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STANDING COMMITTEE ON ENERGY (1998-99)

TWELFTH LOK SABHA

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DEPARTMENT OF ATOMIC ENERGY

DEMANDS FOR GRANTS (1999-2000)

SIXTEENTH REPORT

LOK SABHA SECRETARIAT
NEW DELHI

April, 1999/Chaitra, 1921 (Saka)

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Presented to Lok Sabha on 22.4.1999

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NEW DELHI

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4. Shri R.S. Kambo – *Under Secretary*
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INTRODUCTION

I, the Chairman, Standing Committee on Energy, having been authorised by the Committee to present the Report on their behalf, present this Sixteenth Report (Twelfth Lok Sabha) on Demands for Grants (1999-2000) relating to the Department of Atomic Energy.

2. The Committee took evidence of the representatives of the Department of Atomic Energy on 5th April, 1999.

3. The Committee wish to thank the representatives of the Department of Atomic Energy who appeared before the Committee and placed their considered views. They also wish to thank the Department for furnishing the replies on the points raised by the Committee.

4. The Report was considered and adopted by the Committee at their sitting held on 16th April, 1999.

NEW DELHI;
17 *April*, 1999
27 *Chaitra*, 1921 *(Saka)*

K. KARUNAKARAN,
Chairman,
Standing Committee on Energy.

REPORT

PART-I

CHAPTER I

Introductory

Created by a Government Resolution in 1948, the Atomic Energy Commission (AEC) is the apex body for formulation of policies and direction of the programmes relating to peaceful uses of atomic energy in electricity generation, medicine, agriculture and industry. The Commission implements its policies and programmes through the Department of Atomic Energy (DAE). From the single unit, namely, the Atomic Energy Establishment, Trombay (AEET) in 1957, today DAE comprises organisations and institutions of diverse nature which carry out a wide range of activities.

Atomic Energy Programme

1.2 The Department of Atomic Energy (DAE) aims to harness atomic energy for electricity generation, with emphasis on self-reliance, indigenous research and development covering all aspects of the nuclear fuel cycle and also developing its applications in the areas of medicine, agriculture, industry and research.

1.3 The Atomic Energy programme comprises three sectors, namely, Nuclear Power Sector, Industries & Minerals Sector and Research &Development Sector.

1.4 Nuclear Power Sector of the Department deals with design, construction and operation of commercial power reactors with associated safety in all its phases. This comprises building of Pressurised Heavy Water Reactors, and development of Fast Breeder Reactors and Thorium Reactors on commercial scale. Associated waste management and environment monitoring and technology development relating to operation and maintenance of the reactors also form part of the programme.

1.5 Industries and Minerals Sector is involved in industrial application of technologies developed in the R&D facilities and includes (a) programmes related to nuclear fuel cycle covering design, construction and operation of industrial plants for refining ores, fabrication of fuel, production of heavy water, instrumentation and control, etc., needed for sustained operation of

the power reactors; and (b) applications of radioisotope, radiation, laser and accelerator technology for national development in industry, medicine, agriculture and food preservation. The units in Industries and Minerals Sector include the Nuclear Fuel Complex (NFC), Heavy Water Board (HWB), Board of Radiation and Isotope Technology (BRIT), Bhabha Atomic Research Centre (BARC), Indira Gandhi Centre for Atomic Research (IGCAR) and Centre for Advance Technology (CAT). There are also three public sector undertakings in the sector, namely, Indian Rare Earths Limited (IRE), Uranium Corporation of India Limited (UCIL) and Electronics Corporation of India Limited (ECIL).

1.6 Research and Development Sector provides R&D support to the Nuclear Power Programme of the Department. The R&D efforts of DAE are in multidisciplinary high technology areas. Significant achievements have been made in building technical capabilities in the design, construction and operation of Pressurised Heavy Water Reactors (PHWR); exploration, mining, extraction, purification and conversion of nuclear materials; production of fuel element for nuclear reactors; production of heavy water; health and safety research; development and application of lasers and accelerators; development of fast breeder reactors and related instrumentation; reprocessing of spent fuels; waste management and production and use of radioisotopes, besides basic research in frontier areas of S&T particularly radio-astronomy, molecular biology, condensed matter physics, computer science etc. The Department has five R&D centres: Bhabha Atomic Research Centre (BARC) at Trombay, Mumbai, Indira Gandhi Centre for Atomic Research (IGCAR) at Kalpakkam near Chennai, Variable Energy Cyclotron Centre (VECC) at Calcutta, are for nuclear research and development; the Centre for Advanced Technology (CAT) at Indore carries research and development in the high technology areas of accelerators and lasers. The Atomic Minerals Directorate for Exploration & Research (AMD) at Hyderabad carries out exploration and prospecting of atomic minerals in the country. The Department of Atomic Energy also works in fields related to National Security.

1.7 The observations of the Committee on the basis of the scrutiny of Demands for Grants of the Department for the year 1999-2000 are brought out in the succeeding Chapter.

CHAPTER II

ANALYSIS OF DEMANDS FOR GRANTS AND PLAN BUDGET OF THE DEPARTMENT OF ATOMIC ENERGY

The following two Demands for Grants have been submitted to Parliament by the Department of Atomic Energy (DAE) for the year 1999-2000 :-

Demand No. 89 – Atomic Energy

Relating to Revenue and Capital Expenditure on Atomic Energy Research and Development, Industrial Projects and the Secretariat of the Department — Rs. 2153.01 crore

Demand No. 90 – Nuclear Power Schemes

Relating to Revenue and Capital Expenditure on Nuclear Power Generation and Ancillary Schemes — Rs. 2385.37 crore

2.2 The two Demands agreegating to Rs. 4538.38 crore comprise Rs. 1520.00 crore for Plan schemes and Rs. 3018.38 crore for Non-Plan expenditure. In addition, Plan schemes to the extent of Rs. 451 crore are to be met from Internal and Extra Budgetary Resources (IEBR).

2.3 The details of actual revenue and capital expenditure for the year 1997-98, the Budget and Revised Estimates for 1998-99 and Budget Estimates for 1999-2000 of the Department are given in the Appendix.

A. Budgetary Allocation

2.4 The Budget Estimates (BE) and Actuals for the year 1997-98, Budget Estimates (BE) and Revised Estimates (RE) for the year 1998-99 and BE for the year 1999-2000 in respect of Department of Atomic Energy are on page 4.

2.5 It is seen from the data that during 1997-98, in the R&D Sector, while the Non-Plan expenditure has exceeded the Non-Plan BE by Rs. 84.30 crore (Rs. 485.77 crore — Rs. 401.47 crore), the Plan expenditure has fallen short of the Plan BE by Rs. 51.07 crore (Rs. 225.00 crore — Rs. 173.93 crore). Similarly, in the I&M Sector, in the year 1997-98, while Non-Plan expenditure has exceeded the Non-Plan BE by Rs. 64.19 crore (Rs. 725.45

SECTORWISE DISTRIBUTION OF FUNDS

(Rs. in crore)

Sector	BE 1997-98			Actuals 1997-98			BE 1998-99			RE 1998-99			BE 1999-2000		
	Plan	N-Plan	Total	Plan	N-Plan	Total	Plan	N-Plan	Total	Plan	N-Plan	Total	Plan	N-Plan	Total
R&D	225.00	401.47	626.47	173.93	485.77	659.70	300.00	545.66	845.66	237.48	563.23	800.71	325.00	595.38	920.38
I&M															
Budgetary Support	130.00	661.26	791.26	106.80	725.45	832.25	160.00	837.93	997.93	122.52	882.43	1004.95	225.00	987.63	1212.63
IEBR	43.00		43.00	15.90		15.90	39.00		39.00	39.00		39.00	67.00		67.00
Power															
Budgetary Support	351.20	771.89	1123.09	461.37	953.97	1415.34	931.00	1218.28	2149.28	824.24	1200.46	2024.70	950.00	1435.37	2385.37
IEBR	535.00		535.00	285.90		285.90	139.0		139.00	222.09		222.09	384.00		384.00
Budgetary Support	706.20	1834.62	2540.82	742.10	2165.19	2907.29	1391.00	2601.87	3992.87	1184.24	2646.12	3830.36	1500.00	3018.38	4518.38
IEBR	578.00	0.00	578.00	301.80	0.00	301.80	178.00	0.00	178.00	261.09	0.00	261.09	451.00	0.00	451.00
Total	1284.20	1834.62	3118.82	1043.90	2165.19	3209.09	1569.00	2601.87	4170.87	1445.33	2646.12	4091.45	1951.00	3018.38	4969.38
VRS				1.50		1.50	3.00		3.00	5.78		5.78	20.00		20.00

crore—Rs. 661.26 crore), in the Budgetary Support component of the Plan category, there has been a shortfall in the actual expenditure of Rs. 23.20 crore (Rs. 130.00 crore — Rs. 106.80 crore).

2.6 There have been wide variations between BE and RE of 1998-99. The variation between BE and RE in the Budgetary Support component was Rs. 162.51 crore (Rs. 3992.87 crore — Rs. 3830.36 crore). Plan RE has been considerably lower than Plan BE in all the three Sectors *viz.* R&D, I&M and Power Sectors.

2.7 It is also seen from the above data that during 1997-98, the actual expenditure out of the Budgetary Support component was Rs. 2907.29 crore as against the budgetary allocation of Rs. 2540.82 crore. Thus, there was an excess expenditure of Rs. 366.47 crore. The shortfall in the realisation of Internal and Extra Budgetary Resources (IEBR) during 1997-98 was Rs. 276.20 crore (Rs. 578.00 crore — Rs. 301.80 crore). But IEBR Revised Estimates (RE) for the year 1998-99 were raised from Rs. 178 crore to Rs. 261.09 crore. IEBR Budget Estimates for the year 1999-2000 have been placed at Rs. 451 crore.

