



IRISET/CoE/Kavach/Misc

Date: 24.07.2023

PCSTE ER, ECR, NR, NCR, WR, WCR

Sub: Kavach – Safety Precautions to be taken for SPAD Prevention and other Test / Demo

Ref: JPO dated 06.02.2014 between RDSO and SC Railway

During commercial runs of commissioned Kavach fitted trains and installations, Train Pilot only are required to apply the brake in normal situation and the Automatic Train Protection (ATP) Kavach would apply brake in case Train Pilots fail to exercise adequate braking.

However, during the Kavach field trials on non-commissioned sections, the Train Pilot is asked not to apply the brakes, through authorisation in form of Memo in advance so as to enable testing and demonstration of SPAD Prevention and other such speed control capabilities of Kavach. This memo is to be issued and given to Train Pilots only after following thorough procedure to ensure safety, the JPO dated Feb-2014 in this regard between RDSO and SCR is enclosed herewith for guidance.

However, during demo of SPAD Prevention Test by Kavach installation on a Zonal Railway, the conditions stipulated for taking off the signal for main line were not fulfilled and a cross movement ahead of Signal at Danger, as shown below, was taking place when the Kavach train was approaching Signal at Danger for SPAD Prevention Test.



All concerned are advised to follow the safety procedures for such tests of Kavach in field duly ensuring safety by issuing local JPO and enforcement the same.

Encl: As above

(ललित के. मनसुखानी, Lalit K. Mansukhani),
Officer on Special Duty (OSD) /Centre of Excellence

Copy: AM/Signal, DG/IRISET, PED/S&T/Dev/Rly Bd
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ED/Tele-II/RDSO, Secunderabad
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Please also see JPO at SN 324

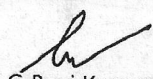
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Joint Procedure order for SPAD Prevention & other Testing of TCAS field trials by RDSO

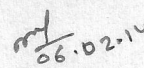
1. TCAS is meant primarily for on-board assistance to Loco Pilots by displaying various information etc. It shall normally not apply the brakes etc. to affect train running if the operating rules are properly observed. Therefore, in order to test these functionalities, it is planned to purposefully make deliberate mistake such as scenario in which Loco Pilots of train approaching signal at Red with high speed do not apply brakes.
2. The movements of RDSO train / Loco and station at which the SPAD test to be conducted is decided by Director/Sig/RDSO or DSTE/TCAS/Secunderabad or any other RDSO Official on-board and the same will be informed to SM of concerned station where SPAD Prevention test will be conducted as well as to SM of rear station.
3. The SM of rear station, before starting the RDSO train / Loco, will convey the message to SCOR and SM of concerned Station at which SPAD Prevention Test to be conducted.
4. The Station Master of concerned station shall ensure that all the conditions for taking off the concerned Signal, such as LC Gates are closed & locked, Route is set & locked, Line is free from obstructions, Point indications are proper, have been fulfilled. The route shall be set to mainline only.
5. Before authorizing the SM of rear station to issue T-369(1) the SM of concerned station should ensure the conditions for taking OFF Home Signal are fulfilled.
6. Only after ensuring above, the SM of concerned station shall authorize the SM of the Station in rear to issue T-369(1) to the Loco Pilot of RDSO train for passing Home Signal of his station at ON position for SPAD Prevention Test.
7. Thereafter the SM of rear station shall issue the T-369(1) to Loco Pilot of RDSO Train / Loco for SPAD Prevention Test
8. The Loco Pilot shall follow the instructions of Director/Sig/RDSO, or DSTE/TCAS/Secunderabad or any other RDSO Official on-board to approach the First Stop Signal (Home Signal) at Red with maximum permissible and possible speed without taking cognizance of the fact that the concerned signal aspect is Red and driver should be ready to stop the train at LSS by application of emergency brake in case TCAS fails to commence the braking before FSS.
9. When SPAD Prevention Test is conducted in the presence of RDSO officials or DSTE/TCAS/Secunderabad and in case of SPAD, the concerned Block Instrument will be locked in TOL as per the existing circuitry provisions.
10. On complete arrival of RDSO train / Loco as per the instructions of ADSTE / DSTE, the ESM will normalize the block instrument and this should be treated as testing and not S&T failure.
11. In order to test overriding a failed signal. Station Masters on advice of Director/Sig/RDSO or DSTE/TCAS/Secunderabad or any other RDSO Official on-board ensure that all the conditions for taking off the concerned Starter Signal, such as LC Gates are closed & locked, Route is set & locked are fulfilled, Line is free from obstructions, proper Point indications have been fulfilled. The route shall be set to for Starter Signals only. Then the Loco Pilot shall be given paper authority for passing the concerned Starter Signal at Red at speeds below 15 kmph or permissible speed whichever is less.

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Joint Procedure order for SPAD Prevention Testing of TCAS field trials by RDSO

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