

SOUTH CENTRAL RAILWAY

Headquarters Office,
Works Branch,
Secunderabad.

No.W.363/P/Vol. XIV

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Sr.DEN/Co.ord/SC, BZA, GTL, GNT, HYB & NED

Sub: Standard Instructions for Monsoon Patrolling of Track and watching of vulnerable locations/Bridges during the monsoon for the year 2023-24.

1.0 The detailed instructions regarding monsoon patrolling are brought out in Chapter X of the Indian Railway Permanent Way Manual 2020 and Appendix-IV of the General and Subsidiary Rules 2020. In case of any doubt, reference may be made and clarification obtained from the Office of the Principal Chief Engineer.

1.1 **Monsoon periods:** The periods for which monsoon patrolling shall be carried out over various sections of the South Central Railway are furnished in **Annexure-I**. If the monsoon breaks out earlier, the introduction of patrolling, watching of vulnerable bridges/locations shall be advanced correspondingly and similarly if the monsoon continues beyond the period specified, the patrolling of sections, watching of vulnerable bridges/locations can be continued till the actual end of the monsoon.

1.2 **Watching of vulnerable locations:** Vulnerable locations are defined in Para 1006 of Indian Railway Permanent Way Manual 2020

As per Para 1006 (3) of Permanent Way Manual 2020, guarding of vulnerable bridges/locations has to be watched round the clock during the monsoon period.

However, bridges with inadequate waterway need to be watched only if:-

- i. There is an Identified Railway Affecting Tank (Identified by the State Committee of Engineers) in the catchment.

or

There is a risk of high floods over-topping the embankment on either of the approaches.

- ii. There is risk of the bridge itself being damaged. In all other cases of vulnerable bridges with inadequate water way, the Sr.DEN/DEN may at his discretion dispense with stationary watchmen, provided monsoon patrolling is in force on the section, subject to the approval of Chief Bridge Engineer/Principal Chief Engineer for which specific recommendations may be submitted by the Sr.DEN/DEN.
 - (a) Where two or more vulnerable locations/bridges are situated within a reach of 200 meters, they may be covered by a single watchman provided there are no problems of visibility for watching as well as for warning the driver of the approaching trains.
 - (b) Regarding vulnerable locations/bridges, Divisions have carried out the requisite review and have come up with proposals for up-dating the bridges/vulnerable locations and the same have been finalized. This has the approval of Competent Authority (**Annexure-II**).
 - (c) Vulnerable locations/kilometrages should be reviewed jointly by the ADENs and DENs on the basis of past history and pre-monsoon inspections and the register of vulnerable locations should be brought up-to-date (Ref:- Item no. iv of Board's Ir no. 2016/CE-II/Safety/Precaution Dt: 02.06.22).

- (d) In the case of vulnerable locations/bridges which are deleted from the list based on the review as approved by Headquarters shall continue to be specially watched by regular monsoon patrolmen and by the respective Gang and the Supervisory Officials. The concerned Sr.DEN/DEN will ensure that such of these deleted locations/bridges are clearly marked in the respective beat charts of the patrolmen as also in their diary so that these are watched by patrolman during their beats.
- (e) If any block section is identified as vulnerable purely on account of existence of few specific locations such as vulnerable bridges etc., the possibility of covering such locations by stationary watchmen instead of regular monsoon patrolling over the whole block section may be considered.
- (f) In hilly areas, where there are incidences of falling of boulders, a survey should be carried out to locate loose boulders. Such loose boulders should be dropped in a systematic manner (Ref:- Item no.iii of Board's Ir no. 2016/CE-II/Safety/Precaution Dt: 02.06.22).
- (g) The locations where suspected falling of trees on track is anticipated should be identified and preventive measures like cutting of such trees or pruning of tree branches should be done to avoid dislocation to train services.

1.3 **REGULAR MONSOON PATROLLING GUIDELINES FOR IDENTIFICATION.**

The extant instructions are:- "In terms of Para 1004 of the Permanent Way Manual 2020: During the monsoon, certain sections of the Railway line as may be specified, shall be patrolled to detect damage by flood, such as breaches, settlements, slips and scours and immediate action be taken to protect the trains, when so warranted. The Sr.DEN/DEN after personal inspections along with the concerned ADEN & SSE/P.Way shall decide the block sections to be covered by regular monsoon patrolling. The guidelines in this regard are as under:

