importance of quality rest at home is to be realized by LP and his family.
11. Crew should ensure himself about switching off their mobile and keeping in their bag.
12. Crew should be advised to report in the lobby before the mandatory time (30mins). He should not be in hurry and for working the trains especially at starting station.
13. A thorough check of safety items on shed leaving locomotives with proper records.
14. Proper functioning of RS valve is to be checked at the time of taking a charge of the Loco by both LPs and ALPs. All LPs are advised to check the brake application and release before starting the train.
15. Check the validity of BPC. Do the continuity test wherever required.
16. Starting bell to be given by LP of DEMU/MEMU/EMU after ensuring signal is given for his train.
17. Loco pilot to conduct Brake feel test and Brake power test whenever they take over charge of locomotive/ train. ALP also should observe it. Check the loco thoroughly before start.
18. LP/ALP should not start packing his belongings before reaching the terminal station/relieving point.
19. Special attention is to be given where two signals (Intermediate Signal) are provided especially where a line goes in the yard. Ensure correct departure signals are taken off for your train.
20. While passing signal at yellow LPs/ALPs should be ready to stop the train at any point of time as aspect of next signal aspect might be Red. Observe the signal until passing them.
21. During run LP/ALP are sometimes engaged in casual talk and their attention is diverted. So LP/ALP should drive train with full concentration during run and specific conditions of section like next signal aspect, CDO, gate locations and laborers working in the section to be informed by the ALP to LP for controlling train during any eventuality.
22. LPs/ALPs should have the precise location of signals and the proper aspect of the signal to be confirmed by LPs/ALPs.
23. Poor LRD is also the prominent cause of SPAD. Hence, all LPs/ALPs should have specific knowledge of the section and after passing signal at yellow aspect ALP should repeat aspect of next danger signal repeatedly for effective control of the train.
24. Checking of APM in all freight train examinations.
25. Few rakes are having tendencies to give a push up from load side at the time of stopping train (BLC, BTPN etc.). Hence, such trains should be stopped before adequate distance from the signal and train should be restarted again with crawling speed and stopped at appropriate location.
26. While on run LPs/ALPs are distracted with the passing trains on another line for exchanging signals. LP/ALP should take specific care in such situation and concentrate mainly on their own signal aspects.
27. If any Signal visibility is obstructed by passing train or train stabled at adjacent line, than proceed very cautiously so that train can stop at any moment.

28. Crew should have specific knowledge of trouble shooting as minor problems in locomotive create stress to LP/ALP.
29. If any signal is having poor visibility or its line of site is obstructed, same to be reported at first instance so that other crew can be counseled.
30. If advanced signal is not visible then movement of train should be done cautiously till aspect of advanced signal is seen. If the signal is single Yellow or Red call out it continuously. If signal aspect is Red, continuously call out with approximate distance to signal till the train stops.
31. Do not divert your attention after passing, Single Yellow and also approaching Red Signal.
32. While approaching Red ALP should put his hand on Emergency flap valve and ready to operate it. Make sure that train stopped well before the Red signal and brakes are applied fully.
33. Signals are to be called out with name of signals with hand gesture. In automatic section, signal should be called out with signal number. If any signal is not visible, that should be called as "most restrictive aspect" so that other person can extra vigilant.
34. Caution order to be taken by LP/ALP separately and highlight caution order individually for creating adequate attentiveness.
35. LP should not give any attention to the person travelling in the cab especially after passing yellow signal, and person travelling in the cab should not distract attention of crew in any manner.
36. In long hood locomotive, LP & ALP should ensure signal aspects very carefully.
37. Trains to be brought to stop at crawling speed whenever the signal is at 'ON'.
38. While starting train from the loop line, LPs/ALPs should ensure setting of point first, then loop line signal and after checking both should start the train.
39. If visibility is poor, LPs /ALPs should be more cautious and signal should be called only after ascertaining that the signal is pertaining to their train only.
40. Carry both spectacles.
41. Avoid over speeding and overconfidence.
42. When any signal is not visible due to any reason, LP should assume its aspect as most restrictive.
43. While starting Mail/Express/Goods train, LP/ALP exchanging signal with Guard should also concentrate on the aspect of signal pertaining to their train are in off condition.
44. Few LP/ALP are having poor knowledge of signal layout inside the yards. Hence, such type of LP/ALP should do the yard LRD and learn the layout by drawing sketch of yard and same to be checked and certified by nominated LI. All the crews are advised to draw the yard layout and are cross checking by LIs.

