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**STANDING COMMITTEE
ON ENERGY
(1998-99)**

TWELFTH LOK SABHA

DEPARTMENT OF ATOMIC ENERGY

DEMANDS FOR GRANTS (1998-99)

FIRST REPORT



सत्यमेव जयते

3657R

**LOK SABHA SECRETARIAT
NEW DELHI**

1, 4

July, 1998/Asadha, 1920 (Saka)

FIRST REPORT
STANDING COMMITTEE ON ENERGY
(1998-99)

(TWELFTH LOK SABHA)

DEPARTMENT OF ATOMIC ENERGY

DEMANDS FOR GRANTS (1998-99)

Presented to Lok Sabha on.....4...JUL 1998
Laid in Rajya Sabha on.....7...JUL 1998



LOK SABHA SECRETARIAT
NEW DELHI

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**CORRIGENDA TO THE FIRST REPORT OF
THE STANDING COMMITTEE ON ENERGY (1998-99)**

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COMPOSITION OF THE STANDING COMMITTEE
ON ENERGY (1998-99)

Shri K. Karunakaran — *Chairman*

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3. Shri Tariq Anwar
4. Shri Parasram Bhardwaj
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(iv)

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SECRETARIAT

1. Dr. A.K. Pandey — *Additional Secretary*
2. Shri John Joseph — *Joint Secretary*
3. Shri P.K. Bhandari — *Deputy Secretary*
4. Shri R.S. Kambo — *Under Secretary*
5. Shri P.C. Tripathy — *Executive Officer*

*Ceased to be Member of the Committee *w.e.f.* 29.6.1998, consequent upon his retirement from Rajya Sabha.

INTRODUCTION

1. the Chairman, Standing Committee on Energy, having been authorised by the Committee to present the Report on their behalf, present this First Report on the Demands for Grants (1998-99) relating to the Department of Atomic Energy.

2. The Committee took evidence of the representatives of the Department of Atomic Energy on 16th June, 1998.

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 25th June, 1998.

NEW DELHI;
July 1, 1998
Asadha 10, 1920 (Saka)

K. KARUNAKARAN,
Chairman,
Standing Committee on Energy.

REPORT

PART I

INTRODUCTORY

Mandate of the Department of Atomic Energy (DAE)

The Department of Atomic Energy (DAE) has been entrusted with the responsibility of harnessing 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. The DAE's mandate is to produce safe and economic nuclear power, utilising indigenous uranium and thorium resources, and to create an R&D infrastructure for the development of appropriate technologies. Towards this end, the Department is involved in developing, in stages, pressurized heavy water reactors, fast breeder reactors, and advanced thorium reactors, and their associated fuel cycle systems.

It builds research reactors and utilises the radio-isotopes produced in them for applications in medicine, agriculture and industry.

It develops advanced technology such as accelerators, lasers, control & instrumentation, computers, biotechnology, information technology, materials technology and others. It also encourages technology transfers and interacts with industry in areas of its strength.

It supports basic research in nuclear energy and related frontier areas of science. It interacts with Universities and academic institutions and supports development of their S&T programmes having a bearing on DAE's programme for mutual benefit.

It cooperates at international fora, in advanced areas of research as well as mega-science projects.

**Analysis of Demands for Grants and Plan Budget of
the Department of Atomic Energy**

1.2 The following two Demands for Grants have been submitted to Parliament by the Department of Atomic Energy (DAE) for the year 1998-99:—

<i>Demand No. 89—Atomic Energy</i>	
Relating to Revenue and Capital	
Expenditure on Atomic Energy	
Research and Development, Industrial	
Projects and the Secretariat of	
the Department	Rs. 1846.59 crore

<i>Demand No. 90—Nuclear Power Schemes</i>	
Relating to Revenue and Capital	
Expenditure on Nuclear Power	
Generation and Ancillary Schemes	Rs. 2149.28 crore

1.3 The two Demands aggregating to Rs. 3995.87 crore comprise Rs. 1394.00 crore for Plan schemes and Rs. 2601.87 crore for Non-Plan expenditure. In addition, Plan schemes to an extent of Rs. 178.00 crore are to be met from Internal and Extra Budgetary Resources.

1.4 The details of actual revenue and capital expenditure for the year 1996-97, the Budget and Revised Estimates for 1997-98 and Budget Estimates for 1998-99 of the Department are as under:—

(Rs. in crores)

Sl. No.	Major Heads	1996-97 Actuals		1997-98		1998-99		Remarks		
		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	--	5.62	--	6.43	--	7.57	--	8.96	This head comprises items like salaries etc. of Sectt. and Atomic Energy Commission.
2.	2852	4.00	255.20	--	291.15	1.50	362.82	3.00	414.70	This head comprises items like Bhabha Atomic Research

1	2	3	4	5	6	7	8	9	10	11
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Centre, Nuclear Fuel Complex, Fuel Reprocessing Plants, Industry and Extension Programme and Support Services.

3.	3401	54.03	349.99	74.68	395.04	93.91	480.89	125.60	536.70	
----	------	-------	--------	-------	--------	-------	--------	--------	--------	--

This head comprises items like R&D expenditure of Bhabha Atomic Research Centre, Aided institutions, IGCAR, CAT and Contribution to International Atomic Energy Agency.

