

**GOVERNMENT OF INDIA  
MINISTRY OF POWER**

**LOK SABHA  
STARRED QUESTION NO.24  
TO BE ANSWERED ON 25.02.2016**

**RENOVATION AND MODERNISATION OF THERMAL PLANTS**

**\*24. SHRI ASHOK SHANKARRAO CHAVAN:  
KUNWAR HARIBANSH SINGH:**

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

- (a) the number of thermal power plants in the country along with their capacity, sector-wise and fuel-wise;**
- (b) whether certain thermal power plants have been recommended for closure/renovation by the Central Electricity Authority (CEA) units as these are more than 25 years old, if so, the details thereof;**
- (c) whether the Government proposes to undertake renovation and modernization of old thermal plants, if so, the status thereof along with the norms laid down in this regard;**
- (d) the total funds estimated to replace the old and inefficient thermal units along with the funds provided for the purpose; and**
- (e) the steps taken/being taken by the Government to refurbish/modernise/renovate old and inefficient thermal plants?**

**A N S W E R**

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

**( SHRI PIYUSH GOYAL )**

**(a) to (e) : A Statement is laid on the Table of the House.**

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**STATEMENT**

**STATEMENT REFERRED TO IN REPLY TO PARTS (a) TO (e) OF STARRED QUESTION NO. 24 TO BE ANSWERED IN THE LOK SABHA ON 25.02.2016 REGARDING RENOVATION AND MODERNISATION OF THERMAL PLANTS.**

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**(a) : Details of thermal power plants in the country along with their capacity, sector-wise and fuel-wise as on 31.01.2016 is as under:**

Sector	No. of Plants/(Capacity in MW)					Total (No. of Plants/ Capacity)
	Coal (No. of Plants/ Capacity)	Lignite (No. of Plants/ Capacity)	Gas (No. of Plants/ Capacity)	Diesel (No. of Plants/ Capacity)	Multi-fuel (No. of Plants/ Capacity)	
<b>State Sector</b>	<b>69/ 59070.50</b>	<b>3 / 790</b>	<b>34 / 6975.30</b>	<b>41/ 438.57</b>	<b>1 /60</b>	<b>148 / 67334.37</b>
<b>Central sector</b>	<b>31 /46740</b>	<b>7 /3240</b>	<b>14/ 7555.33</b>	<b>-</b>	<b>-</b>	<b>52 / 57535.33</b>
<b>Private Sector</b>	<b>79 / 63507.37</b>	<b>3 /1830</b>	<b>28 /9978</b>	<b>8 /554.96</b>	<b>-</b>	<b>118 / 75870.33</b>
<b>Total</b>	<b>179 / 169317.87</b>	<b>13 /5860</b>	<b>76 / 24508.63</b>	<b>49 / 993.53</b>	<b>1 / 60</b>	<b>318 / 200740.03</b>

**(b) & (c) : Decision to conduct Renovation and Modernisation (R&M) works and replacement are taken by the respective Utilities. R&M works of units of 13,044 MW capacity older than 25 years has started. In addition, as per assessment made by Central Electricity Authority (CEA) in Oct 2015, units of 5580 MW capacity which are older than 25 years has been identified for R&M / Life extension (LE). Further, 5860 MW capacity can be retired in due course of time in a phased manner. Retirement or R&M of units of 4800 MW capacity can be decided based on their viability.**

**The general norms laid down by CEA in the guideline for R&M / LE works (Oct, 2009) are as under:**

- **Life Extension through comprehensive R&M focuses on plant operation beyond their original designed economic life of 25 years. Specific residual life assessment studies (RLA) of critical components may be carried out after about 20 years of life or 1,60,000 hours of operation for thermal power stations.**
- **The cost of Life Extension works shall not exceed 50% of the EPC cost of a new generating unit of indigenous origin (BHEL). If the LE works are limited to Boiler Turbine Generator (BTG), the cost ceiling shall be restricted to 50% of the cost of new BTG unit.**

- **A detailed study should be carried out to ensure its techno-economic viability in terms of internal rate of return, payback period etc. The payback period may be limited to 5-7 years. In cases, where the cost is estimated to exceed the above limits, a detailed cost comparison & cost benefit analysis shall be carried out between the R&M/LE work and that of setting up a new green field plant.**
- **A total shut down period of unit for carrying out LE works should be 6-8 months.**

**(d) : About 10,180 MW capacity based on Supercritical technology can be installed after replacement of old units of 5860 MW. The total estimated fund requirement is around Rs 70,000 crore. Funds are arranged by the respective Utilities for R&M and replacement of units.**

**(e) : To facilitate the implementation of R&M of Thermal Power Stations (TPSS), the following steps have been taken:**

- **Studies have been taken up for addressing the barriers to R&M implementation under the “Coal-Fired Generation Rehabilitation Project-India”.**
- **RLA reports / Detailed Project Reports (DPRs) of R&M projects are being prepared by the empanelled R&M consultants.**

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