II. CLIs :

1. Since SPAD occurs at danger signal only, therefore all efforts are being made to counsel and monitor crew when they are approaching danger signal. Crew are being asked to be extra alert for a period of 4 minutes while passing signal at CAUTION aspect till stopping at DANGER signal. Crew should give top most priority in stopping the train before the signal at DANGER, instead of doing other works for eg., writing log book, observing caution order, packing belongings, conversing on walkie-talkie, exchanging signals with station staff / adjacent trains, entering into machine room / rear cab, viewing passengers , assuming signals would be taken OFF etc.
2. CLIs were given targets for conducting ambush checks on various aspects like, Surprise BA Check (15/month), surprise mobile check from lobby (20/month), surprise mobile check

at enroute stations (15/month), Running rooms check to counsel mobile users (8/month), Night footplate Inspections (00.00-04.00- 8/month), Ambush check on Shunting (4/month), Speedometer analysis (4/month).

3. CLIs to monitor their nominated LP/ALPs in all crew beats from end to end irrespective of Division/Railways.
4. CLIs should spend entire shift with his nominated shunter to check his knowledge of signals, handling the locos, cab changing procedure & shunting operations and whether any short cut methods adopted during shunting operation.
5. To counsel crew they should not follow the instructions given by SM on walkie-talkie regarding aspect of the signal or follow the exchange signals exhibited by the station staff. They confirm the aspect of the signal and then act accordingly.
6. CLIs on HQ duty to counsel all LP/ALPs, if there is any shifting of signal location or erecting of new signals and should check from the caution order that the signal location (KM No) is properly mentioned in the caution order and in geographical order. An SOB should also be issued in this regard and same should be counseled to all LP/ALPs on priority.
7. All LPs to be given "C" grade when conversion training (AC to DSL or vice versa) is completed and working in newly trained traction. Further, it may be reviewed after assessing the performance of LP. It is discretionary of CLI.
8. Should monitor his nominated LP for one round trip after completion of LR.
9. CLIs to test the knowledge of LP/ALPs regarding critical section signals, poor visibility signals, and signals located in curves, yards diagrams with signals while certifying LR.
10. CLIs should Plan counseling and foot plating of LPs and ALP also. CLI should mention in CLI diary, weak areas of Loco Pilots and section monitored with loco number & train number.
11. CLI to grade their ALPs as per the latest guidelines and monitor them on footplate as per the periodicity.
12. Special counseling of LPs, who are retiring within 3 years. Counselling to be done every month irrespective of gradation.
13. CLIs should counsel crew to check the brake power of formation on first opportunity and in case of any doubt, late application of brakes or poor brake power, LP should control the train well in advance and stop the train after clearing the block section and conduct GLP check. In case of invalid BPC, LP should conduct GLP check as per the procedure and inform TLC who in turn will coordinate with Section controller for arranging TXR examination at suitable location/TXR check point.
14. Crew while taking LR should note down the location of signal as well as location from which signal is visible from first instance during day/night. List of signal location from where the signal is visible is to be prepared and supplied to all LP/ALPs.
15. Practical demonstration to be imparted to all nominated ALPs by CLIs on footplate on how to stop the train before 100-200 meters of the signal.
16. Nominated LI should listen to the personal problems faced by crew. Welfare Inspectors of Personnel department to be earmarked to visit fortnightly each lobby to address establishment related grievances.
17. Ensure validity of LR or crew and the quality of monitoring.
18. Complete familiarization of crew and LIs with all new designs of locomotives /particularly for diesel converted loco. Added
19. All crew are counseled for Calling Out signals loudly with gesture & of caution order imposed & of next halt.

