

**GOVERNMENT OF INDIA
MINISTRY OF POWER**

**LOK SABHA
UNSTARRED QUESTION NO.3742
TO BE ANSWERED ON 03.01.2019**

DEPENDENCE ON COAL

3742. DR. UDIT RAJ:

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

- (a) whether the country's power generation over the next few decades will continue to depend heavily on coal and if so, the details thereof;**
- (b) whether an advanced ultra super critical technology project has been approved by Government for coal based power plants; and**
- (c) if so, the objectives and the progress made in implementation of the project?**

A N S W E R

**THE MINISTER OF STATE (INDEPENDENT CHARGE) FOR POWER
AND NEW & RENEWABLE ENERGY**

(SHRI R. K. SINGH)

(a): As per National Electricity Plan, 2018, all India coal based generation by the year 2021-22 is estimated to be around 63% of the total energy generated from all sources. Similarly, by the year 2026-27, all India coal based generation is estimated to be around 55.7% of the total energy generation. Thus, country's power generation over next decade will continue to depend on coal based generation.

(b) & (c): The Government has approved the Research and Development (R&D) Project (Phase-I) for development of Advanced Ultra Super Critical (AUSC) technology for Thermal Power Plants.

The objective of the R&D project is to develop coal fired power plants with Advanced Ultra Supercritical Technology (AUSC) for 800 MW with targeted efficiency of about 46%.

Phase-I of the R&D project is being executed by a consortium comprising of Indira Gandhi Centre for Atomic Research (IGCAR), NTPC and BHEL under the Chairmanship of Principal Scientific Advisor (PSA) to the Government. A dedicated Mission Directorate has been established to co-ordinate the R&D activities. Phase-II of R&D project envisages installation of an 800 MW AUSC Technology Demonstration Plant based on the technology developed under phase-I.

The status of progress made in implementation of the milestones for Advanced Ultra supercritical R&D Project is given at Annex. On completion of the R&D project, 800 MW capacity demonstration plant will be set up by NTPC at the existing Sipat site.

ANNEX

ANNEX REFERRED TO IN REPLY TO PARTS (b) & (c) OF UNSTARRED QUESTION NO. 3742 TO BE ANSWERED IN THE LOK SABHA ON 03.01.2019.

Status of Milestones for AUSC R&D Project (Phase-I)

Sl. No.	Major Milestones	Present Status (December 2018)
1	Development of New materials and manufacturing processes and technologies	Material selection, material procurement technical specifications, and manufacturing procedures for major components have been completed. Forming and welding of boiler tubes made of Alloy 617M, has been used for the first time. High temperature/high pressure main safety valve in Alloy 617M has been manufactured and tested. Material data required for design has been finalized. Procurement of Materials and equipment has been finalised.
2	Optimised Thermal Cycles	The optimisation process has been completed.
3	Establishment of Fire Side Corrosion Test Rig	Manufacturing has been completed. Site activities at Dadri plant of NTPC in progress and is envisaged to be completed shortly.
4	Establishment of a Rotor Test Rig	Procurement has been finalized for testing in July, 2019.
5	Design of major equipment's - Boiler, Steam turbine, Generator, Valves, Piping	External design review has been completed for boiler, valves and turbine foundation. Currently design review of turbine is under progress and is scheduled to be completed by May, 2019.
6	Complete design of an 800 MW AUSC Thermal Power Plant	Design documents released on system engineering, piping, feed water heaters and condenser.
7	Overall layout of Plan	The overall layout plan has been completed for demonstration plant at Sipat.
