



REPORT NO.

326

**PARLIAMENT OF INDIA
RAJYA SABHA**

**DEPARTMENT-RELATED PARLIAMENTARY STANDING COMMITTEE
ON SCIENCE & TECHNOLOGY, ENVIRONMENT, FORESTS AND
CLIMATE CHANGE**

THREE HUNDRED TWENTY SIXTH REPORT

**DEMANDS FOR GRANTS (2020-2021) OF THE
DEPARTMENT OF ATOMIC ENERGY
(DEMAND NO. 03)**

(Presented to the Rajya Sabha on 6th March, 2020)
(Laid on the Table of Lok Sabha on 6th March, 2020)



**Rajya Sabha Secretariat, New Delhi
March, 2020/ Phalguna, 1941 (Saka)**

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** To be appended at printing stage*

COMPOSITION OF THE COMMITTEE

(2019-20)

(Constituted on 13th September, 2019)

1. Shri Jairam Ramesh -- **Chairman**

RAJYA SABHA

2. Shri Anil Baluni
3. Shri R.S. Bharathi
4. Shrimati Vandana Chavan
5. Shri Hishey Lachungpa
6. Shri Parimal Nathwani
7. Shri Bhaskar Rao Nekkanti
8. Shri Ashwini Vaishnaw
9. Shri Ravi Prakash Verma
10. Shri Binoy Viswam

LOK SABHA

11. Shri Guharam Ajgalley
12. Shri Pradan Baruah
13. Shri E.T. Mohammed Basheer
14. Shri Jashvantsinh Sumanbhai Bhabhor
15. Shri Sudarshan Bhagat
16. Shri Rameshbhai Lavjibhai Dhaduk
17. Shri Anantkumar Hegde
18. Shrimati Jyotsna Charandas Mahant
19. Dr. Swami Sakshiji Maharaj
20. Shri Asaduddin Owaisi
21. Shri S.R. Parthiban
22. Dr. Ranjan Singh Rajkumar
23. Shri Kotha Prabhakar Reddy
24. Dr. Jayanta Kumar Roy
25. Shrimati Satabdi Roy (Banerjee)
26. Shri Mahesh Sahoo
27. Shri Francisco Cosme Sardinha
28. Shri Anurag Sharma
29. Shri Ram Shiromani
30. Shri Kirti Vardhan Singh
31. Dr. Ramapati Ram Tripathi

SECRETARIAT

Smt. Sunita Sekaran, Joint Secretary
Shri T. N. Pandey, Director
Shri S. Rangarajan, Additional Director
Shri Rajiv Saxena, Under Secretary
Shri Harish Kumar Committee Officer

INTRODUCTION

I, the Chairman of the Department-related Parliamentary Standing Committee on Science & Technology, Environment, Forests and Climate Change, having been authorised by the Committee to present the Report on its behalf, present this Three Hundred Twenty Sixth Report of the Committee. This Report deals with the detailed Demands for Grants (2020-2021) of the Department of Atomic Energy (Demand No.3).

2. In the meeting of the Committee held on the 18th February, 2020, the Secretary and other officers of the Department of Atomic Energy gave an overview of the various activities of the Department and the Members sought clarifications on various aspects of the performance of the Department to enable it to scrutinise the Demands for Grants.

3. The Committee expresses its thanks to the officers of the Department for replying to the clarifications sought by the Members and placing before it the required material to enable it to scrutinise the Demands for Grants of the Department of Atomic Energy.

4. The Committee considered and adopted the draft Report in its meeting held on the 4th March, 2020.

NEW DELHI;
March 4, 2020
Phalguna 14, 1941 (Saka)

(JAIRAM RAMESH)
Chairman,
Department-related Parliamentary Standing Committee on
Science & Technology, Environment, Forests and Climate Change,
Rajya Sabha.

REPORT

1. The Department-related Parliamentary Standing Committee on Science & Technology, Environment, Forests and Climate Change considered the Demands for Grants 2020-21 of the Department of Atomic Energy in its meeting held on 18th February, 2020.

2. BUDGETERY DETAILS FOR THE FINANCIAL YEAR 2019-20 AND ALLOCATION FOR 2020-21

2.1 The following table presents the budgetary details for the year 2019-20 and BE 2020-21 of the Department of Atomic Energy:-

(Rupees

in crore)

Sl. No.	Name of Scheme	Budget 2019-20			Budget 2020-21
		BE	RE	Actuals (Upto January, 2020)	
CENTRE'S EXPENDITURE					
Establishment Expenditure of the Centre					
1.	Secretariat	58.05	65.13	54.04	66.00
2.	Atomic Energy Regulatory Board	80.00	81.31	65.59	84.77
Atomic Research Centre					
3.	Bhabha Atomic Research Centre	2613.23	2752.17	2200.76	2836.00
4.	Indira Gandhi Centre for Atomic Research	496.67	492.29	411.45	523.24
5.	Raja Ramana Centre for Advanced Technology	324.83	360.01	304.04	349.51
6.	Variable Energy Cyclotrone Centre	121.94	127.79	116.12	137.26
7.	Atomic Minerals Directorate for Exploration and Research,	319.39	323.45	287.28	341.80
Total - Atomic Research Centre		3876.06	4055.71	3319.65	4187.81
8.	Fuel Cycle Facility	544.15	619.15	520.65	586.80
9.	Service Units	445.65	433.35	356.59	459.63
10.	Board of Radiation and Isotope Technology	97.85	100.00	86.70	103.20
11.	Management Services Group	0.70	0.77	0.52	0.84
12.	Nuclear Fuel Complex	2551.83	2651.83	2413.89	2709.82
13.	Heavy Water Production Facility	1260.28	1274.58	1102.98	1511.42