- i) The Competency of the mates, keymen and as well as old PWIs who might have worked in the sections should be given special weightage in deciding as to whether the block section should be covered by regular monsoon patrolling or not duly considering their experience and knowledge.
 - ii) Action taken based on the previous years experience by way of protective measures such as rebuilding/extension of water way, provision of flooring and drop walls in bridges, pitching of the slopes of bank at approaches, other vulnerable locations, river training works, regrading of track, etc.
 - iii) High banks and deep cuttings, heavy graded sections with steep slope of the ground towards track, etc., cutting with tendency for earth of side slopes to slip, boulders falling etc., if unsafe conditions can occur in a short time due to nature of terrain, they deserve special considerations for regular monsoon patrolling.
- 1.4 The list of sections as per Annexure-I is in terms of Blue Book on monsoon instructions 2022, a review of sections not included may be done taking into consideration of relevant factors including unusual occurrences in monsoon period etc., during the intervening period.
- 1.5 The actual timing of the patrol beat shall be given maximum coverage for passenger carrying trains in the sections. This patrolling need not be introduced over section where there are no passenger services during the night time. For such locations, action is to be taken as per the instructions containing in Para 2.7 of Appendix-IV under Subsidiary Rules of 15.05 (G&SR 2020).

The patrolling of the lines shall be suitably modified under the following circumstances:

- (a) On branch lines where there are no passenger trains during the night, patrolling need not be done. On such sections, it will be the duty of the Keyman to walk over their full lengths before the passage of the first train, their duty hours being suitably adjusted during the monsoon period.
- (b) When there are passenger trains only during the early hours of the night, night patrolling can stop after the passage of the last passenger train, but before the first passenger train in the following morning, the line should be patrolled as per Para no. 2.6.2.1 of Appendix-IV of 15.05 (G&SR-2020). In case the last passenger train runs late for any reason, the patrolling shall be continued by the patrolmen till the last train passes over the section. This should be ensured by the Station Master on Duty.
- (c) Similarly, when there are no passenger trains during the early hours of night, but there are passenger trains during the early hours of the morning, patrolling can be arranged only in the early hours of the morning, so that patrolling is done once at least before the passage of the first train.
- (d) Should it, however, be found necessary to run trains at night on these sections, Divisional Railway Manager shall communicate, not less than 24 hours in advance direct with the ADENs and with all Station Masters on the sections concerned and the latter shall at once advise the SSE/P.Way and the nearest Gangmate, who shall depute Gangmen to patrol the line.

1.6 INTRODUCTION OF THE PATROL ON RECEIPT OF WEATHER WARNING MESSAGE OR DURING ABNORMAL RAINFALL/CYCLONIC WEATHER.

1.6.1 The main stipulations of Para 1129 of IRPWM 2020 are as under:-

- i. Arrangement has been made with Meteorological Centre for receipt of bad weather warnings which cover high velocity wind and cyclones as well as heavy rainfall. These warnings will be received by the Chief Controller, Central Control, Railnilayam, Secunderabad who will forward the message to all Controls.
- ii. Permanent Way Inspector on receipt of weather/cyclone warning, should arrange to advise monsoon patrolmen/watchmen and Gangmates to be extra vigilant. During the fair season, he should introduce monsoon patrolling as soon as possible and also post watchman as required at all vulnerable locations and bridges by day as well as by night for a period extending upto 48 hours beyond the period specified in the weather/cyclone warning message.

The JE/SSE (P.Way) should be out in his section as far as possible by trolley during the period of warning and 48 hours beyond, if the trains are in operation.

- iii. On receipt of advice from the Station Master, the Gangmate should take the following action:-
 - (a) During fair season, the Gangmate of station yard Gang should depute two reliable Track Maintainer provided with patrolmen's equipment for patrolling the block sections on either side and for alerting the intermediate Gangmates.
 - (b) During monsoon period also, the Gangmate of the station yard gang should send 2 Track Maintainer in opposite directions to alert intermediate Gangmates, Patrolmen and Watchmen.

