GOVERNMENT OF INDIA
POWER
LOK SABHA

STARRED QUESTION NO:12
ANSWERED ON:20.11.2000
MODERNISATION OF OLD POWER PLANTS
ADHIR RANJAN CHOWDHURY;M.V.CHANDRASHEKHARA MURTHY

Will the Minister of POWER be pleased to state:

(a) whether the Government are aware that a large number of ageing Hydro and Thermal Power Plants are unable to meet the target of power production in the country;

(b) if so, the details and reasons therefor, plant-wise;

(c) whether the Government have formulated any scheme for increasing the generating capacity at an economical cost through the renovation and modernization of ageing/existing power plants; and

(d) if so, the details thereof?

Answer

THE MINISTER OF STATE IN THE MINISTRY O F POWER (SHRIMATI JAYAWANTI MEHTA)

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

STATEMENT REFERRED TO IN REPLY TO PARTS (a) TO (d) OF STARRED QUESTION NO.12 TO BE ANSWERED IN THE LOK SABHA ON 20.11.2000 REGARDING MODERNISATION OF OLD POWER PLANTS.

(a) & (b) : The total installed generating capacity in the country, as on 31.10.2000 is 1,00,077.35 MW, out of which thermal capacity is 71,245.36 MW and hydel capacity 24,712.26 MW.The thermal units are designed for an economical life of 25 years. 28 thermal power stations comprising 80 units aggregating to a capacity of 5952 MW have completed their useful economic life and due to ageing etc. are not able to generate at their full capacity and require Renovation, Modernization and Life Extension.Besides ageing, poor quality of coal, non-availability of spares for obsolete equipment and poor maintenance of plants are also responsible for sub-optimal performance of the plants. The list of Thermal Power Stations requiring R&M and Life Extension due to ageing is attached (Annexure-I).

Similarly, the Normative Operative Life of hydro electric power plant is 30-35 years after which it normally requires Life Extension through renovation and modernization, otherwise the units would not be able to produce the targeted generation. Out of a total hydel capacity of 24,712.26 MW in the country, 35 power stations comprising 106 units aggregating to a capacity of 3541.25 MW have become about 30 years old and require Renovation, Modernisation and Life Extension.The list of hydro power stations over 30 years old, where life extension may be required based on RLA studies, is attached Annexure-II).

(c) & (d) : The Government of India, having recognized the importance of Renovation & Modernisation (R&M) way back in 1984, launched a programme (Phase-I-R&M) comprising 34 thermal power stations covering 163 units in the country, which resulted in an additional generation of about 10,000 MUs/annum. Phase-II-R&M coverning 44 stations with 198 units has been taken up for implementation. Presently, the Power Finance Corporation is providing loan assistance to SEBs for R&M of existing power stations and the Government is providing 4% interest subsidy under Accelerated Generation and Supply Programme (AGSP).

Considering the importance of R&M and Life Extension Programme of both thermal and hydro power stations in the country, the Central Electricity Authority (CEA) has prepared a National Perspective Plan (NPP) upto 2012 for R&M, Life Extension and Uprating of thermal and hydro power stations in the country covering about 63,422 MW (47,600 MW thermal and 15,822 MW hydro) capacity.

Keeping in view the poor financial health of the SEBs and the urgent requirement of R&M and Life Extension programme, the Government have formulated a scheme called the Accelerated Power Development Programme (APDP) under which financial assistance in the form of grant and Loan is proposed to be provided for Renovation and Modernisation of the ageing power plants and upgrdation of distribution network including sub-transmission system and metering. The modalities for implementing the scheme and the manner of funding are being finalized.

ANNEXURE-I

ANNEXURE REFERRED TO IN PARTS (a) & (b) OF THE STATEMENT LAID IN REPLY TO STARRED QUESTION NO. 12 TO B ANSWERED IN LOK SABHA ON 20.11.2000 REGARDING MODERNISATION OF OLD POWER PLANTS

Details of Thermal Units due for RLA/LEP

S.No.	State/Utility	Name of TPS	Installed Capacity (MW)
1.	DVC	Bokaro `A` (U 1-4)	247.50
2.	-do-	Chandrapur (U 1-5)	660.00
3.	-do-	Durgapur (U-3)	140.00
4.	MPEB	Amarkantak (U 1&2)	60.00
5.	-do-	Korba II (U 1-4)	200.00
6.	-do-	Satpura (U 1-5)	312.5
7.	GEB	Dhuvaran (U 1-6)	534.20
8.	ASEB	Namrup GT (U 1-3)	69.00
9.	-do-	Chandrapur (U 1)	30.00
10.	APGENCO	Nellore (U-1)	30.00
11.	-do-	Ramagundem (U-1)	62.50
12.	-do-	Kothagudem (U 5&6)	220.00
13.	WBSEB	Bandel (U 1-4)	330.00
14.	-do-	Santaldih (U 1&2)	240.00
15.	BSEB	Patratu (U 1-6)	350.00

16. BSEB Barauni 110.00
(U 4&5)

17. UPRVUNL Obra 550.00
(U 1-8)

18. -do- H`Ganj` 170.00
(U 1,3&4)

