

Cyclone Warning Centre has been established at Visakhapatnam. Weather warning messages will emanate from:

- i. Regional Meteorological Centre, Colaba Bombay for Zone I.
 - ii. State Meteorological Centre, Hyderabad Air Port, Hyderabad for Zones II, III and IV.
 - iii. Cyclone warning centre, Andhra University Campus, Visakhapatnam for zones V & VI.
 - iv. State Meteorological Centre, H.A.L. Air Port, Bangalore for Zone VII.
- d) The Cyclone Warning Centre, Visakhapatnam will give the adverse weather warning messages on depressions and cyclonic storms coming from Bay of Bengal and storms are still at Sea, for the coastal area of Andhra Pradesh.
- e) Long distance telephone calls will not be resorted to normally, but on special occasions this mode of communication may be utilized by the Forecasting Officer at his discretion.

1.3 **Dissemination of Messages within Railway:** On receipt of Weather / Cyclone warning message in the Control office, the following action should be taken.

- a) **Central Control, Rail Nilayam, Secunderabad - 500 071.** The Chief Controller shall give the copy of message to all controls i.e. Engineering Control, Traction Power Control, Traction Loco Control, Power (Diesel) Control, Security Control, Commercial Control, Electrical Control, Test Room and Divisional Control office concerned. It is the responsibility of these controls in their turn, to inform the Officers, Supervisors and all concerned pertaining to their departments for taking necessary steps to be in readiness for meeting any eventualities. They should record the names and designation with the time and date to whom the message has been repeated.

He should also verify with the Divisional Control that such weather / cyclone warning messages received by him have also been received by the Divisional Chief Controllers of the concerned divisions, so that lapses can be remedied then and there.

- b) **Action by the Divisional Control Office:** The Chief Controller shall give the copy of message to all controls i.e. Engineering Control, Traction Power Control, Traction Loco Control, Power (Diesel) Control, Security Control, Commercial Control, Electrical Control and Test Room. It is the responsibility of these controls in their turn, to inform the Officers, Supervisors and all concerned pertaining to their departments for taking necessary steps to be in readiness for meeting any eventuality. They should record the names and designation with the time and date to whom the message has been repeated.

The Section Controller shall repeat the message to Station Masters on section likely to be affected and record the names of Station Masters on duty to whom the message has been repeated.

Note: In respect of sections which are not controlled or when the control phone is interrupted, an 'XXR' (immediate) message should be issued by the Chief Controller or in his absence by the Dy. Chief Controller to the Officials referred above.

The preamble of the weather/cyclone warning message and the text as received from the Meteorological Department should be reproduced verbatim in the text of the XXR message, the text of the message should be worded as shown below:

Regional Meteorological Centre(here enter the name of the Meteorological Centre) XXW/000 (insert whichever class is used by the Meteorological Department) message coded(insert code time of the original message) dated..... (date of the original message) reads (reproduce the text of the meteorological message verbatim).

A register should be maintained in each Control of concerned department i.e. Engineering, Electrical etc. showing full particulars of the receipt and action taken on the weather/cyclone warning messages, showing the date and time of receipt of warning message, the full text of the message and the date and time of dispatch of telephonic advices to the officials concerned and the initials of the Station Masters on duty to whom the message has been repeated.

(c) Action by the Station Master:

Intimation to staff: On receipt of weather/cyclone warning advice from the Section Controller, the Station Master should take the following action:-

The SM on duty, at station where ADEN / SE (Works) / SE (P.Way), SE (OHE/PSI) are headquartered, should immediately arrange to hand over to the parties concerned, a copy of the verbatim message received from the Section Controller and obtain acknowledgement. If the ADEN / SE (Works) / SE (P.Way) / SE (OHE/PSI) is out of headquarters, the SM should advise the controller on duty who will then be responsible for ensuring that the contents of the message are communicated verbatim to Engineering and TRD officer at the station.

Date & time of receipt	Text of message in full	Name / Designation of officials to whom message was repeated	Signature of the SM	Actual weather Condition

The office copy of the message on which acknowledgement with name, designation, time and date has been taken should also be pasted in the register.

d) Precautions to be taken by Station Master, Loco Pilot/Assistant Loco pilot & Guard-regarding control of trains during storm and strong wind.

- i. When the warning message, forecasting cyclone, storm or strong wind has been received from the Meteorological Department and/or there is a reasonable doubt that severe storm is going to break out endangering the safety of passengers, trains etc., the Station Master shall, in consultation with the Guard and the Loco Pilot/Assistant Loco Pilot of the train, regulates the train and also refuse to grant Line Clear to a train coming to his station until storm abates and he considers safe for the movements of trains.
 - ii. Should a train be caught on the run in a cyclone, storm or strong wind of an intensity which in the opinion of the Loco Pilot/Assistant Loco pilot, is likely to endanger the safety of the train he shall immediately control the speed of his train and bring it to a stop at the first convenient place taking care as far as possible to avoid stoppage of the train at places like sharp curves, high embankments and bridges (including approaches thereof). In controlling the speed and bringing the train to a halt, the Loco Pilot shall stop his train carefully and without a jerk. He shall restart the train in consultation with the Guard only after the cyclone, storm or strong wind abates and it is considered safe to proceed.
 - iii. The Guard and Loco Pilot/Assistant Loco pilot of the train in co-operation with the railway staff traveling in the train shall try to see that doors and windows of the coaches are kept open by the passengers to allow free passage of the wind through the coaches.
- e) **Action by the Section Engineer (P.Way):** The Section Engineer (P.Way) 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 Watchmen as required at all vulnerable locations and bridges by day as well as by night for a period extending upto 48 hrs beyond the period specified in the weather / cyclone warning message.