	Total - Establishment Expenditure of the Centre	8914.57	9281.83	7920.61	9710.29
	Central Sector Schemes/Projects				
	Research and Development				
14.	R and D Basic Science and Engineering	1320.00	1169.86	893.75	1250.00
15.	R and D for Fast Reactor Science and Technology	271.00	271.00	174.67	300.00
16.	Advanced Technologies for Laser, Synchrotron and Accelerator	150.99	155.00	128.15	180.00
17.	R and D in Exploration and Mining	138.00	138.00	115.28	150.00
18.	Grants to other organisation (BRNS)	154.00	100.00	88.86	154.00
	Total - Research and Development	2033.99	1833.86	1400.71	2034.00
19.	Backend Fuel Cycle Projects	440.00	530.14	391.59	500.00
	Housing and Neighbourhood Development Projects				
20.	Housing Projects	169.01	189.69	176.16	214.20
21.	Neighbourhood Development Projects in Kudankulam)				0.00
	Total - Housing and Neighbourhood Development Projects	169.01	189.69	176.16	214.20
	Heavy Water Facilities				
22.	Heavy Water Board	53.00	30.00	27.75	53.00
23.	Feedstock	1200.00	1377.00	1115.00	1243.76
24.	Heavy Water Pool Management	1300.00	1300.00	1300.00	1300.00
	Total - Heavy Water Facilities	2553.00	2707.00	2442.75	2596.76
25.	Radiation and Isotopes Project	110.00	158.48	103.85	119.12
26.	Nuclear Power Projects	110.42	98.00	0.00	100.12
27.	Nuclear Fuel Projects	170.00	268.70	215.73	450.86
28.	AERB Expansion Project	40.00	28.53	21.58	49.38
29.	Advanced Technology for Accelerator	75.00	66.60	49.67	80.00
30.	DAE R and D Projects	170.00	260.00	210.48	310.00
31.	DAE I and M Projects	65.00	36.00	36.00	65.00
32.	Fuel Cycle Projects FRFCF	750.00	600.00	394.72	600.00
33.	Nuclear Fuel Inventory	3122.06	3322.06	3046.09	3051.00

	Total - Central Sector Schemes/Projects	9808.48	10099.06	8489.33	10170.44
	Other Central Sector Expenditure				
34.	Autonomous Bodies	2449.84	2580.45	2317.35	2833.97
	Public Sector Undertakings				
35.	Nuclear Power Corporation of India Limited	3000.00	3000.00	2700.00	3737.00
36.	Uranium Corporation of India Limited	15.00	15.00	0.00	50.00
37.	Bharatiya Nabhikiya Vidyut Nigam Limited	140.00	90.00	40.00	150.00
	Total - Public Sector Undertakings	3155.00	3105.00	2740.00	3937.00
	Others				
38.	Contribution to International Atomic Energy	40.00	29.17	28.55	40.00
	Total - Other Central Sector Expenditure	5644.84	5714.62	5085.90	6810.97
	Grand Total	24367.89	25095.51	21495.84	26691.70

2.2 The Committee was informed that the Department had made a projected demand of Rs.40,259.05 crore for BE 2020-21 against which an amount of Rs.26,691.70 crore has been allocated, registering an overall reduction of Rs.13,567.35 crore i.e. 33.70% less than the projected demand of the Department. Of the seven Ministries/Departments under the purview of the Committee, it is only the budgetary allocations for the DAE in BE 2020-21 that is cause for grave concern. Approximately 41% of this shortfall amount of Rs.13, 567.35 crore is the revenue expenditure and 59% affects the projected capital expenditure.

2.3. The Committee asked the Department about the impact on the account of shortfall in budgetary allocations. The response of the Secretary was as follows:-

The **Revenue Expenditure Shortfall of Rs.5578.86 crore** will mainly affect:

- (a) Fuel Imports and arrears to UCIL (Rs.2928.90 crore)
 - (i) M/s KAZATOMPROM (Rs.1200 crore)
 - (ii) M/s CAMECO (Rs.399 crore)
 - (iii) UCIL arrears (Rs.1330 crore)
- (b) Grant-in-Aid (Capital Assets, Salaries and General) (Rs.1329 crore)
 - (i) ITER project (Rs.301 crore)
 - (ii) TIFR & TMC (Rs.306 crore)
 - (iii) Salaries to Employees (Rs.450 crore)
 - (iv) Utility Bills of 11 Aided Institutes (Rs.272 crore)
- (c) Operation & Maintenance Expenditure (Rs.1320.93crore)