2.8 Accounting for shortfall in Plan expenditure during 1997-98, the Department of Atomic Energy, in a written reply, has stated as under :-

> "The shortfall in Plan expenditure during 1997-98 is attributable to the ban imposed by foreign governments on export of the technology items to the organisations under the control of the Department of Atomic Energy and overall global economic depression. The shortfall is also due to slow progress of critical IX Plan schemes being the beginning of the Plan period. However, it is a matter of comfort that most of the schemes have been started off in the right earnest and steady progress thereof in the ensuing years is predominantly organic."

2.9 Citing reasons for shortfall in realisation of IEBR during 1997-98, the Department, in a written reply, has stated as under :

> "During the financial year 1997-98, the shortfall in IEBR of Rs. 276.20 crore was due to fall in realisation of Internal resources mobilisation by NPCIL. The redemption for the bonds issued by the NPCIL amounting to Rs. 427 crore during 1997-98 has resulted in the shortfall."

2.10 Regarding fixation of IEBR targets during 1998-99 and 1999-2000, the Department has informed the Committee as under :-

> "The Internal Resource mobilisation projections for the year 1998-99 are worked out on the basis of expected realisation and accordingly, have been enhanced from Rs. 178 crore to Rs. 261.09

crore by NPCIL. The overall increase of Rs. 190 crore is expected by higher mobilisation of Internal Resources by NPCIL, IRE and ECIL during the financial year 1999-2000.

2.11 Under Major Heads 4861 and 5401, the BE and actual expenditure for the year 1997-98, BE and RE for the year 1998-99 and BE for the year 1999-2000 have been as mentioned on page 7.

2.12 From the data, it is observed that during the year 1997-98, under Major Head 4861 (comprising items like Bhabha Atomic Research Centre, Nuclear Fuel Complex, Heavy Water Board, Fuel Reprocessing Industry and Extension Programme), Plan BE was Rs. 109.97 crore while the actual expenditure was Rs. 86.77 crore which was short of Plan BE by Rs. 23.20 crore. The total expenditure under this Head during 1997-98 was short of total BE by Rs. 12.93 crore. The variation between Plan BE and Plan RE for the year 1998-99 under this Head has been as much as Rs. 37.48 crore and variation between BE and RE for the year 1998-99 (Plan and Non-Plan taken together) has been Rs. 8.75 crore.

2.13 In as many as 20 schemes under Major Head 4861, there was less expenditure than the budgetary allocation during 1997-98 and in case of 18 schemes, the approved Plan BE in 1998-99 was scaled down at RE stage. The details are given in the tables on page nos. 8-10.

2.14 Giving reasons for shortfall in expenditure under Major Head 4861 during 1997-98, the Department has stated as under :-

"The shortfall in the expenditure during 1997-98 amounting to Rs. 23.20 crore is the net result of savings and excess under various schemes of Major Head 4861. This includes an amount of Rs. 3.59 crore surrendered to Ministry of Finance. After a detailed analysis of requirements of funds under various schemes, funds were diverted to prioritized areas. The detailed analysis of the actual requirement of the schemes was conducted during the year 1997-98 and accordingly the funds were reappropriated as per the prioritization and need based programmes/schemes. The reasons for the savings are as given below :-

(a) Delay in receipt of financial sanction for the new Plan schemes, 1997-98 being the first year of the Plan period.

(b) Consequent delay for construction and other activities.

(c) Delay in procurement of materials and supplies, machinery and equipment."

(Rs. in crore)

Major	1997-98						1998-99						1999-2000		
Heads	Plan	BE N-Plan	Total	Actuals Plan	N-Plan	Total	BE Plan	N-Plan	Total	RE Plan	N-Plan	Total	BE Plan	N-Plan	Total
4861	109.97	369.79	479.76	86.77	380.06	466.83	138.00	408.21	546.21	100.52	436.94	537.46	203.73	439.72	643.45
5401	150.32	—	150.32	82.30	—	82.30	174.40	—	174.40	117.95	—	117.95	200.52	—	200.52

SCHEMES UNDER MAJOR HEAD "4861" WHERE SAVINGS OCCURRED DURING THE YEAR 1997-98

(Rs. in crore)

Sl. No.	Schemes	BE 97-98	AE 97-98	Savings 97-98
1.	WIF at PREFRE Tarapur	1.80	0.02	1.78
2.	Augmentation and Innovation in Waste Management Practices and Technologies	1.15	-	1.15
3.	Power Reactor Fuel Reprocessing Plant-III	3.08	-	3.08
4.	Plutonium Plant Trombay Augmentation Waste Tank Farm and Other Major Modifications	1.77	-	1.77
5.	Development Laboratory at FRG Trombay	0.77	-	0.77
6.	Providing Housing and Other Facilities for proposed Induction of CISF Staff at Tarapur	2.70	1.00	1.70
7.	Augmentation of PIE Facility at RMD	0.77	0.10	0.67
8.	6300-M-3/d Combed MSF-R.D. desalination Plant to be set up at P.H.W.R. Kalpakkam	1.54	-	1.54
9.	Advanced P/M Facility	1.15	-	1.15
10.	New High Flux Research Reactor Phase-I	1.54	-	1.54
11.	Manufacture of Laser for use in Industry and Medicine	0.86	-	0.86
12.	Atomic Minerals Division	2.00	0.91	1.09
13.	Thorium Extraction	2.00	0.02	1.98

(Rs. in crore)

Sl. No.	Schemes	BE 97-98	AE 97-98	Savings 97-98
14.	Modernization and Replacement Schemes for Existing Plants	1.84	1.62	0.22
15.	New Uranium Oxide Fuel Project-2	12.40	11.18	1.22
16.	Expansion of Fuel Assembly Plant	3.08	2.39	0.69
17.	New Zircoloy Fabrication Plant (250 T)	3.28	3.06	0.22
18.	Titanium Sponge Project	0.50	0.45	0.05
19.	Improvement/Modifications of Heavy Water Plants	5.96	3.63	2.33
20.	Indian Rare Earths Limited	1.00	-	1.00

LIST OF SCHEMES WHERE APPROVED PLAN BE 1998-99 WAS SCALED DOWN AT RE STAGE UNDER MAJOR HEAD "4861"

(Rs. in crore)

S.No.	Name of the Scheme	BE 98-99	RE 98-99
1.	Revamping and Augmentation of Centralised Waste Management	1.03	0.30
2.	Waste Treatment Facility at PREFRE, Tarapur	3.26	2.71
3.	Augmentation and innovation in Waste Management Practices & Technologies	1.20	0.10
4.	Augmentation of Facilities for Plutonium Based Fuels	2.00	1.00
5.	Augmentation of Facilities at Advanced Fuel Fabrication Facility, Tarapur	1.00	0.30

(Rs. in crore)

S.No.	Name of the Scheme	BE 98-99	RE 98-99
6.	Advanced Materials Processing Centre	1.00	0.50
7.	Lithium Metal Pilot Plant	1.00	0.30
8.	6300-M-3/d Combed MSF-RD Desalination Plant to be set up at PHWR, Kalpakkam	4.00	1.35
9.	Advanced P/M Facility	0.76	0.10
10.	New High Flux Research Reactor (Phase-I)	3.28	0.00
11.	Pilot Plant for Development of Pyro-Chemical Process	1.21	0.15
12.	Modernisation and Replacement of Scheme for Existing Plants	4.71	1.57
13.	New Zircology Fabrication Plant (250 Tonnes)	2.22	1.13
14.	Titanium Sponge Project	0.96	0.35
15.	Technology of Rare Earths Upgradation of Equipment (TRUE)	1.00	0.50
16.	Fuel Reprocessing of FBTR	1.26	1.02
17.	Extension of Nuclear Medicine Facilities - BRIT	1.50	0.02
18.	National Medical Cyclotron Facility, Hyderabad	4.00	0.25

2.15 Citing reasons for reduction of provision at RE stage during 1998-99, the Department stated as under :-

> "During the year 1998-99 the provision was reduced on the basis of actual expenditure up to Revised Estimates stage.... The schemes for Industries and Minerals Sector (under Major Head 4861) were

prioritized on the basis of necessity and the targets set were modified to suit the present requirement and as such significant impact is not felt on the physical targets. It is also ensured that there is no slippage in the programmes of the schemes as envisaged."

2.16 Similarly, under Major Head 5401 (relating to items like Bhabha Atomic Research Centre, Indira Gandhi Centre for Atomic Research, Variable Energy Cyclotron Centre, Centre for Advanced Technology etc.), actual Plan expenditure during 1997-98 was short of the Plan BE by as much as Rs. 68.02 crore. The variation between Plan BE and Plan RE of 1998-99 was Rs. 56.45 crore.