- (c) Should there be very heavy rain or a severe storm weather during the monsoon or fair season, the Gangmate and Track Maintainer of all Gangs on their own initiative should commence monsoon patrolling by day as well as night. Similar action to carry out patrolling should be taken on receipt of bad weather warning for the duration of weather warning and 48 hours beyond.
- 1.6.2 As per Para 1003 of IRPWM 2020, in the event of abnormal rainfall or storm during day or night, the Gangmate should, on his own initiative organize patrolling over the length affected, independently of other patrolling, if any, being done. As per chapter-1 "Part -B" It is the duty of P.Way Officials/Men that trees in proximity to be likely to foul the track during a storm should be felled (Para 106 (1)(f) of IRPWM 2020) & (Item no.vii of Board's Ir no. 2006/CE-II/Safety/Precaution Dt: 02.06.22).
- (a) Drainage of track is very vital for its satisfactory behavior. The drainage in station yards, most of which are track circuited, is of paramount importance not only from track maintenance point of view but also from safety and operation point of views. Para 641 & 662 (2) (g) of IRPWM 2020 clearly stipulates about proper drainage in station yards and track circuited areas (Item no.viii of Board's Ir no. 2006/CE-II/Safety/Precaution Dt: 02.06.22).
- (b) All catch water drains and side drains must be cleared of silt, vegetation and other obstructions to ensure free flow and quick drainage of storm water (Item no.i of Board's Ir no. 2006/CE-II/Safety/Precaution Dt: 02.06.22).
- (c) Water shall not be allowed to stagnate on the track. For this purpose, cross drains should be provided at regular intervals. In yards, cross drains and longitudinal drains should be cleared/provided to proper grades (Item no.ii of Board's Ir 2006/CE-II/Safety/Precaution Dt: 02.06.22).
- 1.6.3 Introduction of regular monsoon patrolling does not absolve the responsibility of the Gangmate to introduce gang patrol in terms of provisions contained in Para 1129 (4) and Para 1003 of the Indian Railway Permanent Way Manual 2020 as per which Gangmate is responsible for introducing gang patrolling on receipt of message of weather warning or during abnormal rainfall/cyclonic weather. Gang patrolling shall be introduced for the period covered by weather warning message as well as for 48 hours beyond. The following procedure shall be adopted for this purpose.
- i. During night time, if the block sections are covered by regular monsoon patrolling, Mate will arrange for posting additional Gangman, to cover the vulnerable locations such as cutting and culverts likely to be affected by tanks, likely to breach bridge approaches etc. This may be in the form of either by mobile patrolling or by stationary watchmen.
 - ii. For the section not covered by regular monsoon patrolling as mentioned in (i) above, inclusive of day time, the Mate shall arrange patrolling to cover his entire section and also arrange to cover the known points of danger as mentioned above either by mobile patrolling or by stationary watchmen.
 - iii. Where quarters are available at stations and in the block section, the division should ensure that the Mates and as many Gangmen as may be required for Gang patrol are made to occupy the quarters. The Gangmen to be utilized for Gang patrol should be identified by name and made to reside in the quarters, for which roster may be made by the SSE/P.Way and beat of each Gangman specified and marked in muster sheet both for day and night shifts separately and sufficient stand by in reserve to cover

leave/absence. In this connection, Para 9.7 of Appendix IV under Subsidiary Rules of 15.05 (G&SR-2020) is reproduced below:

“In bad weather, the Permanent Way Inspectors may at their discretion, place two men from Permanent Way Gangs to sleep at each Gangman hut or elsewhere on the line so that they may be readily available for emergency. They may also post a man at each station to assist the Station Master in carrying out the instructions”.

- iv. As per Appendix IV, Para 10.4 of Subsidiary Rule of 15.05 (G&SR-2020): If a patrolman does not turn up within 15 minutes of his scheduled arrival, the Station Master on duty shall take the following action:-
 - (a) He shall stop run through trains proceeding into the block section.
 - (b) He shall advise the Station Master at the other end of the block section to take similar action and also advise the Section Controller, the Gangmate and the SSE/P.Way.
 - (c) He shall issue a Caution Order to all trains proceeding into the block section advising the Loco Pilot to be on the alert and specify a speed restriction of 40 kmph.

1.7 ACTION TO BE TAKEN BY Sr.DEN/DEN FOR INTRODUCTION OF MONSOON PATROLLING.

The Sr.DEN/DEN should ensure that:-

- i. The monsoon patrol charts cover all the passenger/express trains as per the latest timings.
- ii. The patrol beat books in the printed form have been supplied by the SEs/P.Way to the respective station.
- iii. All the patrolmen, including Rest Giver have been rostered and men nominated to take their place in case of absenteeism.
- iv. The men selected for patrolling fully understand the rules for protection and it has been ensured that they are capable of protecting the trains in case of necessity.
- v. All the patrolmen have been provided with the stipulated monsoon patrolling equipment as per Para 1004 (5) of P.Way Manual 2020.
- vi. Where there is jungle area or ghat section, patrolling may be carried out in pairs.
- vii. Where UP and DN lines are not on the same embankment or are at different levels, where it would be difficult for the patrolmen to go from one line to another, there will be additional patrolmen, i.e., separate patrolmen for each line.
- viii. Sr.DENs/DENs/ADENs should also inspect locations affected by excessive flow of rain water to get first hand information on the causes and suggesting solutions to prevent such occurrence in future (Item no. X of Board's lr. no. 2006/CE-II/Safety/Precaution Dt: 02.06.22).