1	2	3	4	5	6	7	8	9	10	11
---	---	---	---	---	---	---	---	---	----	----

Capital Section

4.	4425	--	--	0.01	--	0.01	0.01	--	0.01	This head comprises items like investment in co-operative societies/canteens.
5.	4859	1.00	--	10.03	--	10.03	--	11.00	--	This head comprises items like investment in Electronics Corporation of India Ltd.
6.	4861	102.19	359.54	109.97	369.79	98.22	375.77	138.00	408.21	This head comprises items like Bhabha Atomic Research Centre, Nuclear Fuel Complex,

1	2	3	4	5	6	7	8	9	10	11
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Heavy Water Board, Fuel Reprocessing Industry and Extension programme.

7. 5401 125.82 — 150.32 — 117.84 — 174.40 —

This head comprises items like Bhabha Atomic Research Centre, IGCAR, VECC, CAT, etc.

8. 6859 1.00 — 10.00 — 10.00 — 11.00 15.00

This head comprises items like loans to Electronics Corporation of India Ltd.

1	2	3	4	5	6	7	8	9	10	11
9.	7475	—	0.25	—	0.31	—	0.05	—	0.01	This head comprises items like loans to Co-operative Societies.

Demand No. 90

Revenue Section

10.	2801	—	655.22	—	771.89	—	985.98	—	1218.28	This head comprises items like Power Project Fuel Inventory and Waste Management.
-----	------	---	--------	---	--------	---	--------	---	---------	---

Capital Section

11.	4801	350.21	—	351.20	—	471.20	—	820.00	—	This head comprises items like Investments in Power projects, FBTR.
-----	------	--------	---	--------	---	--------	---	--------	---	---

	1	2	3	4	5	6	7	8	9	10	11
12.	6801	—	—	—	—	—	27.00	—	111.00	—	This head comprises items like Loans to Power Projects.
Demand No. 88											
Adjustment of Recoveries as reduction of expenditure.											
<i>Revenue Section</i>											
13.	2852	(-)4.00	(-)1.51	—	(-)1.20	(-)5.00	(-)1.20	(-)3.00	(-)1.20	(-)1.20	
14.	3401	—	(-)9.22	—	(-)4.20	—	(-)5.73	—	(-)6.42		
<i>Capital Section</i>											
15.	4861	—	(-)54.64	—	(-)57.28	—	(-)68.40	—	(-)91.88		

1.5 As against budgetary allocation of Rs. 2793.60 crore, the expenditure was Rs. 2708.50 crore in the year 1996-97. The BE and RE of 1997-98 have been placed at Rs. 3118.82 crore and Rs. 3201.98 crore respectively. The BE for the year 1998-99 stands at Rs. 4173.87 crore.

1.6 Asked whether the increased allocation will meet the requirements of the Department, the Secretary, DAE deposed as under:—

“There are three Sectors in our programme: The R&D Sector, the I&M Sector and Power Sector. We have been having discussions with the Planning Commission since last year in order to increase the allocation for the Power Sector. The allocation of budgetary support for the Power Sector for the year 1997-98 was Rs. 351 crore. Then, it was raised to Rs. 498 crore in the Revised Estimates. This budgetary support has been increased to Rs. 931 crore for the Power Sector for 1998-99. It would enable us to complete the four projects that we have undertaken. We can also make a beginning in the two 500 megawatt projects apart from the other smaller projects during the IX Five Year Plan. So, an allocation of Rs. 820 crore to the Nuclear Power Corporation at the moment, we think, will be enough though we have been asking for an allocation of Rs. 1000 crore. In the R&D Sector we have got some increase. Though we asked for Rs. 2190 crore, we got Rs. 1065 crore. So we have tailored our programmes to suit by stretching some of the projects in the R&D Sector. I&M Sector is tuned to the Nuclear Power Programme. If the Nuclear Power Programmes are slowed down, we have to slow down nuclear fuel and heavywater projects. We think that the money allocated is good enough for us to start the work. We are reasonably satisfied with that.”

I. Budgetary Allocation

Eighth Plan Outlay

1.7 Sector-wise VIII Plan outlay and the expenditure during the said period are as indicated in the following abstract statement:—

(Rs. in crores)

Sl. No.	Name of the Sector	VIII Plan (1992-97) outlay initially approved	Total Expenditure during VIII Plan (1992-97)
1. Power Sector			
(a)	Budgetary Support (BARC/IGCAR/NPC)	761.00	1411.04
(b)	I.E.B.R. (NPC)	3500.00	2337.24
Total		4261.00	3748.28
2. I&M Sector			
(a)	Budgetary Support	800.00	614.18
(b)	I.E.B.R.	500.00	148.14
Total		1300.00	762.32
3. R&D Sector—Total		600.00	663.91
G. Total : Power+I&M+R&D		6161.00	5174.51
Total Budgetary Support		2161.00	2689.13
Total : IEER		4000.00	2485.38

IEER-Internal and Extra Budgetary Resources.