2.17 In case of 21 schemes under Major Head 5401, expenditure was short of the budgetary allocations during 1997-98 and there were 30 schemes in which case budgetary provisions were lowered at RE stage during 1998-99. The details are given in the following tables :

SCHEMES UNDER MAJOR HEAD "5401" WHERE SAVINGS OCCURRED DURING THE YEAR 1997-98

(Rs. in crore)

Sl. No.	Schemes	BE 97-98	AE 97-98	Savings 97-98
	Schemes of Bhabha Atomic Research Centre			
1.	Electronics and instrumentation	2.00	0.84	1.16
2.	Materials	4.37	1.81	2.56
3.	Reactor Design and Development	4.49	2.19	2.30
4.	Civil Engineering	0.80	0.32	0.48
5.	Physics	4.68	3.09	1.59
6.	National programmes	0.90	0.46	0.44
7.	Solid State and Spectroscopy	15.15	7.37	7.78
8.	Radiation Medicine Centre	2.50	-	2.50
9.	Reactor	3.32	0.74	2.58
	Schemes of Indira Gandhi Centre for Atomic Research, Kalpakkam			
10.	Metallurgy	5.57	2.17	3.40

Sl. No.	Schemes	BE 97-98	AE 97-98	Savings 97-98
11.	Radio Chemistry	1.33	0.55	0.78
12.	Fuel Reprocessing	1.13	0.19	0.94
	Schemes of Centre for Advanced Technology			
13.	Laser Programme Expansion	6.60	5.75	0.85
14.	Accelerated Programme Expansion	10.84	9.71	1.13
15.	D.A.E.-CERN Collaboration for LHC Project and Spring-8 Storage Ring	2.00	0.46	1.54
16.	Trombay Township Project	9.89	6.04	3.84
17.	Indira Gandhi Centre for Atomic Research, Kalpakkam	3.50	2.61	0.89
18.	Other Housing Schemes	2.11	0.62	1.49
	Other Research Facilities			
19.	Variable Energy Cyclotron Centre	10.00	5.71	4.29
20.	Advance Research in Plasma Techn.	16.00	-	16.00
21.	Networking of D.A.E. Units	2.60	-	2.60

LIST OF SCHEMES FOR WHICH APPROVED PLAN BE WAS SCALED DOWN AT RE STAGE UNDER MAJOR HEAD "5401"

(Rs. in crores)

S.No.	Name of the Schemes	BE 98-99	RE 98-99
1.	Electronics & Instrumentation Programme	2.45	1.75
2.	Enhancement of Computing Facility	6.50	3.00
3.	Radiological Safety Programme	2.00	0.50

S.No.	Name of the Schemes	BE 98-99	RE 98-99
4.	Intense Particle Beams (10-100G watt) Generation with KALI 5000 Systems and Studies to produce Intense Radiation Sources using these Beams	1.20	0.35
5.	Research in Frontier Areas of Physical Sciences	2.50	0.25
6.	Chemistry of Fuels and Materials for FBRs	2.91	2.20
7.	Modernisation & Enhancement of Library	3.54	2.99
8.	National Programme on Superconductivity Cryogenic	0.68	0.05
9.	International Collaborations Programmes	0.80	0.10
10.	Development of Material & Crystals	10.00	3.70
11.	Safety Related Technology Development	4.03	1.00
12.	Technology Development	2.50	0.30
13.	Enhancement of Utilisation of Existing Facilities	4.00	1.00
14.	Research in Frontier Areas of Chemical Sciences	2.50	0.75
15.	Advanced Precision Facility	2.00	0.45
16.	Centre for Product Engg. & Technology Transfer	1.50	0.01
17.	Setting up of Sol-Gel Facility at PEP, Tarapur	0.26	0.01
18.	Refurbishing CIRUS Research Reactor	1.50	0.26
19.	Advanced Reactor Experimental Facility	3.36	2.10
20.	Development of 2300 KW Variable Speed System and Heaters	2.20	1.61

S.No.	Name of the Schemes	BE 98-99	RE 98-99
21.	Steam Generator Test Facility (Phase-II)	4.03	1.63
22.	Structural Mechanics R&D in Support of FBRs	2.01	1.20
23.	Fast Reactor Fuel Reprocessing	0.98	0.05
24.	Augmentation of Infrastructure for Transfer of LLW from Radio-Active Facilities to CWMF	1.83	0.93
25.	Quality Engineering Services & Testing	1.50	0.44
26.	Infrastructural Facilities Stage A&B	2.15	1.00
27.	DAE-CERN Collaboration for LHC Project and Spring-8 Storage Ring	1.20	0.70
28.	Semiconductors, Laser and Optics	1.00	0.19
29.	Housing	25.00	14.65
30.	Heavy Ion Acceleration with VECC	2.00	1.28

2.18 Regarding the shortfall in the expenditure under Major Head 5401 during 1997-98, the Department has stated as under :-

"The shortfall in the expenditure during 1997-98 amounting to Rs. 68.02 crore is the net result of savings and excess under various schemes of Major Head 5401. This includes an amount of Rs. 36.77 crore surrendered to Ministry of Finance. After a detailed analysis of requirement of funds under various schemes, funds were diverted to prioritized areas. The detailed analysis of the actual requirement of the schemes was conducted during the year 1997-98 and accordingly the funds were reappropriated as per the prioritization and need based programmes/schemes. The reasons for the savings are as given below :

(a) Delay in receipt of financial sanctions for the new Plan schemes, 1997-98 being the first year of the Plan period.

(b) Consequent delay for construction and other activities.

(c) Delay in procurement of materials and supplies, machinery and equipment."

2.19 Citing reasons for reduction of budgetary provisions during 1998-99 under this Major Head, the Department has stated as under :

"During the year 1998-99 the provision was reduced on the basis of actual expenditure upto RE stage. A proposal to enhance the RE provision under critical schemes has been sent to Ministry of Finance for approval. The schemes for Research and Development Sector (under Major Head 5401) were prioritized on the basis of necessity and the targets set were modified to suit the present requirement and as such significant impact is not felt on the physical targets. It is also ensured that there is no slippage in the programmes of the schemes as envisaged."

2.20 The Committee note with concern that two out of three sectors of the Department *viz.* Research & Development Sector and Industries & Minerals Sector have failed to utilise the budgetary allocations in the Plan category during the year 1997-98 judiciously. While there has been a shortfall of Rs. 23.20 crore in the Budgetary Support component of the Plan category in the I&M Sector, the shortfall in Plan expenditure in the R&D Sector has been as much as Rs. 51.07 crore. The reason advanced by the Department that shortfall in 1997-98 was due to the ban imposed by foreign governments on export of technology in hardly convincing, as control regime has existed since 1974. The Committee have come to the conclusion that the scarce resources at the disposal of the Department have not been fully utilised. The Committee feel that the shortfall in expenditure - shown as savings in the Grants - are indicative of poor budgeting or shortfall in the performance for which corrective measures are required to be taken. This is bound to have a deleterious impact on the Plan activities of the Department. The Committee expect that the Department will take corrective measures in this regard in future and utilise the earmarked amount fully.

2.21 The Committee observe that a target of Rs. 451.00 crore has been fixed for realisation of Internal and Extra Budgetary Resources (IEBR) during the year 1999-2000. Considering the facts that the actual realisation of IEBR during the year 1997-98 was only Rs. 301.80 crore and that the anticipated realisation of IEBR during the year 1998-99 is only Rs. 261.09 crore, this target seems quite unrealistic. The Committee are at a loss to understand the rationale behind fixation of unrealistic IEBR targets year after year. The Committee understand that the Department is not in a position to raise funds from international market. Its capacity

to raise funds from the domestic market is also grossly limited. As such, it would be in the fitness of things to set IEBR target at realistic/ achievable levels. The Committee have already emphasised on the fixation of realistic IEBR targets on earlier occasions. The Committee reiterate the same so that there is no setback to the planned activities of the Department.

2.22 The Committee are dismayed to note that under Major Head 4861 comprising items like Bhabha Atomic Research Centre (BARC), Nuclear Fuel Complex (NFC), Fuel Reprocessing Industry and Extension (FRIE) etc., there has been a shortfall to the extent of Rs. 23.20 crore in the utilisation of budgetary allocations in the Plan category during 1997-98. The Committee find that in as many as 20 schemes under this Head, expenditure has been short of the budgetary allocation. While no expenditure was incurred in 9 such schemes in spite of budgetary provision, the expenditure has been less than 50 per cent of the budgetary allocation in 5 other schemes. Again, under Major Head 4861, the Budget Estimates (BE) of Rs. 138.00 crore in Plan category has been reduced to Rs. 100.52 crore in the Revised Estimates (RE) stage in the year 1998-99. The Committee observe that in case of 18 schemes under this Major Head, approved Plan BE of 1998-99 has been scaled down at RE stage. The basic reason for non-utilisation of the budgeted amount is "delay in receipt of financial sanction for the new plan schemes" as mentioned by the Department in its reply. This clearly shows administrative slackness on the part of the government resulting in time and cost over-runs of the schemes. The Committee are also not convinced by the argument of the Department that significant impact is not felt on the physical targets. The Committee take a serious note of the inability of the Department to utilise the scarce budgetary resources and expect the Department to take corrective measures in this regard in future.

2.23 The Committee are distressed to observe that during the year 1997-98, under Major Head 5401, comprising items like Bhabha Atomic Research Centre (BARC), Indira Gandhi Centre for Atomic Research (IGCAR), Variable Energy Cyclotron Centre (VECC), Centre for Advanced Technology (CAT) etc., the actual expenditure in Plan category was short of the budgetary allocation by as much as Rs. 68.02 crore. It is observed that expenditure has fallen short of budgetary allocations in case of 21 schemes under this Head. More shocking is the fact that there has been less than 50 per cent expenditure of budgetary allocations in case of 14 out of 21 such schemes. These include 3 schemes in which case no expenditure has been incurred at all despite budgetary provisions. It is also observed that under this Major Head, during the year 1998-99, Budget Estimates (BE) in Plan category of Rs. 174.40 crore has been scaled down to Rs. 117.95 crore at Revised Estimates (RE) stage. In case

of 30 schemes under this Head, the approved Plan BE has been reduced at RE stage. As already mentioned by the Committee in its earlier recommendation, the reasons advanced by the Department for reduction in the expenditure on schemes under this Major Head clearly point to administrative slackness and it is difficult to accept that significant impact will not be felt on the physical targets by the reduction of expenditure on schemes under this Head. The Committee desire that Department should carry out a review of all the schemes mentioned in the preceding paragraphs and furnish a note to the Committee indicating the extent to which physical targets had been affected during 1997-98 due to less/non-expenditure of the budgeted amount.

B. Uranium Corporation of India Limited (UCIL)

2.24 The Uranium Corporation of India Limited (UCIL) incorporated in the year 1967, operates uranium mines at Jaduguda, Bhatin and Narwapahar in the State of Bihar and uranium mill at Jaduguda. The company also operates its By-Products Plants at Jaduguda and Uranium Recovery Plants at Rakha and Mosabani (both in Bihar). The company mines uranium ore and manufactures yellow cake for fabrication of uranium by NFC.

2.25 The production of uranium ore in the various uranium mines in 1997-98 varied between 90% and 97.83%.

2.26 The Department of Atomic Energy, in a written reply, has stated that uranium is recovered at the Mosabani plant from the copper tailing received from the Hindustan Copper Limited (HCL). HCL reduced its production by closing some of the mines and this resulted in lower recovery of uranium from copper tailings at Mosabani.