19. -do- Panki 64.00
(U 1&2)

20. DVB I.P. 247.5
(U 2-5)

21. MSEB Bhusawal 62.50
(U-1)

22. -do- Paras 62.50
(U 2)

23. -do- Nasik 280.00
(U 1&2)

24. -do- Parli 60.00
(U 1&2)

25. -do- Koradi 240.00
(U 1&2)

26. NTPC Badarpur 300.00
(U 1,2&3)

27. PSEB Bhatinda 220.00
(U 1&2)

28. HPGCL Faridabad 60.00
(U 1)

ANNEXURE-II

ANNEXURE REFERRED TO IN PARTS (a) & (b) OF THE STATEMENT LAID IN REPLY TO STARRED QUESTION NO. 12 TO BE ANSWERED IN LOK SABHA ON 20.11.2000 REGARDING MODERNISATION OF OLD POWER PLANTS.

List of Projects about 30 years old considered for RLA Studies/Life Extension Programme

Sl. No	Name of Power Station/ Year of Commn.	Installed Capacity (MW)	Whether RLA studies required	Remarks
1.	Tungbhadra Dam /A.P. 1957-64	2x9+2x9	Yes	

2. Hampi/A.P. 2x9+2x9 Yes
1958-64

3. Upper Sileru I/A.P. 2x60 Yes
1967-68

4. Nizam Sagar/A.P. 2x5 Yes
1956

5. Bhakra LB/BBMB 5x108 No Uprating/RLA studies carried out
1960-61.1 M/s Hitachi who recommended
upratingFrom 108 MW to 120 MW

6. Shimsha/KPTCL 2x8.6 Yes

7. Panniar/KSEB 2x15 No Major RM&U work being carried
1963-64.1 out which includes replacement of
turbine/replacement
of generators, exciters, governors,
C&I equipment etc.

8. Pallivasal/KSEB 3x5+3x7.5 No -do-
1948-51

9. Sengulam/KSEB 4x12 No -do-
1954

10. Sholayar/KSEB 3x18 Yes
1966-68

11. Idukki St.I/KSEB 3x130 Yes
1976

12. Kittiady/KSEB 3x2 Yes

13. Gandhi Sagar/MPSEB 5c23 Yes
1960-64

14. Dhakrani/UP 3x11.25 Yes
1965-70

15. Dhalipur/UP 3x17 Yes
1965-70

16. Khatima/UP 3x13.8 Yes
1955-56

17. Pathri/UP 3x6.8 Yes
1955

18. Rihand/UP 6x50 Yes RLA studies carried out. It is
1962-66.1 proposed to uprate the units from
50 MW to 60 MW.

19. Obra/UP 3x33 Yes Although major RM&U work
1970-71.1 including reinsulation of
stator/rotor winding, renovation of
shaft seals, governor,
replacement of amplidynes, slip
rings etc. being undertaken, RLA
studies for turbine component, D/D
Pumps etc. could also be carried out.

20. Rana Pratap Sagar/ 4x43 Yes A reconnaissance study Report
Rajasthan prepared by KFW Germany which
1968-69.1 recommended as follows:

I. To renew the essential component
& minimum work for modernisation.

RPS – New static excitors including AVR,
replacement of electrical equipment for
Gen.sets.

JS – Modification of Tail runners, new static
excitors, replacement of electrical
equipment for gensets only.

II. Life Extension

RPS – Improvement of tail race drop out
& structure new runners,

JS rehabilitation of alternators, New
0.4 IV,11KV,132 KV switchgears & aux.

21. Jawahar Sagar/Raj. 3x33
1972-73

22. Sholayar I/T.N. 2x35 Yes RLA studies carried out by TNEB.
1971

23. Periyar/T.N. 4x35 Yes -do-
1958-65

24. Sholayar II/T.N. 1x25 Yes -do-
1971

25. Aliyar/T.N. 1x60 Yes

26. Sarkarpathy/T.N. 1x30 Yes
1966

27. Kodayar I/T.N. 1x60 Yes
1970

28. Kodayar II/T.N. 1x40 Yes RLA studies carried out by TNEB.
1960-64

29. Kundah I/T.N. 3x20 Yes
1960-64

30. Kundah II/T.N. 5x35 Yes
1960-64

31. Kundah III/T.N. 3x60 Yes
1966-78

32. Kundah IV/T.N. 2x50 Yes
1964-88

33. Kundah V/T.N. 2x20 Yes

34. Moyar PH/T.N. 3x12 Yes
1952-53

35. Mettur Tunnel+/TN 4x50 Yes
1965-66

+ Based on the problems faced by TNEB, a proposal of RM&U made by TNEB which include intake gates, trash rack, screens, repair of penstock pipes & spiral casing, modernising governors, static excitation system, replacement of stator/rotor winding with claff insulation, auto synchronization, replacement of sw.gear & repair of generator transformer etc.

Note 2.: TNEB has also carried out RLA studies on 4 of its power stations listed at items 25 to 36.