1.8 The physical achievements in each of the three sectors of the Atomic Energy Programme, viz. Research & Development, Industries & Minerals and Nuclear Power during the VIII Plan, as informed by the Department, are summarised below:—

Research and Development Sector

During the VIII Five Year Plan, a large number of projects related to all aspects of peaceful applications of Nuclear Energy and strengthening/modernisation of the existing infrastructure were undertaken by the R&D Units. Some of the major (power-related) R&D achievements include successful development of an Integrated Garter Spring Repositioning System for the coolant channels; development of a coolant channel inspection system, commissioning of hot cells; fabrication of components and design of support structure for trimetallic Sodium loop; commissioning of a precipitation-cum-ion-exchange plant at Tarapur for treatment of intermediate level wastes; development of computerised distribution control and monitoring system for nuclear power projects; feasibility studies on new Advanced Heavy Water Reactors; development and consolidation of Fast Breeder Reactor Technology; studies on the restructuring of the carbide fuel, etc.

Non-power related nuclear research led to the development of indigenously designed "Kalpakkam Mini Reactor" (KAMINI) utilising Uranium-233 as a fuel for use as a thermal neutron source facility for neutron radiography and neutron activation analysis. In the area of accelerators, Indus-1 storage ring was assembled. A high resolution beam line and an Electron Cyclotron Resonance (ECR) ion source were commissioned. Nuclear Physics Research with 14 MV pelletron led to fundamental discoveries in heavy ion induced nuclear reactions. Nuclear data were collected on fast neutron induced fission of actinides for the fast reactor programme.

Industry and Minerals Sector

The VIII Plan period witnessed enhancement in the production capacity of heavy water and nuclear fuel. Two Heavy Water Plants at Manuguru and Hazira have been commissioned and three new projects at NFC have been set up increasing the production capacity of the NFC from 300 MT to 600 MT per annum.

Power Sector

At the beginning of the VIII Plan the installed capacity of nuclear power projects was 1785 MWe. During the VIII Plan a capacity addition of 1100 MWe from ongoing projects, viz. Kakrapar Units 1&2 (2x220 MWe), Kaiga 1&2 (2x220 MWe) and Rajasthan Unit-3 (220 MWe) was

targeted. Against this, the actual addition during the VIII Plan is only 440 MWe from Kakrapar and balance 660 MWe from Kaiga and Rajasthan has slipped to 9th Plan. A portion of inner containment dome of Kaiga Unit-I got delaminated during May, 1994. Consequent to this delimitation incident, the civil construction work of inner containment structure of all the four units of Kaiga and RAPP projects was put on hold. Submissions were made to AERB with regard to re-engineering of IC Dome. DBR for the re-engineered dome was submitted to AERB and clearance obtained in October, 1996. The clearance for recommencement of IC Dome work could be obtained in December, 1997 and the concreting work of ring beam and IC Dome commenced thereafter.

Financial Performance

1.9 During the VIII Plan period, the total expenditure of the Department has been short of the initially approved outlay by Rs. 986.49 crore. While an excess amount of Rs. 528.13 crore has been spent by the Department over and above the budgetary support component, there has been a huge shortfall of Rs. 1514.62 crore in mobilisation of Internal and Extra Budgetary Resources (IEBR). Whereas expenditure out of the budgetary support component of R&D and Power Sectors has exceeded the initially approved outlay, the same in respect of I&M Sector has registered a shortfall of Rs. 185.82 crore.

1.10 When asked to specify reasons for excess expenditure of Rs. 528.13 crore over and above the budgetary support component of the initially approved VIII Plan outlay, the Department, in a written reply, stated that the excess expenditure was due to taking up of certain important strategic schemes under R&D Sector for advancement of technology as also to meet the requirement of on-going nuclear power projects.

1.11 As regards the shortfall in expenditure during the VIII Plan *vis-a-vis* the outlay for the I&M Sector, the Department has mentioned that this shortfall was owing to the re-phasing of the new projects relating to fuel fabrication facilities of Nuclear Fuel Complex, re-phasing and revision in the scope of the uranium mining, mining and milling projects of UCIL and re-phasing of the fuel cycle facilities of BARC consequent on the scaling down of the nuclear power programmes as a whole on account of budgetary resource and other physical constraints.

1.12 Regarding the inability to achieve the target of IEBR as envisaged, the Department, in a written reply has stated that an overall reduction in the budgetary outlays as compared to the requirement projected by the Department led to a slowing down of the nuclear power programme, including advance procurement which had been taken up in right earnest to achieve the targets of installed capacity which resulted in reduction in expenditure during the Plan period. Consequently, the IEBR was less than the target.

1.13 Amplifying this point further, Secretary, Department of Atomic Energy stated during evidence:

“.....They (Planning Commission) have given us figures (of IEBR) which we have said are not realistic. To just give an example, in 1994-95, we asked for IEBR of Rs. 175 crore, that is all we thought we could generate and we asked the budgetary support of Rs. 1005 crore because the NPC was in an over-borrowed situation. What we were given is exactly opposite. We were given Rs. 184 crore budgetary support and Rs. 983 crore was put as IEBR. This was something just to get the total amount under the Plan allocated to us, but that became absolutely impossible for us....”