2.27 The financial performance of the corporation during 1997-98 and 1998-99 was as under :-

Sl. No.	Particulars	1997-98 Target	1997-98 Actual	1998-99 Target	1998-99 Anticipated
1	2	3	4	5	6
1.	Gross Earning	116.31	111.41	126.59	127.75
2.	Cost of Sales excluding depreciation/interest deferred revenue expenditure	87.88	94.00	98.11	109.14

1	2	3	4	5	6
3.	Gross Profit before tax/depreciation/ interest/deferred revenue expenditure	28.43	17.41	28.48	18.61
4.	Net Profit(+)/Loss(-) before tax but after prior period and extraordinary adjustment	3.36	2.82	3.54	3.30
5.	Provision of tax	0.35	0.31	0.37	0.35
6.	Net Profit(+)/Loss(-) after tax	3.01	2.51	3.17	2.95

2.28 Regarding reduction in gross earnings, gross and net profits of the corporation during 1997-98, the Department has stated as under :

> "During 1997-98 the production of uranium concentrate was less than the target and this resulted in reduction in gross earnings and consequently gross and net profits."

2.29 As regards the anticipated net profit of the corporation during 1998-99, the Department has stated as below :

> "As of now, the net profit for the year 1998-99 is expected to rise from Rs. 2.95 crore as anticipated earlier to Rs. 8.68 crore. This is mainly due to increase in the income from other sources and cutting down of expenditure particularly on consumption of stores and spares."

2.30 The Committee are pained to observe that the financial performance of the Uranium Corporation of India Limited (UCIL) has been rather dismal during the year 1997-98. The gross earning, gross profit and net profit have been short of the targets fixed in this regard. The prospects for the year 1998-99 are also not very encouraging. The anticipated gross profit and net profit of the corporation during 1998-99 are short of the fixed targets. Though the Department expects that the net profit of the corporation for the year 1998-99 would rise from Rs. 2.95 crore to Rs. 8.68 crore, the Committee find this contention difficult to accept when gross earnings are likely to increase only by

Rs. 1 crore over the target. The poor financial performance of the corporation during 1997-98 has been attributed to less production of uranium concentrate at its different mines ranging from 2.17% to 10% during this period. The production at one centre had been affected by the lower supply of copper tailing from the Hindustan Copper Limited (HCL). But this type of dependence for a critical material necessary for the Department on any one source needs to be avoided. The Committee would like the Department to explore the new and alternative sources for copper tailing etc. at the earliest.

C. Atomic Minerals Directorate for Exploration & Research (AMD)

2.31 Atomic Minerals Directorate for Exploration & Research (AMD) carries out survey, prospecting and exploration of Atomic Minerals required for the Indian Nuclear Power Programme. The Main R&D oriented activities of AMD include assessment, evaluation and categorisation of Atomic Minerals, design and fabrication of radiometric instruments and development of ore extraction flow sheets. Targets and achievements of principal activities of AMD during 1996-97, 1997-98 and 1998-99 are on page 20 and 21 :

2.32 The table reveals the following facts .-

1996-97 Achievements in respect of Reconnaissance Survey, Drilling, Detailed Survey under Heavy Minerals Investigations, production of Columbite-Tantalite have fallen short of targets fixed in this regard. It is also observed that there has been no Reconnaissance Survey under Heavy Minerals Investigations during this year.

1997-98 Achievements in respect of Reconnaissance Survey, Regional Survey, Drilling, Reconnaissance Survey and Detailed Survey under Heavy Minerals Investigations and production of Spodumene have fallen short of targets fixed in this regard. There has not been any Airborne Survey during this year.

1998-99 Achievements in respect of Reconnaissance Survey, Regional Survey, Drilling and production of Columbite-Tantalite have fallen short of targets fixed in this regard. No Airborne Survey has been conducted during this year.

TARGETS AND ACHIEVEMENTS OF PRINCIPAL ACTIVITIES OF AMD

Principal Activities	1996-97		1997-98		1998-99	
	Target	Achievement	Target	Achievement	Target	Achievement
I. Uranium Investigations						
1. Reconnaissance Survey (sq. km.)	7100	6772	9525	9348	*11385	10675
2. Detailed Survey (sq.km.)	539	541	402	520	490	504
3. Airborne Survey (sq.km.)	10000	10317	-	-	-	-
4. Geochemical Survey (sq. km.)	15245	22688	14750	15581	10900	12165
5. Geophysical Survey Regional						
Survey (sq. km.)	50	56	200	130	186	185
Detailed Survey (sq. km.)	22	41	22	22	5	14
6. Drilling (m.)	35600	32762	35450	34645	33150	30070
II. Heavy Minerals Investigations						
1. Reconnaissance Survey (sq. km.)	55	-	83	26	95	108
2. Detailed Survey (sq. km.)	25	20	20	18	17	27

Principal Activities	1996-97		1997-98		1998-99	
	Target	Achievement	Target	Achievement	Target	Achievement
III. Production of Mineral Concentrate (kg.)						
1. Columbite-Tantalite	3000	2426	2400	4525	3500	2840
2. Spodumene	4000	4600	4000	2160	-	-
3. Beryl	2000	3168	2000	2900	-	3500
4. Xenotime	45000	49310	45000	50680	30000	38640

* Target revised from 12535 sq. km. to 11385 sq. km. after mid-term review of work.

2.33 Accounting for the 100% shortfall in Reconnaissance Survey under Heavy Minerals Investigations during 1996-97, the Department, in a written reply, stated :

> "Additional detailed assignments of drilling were carried out on behalf of the Renaissance Gold Company (RGC), Australia in Kerala and the Indian Rare Earths Limited (IRE) in Andhra Pradesh and Orissa."

2.34 The following reasons have been cited by the Department for the shortfall of Regional Survey during 1997-98 :-

(i) Breakdown of Gravimeter because of which one assignment of gravimetric survey in Gujarat could not be taken up;

(ii) Repeated IP/resistivity surveys in field areas of Gujarat on account of terrain constraints such as thin soil cover, higher variable ground resistance and feeble magnetic susceptibility contract.

2.35 Giving reasons for shortfalls in achieving targets of Reconnaissance Survey and Detailed Survey under Heavy Minerals Investigations during 1997-98, the Department stated :

> "On specific request of IRE Investigations were taken up in Kuttamangalam-Vettumadai sector followed by laboratory studies on 1105 samples. The report on these investigations was also submitted to IRE on priority."

2.36 The shortfall in drilling during 1998-99 has been attributed by the Department to the following factors :

(i) Due to heavy rains and associated logistic problems in North Eastern Region.

(ii) Mobilisation of two rigs for specific investigations where the progress in fractured rock is quite slow.

(iii) More personnel for double shift operations were deployed in special investigations to complete the time bound activities as a result of which 2 rigs were grounded.

(iv) These rigs earmarked for drilling in areas in Cuddappah basin of AP where clearance from MOEF is awaited.

(v) Frequent breakdown of old rigs/machines.

2.37 Giving reasons for not fixing any targets for Airborne Survey during 1997-98 and 1998-99, the Department, in a written reply, has stated as follows :

> "Prior to IX Plan period, AMD used to carry out airborne survey operations by hiring aircraft from Air Survey Company, Calcutta which had suitable aircraft and experienced crew for low altitude flying. During 1996-97, the aircraft of this company developed technical snags which could not be rectified. As a result subsequent flights were aborted. For this survey during IX Plan period AMD made efforts to ascertain availability of suitable aircraft with other agencies and the National Remote Sensing Agency (NRSA) was found suitable after evaluating its capabilities. Only a few test flights with NRSA aircraft could be carried out by AMD during 1997-98. After preparation of a new IX Plan project, release of advance payment to NRSA and obtaining clearance of Director General, Civil Aviation, actual surveys with NRSA aircraft could commence in January, 1999. The target for 1998-99 has since been fixed at 20,000 line km and is expected to be achieved by end 1998-99.

2.38 The Committee are concerned to note that the Atomic Minerals Directorate for Exploration and Research (AMD) has not been able to achieve the targets of Reconnaissance Survey, Drilling, Detailed Survey under Heavy Minerals Investigations and production of Columbite-Tantalite during the year 1996-97. Equally disturbing is the fact that there has been no Reconnaissance Survey under Heavy Minerals Investigations during the same year. During 1997-98 also, AMD has failed to achieve the targets of Reconnaissance Survey, Regional Survey, Drilling, Reconnaissance Survey and Detailed Survey under Heavy Minerals Investigations and production of Spodumene. Similarly, the Committee find that achievements in respect of Reconnaissance Survey, Regional Survey, Drilling and production of Columbite-Tantalite have fallen short of targets during 1998-99. Shortfalls of 100% of Reconnaissance Survey and 20% of Detailed Survey under Heavy Minerals Investigations during 1996-97 have been attributed to additional detailed assignments of drilling carried out on behalf of the Renaissance Gold Company (RGC), Australia in Kerala and the Indian Rare Earths Limited (IRE) in Andhra Pradesh and Orissa. The Committee would like to know as to why the drilling assignments were carried out on behalf of RGC, Australia which affected the achievements of its own targets.

2.39 The Committee observe that the Airborne Survey by AMD has been badly affected during 1997-98 and 1998-99 owing to technical snags developed in the aircraft in 1996-97 of the Air Survey Company, Calcutta

which were being hired by AMD for this purpose. The Committee have been informed that aircraft from the National Remote Sensing Agency (NRSA) have been hired for Airborne Survey by AMD and that Surveys have commenced with NRSA aircraft in January, 1999. The Committee are pained to observe that though technical snags developed in 1996-97, actual surveys could commence only in January, 1999. The Committee view this as a serious lapse on the part of the Department and would like to know the reasons for delay in hiring aircraft for Airborne Survey. Though the Department expects to achieve the Airborne Survey target of 20,000 line km. during the year 1998-99, the Committee find the same to be highly unlikely to happen. The Committee would like to be apprised of the actual achievement in respect of Airborne Survey during 1998-99.