The **Capital Expenditure Shortfall of Rs.7988.49 crore** will affect:

- (a) Loans & Investments (Rs.4954.00 crore)
 - (i) Russian State credit (RSC) (Rs.2379 crore)
 - (ii) Payments to Vendor of KKNPP 5&6 (Rs.982 crore)
 - (iii) PHWR Programme (Rs.1287 crore)
 - (iv) BHAVINI (Rs.306 crore)
- (b) Capital Projects (Rs.3034.49 crore)
 - (i) INRP (Rs.922 crore)
 - (ii) NFC, Kota (Rs.779 crore)
 - (iii) Different R&D activities viz. AMD, HWB, IREL, DCSEM, GCNEP, AFR, etc. (Rs.1333 crore).

2.4. The Committee asked the Department of Atomic Energy for the minimum requirement of additional funds in 2020-2021 to sustain the country's nuclear power in all, its various components. The reply of the Secretary is as follows:-

(Rupees in crore)

SECTION	BE 2020-21 (Approved)	Minimum Requirement to Sustain Programme 2020-21	Additionality over approved BE 2020-21
REVENUE	15797.10	18164.23	2367.13
CAPITAL	10894.60	16485.29	5590.69
TOTAL	26691.70	34649.52	7957.82

2.5 **The Committee is of the considered opinion that there are expenditures such as salaries to employees, payment of utility bills, etc. under the Revenue head which are obligatory in nature and any reduction/shortfall in funds under these components would be akin to denying oxygen to life, and will severely affect the overall functioning of the Department of Atomic Energy. The Committee is, therefore, fully convinced that expenditure of obligatory nature must not be subjected to any kind of reduction/shortfall whatsoever. The Committee, accordingly, recommends that, at the very minimum, adequate funds to meet such expenditure of obligatory nature should be allocated by the Ministry of Finance at the RE stage.**

3. SPECIAL OBSERVATIONS

3.1 **The Committee notes that the country's nuclear energy programme is at a very sensitive crossroads. From the point of view of emissions of greenhouse gases, nuclear power is a clean source of electricity. However, its costs are not coming down. In fact, they are going up due to greater concerns on safety, following the Fukushima disaster in May 2011. On the other hand, prices of solar power have come crashing down and the relative economics of nuclear and solar power has changed dramatically. This cannot be ignored totally, even though presently solar power is intermittent power and conversions efficiency is low. The Committee believes India cannot afford to do away with a base-load source of electricity like nuclear power. India's**

nuclear energy programme has both a strategic and energy dimension, and both of these have to be kept in view while considering the Department of Atomic Energy.

3.2 The Committee hopes that the DAE would be in a position to commission the fast breeder reactor at Kalpakkam by the end of 2021. Even though it would have taken almost two decades when commissioning takes place, this is a pioneering initiative of which India can be justifiably proud. It will transform our nuclear energy programme. In addition, the Committee hopes that the DAE will take forward the plans to set up the advanced thorium reactor on an engineering scale, which is the ultimate objective of the three-phase nuclear energy programme, as envisaged by Dr. Homi J. Bhabha in the early 1950s. The Committee also wishes to draw the attention of the DAE to a recent study of the Center for Study of Science, Technology and Policy (C-STEP), Bengaluru, which argued for large-scale induction of thorium-based reactors ahead of the second stage fast breeders for gaining early experience with thorium.

3.3 The Committee is also aware of the fact that apart from helping India acquire badly needed natural uranium from other countries, the Indo-US Nuclear Agreement of 2005 has not yet resulted in new commercial projects with foreign assistance. Negotiations with the French and American companies have been going on for over a decade. The Committee feels that at this point of time it would be better for the DAE to adopt a standardised 700 MW heavy-water reactor and use that standardised design for its expansion programme in an aggressive manner.

3.4 The Committee believes that by the year 2030, India should aim to at least double the present proportion of electricity generated by nuclear power plants. It is a hugely ambitious target but it needs to be planned and budgeted for and achieved.

3.5 Finally, the Committee recalls that the very first Report it submitted on November 11, 2019 was entitled “An Expanded Role for the Department of Atomic Energy (DAE) in Cancer Treatment in India through an Enlarged Network of the Tata Memorial Centre (TMC)”. The Committee reiterates the significance of that Report and would like to express its earnest hope that the recommendations made in that Report would be implemented by the Government of India at the earliest. This will call for coordinated actions by the DAE, Ministry of Health, Ministry of Finance and the Prime Minister’s Office. The existing fund allotment to DAE will however be grossly insufficient to meet the needs of expanding TMC in various parts of the country. Further, if the existing funds of DAE are used for TMC expansion, it will divert funds from R&D projects of DAE, which is not desirable. The Committee, therefore, recommends that separate funds allocation may be made to DAE for the expansion of the TMC network based on the ‘hub and spoke’ model as discussed in detail in its Report of November 2019. Unfortunately, the Budget for 2020-21 has not considered these

recommendations although they were made well in time so as to be able to be considered and incorporated in the Budget.
