

GOVERNMENT OF INDIA  
MINISTRY OF POWER

**RAJYA SABHA**  
**UNSTARRED QUESTION NO.2874**  
ANSWERED ON 18.08.2025

**CLIMATE RESILIENT POWER INFRASTRUCTURE**

2874 SMT. REKHA SHARMA:

Will the Minister of **POWER** be pleased to state:

- (a) whether Government has initiated climate-resilient infrastructure upgradation in power transmission corridors vulnerable to cyclones or floods;
- (b) if so, the regions prioritised under this initiative; and
- (c) whether remote monitoring technologies like Lidar or SCADA are being deployed to reduce power restoration time after extreme weather events?

**A N S W E R**

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

**(a) :** Ministry of Power has prepared the “Disaster Management Plan” for the power sector under the provisions of section 37 of the Disaster Management Act, 2005. The plan published by Central Electricity Authority (CEA) in the year 2022 focuses on grid resilience, disaster resistant generation, transmission and distribution network to ensure reliable power supply to all geographically specific areas, including coastal areas, keeping in view extreme weather related instance and natural disasters and also, enumerates the measures required to be taken by Generation, Transmission and Distribution Utilities for Mitigation, Preparedness, Response and Recovery from disasters.

Following measures have been recommended by the Task Force, constituted by Ministry of Power vide Order No. 12/6/2020-Trans dated 02.06.2020, in the “Report of Task Force on Cyclone Resilient Robust Electricity Transmission and Distribution (T&D) Infrastructure in Coastal Area” issued vide Ministry of Power letter No. 12/9/2020-Trans dated 10.06.2021, for creating resilient T&D infrastructure:

- a) (N-1/N-1-1/N-2) contingency level Planning for Critical Load Centres
- b) Critical Infrastructure Protection Framework
- c) Mapping of T&D infrastructure in cyclone affected zones
- d) Designing of Distribution network in Ring or Mesh configuration
- e) Emergency Restoration System (ERS), spare towers, material banks, spares for substation equipment
- f) Mobile Substation
- g) Mobile Diesel Generator (DG) Set
- h) Digitalization of system
- i) Distributed Energy Resources (DERs)

- j) Use of Unmanned Aerial Vehicles (Drones)
- k) Standardization and use of Energy efficient equipment
- l) The structural integrity of transmission & distribution infrastructure
- m) Underground transmission corridor along coastal highway project
- n) Use of Gas Insulated Lines (GIL)

MOP vide DO letter dated 05.12.2014 issued Availability and Plan for Deployment of ERS to State & Central Transmission Utilities. All transmission utilities are required to maintain ERS availability as per norms.

**(b) :** The recommendations of the Task Force on Cyclone-Resilient Robust Electricity Transmission and Distribution (T&D) Infrastructure in Coastal Areas have been incorporated in the planning/ technical specification of Inter State Transmission System (ISTS) project under Tariff Based Competitive Bidding (TBCB) mode for the areas upto 60 km from the sea coast in coastal states.

**(c) :** The Supervisory Control and Data Acquisition (SCADA)/ Remote Terminal Units (RTUs) systems deployed across the grid enable continuous monitoring of operational parameters of Extra High Voltage (EHV) transmission assets, with real-time data from substations and field equipment being monitored by the Load Despatch Centres (LDCs) for secure grid operation. SCADA is extensively utilized in the Indian power system to enhance situational awareness and expedite restoration efforts following extreme weather events. In accordance with the Crisis Management Plan (CMP) issued by CEA, the LDCs coordinate with utilities to facilitate grid operation, system restoration, and inter-regional power flow management during such events.

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