2.40 The Committee observe with anguish that AMD has been unable to achieve the Drilling and Reconnaissance targets year after year and that the failure in achieving the Drilling targets has been attributed, inter-alia, **to frequent breakdown of old rigs/machines which indicates inept administrative handling of the situation by the Department resulting in shortfalls in targets. The Committee expect a clarification from the Department in this regard. It is hoped that the performance of AMD would be analysed and improvements brought in.**

D. Nuclear Power Stations

2.41 There are 10 Nuclear Power Reactors—2 each at Tarapur, Rawatbhata, Kalpakkam, Narora and Kakrapar — in the country with a capacity of 1840 MWe. The targeted and actual generation of nuclear power by the operating Nuclear Power Stations during 1996, 1997 and 1998 was as given in the following table :-

GENERATION IN MUs

Stations	1996		1997		1998	
	Target	Actual	Target	Actual	Target	Actual
TAPS	1639	861	2030	1944	1430	2258
RAPS	0	0	0	313	590	1308
MAPS	1105	1913	1810	2118	1895	2061
NAPS	2425	2683	2488	3491	2634	3141
KAPS	2108	2990	2384	2266	2748	2715
Total	7277	8447	8712	10132	9297	11483

2.42 From the above table, it is observed that usually the targets set for a particular year are lower than those of previous years. It is also observed that lower targets have been fixed in some cases even though the actual achievement of the previous year was more. Some of these details are as under :-

TAPS The target of 1998 was lower than the targets of 1996, 1997 and the actual of 1997.

MAPS The target of 1997 was lower than the actual of 1996. Target of 1998 was also lower than the actual of 1997.

NAPS The target of 1997 was lower than the actual of 1996 and the target of 1998 was lower than the actuals of 1996 and 1997.

KAPS The target of 1997 was lower than the actual of 1996 and the plant has not been able to achieve the actual of 1996 in the subsequent years.

2.43 The Committee are pleased to note that the overall generation of nuclear power by the operating atomic power stations during 1996, 1997 and 1998 has exceeded the targets fixed in this regard though there have been some shortfalls in case of two operating stations. At the same time, the Committee are unhappy to observe that in case of some operating stations, the generation targets set for a particular year have been lower than those of previous years and in some other cases, lower targets have been fixed in spite of higher achievement in the previous year. This has happened in case of Tarapur Atomic Power Station (TAPS), Madras Atomic Power Station (MAPS), Narora Atomic Power Station (NAPS) and Kakrapar Atomic Power Station (KAPS). The Committee disapprove of the practice of fixing lower generation targets. The Committee recommend that targets should be fixed on a realistic basis with due attention to previous achievements. The Department should also endeavour to increase the Plant Load Factor (PLF) of its various plants which can lead to higher generation.

E. Rajasthan Atomic Power Project (RAPP)-3&4 (2 x 220 MWe)

2.44 The Rajasthan Atomic Power Project (RAPP) is aimed to serve as a base load station for the Northern Region. The latest sanctioned cost of the project is Rs. 2107 crore as against the original cost of Rs. 711.57 crore. The completed cost of the project is likely to go upto Rs. 2440 crore because of increased overhead cost, interest during construction and escalation in prices. The two units were targeted to be commissioned in 1996-97 and 1997-98 respectively. However, consequent on the delamination incident of

reactor building dome of Kaiga-I in May 1994, the civil construction of Inner Containment structure of Reactor Building was put under hold by the Atomic Energy Regulatory Board. The expected criticality dates of RAPP - 3&4 have been extended time and again from 1996-97 and 1997-98 to July 1999 and July 2000.

2.45 The financial and physical performance of the project since 1992-93 is given in the following table :

(Rs. in crore)

Year	Expenditure Details		Physical Progress (Cumulative)	
	Target (Approved/ Proposed)	Actual/ Anticipated	Target (%)	Actual/ Anticipated (%)
1992-93	190.00	123.81	44.00	38.00
1993-94	220.00	192.64	59.00	50.00
1994-95	353.00	198.98	74.00	66.00
1995-96	320.00	198.14	76.00	72.00
1996-97	275.00	194.60	86.00	76.40
1997-98	254.00	247.97	89.00	81.50
1998-99	282.00	301.00	92.00	90.00
1999-2000	280.00		98.00	

2.46 On being asked to cite the difficulties being encountered in implementation of the project, the Department, in a written reply, stated as under :-

> "The criticality dates of RAPP - 3&4 as indicated in the Performance Budget (1999-2000) are July, 1999 and July, 2000. These are mainly governed by the progress on inner/outer containment work which is on critical path. Delay in obtaining clearances from regulatory authorities for commencing IC dome work and consequent non-availability of work front for other construction activities may result in delay of 3 months in RAPP-3.

Due to above reasons, coupled with slow progress given by a few public sector manufacturing and contracting companies like M/s Bridge & Roof for IDCT work, BPCL for supply of pumps, I.L. Palghat for supply of Bellow seal valves, etc., the targeted date of July, 1999 criticality for RAPP-3 may now shift by additional 3 months. Efforts are, however, being made to contain the delays. The criticality date of July, 2000 for RAPP-4 will be maintained. Progress of manufacturing activities at suppliers' works are being continuously expedited at higher levels of management."

2.47 The Committee are unhappy to note that the criticality dates of the Rajasthan Atomic Power Project (RAPP)-3&4 have been extended time and again. The two units of the project which were targeted to be commissioned in 1996-97 and 1997-98 respectively, are now likely to achieve criticality in October, 1999 and July, 2000 respectively. The Committee are distressed to observe that the completed cost of the project is likely to go up nearly three and a half times of the original cost. Another area of concern is that the actual expenditure on the project has been less than the approved allocations right from 1992-93 to 1997-98. The percentage of physical progress has also been lower than the targets fixed in this regard during the same period. Considering the fact that the project is aimed to serve as a base load station for the northern region, the Committee feel that the Department should have been more active in achieving the expenditure and physical targets. In any case, the Committee hope that there is no further extension of the criticality dates of the project.

F. Kaiga Atomic Power Project-1&2 (2 x 220 MWe)

2.48 The Kaiga Atomic Power Project is aimed to serve as a base load station for the southern grid. The originally sanctioned cost of the project was Rs. 730.72 crore whereas the latest sanctioned cost is Rs. 2275 crore. The project is anticipated to cost Rs. 2896 crore because of increased overhead expenditure, interest during construction, escalation in prices and additional cost of dismantling and reconstruction of Kaiga-I dome etc. The two units of this project were expected to achieve criticality in 1996-97. However, following the delamination incident, the project schedule was revised. As mentioned in the Performance Budget (1997-98), the criticality dates were fixed as November 1998 for unit I and May 1998 for unit II. The Performance Budget (1998-99) mentioned the criticality dates as October, 1999 for unit I and April 1999 for unit II. Now, the Performance Budget (1999-2000) gives the criticality dates of June 2000 for unit I and June 1999 for unit II.

2.49 The financial and physical performance of the project since 1992-93 is as under :-

(Rs. in crore)

Year	Expenditure Details		Physical Progress (Cumulative)	
	Target (Approved/ Proposed	Actual/ Anticipated	Target (%)	Actual/ Anticipated (%)
1992-93	220.00	186.00	50.00	48.00
1993-94	270.00	273.94	66.00	62.00
1994-95	413.00	243.77	80.00	72.00
1995-96	340.00	274.24	77.00	77.00
1996-97	328.00	285.38	88.00	82.30
1997-98	268.00	291.44	90.00	87.50
1998-99	320.00	300.00	95.00	94.00
1999-2000	319.00		99.00	

2.50 When asked about the reasons for extending the criticality dates of the project again and again, the Department clarified as under:-

"Consequent to the delamination incident of Kaiga-1 inner containment dome in May 1994, the re-engineering of the inner containment dome had to be done. The re-engineering work took longer time due to the following reasons:-

1. Longer time required by the investigating Committees for assessing the cause of failure of Kaiga-1 dome.

2. In-depth review of DBR/DR by AERB/CESC arising out of various safety concerns and associated unavoidable delay.

3. Difference in opinion regarding interpretation of clause of RCC-G (French code on containment design). Clarification had to be obtained from French consultants.

4. Iterative cycle of analysis and design were necessary to optimize the design and meet conflicting requirements of design.

5. Full scale mock ups for a portion of IC dome to check concretability were carried out.

6. Finalisation of mix design of M 60 concrete. M 60 was used for the first time in NPC and in the second Nuclear Power Plant in the world; the first one being in France.

Though the revised design of inner containment dome was cleared by the regulatory authority in October, 1996, clearance for taking up the concreting work of inner containment dome could be obtained only in December, 1997. Due to above reasons, non-availability of work fronts for other construction activities coupled with slow progress given by a few public sector manufacturing and contracting companies like BPCL for supply of pumps, I.L. Palghat for supply of Bellow seal valves, etc., the criticality date of May 1998 was extended to April 1999 and subsequently to June 1999. Based on the present progress of work at site, there is a slippage of one month in case of Kaiga-2, which is being expected to be made up by crashing the down stream activities by working in extended shifts/round the clock wherever needed. Kaiga-1, criticality date of June 2000 will be maintained."

2.51 The Committee note that the two units of the Kaiga Atomic Power Project which were expected to achieve criticality in 1996-97, are now likely to achieve criticality in June, 2000 (unit-1) and July, 1999 (unit-2). As against the initial sanctioned cost of Rs. 730.72 crore, the project is now anticipated to cost Rs. 2896 crore - nearly four times of the initial cost. The Committee observe with anguish that the actual/ anticipated expenditure on the project has been lower than the approved/ proposed allocations from 1992-93 to 1998-99 except the years 1993-94 and 1997-98. Equally disturbing has been the physical progress on the project over the years. The percentage of physical progress has been lower than the fixed targets since 1992-93 upto 1998-99 barring the year 1995-96. The Committee understand that the delamination incident of Kaiga-1 inner containment dome in May, 1994 played a major role in causing considerable delay on the project. The Committee view that the Department should have put in concerted efforts to save time and cost over-runs of the project. The Committee hope and trust that the Department would maintain the present criticality dates of the two units of the project.