20. If any LP is returning from a long leave of more than 15 days then he needs to be accompanied by his nominated LI.
21. LP/ALP are having habit of writing log book /unusual report while on run. This may lead to loss of concentration. Hence, LI should counsel their nominated crew to not write anything while on run. LPG should write logbook/ unusual report after stopping of train and mail/express driver should write only at destination.
22. While taking rest at Running room LPs/ALPs are sometimes busy in checking WhatsApp messages and adequate rest is not taken. LIs should counsel their nominated crew for not wasting time on WhatsApp chats while taking rest in Running room. LP/ALP should keep their mobile 'switched off'.
23. Nominated CLI should counsel their nominated crew for controlling train at a down gradient where controlling of the train is difficult being a typical geography of signals.
24. Ensure Visibility of signals and unambiguous visibility of signal in curved yards. Use of signal repeater /signal post maker board indicating its line number, wherever required. Visibility of signals is different during day time and night time. So, LPs/ALPs should be counseled about the proper visibility of signals during day as well as night time. Added
25. Few signals locations are such that the visibility is affected and aspect of signal is obstructed by opposite direction train. Hence, LPs/ALPs should be counseled about these typical locations.
26. After passing yellow signal LP/ALPs should be counseled not to do anything and only concentrate on signal aspect ahead and to exchange signal aspects loudly. Do not assume the next signal.
27. Large number SPAD occur at low speed. This indicates loss of concentration due to mobile ringing, family problem, next duty plan, watching more attentively for passing trains etc. LPs/ALPs should be counseled that all these problems should be addressed only after finishing their duty and only concentrate on their respective signals during run.
28. Identification of home signal on gradients where approaching trains are not to be stopped normally for simultaneous reception and dispatch.
29. Verification of SWR on such station and ensuring that the same is followed.
30. Verification of BPC issue at wagon depots to remove any error in calculation of brake power percentage.
31. LIs should conduct ambush checking of CUG /Personal mobile phone randomly. A report to be sent to Sr. DEE(OP)/Sr.DME.
32. Counseling should touch emotional chord and LIs should develop trust of LPs/Motorman that his LI is a helping person and not against him.
33. Crew be counseled that each signal aspect to be confirmed and not to assume aspect of next signal.
34. SPM Analysis to be done regularly.
35. Four-point Agenda of counseling of ALPs.
 - a. Calling out signal with gesture till the train stops.
 - b. Keep watch on LPs action.
 - c. MP/Notch should be on zero.
 - d. Practical demo and training of operation of RS flap valve to ALPs.
36. Proper conditions for rest at running room in view of approaching Summer and avoidance of long hours.
37. All the ALPS are given practical demonstration of how to Operate Emergency Brake valve.

38. All the crews are Counselling regarding RHS Signals, signals at curvature, down gradient.
39. Case study of SPAD happened are made and are being discussed with crew and also included at training center class room discussion.
40. Footplating as well as Counselling done by LIs after actual monitoring in Train.
41. All the long hood leading Locos are footplating by LIs.
42. At least 1/3rd of monitoring by LIs should be at night.
43. Departmentally selected LP to be specially monitored/counselled.

III. CCRC / Lobby in-charge / CLI (HQ) / Dy. SS / Train Manager (Guard) / Signal Inspector / Running Room in-charge :

1. Should specify LR should be taken by Freight or Coaching trains as per the category.
2. Should ensure that LP/ALP is signing 'ON/OFF' in CMS.
3. LP/ALP has under taken requisite number of trips.
4. Should ensure that while booking LP for first trip after LR, one LI is deputed to monitor him for one round trip.
5. LPs who are repatriated after performing stationary duties, are booked independently only after completion of refresher courses in both technical & safety further practical training for 2 months under supervision of qualified LP or CLI followed by a driving test by Sr.DEE/Sr.DME and his certificate of competency endorsed.
6. On resuming back to duty from absence by more than a month, LPs are being booked with their nominated CLIs only. For the crews coming back from short leave, being booked at 06:00 hrs only and a declaration is also taken from the crew that they have taken proper rest.
7. Without passing aptitude test, LPs should not be utilized for DEMU/MEMU trains.
8. LP/ALPs who are leaving HQrs during leave/PR are permitted to leave HQ only after take permission from CCC and after availing leave/PR before on-duty he has to give declaration that he has taken proper rest and he is ready to perform duties. A register is kept in all crew lobbies in this regard.
9. Ensure availability of walkie-talkie in working condition with all the crew proceeding for duty.
10. Ensure Fog Pass devise is provided to LPs working in fog prone sections.
11. In case any staff is tested positive he should be subjected to second test in another CMS Kiosk with CC ID.
12. List of critical signals located adjacent to each other are circulated to all crew & rigorous counseling done. Minimizing creation of wrong side signals and issue of booklets to crew at each lobby for familiarizing them on such signals.
13. List of signals located at right hand side is circulated among staff and rigorous counseling done.
14. Meditation room in each major running room be made functional.
15. Gross happiness Index implemented for each Running Room.
16. Case study of each SPAD case be prepared and distributed to Loco inspectors for counseling of crew.
17. Booklet covering Signals, Yard layout, Gradient, Cross-overs etc. is distributed to all running staff for improving knowledge of crew.
18. Video to avoid SPAD cases be prepared and circulated amongst all crew.