1.14 The Committee observe that during the VIII Plan period, the total expenditure of the Department was short of the initially approved outlay by as much as Rs. 986.49 crore. While there was a shortfall to the tune of Rs. 1514.62 crore in mobilisation of Internal and Extra Budgetary Resources (IEBR), an excess amount of Rs. 528.13 crore was spent by the Department over and above the budgetary support component. Realisation of IEBR by both I&M and Power Sectors has been far short of the envisaged amount. Whereas expenditure out of the budgetary support component of R&D and Power Sectors has exceeded the approved outlay, the same in respect of the I&M Sector has registered a shortfall of as much as Rs. 185.82 crore. This indicates that neither has the amount of IEBR been fixed at realistic levels nor has the Department made accurate budget estimates during this period. The Committee expect the Department to take corrective measures in this regard. The Committee note that the Department has not been able to raise funds from international markets due to the Nuclear Non-Proliferation Regime in force since the 1974 test. The capacity to raise funds from domestic market is also limited. As such, the Committee expect the Planning Commission to make more realistic targets of IEBR for the Department and to

extend maximum budgetary support to its programmes especially for R&D Sector.

II. Indian Rare Earths Limited (IRE)

1.15 The Indian Rare Earths Limited (IRE) is engaged in mining and production of quality beach sand minerals and rare earth compounds and stockpiles strategic minerals/products for future use of atomic energy programme. Physical and financial performance of IRE for the years 1996-97 and 1997-98 is given below:—

Physical Performance

(Qty. in MT)

	1996-97		1997-98	
	Target	Actual	Target	Actual
Minerals:				
Ilmenite	303470	218245	310000	314970
Zircon	19860	13611	20470	14708
Rutile	12030	8696	12487	13801
Zirflor	7500	4107	7500	5050
Monazite	4260	2532	3740	2295
Rare Earths:				
RE. Chloride	2630	1902	3200	1801
T.S.P.	4450	3067	5210	2774

Financial Performance

(Rs. in crore)

	1996-97		1997-98		1998-99
	Targeted	Achieved	Targeted	Achieved (Prov.)	Target
1. Gross earnings	153.80	154.84	194.88	181.85	—
2. Cost of sales excluding depreciation/interest	116.98	142.30	161.73	132.06	156.01
3. Gross Profit before depreciation/interest	36.82	12.54	33.15	49.79	35.00
4. Depreciation/Interest	30.84	23.51	30.05	44.69	34.05
5. Profit(+)/loss(-) after depreciation/interest	5.98	(-10.97)	3.10	5.10	0.95

1.16 The physical performance of IRE during 1996-97 and 1997-98 has not been very satisfactory. The undertaking has been unable to achieve the targets in respect of production of a number of minerals during the period. On the financial side, during 1996-97, the profit of the undertaking before depreciation and interest has not been as per the target and it has incurred a heavy loss. Further, the gross earnings and cost of sales of IRE during 1997-98 have not matched the targets fixed in this regard.

1.17 When asked about the reasons for unsatisfactory performance of the undertaking, a representative of the Department of Atomic Energy stated during evidence:

"There has been some shortfall in the production of Zircon but the significant production of IRE is Ilmenite, where the maximum margin lies. It would be noticed that at the end of this year 1997-98, the Company is expected to make a profit of Rs. 5.10 crore".

1.18 Regarding the loss incurred by the undertaking during 1996-97, the representative of the Department mentioned:

"There were two or three major reasons for the loss in the year 1996-97. In one of the mining locations, there was labour unrest for about three to four months, as a result of with the production

was affected, mainly the production of Ilmenite. The cost of sales was higher in 1996-97 than what it was in 1997-98. There were some unusual provisions which had to be made. One was the post-retirement benefits. Then, some arrears of wages had to be provided for which had not been provided for earlier. Roughly, there was an unusual provision of the order of Rs. 10 crore to Rs. 15 crore. These factors led to a net loss of Rs. 10.97 crore."

1.19 When asked about the reasons for fixing a much lower net profit target for the year 1998-99, the representative stated:

"This is the MoU target we have made but we are likely to have a much better performance than this. There has been a decline in the prices of two of our important minerals both in the international and in the domestic market. So we feel that there may be some reductions in our overall gross earnings as well as the profit we can make from it".

1.20 The Committee feel constrained to observe that the physical performance of the Indian Rare Earths Limited has shown a declining trend during 1996-97 and 1997-98. The production of minerals such as ilmenite, zircon, rutile, zirflor and monazite as well as rare earths like R.E. chloride and T.S.P. was far short of the target during 1996-97. Similarly, the undertaking also failed to achieve the production target in respect of items like zircon, zirflor, monazite R.E. chloride and T.S.P. during 1997-98. The financial performance of the undertaking has also not been very promising. The Committee are distressed to note that the profit of IRE before depreciation and interest during 1996-97 has been short of the target fixed in this regard. Equally disturbing is the fact that the gross earnings and cost of sales of the undertaking during 1997-98 have not matched the targets. Another matter for concern is that the targets fixed for the year 1998-99 with regard to profits before and after depreciation and interest are far short of the provisional achievements of the year 1997-98. The Committee are at a loss to understand the rationale behind fixation of such low targets for the year 1998-99. The Committee trust that the physical and financial performance of the undertaking will be analysed in detail and improvements brought in.