1.8 ACTION TO BE TAKEN BY Sr. SECTION ENGINEERs/P. Way.

1.8.1 Patrol Books and Charts.

The required number of patrol beat books in printed form shall be supplied by SSE/P.Way and will be kept in charge of the Station Master at the beat stations of the particular section as indicated in the patrol charts for the section.

The books must be serially numbered and personally handed over by the Station Master on duty to the concerned patrolmen as per the roster indicated in the beat books. In addition to filling up the particulars of the nominated regular patrolmen, the particulars of the leave reserves and rest giving patrolmen shall also be recorded along with their LTIs duly attested by the SSE/P.Way in the relevant columns in Page 2 to 5 of the patrol books.

In addition, the patrol book should also contain the scheduled arrival and departure timings for each beat commencing and ending at each station. These shall be prepared by the SSE/P.Way and posted in the concerned patrol book (along with a copy of the patrol diagram). The patrol books should also indicate the vulnerable locations and bridges which are deleted during the current year in the case of PSC track and gauge converted lines so that during the patrolling duty the patrolling man will have a special watch over these bridges since these have been deleted from the list of the current year.

A separate card board notice should be exhibited in the ASM's room giving the names of the patrolmen, their patrol beat number, scheduled arrival and departure etc. A copy of the patrol chart duly signed by the Sr.DEN/DEN pertaining to that section duly attested by the SSE/P.Way should also be exhibited at the station.

1.8.2 Patrolmen and reserve patrolmen: "As far as possible, patrolmen should be selected from out of those provided with quarters". It will be the responsibility of the SE/P.Way to ensure that if the Track maintainer nominated for patrolling duties absents himself due to sickness or any other reason, another Track maintainer is arranged in his place. Normally this arrangement should not be difficult in case where the Track maintainer is provided with quarters. One Track maintainer may be arranged as reserve patrolman over and above the number actually necessary for beat commencing from a station, to ensure that substitutes are available, in case there are any absentees. This spare man should report to the Station Master concerned and if not utilized for patrol duty on any day he may be released. If the reserve patrolman nominated for the purpose is living within a reasonable distance from the station, he need not report for duty to the Station Master, unless specially called for. When the Reserve patrolman is not utilized for patrol duty on any night, he should work in the gang on the following day.

1.8.3 Procurement of equipment, protective clothing and consumables for patrolmen/watchman:

Action shall be taken by the SSE/P.Way to procure equipment and consumables necessary for the introduction of patrolling. They should also take action to provide the protective clothing to patrolmen/watchmen.

1.9 CHECK OF MONSOON PATROLLING BY Sr. SECTION ENGINEERs & ADENs:

- i. **Checking of Patrolling-** SSE/P.Way should arrange for patrolling of track as laid down, by deputing suitably selected men from Gangs and arrange to supply them with Patrol books and equipment needed. The SSE/P.Way in overall charge will check the night patrolman once a fortnight by train and by trolley during the monsoon as per the schedules laid down by the administration.
- ii. When monsoon patrolling is introduced ADEN should check the work of Patrolmen at night once in a month, either by Train or Motor Trolley (Item no.ix of Board's Ir no. 2006/CE-II/Safety/Precaution Dt: 02.06.22).
- iii. Inspecting officials should test the knowledge of Gang Mates and Gangmen about the instructions contained in IRPWM-2020.
- iv. Seminars may be conducted at Divisional level, Sub-Divisional level & SSE/P.Way unit level to spread these instructions to all the concerned staff and to create awareness.
- v. Sr.DENs/DENs are advised to identify any other sections not covered in Annexure-I and the same may be advised to this office for inclusion for monsoon patrolling.
- vi. All divisions should advice compliance of above instructions to Headquarters Office as per the time table given below:
 - (a) **All divisions shall send copies of patrol charts by 01-06-2023.**
 - (b) **Confirmation of arrangement made regarding monsoon patrolling and watching vulnerable bridges/locations by 15-06-2023.**
- vii. The Extra Ordinary Gazette Monsoon Instructions (i.e., Joint Engineering, Operating & Electrical Circular-2023) is now under printing and will be circulated shortly. In addition to the above Standard Instructions for monsoon patrolling, the instructions contained in Extra Ordinary Gazette shall also be followed.

These instructions should be strictly adhered to.

