

**GOVERNMENT OF INDIA
MINISTRY OF POWER**

**LOK SABHA
UNSTARRED QUESTION NO.5391
ANSWERED ON 03.04.2025**

AUDIT OF NTPC'S THERMAL POWER PLANTS

5391. SHRI RAHUL GANDHI:

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

- (a) whether the Government has conducted any audit of NTPC's thermal power plants over 25 years old and if so, the details thereof, State-wise;**
- (b) whether the Government has taken any initiatives for the renovation and modernization of NTPC's Feroze Gandhi Unchahar Power Station at Raebareli and if so, the details thereof;**
- (c) the details of the measures taken by the Government to improve the operational efficiency at the Feroze Gandhi Unchahar Power Station at Raebareli; and**
- (d) the details of the measures taken by the Government to improve safety and institutional accountability at the Unchahar Power Station in the aftermath of the boiler explosion in 2017?**

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a): In compliance to the Hon'ble National Green Tribunal's Order dated 22.12.2020, a Safety Audit Committee was constituted by Central Electricity Authority (CEA) under Ministry of Power, comprising of representatives from Central Electricity Authority (CEA), Ministry of Coal, Central Boiler Board (CBB), Director General Fire Safety (DGFS), Oil Industry Safety Directorate (OISD), NTPC Ltd., NLC India Limited (NLCIL) and Bharat Heavy Electrical Limited (BHEL).

The committee had conducted the physical audit of Farakka Super Thermal Power Station of NTPC Limited situated in the state of West Bengal from 24.11.2021 to 25.11.2021 and given their recommendations on safety concerns in thermal power plants. The recommendations of the safety audit committee were shared by NTPC Ltd. among their stations and the recommendations are being complied with.

(b): As per Section 7 of Electricity Act, 2003, setting up of a power plant is a de-licensed activity in the country. Any generating company may establish, operate and maintain a generating station without requiring a license under Electricity Act, 2003 if it complies with the technical standards relating to connectivity with the grid. Carrying out renovation & modernization (R&M) works in thermal units are decided by Power generating utilities/companies on their own based on techno-economic and environmental reasons.

The details of major upgradation/ replacement work executed by NTPC Ltd. at Feroze Gandhi Unchahar Power Station are as under:-

- 1. Replacement of Low-Pressure Heaters, some parts of High Pressure By Pass system, DC Charges, Coal handling plants HP travelling trippers, Turbine related valves, Boiler Feed Pump, Condensate Extraction Pump, Condenser Tubes of Unit #1 Condenser, Scraper conveyor of Bottom ash hopper.**
- 2. R&M of control & Power cables and Electrostatic Precipitators (ESPs), Refurbishment of cooling tower, Residual Life Assessment study of critical piping & hangers, Conversion of open channel ash water flow to closed pipe corridor flow, Renovation of fire fighting system.**

(c) : The following measures have been/are being taken by NTPC Ltd. for improving the operational efficiency at the Feroze Gandhi Unchahar Power Station at Raebareli:

- 1) Unit parameters are being monitored offline/online for any deviation with respect to design performance.**
- 2) Preventive maintenance of critical equipment related to Boiler, TG and other systems.**
- 3) Benchmarking of unit performance parameters.**
- 4) Overhauling of units is being done regularly and during overhauling, Critical systems and equipment related to Boiler, TG(Turbine-Generator) and BoP (Balance of Plants) are inspected, repaired and replaced as per the requirement.**

(d) : Government investigated the cause of boiler explosion at Unchahar Power Station to improve safety and institutional accountability. To investigate the causes of the accident, six (06) nos. of enquiry committees were constituted. Reports submitted by these committees which inter-alia mentioned high ash build up and consequent tube failure due to dislodging of this build up ash in the boiler as one of the causes of accident in the boiler. The key recommendations/findings of these Committees along with the actions taken thereon are given as under:

Recommendations of the Committees:

- 1. Accumulation of ash should be controlled, and continuous ash removal should be ensured without blocking the furnace bottom opening and ash hopper.**
- 2. All Technical considerations of plant operating conditions should be part of Standard Operating Procedures (SOPs).**
- 3. The plant Engineers and operation general team should have adequate and relevant experience as per the duties.**
- 4. Opening of manhole doors/scaffold doors during operation is not resorted and water injection for dislodging should be avoided.**
- 5. Whenever people attend to any problem during boiler operation, there should be a clear checklist for safe practice.**

6. The protocol of work permit for carrying out any activity in the unit should be strictly adhered to.

Action Taken by NTPC Ltd:-

- **Operation guidance note was reviewed with additional points of safety and the same has been complied by all NTPC Stations.**
- **NTPC executive trainees undergo 12 Months training at entry level covering all aspects of the power plant. Further, regular trainings are being conducted across all stations in respect of assigned duties.**
- **International certification courses like NEBOSH-IGC and NOSA are being organized every year for employees for capability building.**
- **Training program for contractors' employees are being conducted at all sites on regular basis covering all relevant topics on occupational health and safety.**
- **Safety behavior index has been introduced in the Performance Management System (PMS).**
- **To strengthen the elements of Institutional Accountability internally, NTPC safety Framework was rolled out in 2021 which is integrated with NTPC SAP system. The framework provides a consistent conceptual structure and serve as the guidance document to the various functions and roles. It contains a set of expectations that ensure that all efforts are aligned with the overall Policy and objectives of NTPC. The expectations are expressed broadly in the form of components – Safety Policy, Safety Risk Management, Safety Assurance and Safety Promotion.**
- **Cross-functional safety task force for operating plants and under construction projects are functional at all projects/stations to monitor and ensure safe working conditions.**
- **For early detection of ash build up, cameras have been installed for monitoring by desk operator.**
- **Internal and external safety audits are undertaken by NTPC through its safety officers at regular intervals and external (third party) safety audit through reputed agencies from time to time.**
- **Job Safety analysis has been made a part of permit to work system, and stations are strictly following it.**
- **For early detection and mitigation of the on-site emergencies, effective control systems are provided at all operating stations.**
- **Regular Mock drills are conducted to check the healthiness of the systems, and any abnormalities are immediately rectified.**
- **Awareness program on disaster management plan are also conducted regularly.**

- **To inculcate safety culture, various messages/instructions are displayed in the form of posters/hoardings at various vulnerable locations of working sites. Different competitions and campaigns on safety are also organized time to time to enhance the safety awareness of employees, contractors' workers and nearby villagers.**
- **Regular Medical examinations are conducted to monitor the health condition of workers at workplace. Safety trainings and pep-talks are also organized for workers at sites to make them aware about the hazards at workplace.**
- **Disaster management plan and emergency action plans are prepared in consultation with district & state authorities and nearby industries to tackle any emergency situation.**