III. Electronics Corporation of India Limited (ECIL)

1.21 The Electronics Corporation of India Limited (ECIL) was set up in the year 1967 to create a strong base for professional grade

electronic components, instruments, subsystems and systems to cater to the nation's atomic energy programme. Physical and financial performance of the Electronics Corporation of India Limited (ECIL) for the years 1995-96, 1996-97 and 1997-98 as well as targets fixed for 1998-99 are as mentioned below:—

(Rs. in crores)

	1995-96		1996-97		1997-98		1998-99
	Targeted	Achieved	Targeted	Achieved	Targeted	Achieved (Prov.)	Target
<i>Physical</i>							
(a) Production	391.96	320.65	419.00	296.12	483.75	330.94	457.00
(b) Net Sales	392.26	309.83	419.00	303.40	488.75	329.13	462.00
<i>Financial</i>							
(a) Gross Earnings	392.26	309.83	419.00	303.40	488.75	329.13	462.00
(b) Cost of Sales (Excluding dep. & int)	355.67	278.51	382.55	275.68	447.01	309.43	419.05
(c) Gross Profit (Before (delp & int)	36.59	31.32	36.45	27.73	41.74	19.70	42.95
1. Net Profit before tax	6.35	0.77	5.28	0.46	5.16	(-) 9.28	6.84
2. Tax Provision/(-) withdrawn	—	(-) 0.70	—	(-) 0.30	—	—	—
3. Net Profit after tax	6.35	1.47	5.28	0.76	5.16	(-) 9.28	6.84

1.22 The Committee note with concern that the physical and financial performance of Electronics Corporation of India Limited (ECIL) has been dismal over the years. The production and net sales of ECIL have fallen short of the targets during 1995-96, 1996-97 and 1997-98 as also the gross earnings, cost of sales, gross profit and net profit. ECIL's inability to commit resources for the year 1996-97 towards building up of work-in-progress has been cited as the reason for the variance in production. However, the Committee are not convinced by this explanation. The Committee feel that lack of concerted efforts on the part of the Corporation has contributed significantly to its dismal performance. Considering the performance of the Corporation in the previous years, the Committee express

grave concerns as to how the targets set for 1998-99 would be achieved by ECIL. The Committee are also unhappy to note that unrealistic targets have been fixed for the Corporation since 1995-96. The Committee feel that targets should be fixed realistically based on the actual performance of the Corporation. The Committee hope that the reasons for poor performance would be analysed in detail and the performance of ECIL improved in future.

IV. Nuclear Fuel Complex (NFC)

1.23 The Nuclear Fuel Complex (NFC) at Hyderabad has been established to provide fuel and zircaloy products required for generation of nuclear power by various power reactors. Fabrication of enriched uranium fuel for the Boiling Water Reactors (BWRs) at Tarapur and the thorium oxide blankets for the Fast Breeder Reactor (FBTR) at Kalpakkam is also carried out at NFC. The operating plants of NFC include production of ceramic grade uranium oxide, zircaloy components, sintered pellets and fuel assemblies. Details of targets and production of some major items by Nuclear Fuel Complex during 1996-97 and 1997-98 are as under:—

Item	1996-97		1997-98	
	Target	Production	Target	Production
1. PHWR Fuel (No. of bundles)	11850	10606	13160	14005
2. BWR Fuel (No. of bundles)	70	71	100	71
3. Coolant Tubes (No. of bundles)	240	186	220	212

1.24 The Committee observe with dismay that the Nuclear Fuel Complex (NFC) has not been able to achieve the production targets of some major items during 1996-97 and 1997-98. NFC failed to achieve the targets in the production of PHWR Fuel and Coolant Tubes during 1996-97. Similarly, during 1997-98 the production of BWR Fuel and Coolant Tubes fell short of the targets fixed in this regard. The Committee expect that the reasons for failure on the

part of the Nuclear Fuel Complex to achieve the fixed targets would be analysed and its performance improved.

V. Atomic Power Stations

1.25 Gross Margin and the Net Profit of TAPS, MAPS and NAPS for the years 1995-96, 1996-97 and 1997-98 (provisional) and 1998-99 (estimated) are as under:—

	(Rs. in crores)				
	1995-96	1996-97	1997-98 (Provisional)	1998-99 (Estimated)	
Gross Margin	(-)4.98	(-)23.58	26.09	9.63	} T A
Net Profit	(-)9.94	(-)31.28	17.55	5.35	
Gross Margin	(-)13.94	72.62	70.13	53.18	} M A
Net Profit	(-)33.63	46.02	43.27	26.32	
Gross Margin	176.73	162.95	280.09	156.50	} N A
Net Profit	112.29	68.01	181.61	58.02	

1.26 The Committee are troubled to note that the estimated gross margin and the estimated net profit of the year 1998-99 in case of the Tarapur Atomic Power Station (TAPS), Madras Atomic Power Station (MAPS) and Narora Atomic Power Station (NAPS) are significantly lower than the provisional gross margin and the provisional net profit for the year 1997-98. The Committee are particularly concerned about NAPS in which case the gross margin and the net profit projected for the year 1998-99 (estimated) are lower than those of the previous three years. The figures of gross margin and net profit projected for the year 1998-99 for MAPS are also not encouraging compared to the similar figures of the preceding two years. The Committee desire to be apprised of the reasons for such low projections as also the corrective measures taken in this regard.

VI. Nuclear Power Corporation of India Limited (NPCIL)

1.27 The Nuclear Power Corporation of India Limited (NPCIL) was set up in 1987 for operation and maintenance of the existing power stations and for setting up of future power projects. NPCIL has been striving its best to promote nuclear power amidst challenges of diverse nature—technological, commercial, organisational and political, but mainly financial.