G. Gestation Period of Nuclear Power Projects

2.52 Nuclear Power Projects have a long gestation period of about 8 years. Asked about the steps being taken to reduce this period, Secretary, DAE stated during oral evidence as under :-

> "What the Nuclear Power Corporation is trying to do is to complete all engineering design before awarding any contract. In this way, we can reduce the time. If they ensure the availability of engineering inputs before award of contract, then they can avoid any deviations in the contract. This is one step which they have taken. The second step which they have taken is awarding the work on EPC packages, that is, engineering procurement construction package, to fix a single point responsibility and for having better control instead of indenting for various things and then taken the total responsibility. They want to cut down the number of packages. The thing which they have done now is to adopt better project management by going in for periodic monitoring using computerised software and all that."

2.53 When asked about the gestation period in other countries, CMD, NPCIL deposed as under:-

> "Time taken varies from country to country from 5 years to 12 years. In some cases it may go up to 12 years because of various changes in regulatory systems and methods. I fully agree with the Hon. Member that it is very important to complete the project within the time schedule. We have taken Tarapur III and IV as a challenge. For future stations we have taken a view that all the preliminary work has to be carried out before the project is sanctioned fully. By following this method we can cut it short by 2 to 3 years. As you have seen, Enron took about 3 years for pre-activity. For our nuclear power stations, we start acting only after the sanction of the government is issued. But the pre-activity itself takes 2 or 3 years. We would like to start before the project is sanctioned so that some activities can be done prior to the beginning of the real activity as a result of which time and money flows for the project can be reduced."

2.54 CMD, NPCIL also added the following in regard to measures to reduce the gestation period:-

> "Activities beyond our scope are specifically those which are connected with the vendors and regulatory authorities. In this regard we have taken a view that we will not start a project unless a preliminary approval by the atomic energy regulatory body is given. A large amount of activity is done during the pre-activity days so that any

surprises are avoided. Similarly, we are selecting the vendor in a much more technical way by selecting persons who are able to carry out the project with a larger chunk of activity and pre-qualifying them. These are the activities which we will do in the first 3 years which will help us in the projects. These are the techniques that are being used elsewhere in the world to bring in time reduction. We will also follow the same thing."

2.55 Amplifying further, Secretary, DAE deposed before the Committee as under :-

"We would like to have your support along the lines we discussed, that is, we can await the sanction of a project but spend something like 10 per cent of the money for all the pre-project activities. Right now, pre-project only involves, as I said, acquisition of land. But of course, the risk is always there that doing only the pre-project a certain amount of money may be wasted if the project is not taken up finally though this will rarely happen. Usually these projects are taken up but there are some delays in it. From the time when you first pour concrete to the finish, that is, how you calculate gestation period of the project. All the other activities we should finish well in advance. As soon as the sanction comes we should take off on the main project. That is the general thing which is necessary if you want to do these things quickly. If you await the sanction and then start doing things like consultancy etc. because there are some rules against incurring expenditure on some of these things and then delays will start..... certain fraction of money, about 5 per cent to 10 per cent or something like that, should be sanctioned independent of the main project on some of these long gestation period projects. If you spread it out, this work can be completed and we can keep ready for starting the main project. That would help a great deal in infrastructure projects of this kind."

2.56 The Committee note that a number of Nuclear Power Projects in the country are getting delayed primarily due to lack of funds. In the present scheme of things, funds are being made available to the Department only after a project is sanctioned. As a result, the Department is not able to carry out the pre-project activities prior to the sanction of a project. This is, in turn, resulting in a longer gestation period for Nuclear Power Projects. It is in this context that the Committee recommend that, prior to sanction of a project, the Planning Commission/Ministry of Finance should consider the feasibility of making a provision of 5 to 10 per cent of the project cost in budget of the Department so as to enable it to carry out pre-project activities beforehand. This will go a long way in reducing the gestation period of Nuclear Power Projects as well as checking the cost over-runs.

H. Heavy Water Plants

2.57 For meeting the heavy water requirements of the nuclear power and research reactors, the Heavy Water Board manages operation and maintenance of seven heavy water plants in the country. This production capacity is adequate for meeting the domestic needs. One hundred metric tonnes of heavy water has been exported to the Republic of Korea in May 1998. Possibilities are being explored for future export of heavy water. During 1998, the performance and safety of the HWPs were good. However, the HWP, Thal had prolonged outages due to certain circumstances. As a result, production during this year is likely to be slightly below target. The operation of HWP, Talcher remained suspended due to unsatisfactory operation of the connected fertilizer plant of the Fertilizer Corporation of India, on which the plant depends for inputs including feed stock.

2.58 Giving reasons for prolonged outages of the Thal Heavy Water Plant during 1998-99, the Department of Atomic Energy, in a written reply, stated as under :-

> "The Prolonged outages of Heavy Water Plant at Thal during 1998-99 are mainly due to equipment ageing, non-availability of feed gas from the ammonia plant of the Rashtriya Chemicals and Fertilizers (RCF) due to stoppage/restriction of natural gas supply from the Oil and Natural Gas Commission (ONGC) to RCF and power failures (3 times). Utmost care and preventive measures are being taken to keep the plant equipment healthy and avoid recurrence."

2.59 When asked about the steps being taken to revive the operation of the Talcher Heavy Water Plant, the Department, in a written reply, furnished as under :

> "The operation of Heavy Water Plant (HWP), Talcher totally depends on the operation of the ammonia plants of the Fertilizer Corporation of India (FCI), Talcher which provides the feedstock (ammonia/ synthesis gas). The working of FCI, Talcher continues to be erratic and uncertain. Hence no specific measures can be taken at present by the Heavy Water Board to revive the operation of HWP, Talcher."

2.60 Amplifying the point further, Secretary, Department of Atomic Energy during oral evidence deposed as under :

> "Normally what we do is, we take the synthesis gas, that is, a hydrogen-ammonia mixture from the fertilizer plant. Now I have read a news item that unfortunately, the Talcher Fertilizer Plant is going to be closed down. So, if you do not get the synthesis

gas, the other technique which we use is, hydrogen sulphide water exchange. Either we can build the ammonia hydrogen exchange kind of plants or the other kind of plants like we have in Manuguru or in Kota. We can still build that kind of heavy water plant. Then, we are not dependent on a fertilizer plant. In the absence of feed gas from FCI plant in Talcher, revival of operation of heavy water plant, as such is not feasible. So, what we are doing is, we use that facility for producing other things like organic solvents that we need for purposes including plutonium reprocessing. In the case of the Heavy Water Plant, Thal, some of the equipment which require replacement is already under procurement and it will be available shortly. Thal is only a short-term problem. The components for cracker and for some heat exchange come in this category. Thal Heavy Water Plant depends entirely on RCF for supply of feed synthesis gas. Presently, we will continue to depend on the RCF for providing us with this feed gas."

2.61 The Committee have observed that non-availability of feed gas from ammonia plant of the Rashtriya Chemicals and Fertilizers (RCF) has resulted in prolonged outages of the Heavy Water Plant at Thal. Further, the operation of the Talcher Heavy Water Plant has been suspended due to erratic and uncertain operation of ammonia plants of the Fertilizer Corporation of India (FCI), Talcher. The Committee fail to understand the rationale of the Department of Atomic Energy (DAE) in entirely depending upon these agencies for meeting the requirements. The Committee desire that DAE should take up the matter with the concerned agencies in this regard. At the same time, the Committee recommend that alternative arrangements should be explored for obtaining ammonia gas at Heavy Water Plants at Thal and Talcher. The Committee would like to know whether DAE had taken up the matter with the concerned plant authorities and the reaction of the various plant authorities on vital supplies to the Department of Atomic Energy.

NEW DELHI;
17 *April*, 1999
27 *Chaitra*, 1921 *(Saka)*

K. KARUNAKARAN,
Chairman,
Standing Committee on Energy.

STATEMENT OF CONCLUSIONS/RECOMMENDATIONS OF THE STANDING COMMITTEE ON ENERGY CONTAINED IN THE REPORT

Sl. No.	Reference Para No. of the Report	Conclusions/Recommendations
1	2	3
1.	2.20	The Committee note with concern that two out of three sectors of the Department *viz.* Research & Development Sector and Industries & Minerals Sector have failed to utilise the budgetary allocations in the Plan category during the year 1997-98 judiciously. While there has been a shortfall of Rs. 23.20 crore in the Budgetary Support component of the Plan category in the I&M Sector, the shortfall in Plan expenditure in the R&D Sector has been as much as Rs. 51.07 crore. The reason advanced by the Department that shortfall in 1997-98 was due to the ban imposed by foreign governments on export of technology is hardly convincing, as control regime has existed since 1974. The Committee have come to the conclusion that the scarce resources at the disposal of the Department have not been fully utilised. The Committee feel that the shortfall in expenditure — shown as savings in the Grants — are indicative of poor budgeting or shortfall in the performance for which corrective measures are required to be taken. This is bound to have a deleterious impact on the Plan activities of the Department. The Committee expect that the Department will take corrective measures in this regard in future and utilise the earmarked amount fully.