19. In all lobbies, bell is provided to take oath by staff of 'No SPAD' while doing a Signing on in lobby.
20. Good work done by LIs to be monitored and every year LIs to be awarded for good work done.
21. Ambush checks to ensure that LPs/ALPs are not using mobile phones on running duty on regular basis by all Divisions.
22. Provision of walkie-talkie for crews on all train and availability of CML box with tools.
23. Few LP/ALP are having poor knowledge of type of signals and specific rules for passing signals at danger. Such type of LP/ALP to be identified and adequate training to be given.
24. In SCR territory, other zonal crew are also coming and have inadequate knowledge of section. Hence, concerned Division should take up one round of counselling of such Loco Pilots.
25. LP/ALP should be spared for practical demonstration during special drives at Loco shed annually for refreshing technical knowledge.
26. Few LP/ALP are booked in the section just one day of the expiry of LRD. This is not correct. LP/ALP should be booked regularly in all sections for getting effective LRD of the section and not becoming overdue for LRD.
27. LPs/ALPs grievances with respect to leave and other issues to be looked into positively.
28. Stress management courses are to be conducted regularly.
29. Excess duty hours booking of LP/ALP to be avoided.
30. Quick response with feedback on deficiencies pointed out by crew and verification of the process at officer's level on a regular basis.
31. Before starting the train LPs/ALPs should talk to Guard on walkie-talkie about signal being given and he is starting. If LPs picks up wrong signal, then respective Dy.SS may warn that the signal is not given and Guard may apply his emergency brake.
32. Psychological issues are to be identified of the nominated crew. This is to be identified by the LI and its record to be maintained.
33. Appreciation for good work by the crew will boost the confidence of crew. Good work to be sent through PCDO and displayed in lobby for morale boosting of Crew.
34. Clear visibility of sectional gradients and display of critical gradient locations in the crew lobby.
35. Forcing Crew in new section without LRD lowers the confidence. Hence, crew should be booked only when proper LRD is ensured.
36. Few PPT slides may be uploaded in CMS as tips for prevention to SPAD so that LPs can see while signing on.
37. Gradation of LPs (A, B, C) to be done rigorously and as per existing norms. Only 'A' category drivers should be booked on high-speed trains like Rajdhani/Duronto etc.
38. Retro reflecting sigma board will help to identify location of signal.
39. Critical signals to be taught very specifically to the LPs.
40. Motivational classes/seminars are to be conducted on regular basis.
41. SPAD demo to be run in lobby on TV screen for creating awareness in the crew.
42. List all RHS signals with section, signal number and location are displayed at lobby and soft copy circulated among crew.
43. Counselling of LIs also done by Officers. Knowledge of ALPs/ LPs are checking by Officers and Counselling them.

IV. Role of Training Centers :

1. Meditation classes to be conducted at training centers to improve the concentration level of trainees.
2. Simulator training on prevention of SPAD to be given to all LP/ALPs on the various scenarios.
3. Safety seminars are conducted regularly at training centres for sensitizing crew on safety.
4. Cases of SPAD/accidents on the Railways including cases of other Zonal Railways should be discussed in the training centres for mass awareness.

This is for kind information and to instruct the power officers for implementation in true sprit.

PRINCIPAL CHIEF SAFETY OFFICER

SAFETY ORGANISATION

SOUTH CENTRAL RAILWAY