1.28 NPCIL was pursuing a programme of establishing 10,000 MWe by the year 2000, approved by the Government. Though, at the time of formation of the Company, a debt-equity ratio of 1:1, with equity flowing initially was committed by the Government, the debt-equity ratio increased to 2:1 due to lack of requisite budgetary support over a period of time.

1.29 Though NPCIL has mobilised substantial amount of funds from the capital market through issue of bonds, the Corporation has difficulties in going in for substantial market borrowings because of the short maturity period of bonds in the context of longer gestation period of nuclear power projects and prevailing high market interest rates of loans for NPCIL. The tariff structures are also not conducive to resource mobilisation. On account of its small operating base, the generation of sizeable internal surpluses is not possible. The situation has been further aggravated by outstanding dues from the State Electricity Boards which affected the liquidity of the Corporation. Also, the Company has no access to foreign sources of finance either.

1.30 For the past three years, the nuclear power stations have been showing very good performance. The nuclear power plants completed 140 reactor years of operation. The safety performance of operating power reactors was very good. The release of radioactivity to the environment was much below the limits prescribed by the Atomic Energy Regulatory Board (AERD). The gross electricity generation from the operating atomic reactors was 7948 million units upto end-January, 1998 at capacity factor of 70%. Both the Tarapur Atomic Power Station-1 and Narora Atomic Power Station-1&2 performed well. This year NAPS-1&2 together generated 341.1 million units (MUs) in January 1998 which is a record generation so far.

1.31 The difficulties that were faced with the old reactors at Tarapur and Rawatbhatta due to aging, have been overcome. The core shroud of TAPS has been repaired, the coolant channels of RAPS-2 have been replaced and the Over Pressure Relief Device (OPRD) of RAPS-1 has been repaired. RAPS-1&2 are operating at present.

1.32 Rajasthan-3&4 and Kaiga-1&2, which have been delayed because of the delimitation incident, are poised for completion by next year. Design of the 500 megawatt nuclear power reactor has been completed. With the commencement of work at TAPP-3&4 (2x500 MWe), and advanced stage of negotiations relating to Kudankulam, the Indian Nuclear Programme has bounced back now.

1.33. Unit-1 of RAPS was shut down for repairs. The unit went critical in May, 1998. The technologies and tools for repair of this unit were developed indigenously. Unit-2 also went critical in May, 1997 after being shut down for about 4 years due to repairs. Explaining the achievements of DAE scientists and engineers, Secretary, DAE informed the Committee during the evidence:

“The first reactors were built with Canadian assistance in Rajasthan (RAPS). The RAPS-II was abandoned by the Canadians in 1974 without completing it because of the first test at Pokhran. These two reactors used zircaloy-2 we no longer use after the second unit at Kakrapar, for the coolant channels through which we push the fuel bundles. There are 300 horizontal channels in that reactor. These Zircaloy channels, over a period of time, tend to sag..... we have shut down RAPS-II some year ago. We have changed all the 300 coolant channels using a new material..... These were fabricated in our Nuclear Fuel Complex at Hyderabad..... On the 27th May, it (the Unit-II) went critical and it was completed at a cost which was one-fifth or less than the cost incurred by the Canadians in their own country. It was completed six months ahead of schedule. It is one hundred per cent our own technology..... I hope, this will go on operating for at least another twenty-five years.”

1.34 The financial performance of the Company during 1996-97, 1997-98 (provisional) and 1998-99 (estimated) is as under:—

Financial Performance of NPCIL

	1996-97	1997-98 (Provisional)	1998-99 (Estimated)
	1	2	3
Generation (MUs)	9066	9618	9795
Plant Load Factor (%)	67%	71%	66%
Export of Energy (MUs)	8023	8529	8594

(Rs. in crores)

	1	2	3
Income	1233.48	1284.92	1452.64
Operating Expenditure	624.57	713.18	912.86
Gross Margin	608.92	571.74	539.78
Depreciation	199.37	194.73	203.80
Interest	156.57	152.21	159.46
Net Profit	252.98	224.80	176.52

1.35 The country has a reservoir of 60,000 metric tonnes of uranium which is equal to 1.2 billion tonnes of coal reserve. In addition, we have got 3,60,000 metric tonnes of thorium reserve. The percentage of Nuclear power generation is very negligible. We produce a total of nearly 86,000 megawatt of power but the nuclear power production is only 2,000 megawatt. It is less than 3 per cent. France is producing more than 50 per cent of power from nuclear energy. China is also planning to increase its nuclear power generation. When the Committee enquired the reasons for the meagre share of nuclear power production, Secretary, DAE clarified:

“At the moment in terms of the electricity delivered, we are a little under three per cent. If you look at the amount of money that was provided for the nuclear power production sector during the Eighth Five Year Plan, the average is something equivalent to 100 MW per year. The Corporation was formed on 1:1 debt to equity ratio; that is, whatever may be the budgetary support, an equal amount is supposed to come through borrowings from the market. If you take 100 MW per year, the build up of nuclear capacity will take a very large time. Suppose somebody asked, what happened to the 10,000 MW programme, you have to divide 10,000 by 100, which will give you a very large number. At the moment, we are hoping to go ahead a little faster than that. So, I would, by and large, say that the growth of this sector will be limited by the financial resources that become available rather than by our technological capability.