Encl: Annexure-I (List of Block Sections)


 (D.ANJANEYULU REDDY)
 CHIEF TRACK ENGINEER

- 17.05.2023
- C/- CBE for information please.
 - C/- PCSO/SC for information please.
 - C/- CAO/Con/SC for information and for arranging patrolling of the lines which are under the maintenance of Construction Organisation, as per the guidelines please.

Annexure-I

BLOCK SECTIONS IDENTIFIED FOR REGULAR MONSOON PATROLLING IN THE YEAR 2023-24 ALONG WITH PERIOD OF PATROLLING SECTION.

SN	Section		Block Section	Normal period of regular monsoon patrolling
			SECUNDERABAD	
1	BALHARSHAH - KAZIPET	I	Balharshah - Kazipet	15 th June to 15 th October 2023
2	KAZIPET - KONDAPALLI	I	Kazipet - Kondapalli	
		II	Warangal - Kazipet Bye pass	
3	DORNAKAL - BHADRACHALAM ROAD - MANUGURU	I	Dornakal-Bhadrachalam Road	
4	SECUNDERABAD - KAZIPET - SANATHNAGAR	I	Kazipet - Secunderabd	
		II	Hussain sagar Junction - Hyderabad	
		III	Secunderabad - Sanathnagar	
5	SANATHNAGAR - WADI	I	sanathnagar - Wadi	
6	VIKARABAD - PARLI VAIJNATH	I	Vikarabad- Sadashivapet Road	
		II	Ghatnandur - Parli vaijnath	
			GUNTAKAL	
1	RENUGNTA-GOOTY	I	Renigunta -Mantapampalle	15 th June 2022 to 15 th Jan 2023 (Sections covered under south west & North East Monsoons)
2	GUDUR-RENIGUNTA	I	Gudur -Renigunta	
3	GOOTY- DHARMAVARAM	I	Dharmavaram- Chigicherla	
		II	Kalluru- Pamidi	
			GUNTUR	
1	NALLALPADU - NANDYAL	I	Gazulapalli - Chelama	15 th June to 15 th October 2023
		II	Chelama - Diguva metta	
2	NADIKUDI-PAGIDIPALLI	I	Rayanagudem-Thipparthi	
3	GUNTUR-NADIKUDI	I	Sattenapalli-Reddigudem	
		II	Bellamkonda- New Piduguralla	
4	NADIKUDI-MACHERLA	I	Nadukudi-Gurazala	
			VIJAYAWADA	
1	GUDUR - VIJAYAWADA	I	Gudur - Ammanabrolu	15 th June 2023 to 15 th Jan 2024 (Section covered under South West & North East monsoons).
		II	Ammanabrolu - Chinaganjam	
2	KAZIPET - VIJAYAWADA	I	Kondapalli - Vijayawada	1 st July to 31 st October' 2023
3	VIJAYAWADA- VISAKHAPATNAM	I	Samalkot - Bayyavaram	19 th June to 18 th October' 2023
		II	Thadi - Duvvada	1 st July to 31 st October' 2023
		III	Nidadavolu - Navabpalem	
	Branch Line:-			
4	VIJAYAWADA - MACHILIPATNAM	I	Tarigoppula - Gudivada	1 st July to 31 st October' 2023
5	GUDIVADA - BHIMAVARAM	I	Undi - Bhimavaram Jn.	

BLOCK SECTIONS IDENTIFIED FOR REGULAR MONSOON PATROLLING IN THE YEAR 2023-24 ALONG WITH PERIOD OF PATROLLING SECTION.				
SN	Section		Block Section	Normal period of regular monsoon patrolling
1	SECUNDERABAD - DHONE		HYDERABAD	15 th June to 15 th October 2023
		I	Falaknuma - Umdanagar	
		II	Timmapur -Gadwal	
		III	Devarakadra-Jaklair	
		IV	Alampur Road - Dupadu	
		V	Ulindakonda-Veldurti	
2	SECUNDERABAD - MUDKHED	I	Wadiaram - Mirzapalli	
		II	Bhiknur- Sirnapalli	
		III	Jankampet - Basar	
		IV	Jankampet - Bodhan	
			NANDED	
1	MANMAD - MUDKHED	I	Ankai - Mudkhed	15 th June to 15 th October 2023.
2	MUDKHED - PIMPALKUTTI	I	Mudkhed - Pimpalkutti	
3	PARBHANI – PARLI VAIJNATH	I	Parbhani - Parli Vajinath	
4	AKOLA - PURNA	I	Akola - Purna	
5	AKOLA-AKOT	i	Akola-Akot	