GOVERNMENT OF INDIA
ATOMIC ENERGY
LOK SABHA

STARRED QUESTION NO:335
ANSWERED ON:17.08.2005
NUCLEAR POWER REACTORS
Budholiya Shri Rajnarayan;Nayak Shri Ananta

Will the Minister of ATOMIC ENERGY be pleased to state:

(a) whether the construction work on pressurised heavy water reactors at Tarapur has been completed;

(b) if so, whether it is the largest indigenously designed and built nuclear power reactor in the country;

(c) if so, the details in this regard;

(d) whether the Nuclear Power Corporation of India Ltd. has designed, constructed and operationalised nuclear reactors in the country;

(e) if so, the details of power generated from each of them alongwith the expenditure incurred on them;

(f) whether the said power generated is below the target set;

(g) if so, details thereof and steps taken for the same;

(h) the details of nuclear power reactors currently under construction and likely to be set up in the country alongwith allocation of fund for the purpose, location-wise; and

(i) the time by when they are likely to start production?

Answer

THE MINISTER OF STATE IN THE PRIME MINISTER`S OFFICE (SHRI PRITHVIRAJ CHAVAN)

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

STATEMENT REFERRED TO IN REPLY TO LOK SABHA STARRED QUESTION NO.335 BY SHRI RAJNARAYAN BUDHOLIYA AND SHRI ANANTA NAYAK REGARDING NUCLEAR POWER REACTORS FOR ANSWER ON 17/8/2005

(a) The construction work for TAPP-4 (540 MWe), first reactor of twin unit TAPP 3 & 4 (2x540 MWe) Pressurised Heavy Water Reactor Project at Tarapur, Maharashtra has been completed. The unit has also been connected to the grid on 4.6.2005. The construction work of the second unit (TAPP-3) is also at an advanced stage and is expected to be completed during the year 2006-07.

(b) Yes, Sir.

(c) The unit size of PHWRs earlier set up by NPCIL was 220 MWe. NPCIL has designed, constructed and now put in operation a 540 MWe nuclear power reactor. This is largest size of indigenously designed nuclear power reactor in the country. The unit size of 540 MWe is also highest in the country when compared to thermal power plants, which have a maximum unit size of 500 MWe.
(d) Yes, Sir.

(e) The details of the completion cost, based on yearly expenditure and actual generation of electricity of each of the reactors are as follows:

Unit	Commercial Operation Date	Completion cost (Rs. crore)	Generation till March 2005 (MUs)
TAPS-1	28-Oct-1969	93	34209
TAPS-2	28-Oct-1969	93	34231
RAPS-1	16-Dec-1973	176	12039
RAPS-2	01-Apr-1981	176	24996

MAPS-1	27-Jan-1984	246	19921
MAPS-2	21-Mar-1986	246	19124
NAPS-1	01-Jan-1991	724	17733
NAPS-2	01-Jul-1992	724	17315
KAPS-1	06-May-1993	1367	15945
KAPS-2	01-Sep-1995	1367	15450
KAIGA-1	16-Nov-2000	2896	6704
KAIGA-2	I6-Mar-2000	2896	7679
RAPS-3	01-Jun-2000	2511	7542
RAPS-4	23-Dec-2000	2511	6833
TOTAL			239728

(f) The performance ofNPCIL in terms of annual average plant load factor for reactors in operation has been above national average for thermal power stations. The actual generation from the nuclear power stations has consistently exceeded the targets for last so many years.

(g) Not applicable in view of (f) above.

(h) & (i) Nine reactors, including TAPP-4 which has been connected to the grid and expected to commence commercial operation soon, are presently under construction. The details of the projects under construction with are as fol1ows:

Project	Location	Capacity MWe	Completion Cost # Rs. crore	Scheduled Commercial Operation
Tarapur Atomic Power Project Units-3&4	Tarapur, Maharashtra	2X540	6525	Unit-4 March 2006 Unit-3 Ian 2007
Kaiga Atomic Power Project Units -3&4	Kaiga, Karnataka	2X220	3282	Unit-3 March 2007 Unit-4 Sep 2007
Kudankulam Nuclear Power Project Units -1&2	Kudankulam Tamil Nadu	2 X 1000	13171	Unit-1 Dec 2007 Unit-2 Dec 2008
Rajasthan Atomic Power Project Units-5&6	Rawatbhata, Rajasthan	2X220	3072	Unit-5 Aug 2007 Unit-6 Feb 2008
Prototype Fast Breeder Reactor (PFBR)	Kalpakkam, Tamil Nadu	1X500	3492	Mar 2011

The completion cost is inclusive of the escalation till completion of the project and Interest During Gonstruction (IDC) on borrowed fUnds.