The other question is regarding availability of fuel; the amount of uranium resources that we have is equivalent to something like 1.2 billion tonnes of coal which can be raised to 100 billion tonnes equivalent, if you go through the fast breeder route and if you are able to be successful in that. Then if you can develop the technology of thorium utilisation and the thorium-uranium-233 cycle, we have something like 600 to 1000 billion tonnes coal equivalent. It is a very difficult technology which would require an enormous amount of R&D. Actually one must look at nuclear technology as a technology for the future. If you look at the capital cost of nuclear power plant, it is about 20 per cent costlier than that of coal based plant. But the unit energy cost is a different story..... The capital cost is less for coal based thermal plant. But the running cost is more in that case if the plant is more than 1000 km. fro the pit head. Over a period of time, since the fuel cost of uranium based plant is lower, the unit energy cost tends to remain stable with time."

1.36 Nuclear power units have a long gestation period of 7-8 years as compared to 3 years in case of gas based and upto 5-6 years for thermal plants. When the Committee asked the reasons for long gestation period of nuclear power units and steps to reduce the time lag without compromising with regulation and safety aspects, MD, NPCIL quipped:—

"Today, the nuclear power reactors that we build meet the international safety standards. That is why, our capital costs are slightly high. We are committed to reduce our green house gas effects for the thermal power stations and if we have to meet the international standards for environmental requirements for the thermal power plants, then the cost of the thermal power stations will be a little bit more than the nuclear power stations.....our nuclear power stations, even though the cost is higher, are comparable to international standards and as the time goes by, the cost can be reduced.

The other issue that is coming out is why the nuclear power has not grown in this country, compared to thermal power stations. The reasons are the following:

We have no access to funds through the World Bank, etc. The other countries have given loans in the form of their capital goods

for building nuclear power stations. There is a good incentive for us to take to nuclear power stations. We need a large amount of power. Fortunately, the Department of Atomic Energy has developed the industry in this country today. Everything is made here; it took sometime for the Indian industry to make these manufacturing facilities to the international standards. All the nuclear plants which have been built in the last 15 years have been produced in this country. The technology is now fully available with us. That is one of the strengths..... we feel that nuclear power plants have to be built much more in number for which we have requested for the following:

The industry like this cannot be developed on a year to year budget basis. There should be a long term commitment that we are going to build so many reactors. That is why we have started it in 1987, but we were not able to continue. When that sort of a commitment is there, the people who are manufacturing also can provide the necessary infrastructure and they can build continuously. So, we must have a commitment for the long term loan. Even if a project is started now, it will take at least eight years for building it up, after planning. It may take another seven years for the money to come in.

So, we should have a long-term loan facility for a minimum of 15 years. If an infrastructural industry has been created, then, each power project can stand on its own legs. And we can start a large number of projects simultaneously. We can go in for a larger growth rate. This is one of the requests we have made. One request is to allow us to take a long-term loan which can be supplied from the Provident Fund or LIC funds. A certain percentage can be given to this with a relatively lower amount of interest because of infrastructural requirements and social needs. If this is coming, I think, we can increase a large amount of nuclear power because we have built up the technology in this industry.

Our power projects are running very effectively. We are very happy to inform that Rajasthan I and II have been rehabilitated. Both of them are now working. All our ten stations are working today and producing around 1,710 MW out of 1,840 MW. So, we have got a very good potential. You have to make an appropriate financial structuring and commitment for a long term so that the industry can be enthused to start producing."

1.37 Supplementing further, he added:

"I would like to bring to your kind attention that the Nuclear Power Corporation is a public company just like the NTPC with all the shares owned by the Government but we also borrow money. The difference between NTPC and NPC is, NTPC gets loan from the World Bank and other private firms in other countries. They can provide long term loan and the facility to build the thermal power station in this country whereas the Nuclear Power Corporation does not have that facility because we have been controlled by technology control regimes and every paisa we have to use to build this reactor has to come from within our own resources. As a matter of fact when we started NPC, 50 per cent of the money was supposed to come from the Government of India's equity and the rest of the 50 per cent, we were to get from loans. Unfortunately because of lower Budgetary support, we had to take larger amount of loans to complete even this.

Another important thing is internal resources. Whatever tariffs we were supposed to get from the State Electricity Boards, they did not come to us in time. NTPC has got an additional advantage because they have to get it on account of loans from the World Bank. The Government also is putting pressure to get back the tariff. However, we are not getting back tariffs and approximately Rs. 2,000 crore is still to come from the States."

1.38 When the Committee asked whether the Power Finance Corporation lend them any loan, it was informed that at the moment PFC do not advance any loan.

1.39 The Committee note with concern that the Plant Load Factor of the year 1998-99 (estimated) of the Nuclear Power Corporation of India Limited (NPCIL) is lower than that of the years 1997-98 (provisional) and 1996-97. Further, the gross margin and net profit of the company are likely to be considerably lower in 1998-99 as compared to the preceding two years. The Committee direct the Department to take remedial measures so as to effect improvement in plant load factor, gross margin and net profit of the company.