1	2	3
2.	2.21	The Committee observe that a target of Rs. 451.00 crore has been fixed for realisation of Internal and Extra Budgetary Resources (IEBR) during the year 1999-2000. Considering the facts that the actual realisation of IEBR during the year 1997-98 was only Rs. 301.80 crore and that the anticipated realisation of IEBR during the year 1998-99 is only Rs. 261.09 crore, this target seems quite unrealistic. The Committee are at a loss to understand the rationale behind fixation of unrealistic IEBR targets year after year. The Committee understand that the Department is not in a position to raise funds from international market. Its capacity to raise funds from the domestic market is also grossly limited. As such, it would be in the fitness of things to set IEBR target at realistic/achievable levels. The Committee have already emphasised on the fixation of realistic IEBR targets on earlier occasions. The Committee reiterate the same so that there is no setback to the planned activities of the Department.
3.	2.22	The Committee are dismayed to note that under Major Head 4861 comprising items like Bhabha Atomic Research Centre (BARC), Nuclear Fuel Complex (NFC), Fuel Reprocessing Industry and Extension (FRIE) etc., there has been a shortfall to the extent of Rs. 23.20 crore in the utilisation of budgetary allocations in the Plan category during 1997-98. The Committee find that in as many as 20 schemes under this Head, expenditure has been short of the budgetary allocation. While no expenditure was incurred in 9 such schemes in spite of budgetary provision, the expenditure has been less than 50 per cent of the budgetary allocation in 5 other schemes. Again, under Major Head 4861, the Budget Estimates (BE) of Rs. 138.00 crore in Plan category has been reduced to Rs. 100.52 crore in the Revised

1	2	3
		Estimates (RE) stage in the year 1998-99. The Committee observe that in case of 18 schemes under this Major Head, approved Plan BE of 1998-99 has been scaled down at RE stage. The basic reason for non-utilisation of the budgeted amount is "delay in receipt of financial sanction for the new plan schemes" as mentioned by the Department in its reply. This clearly shows administrative slackness on the part of the government resulting in time and cost over-runs of the schemes. The Committee are also not convinced by the argument of the Department that significant impact is not felt on the physical targets. The Committee take a serious note of the inability of the Department to utilise the scarce budgetary resources and expect the Department to take corrective measures in this regard in future.
4.	2.23	The Committee are distressed to observe that during the year 1997-98, under Major Head 5401, comprising items like Bhabha Atomic Research Centre (BARC), Indira Gandhi Centre for Atomic Research (IGCAR), Variable Energy Cyclotron Centre (VECC), Centre for Advanced Technology (CAT) etc., the actual expenditure in Plan category was short of the budgetary allocation by as much as Rs. 68.02 crore. It is observed that expenditure has fallen short of budgetary allocations in case of 21 schemes under this Head. More shocking is the fact that there has been less than 50 per cent expenditure of budgetary allocations in case of 14 out of 21 such schemmes. These include 3 schemes in which case no expenditure has been incurred at all despite budgetary provisions. It is also observed that under this Major Head, during the year 1998-99, Budget Estimates (BE) in Plan category of Rs. 174.40 crore has been scaled down to Rs. 117.95 crore at Revised Estimates (RE) stage. In case of 30 schemes under this Head, the approved

1	2	3
		Plan BE has been reduced at RE stage. As already mentioned by the Committee in its earlier recommendation, the reasons advanced by the Department for reduction in the expenditure on schemes under this Major Head clearly point to administrative slackness and it is difficult to accept that significant impact will not be felt on the physical targets by the reduction of expenditure on schemes under this Head. The Committee desire that Department should carry out a review of all the schemes mentioned in the preceding paragraphs and furnish a note to the Committee indicating the extent to which physical targets had been affected during 1997-98 due to less/ non-expenditure of the budgeted amount.
5.	2.30	The Committee are pained to observe that the financial performance of the Uranium Corporation of India Limited (UCIL) has been rather dismal during the year 1997-98. The gross earning, gross profit and net profit have been short of the targets fixed in this regard. The prospects for the year 1998-99 are also not very encouraging. The anticipated gross profit and net profit of the corporation during 1998-99 are short of the fixed targets. Though the Department expects that the net profit of the corporation for the year 1998-99 would rise from Rs. 2.95 crore to Rs. 8.68 crore, the Committee find this contention difficult to accept when gross earnings are likely to increase only by Rs. 1 crore over the target. The poor financial performance of the corporation during 1997-98 has been attributed to less production of uranium concentrate at its different mines ranging from 2.17% to 10% during this period. The production at one centre had been affected by the lower supply of copper tailing from the Hindustan Copper Limited (HCL). But this type of dependence for a critical material necessary for the Department on any one source

1	2	3
		needs to be avoided. The Committee would like the Department to explore the new and alternative sources for copper tailing etc. at the earliest.
6.	2.38	The Committee are concerned to note that the Atomic Minerals Directorate for Exploration and Research (AMD) has not been able to achieve the targets of Reconnaissance Survey, Drilling, Detailed Survey under Heavy Minerals Investigations and production of Columbite-Tantalite during the year 1996-97. Equally disturbing is the fact that there has been no Reconnaissance Survey under Heavy Minerals Investigations during the same year. During 1997-98 also, AMD has failed to achieve the targets of Reconnaissance Survey, Regional Survey, Drilling, Reconnaissance Survey and Detailed Survey under Heavy Minerals Investigations and production of Spodumene. Similarly, the Committee find that achievements in respect of Reconnaissance Survey, Regional Survey, Drilling and production of Columbite-Tantalite have fallen short of targets during 1998-99. Shortfalls of 100% of Reconnaissance Survey and 20% of Detailed Survey under Heavy Minerals Investigations during 1996-97 have been attributed to additional detailed assignments of drilling carried out on behalf of the Renaissance Gold Company (RGC), Australia in Kerala and the Indian Rare Earths Limited (IRE) in Andhra Pradesh and Orissa. The Committee would like to know as to why the drilling assignments were carried out on behalf of RGC, Australia which affected the achievements of its own targets.
7.	2.39	The Committee observe that the Airborne Survey by AMD has been badly affected during 1997-98 and 1998-99 owing to technical snags developed in the aircraft in 1996-97 of the Air Survey Company, Calcutta which were being

1	2	3
		hired by AMD for this purpose. The Committee have been informed that aircraft from the National Remote Sensing Agency (NRSA) have been hired for Airborne Surveys by AMD and that Surveys have commenced with NRSA aircraft in January, 1999. The Committee are pained to observe that though technical snags developed in 1996-97, actual surveys could commence only in January, 1999. The Committee view this as a serious lapse on the part of the Department and would like to know the reasons for delay in hiring aircraft for Airborne Survey. Though the Department expects to achieve the Airborne survey target of 20,000 line km. during the year 1998-99, the Committee find the same to be highly unlikely to happen. The Committee would like to be apprised of the actual achievement in respect of Airborne Survey during 1998-99.
8.	2.40	The Committee observe with anguish that AMD has been unable to achieve the Drilling and Reconnaissance targets year after year and that the failure in achieving the Drilling targets has been attributed, *inter-alia*, to frequent breakdown of old rigs/machines which indicates inept administrative handling of the situation by the Department resulting in shortfalls in targets. The Committee expect a clarification from the Department in this regard. It is hoped that the performance of AMD would be analysed and improvements brought in.
9.	2.43	The Committee are pleased to note that the overall generation of nuclear power by the operating atomic power stations during 1996, 1997 and 1998 has exceeded the targets fixed in this regard though there have been some shortfalls in case of two operating stations. At the same time, the Committee are unhappy to observe that in case of some operating stations, the generation targets set for a particular year

1	2	3
		have been lower than those of previous years and in some other cases, lower targets have been fixed in spite of higher achievement in the previous year. This has happened in case of Tarapur Atomic Power Station (TAPS), Madras Atomic Power Station (MAPS), Narora Atomic Power Station (NAPS) and Kakrapar Atomic Power Station (KAPS). The Committee disapprove of the practice of fixing lower generation targets. The Committee recommend that targets should be fixed on a realistic basis with due attention to previous achievements. The Department should also endeavour to increase the Plant Load Factor (PLF) of its various plants which can lead to higher generation.
10.	2.47	The Committee are unhappy to note that the criticality dates of the Rajasthan Atomic Power Project (RAPP)-3&4 have been extended time and again. The two units of the project which were targeted to be commissioned in 1996-97 and 1997-98 respectively, are now likely to achieve criticality in October, 1999 and July, 2000 respectively. The Committee are distressed to observe that the completed cost of the project is likely to go up nearly three and a half times of the original cost. Another area of concern is that the actual expenditure on the project has been less than the approved allocations right from 1992-93 to 1997-98. The percentage of physical progress has also been lower than the targets fixed in this regard during the same period. Considering the fact that the project is aimed to serve as a base load station for the northern region, the Committee feel that the Department should have been more active in achieving the expenditure and physical targets. In any case, the Committee hope that there is no further extension of the criticality dates of the project.

1	2	3
11.	2.51	The Committee note that the two units of the Kaiga Atomic Power Project which were expected to achieve criticality in 1996-97, are now likely to achieve criticality in June, 2000 (unit-1) and July, 1999 (unit-2). As against the initial sanctioned cost of Rs. 730.72 crore, the project is now anticipated to cost Rs. 2896 crore — nearly four times of the initial cost. The Committee observe with anguish that the actual/anticipated expenditure on the project has been lower than the approved/proposed allocations from 1992-93 to 1998-99 except the years 1993-94 and 1997-98. Equally disturbing has been the physical progress on the project over the years. The percentage of physical progress has been lower than the fixed targets since 1992-93 upto 1998-99 barring the year 1995-96. The Committee understand that the delamination incident of Kaiga-1 inner containment dome in May, 1994 played a major role in causing considerable delay on the project. The Committee view that the Department should have put in concerted efforts to save time and cost over-runs of the project. The Committee hope and trust that the Department would maintain the present criticality dates of the two units of the project.
12.	2.56	The Committee note that a number of Nuclear Power Projects in the country are getting delayed primarily due to lack of funds. In the present scheme of things, funds are being made available to the Department only after a project is sanctioned. As a result, the Department is not able to carry out the pre-project activities prior to the sanction of a project. This is, in turn, resulting in a longer gestation period for Nuclear Power Projects. It is in this context that the Committee recommend that, prior to sanction of a project, the Planning Commission/Ministry of Finance should consider the feasibility of making a

1	2	3
		provision of 5 to 10 per cent of the project cost in budget of the Department so as to enable it to carry out pre-project activities beforehand. This will go a long way in reducing the gestation period of Nuclear Power Projects as well as checking the cost over-runs.
13.	2.61	The Committee have observed that non-availability of feed gas from ammonia plant of the Rashtriya Chemicals and Fertilizers (RCF) has resulted in prolonged outages of the Heavy Water Plant at Thal. Further, the operation of the Talcher Heavy Water Plant has been suspended due to erratic and uncertain operation of ammonia plants of the Fertilizer Corporation of India (FCI), Talcher. The Committee fail to understand the rationale of the Department of Atomic Energy (DAE) in entirely depending upon these agencies for meeting the requirements. The Committee desire that DAE should take up the matter with the concerned agencies in this regard. At the same time, the Committee recommend that alternative arrangements should be explored for obtaining ammonia gas at Heavy Water Plants at Thal and Talcher. The Committee would like to know whether DAE had taken up the matter with the concerned plant authorities and the reaction of the various plant authorities on vital supplies to the Department of Atomic Energy.