The Section Engineer (P.Way) should be out in his section as far as possible by trolley during period of warning and 48 hrs beyond.

- i. **Monsoon Patrolling: Commencement and Termination:** If the local condition warrants, the Permanent Way Inspector of the section concerned may introduce or continue night patrolling outside the stipulated dates; duly advising all concerned (1003 of IRPW manual of 1999)
- ii. **Vulnerable Locations :** Stationary Watchmen should be posted round the clock at every nominated location during the monsoon period (1014(3) of IRPW manual of 1999)

Sign Board ---

Sign boards will be fixed during the monsoon period only i.e. on both sides of vulnerable points at a distance of 400 metres on each side. (Item 9.8 of Appendix IV of G & SR of 1999).

- iii. **Monsoon Emergency Reserve Stock:** The locations and the prescribed quantities of Monsoon Emergency Reserve Stock i.e., sand, boulders and empty cement bags is given at Annexure 'D'. It should be ensured that the materials are made available accordingly, before the onset of monsoon.
In addition to Monsoon Reserve Stock mentioned above, the following materials are to be kept ready on wheels for handling any emergency situations of breaches and wash-ways.

10 covered wagons each filled with boulders and sand at RU, KCC and KZJ.

RH girders one set each of 16.30 m and 13.40 m length on BFRs with 50 Nos., of steel cribs (duly secured) at RU, KCC and KZJ.

- f) **Action by the Gang Mate:** On receipt of advice from the Station Master, the Gangmate should take the following action:

- i. During the fair season, the Gangmate should on his own accord depute two reliable Gangmen with equipment for patrolling the block section on either side and for alerting the intermediate Gangmates.
- ii. During monsoon period, the Gangmate of the station/yard gang should send two Gangmen in opposite directions to alert intermediate Gangmates, Patrolmen and Watchmen.
- iii. Should there be very heavy rain or severe storm during the period, weather during the monsoon or fair season, the Gangmate and Gangmen shall carry out the gang patrol as per instructions contained in para 1001(3), (7) and para 1002 of the Indian Railway Permanent Way Manual.

- g) **Action by Traction Power Controller:** The Traction Power Controller of the division should immediately repeat the weather / cyclone warning message verbatim on Control telephone to all concerned AEE, OHE/ PSI depot in-charge of the section likely to be affected for taking adequate steps as to be in readiness for meeting any eventualities, and then circulate the contents of the message to the Officers concerned in Divisional Headquarters office. The TPC shall always be in a state of readiness to take quick and prompt action to tackle the situation. He will keep continuous liaison with the field officials, headquarters Officers, apart from the neighboring divisions, for seeking help as the circumstances warrant.

- i) The AEEs will be in their respective headquarters. Their further movements depending upon the damages caused to OHE/PSI installations due to cyclone will be guided by Sr.DEE/Tr.D.

ii) All Senior Supervisors and Officers of the Tr.D branch should also keep the TPC informed of their movements. These instructions also apply to other key personnel.

h) Action by OHE/PSI Depot in-charge: The OHE/PSI depot in-charge on receipt of weather/cyclone warning shall be in a state of readiness to meet any emergency for arranging emergency staff to be vigilant and be available in headquarters. They shall be in readiness to move at a short notice.

Break Down vehicles i.e. Tower Car, Wiring Train, Lorries and all break down tools, shackle and ladders, generator set, portable flood lights etc., shall be kept ready for movement at any instant.

OHE material like conductors, insulators, fittings shall be kept ready.

i) Electrical general services wing of the division shall ensure the following to be in readiness:

- a) Sufficient stock of fuel available to run available DG set for 24 hrs.
- b) At least 2 portable DG sets at each depot in good condition.
- c) 4 Nos. of portable weather proof tents including requirement of Electrical and S&T staff.
- d) List of contractors capable of providing DG sets with operators at site and their telephone numbers and arrangements for deployment at short notice.
- e) The Chief Controller, Vijayawada Division S.C.Railway, Vijayawada and Chief Controller, Central Control, Rail Nilayam, Secunderabad-500071 are the two nominated officers to whom the above warnings are issued by the Cyclone Warning Centre, Visakhapatnam.

1.4 Flood Warning:

FLOOD WARNING INDICATOR: Flood warning devices have been installed on trail basis at some of the bridges. Two types of devices are installed as follows:

a) GSM based device:

- i. Once the flood water level reaches the danger mark, the device sends an SMS warning message to the cell phone kept at Station Master's room and activates the signals installed at the bridge approach into 'ON' position.
- ii. The Loco Pilot of the approaching train should stop the train at the signals in 'ON' position. He shall restart his train only after getting clearance from the concerned SE/JE/P.Way at the site.

b) VHF based device:

- i. Once the flood water level reaches the danger mark, the device sends an audio-visual indication (by giving beep sound) to the Station Master room and activates the signals installed at the bridge approach into 'ON' position.
- ii. The Loco Pilot/Assistant Loco pilot of the approaching train should stop the train at the signals in 'ON' position. He shall restart his train only after getting clearance from the concerned SE/JE/P.Way at the site.

c) Station Master and concerned staff shall take the following action:

Once the Station Master receives the message from the flood warning device, he should stop immediately the approaching train and inform adjacent Station Masters and concerned JE/SE/SSE/P.Way to take precautionary measures till such time he gets clearance from JE/SE/SSE/P.Way for safe passage of trains.

d) As soon as SE/JE P.way receives the message, he should visit the site and assess the situation and regulate the traffic. He should post temporary Watchmen until the flood water recedes. He should inform the adjacent Station