APPENDIX

PART II

(Vide para 2.3 of the Report)

(Rs. in crore)

Sl. No.	Major Heads	1997-98 Actuals		1998-99 B.E.		1998-99 R.E.		1999-2000 B.E.		Remarks
		Plan	Non-Plan	Plan	Non-Plan	Plan	Non-Plan	Plan	Non-Plan	
1	2	3	4	5	6	7	8	9	10	11
Demand No. 89										
Revenue Section										
1.	3451	-	7.07	-	8.96	-	7.82	-	8.23	This head comprises items like salaries etc. of Sectt. and Atomic Energy Commission
2.	2852	1.50	345.38	3.00	414.70	5.78	430.49	23.30	546.87	This head comprises items like Bhabha Atomic Research Centre, Nuclear Fuel Complex, Fuel Reprocessing Plants, Industry and Extension Programme and Support Services

1	2	3	4	5	6	7	8	9	10	11
3.	3401	91.64	478.69	125.60	536.70	119.53	555.41	124.48	587.19	This head comprises items like R&D expenditure of Bhabha Atomic Research Centre, Aided Institutions, IGCAR, CAT and Contribution to International Atomic Energy Agency
4.	4425	-	-	-	0.01	-	-	-	-	This head comprises items like investment in co-operative societies/canteens
5.	4859	10.03	-	11.00	-	11.00	-	11.00	-	This head comprises items like investment in Electronics Corporation of India Ltd.
6.	4861	86.77	380.06	138.00	408.21	100.52	436.94	203.73	439.72	This head comprises items like Bhabha Atomic Research Centre, Nuclear Fuel Complex, Heavy Water Board, Fuel Reprocessing Industry and Extension programme
7.	5401	82.29	-	174.40	-	117.95	-	200.52	-	This head comprises items like Bhabha Atomic Research Centre, IGCAR, VECC, CAT, etc.

1	2	3	4	5	6	7	8	9	10	11
8.	6859	10.00	-	11.00	15.00	11.00	15.00	6.97	1.00	This head comprises items like loans to Electronics Corporation of India Ltd.
9.	7475	-	-	-	0.01	-	-	-	-	This head comprises items like loans to Co-operative Societies
Demand No. 90										
Revenue Section										
10.	2801	-	953.97	-	1218.28	-	1200.46	-	1435.37	This head comprises items like Power Project Fuel Inventory and Waste Management
Capital Section										
11.	4801	461.37	-	820.00	-	796.24	-	848.00	-	This head comprises items like Investments in Power Projects, FBTR
12.	6801	-	-	111.00	-	28.00	-	102.00	-	This head comprises items like Loans to Power Projects

1	2	3	4	5	6	7	8	9	10	11
Demand No. 89										
Adjustment of Recoveries as reduction of expenditure										
Revenue Section										
13.	2852	(-)1.50	(-)1.11	(-)3.00	(-)1.20	(-)5.78	(-)1.80	(-)20.00	(-)1.80	
14.	3401	-	(-)4.94	-	(-)6.42	-	(-)22.96	-	(-)6.76	
Capital Section										
15.	4861	-	(-)52.18	-	(-)91.88	-	(-)392.63	-	(-)121.40	

MINUTES OF THE FIFTEENTH SITTING OF STANDING COMMITTEE ON ENERGY (1998-99) HELD ON 5TH APRIL, 1999 IN COMMITTEE ROOM 'D', PARLIAMENT HOUSE ANNEXE, NEW DELHI

The Committee sat from 11.00 hours to 13.00 hours.

PRESENT

Shri K. Karunakaran – *Chairman*

MEMBERS

2. Shri Basudeb Acharia
3. Smt. Rani Chitralekha Bhosle
4. Shri Bikash Chowdhury
5. Shri Rajbanshi Mahto
6. Shri Sanat Kumar Mandal
7. Smt. Sukhda Mishra
8. Shri Salkhan Murmu
9. Shri Vilas Muttemwar
10. Shri Ravindra Kumar Pandey
11. Shri Naresh Kumar Chunnalal Puglia
12. Shri Kanumuru Bapi Raju
13. Shri Nuthana Kalva Rama Krishna Reddy
14. Dr. Jayanta Rongpi
15. Shri Larang Sai
16. Shri Shailendra Kumar
17. Shri N.T. Shanmugam
18. Shri Sushil Chandra Verma
19. Shri Jalaludin Ansari
20. Shri Ghulam Nabi Azad

21. Shri E. Balanandan
22. Shri Bangaru Laxman
23. Shri Ramashanker Kaushik
24. Shri S. Agniraj

SECRETARIAT

1. Shri P.K. Bhandari – *Deputy Secretary*
2. Shri R.S. Kambo – *Under Secretary*

WITNESSES

1. Dr. R. Chidambaram, Secretary, DAE
2. Shri Anil Kakodkar, Director, BARC
3. Dr. Y.S.R. Prasad, CMD, NPCIL
4. Prof. P. Rama Rao, Chairman, AERB
5. Dr. P. Rodriguez, Director, IGCAR
6. Shri R.M. Premkumar, Addl. Secy., DAE
7. Shri A. Dasgupta, Joint Secretary, DAE
8. Smt. Sudha Bhave, Joint Secretary, DAE
9. Shri A.R. Kale, Chief Controller of Accounts, DAE
10. Dr. C. Ganguly, Chief Executive, NFC
11. Shri J.L. Bhasin, CMD, UCIL
12. Shri H.S. Kamat, Chief Executive, HWB
13. Dr. T.K. Mukherjee, CMD, IRE
14. Shri V.H. Ron, CMD, (Offg.) ECIL
15. Dr. S. Gangadharan, Chief Executive, BRIT
16. Dr. D.C. Banerjee, Director, AMD

2. At the outset, the Chairman, Standing Committee on Energy welcomed the representatives of the Department of Atomic Energy to the sitting of the Committee.

3. Thereafter, the Secretary of the Department of Atomic Energy gave a visual presentation highlighting various activities of the Department.

4. The Committee then took oral evidence of the representatives of the Department of Atomic Energy in connection with the examination of the Demands for Grants (1999-2000) of the Department.

5. The following important points were discussed by the Committee:–

(i) Performance of Nuclear Power Stations.

(ii) Heavy Water Plants at Thal and Talcher.

(iii) Rajasthan Atomic Power Project (RAPP) - 3 & 4 and Kaiga Atomic Power Project (KAPP) - 1 & 2.

(iv) Kudankulam Project.

(v) Heavy water leakage in Kalpakkam.

(vi) Operation of the Atomic Energy Regulatory Board (AERB).

(vii) Possible effects of sanctions on Nuclear Power Projects.

(viii) Perspective plan to increase the share of Atomic Energy in electricity generation.

(ix) Long-term loans for the Nuclear Power Corporation of India Limited (NPCIL).

(x) Gestation period of Nuclear Power Projects.

6. A copy of the verbatim proceedings of the sitting of the Committee has been kept on record.

The Committee then adjourned.

EXTRACTS OF MINUTES OF THE NINETEENTH SITTING OF STANDING COMMITTEE ON ENERGY (1998-99) HELD ON 16TH APRIL, 1999 IN COMMITTEE ROOM 'D', PARLIAMENT HOUSE ANNEXE, NEW DELHI

The Committee sat from 15.30 hours to 16.30 hours.

PRESENT

Shri K. Karunakaran – *Chairman*

MEMBERS

2. Shri Basudeb Acharia
3. Shri Bikash Chowdhury
4. Shri K.C. Kondaiah
5. Shri Rajbanshi Mahto
6. Smt. Sukhda Mishra
7. Shri Kanumuru Bapi Raju
8. Shri Anantha Venkatrami Reddy
9. Shri Francisco Sardinha
10. Shri N.T. Shanmugam
11. Shri Th. Chaoba Singh
12. Prof. (Smt.) Rita Verma
13. Shri Sushil Chandra Verma
14. Shri Gandhi Azad
15. Shri Ghulam Nabi Azad

16. Shri Brahmakumar Bhatt

17. Shri Bangaru Laxman

SECRETARIAT

1. Shri P.K. Bhandari – *Deputy Secretary*

2. Shri R.S. Kambo – *Under Secretary*

2. The Committee took up for consideration the following draft Reports :

(i) *** *** ***

(ii) *** *** ***

(iii) *** *** ***

(iv) Draft Report on Demands for Grants (1999-2000) relating to the Department of Atomic Energy.

3. The Members suggested certain additions/modifications/amendments to the draft Reports on Demands for Grants (1999-2000) relating to the Ministries of Power & Coal and desired that those be suitably incorporated in the Reports. These Reports were then adopted. The draft Reports on Demands for Grants (1999-2000) relating to the Ministry of Non-Conventional Energy Sources and the Department of Atomic Energy were adopted by the Committee without any amendments.

4. The Committee authorised the Chairman to finalise the Reports after making consequential changes arising out of factual verification by the concerned Ministry/Department and to present the same to the Parliament/ Speaker as the case may be.

The Committee then adjourned.

*** Para 2 (i), (ii) and (iii) relating to consideration and adoption of three other Reports of the Committee are not included.