1.40 The Committee are happy to learn that scientists and engineers of DAE have been able to make RAPS-II critical, using

indigenous technology only. What is more heartening to note is that in spite of embargoes put by foreign countries in respect of men, material, machinery and technology, the nuclear scientists have been able to demonstrate their skill and capabilities beyond doubt. By this singular feat, the Government was able to save around Rs. 200 crore, as compared to what would have been the position had the project been handled by foreign agencies/companies. Furthermore, the commissioning schedule was reduced by as many as six months. The Committee hope and trust that with the commissioning of this unit, the chronic problem of power shortage in Northern Grid will be met to a large extent.

1.41 The Committee note that NPCIL at present operates ten nuclear power reactors with a capacity of 1840 MWe. It was pursuing a programme of establishing 10,000 MWe by the turn of this century. Though at the time of formation of company, a debt-equity ratio of 1:1, with equity flowing initially was committed by the Government, the debt-equity ratio increased to 2:1 due to lack of requisite budgetary support over a period of time. In spite of mobilising a substantial amount of funds from the capital market through issue of bonds, the Corporation has been plagued by difficulties in going in for substantial market borrowings because of short maturity period of bonds in the context of longer gestation period (8 years) of nuclear power projects, coupled with prevailing high market interest of loans. The tariff structures are also not conducive to resource mobilisation. On account of Corporation's small operating base, the generation of sizeable internal surpluses is not possible. The outstanding dues of as much as Rs. 2,000 crore from State Electricity Boards has affected the liquidity of the Corporation. The strategic nature of operation of NPCIL forbids it to have access to foreign sources of funding. The Committee are of opinion that unless and until drastic steps are taken, realisation of a total installed capacity of 6,560 MWe of nuclear power by the year 2009 will remain a distant dream. It is in this context that the Committee recommend that the benefits/incentives of infrastructural projects be extended to nuclear power stations and long-term loans and lower rate of interest be made applicable to them. Since the country has demonstrated ample indigenous technology and capability in designing, constructing, operating and maintaining nuclear power plants, a beginning has to be made to reduce the generation period of nuclear power plants from the present level of 8 years to 5-5 $\frac{1}{2}$ years. This will not only yield much needed resource, but will also reduce the capital cost of the project, to a large extent. The Committee also recommend perspective planning to increase the share of atomic energy in electricity generation.

1.42 The Committee are pained to note that whereas power generating units of State Electricity Boards are financed through PFC, no such mechanism exists for nuclear operated power generation units. The Committee are of the view that power generation entities, whether in hydel, thermal or nuclear sector ought to be on equal pedestal. The Committee, therefore, recommend that PFC should also extend term-finance to NPCIL for power generation projects.

1.43 The Committee further note that in the matter of tariff fixation and distribution, the writ of CEA prevails to a large extent and such activities are within the domain of it (CEA). At present, the tariff fixed for nuclear power units are not so lucrative and conducive to attract adequate resource mobilisation. The Committee hope and trust that with the setting up of tariff fixation authorities at Centre, the resource mobilisation may find a sea-change. However, the Committee are still in doubt whether a corresponding reform in the distribution system would also be forthcoming. The Committee are of the firm view that certain extent of freedom and autonomy should be provided to NPCIL especially in the matter of distribution of power. At present NPCIL Transmit and distribute its power mainly to State Electricity Boards in a manner decided by CEA. The Committee recommend that NPCIL should be afforded an opportunity to market their bulk produce not only to SEBs but also to a cluster of industries, co-operatives or any other group entity through MoU route.

1.44 It has been brought to the notice of the Committee that menace of outstanding dues has plagued the operation of NPCIL too. The MD, NPCIL was candid enough to admit before the Committee that arrears amounting to Rs. 2,000 crore were due from State Electricity Boards which had a deleterious effect on the operating performance of NPCIL. The Committee are of the firm view that outstanding dues of cash strapped PSUs like NPCIL ought to be wiped out at the first opportunity. The Committee note that in order to liquidate the dues of SEBs to public sector undertakings, the Government has formulated a guarantee scheme for the power sector. The Committee recommend that similar benefits should also be made applicable to central power entities under the Department of Atomic Energy. Alternatively, SEBs drawing power from NPCIL should open LoC for meeting the expenditure.

NEW DELHI;
 July 1, 1998
 Asadha 10, 1920 (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.	1.14	<p>The Committee observe that during the VIII Plan period, the total expenditure of the Department was short of the initially approved outlay by as much as Rs. 986.49 crore. While there was a shortfall to the tune of Rs. 1514.62 crore in mobilisation of Internal and Extra Budgetary Resources (IEBR), an excess amount of Rs. 528.13 crore was spent by the Department over and above the budgetary support component. Realisation of IEBR by both I&M and Power Sectors has been far short of the envisaged amount. Whereas expenditure out of the budgetary support component of R&D and Power Sectors has exceeded the approved outlay, the same in respect of the I&M Sector has registered a shortfall of as much as Rs. 185.82 crore. This indicates that neither has the amount of IEBR been fixed at realistic levels nor has the Department made accurate budget estimates during this period. The Committee expect the Department to take corrective measures in this regard. The Committee note that the</p>

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Department has not been able to raise funds from international markets due to the Nuclear Non-Proliferation Regime in force since the 1974 test. The capacity to raise funds from domestic market is also limited. As such, the Committee expect the Planning Commission to make more realistic targets of IEBR for the Department and to extend maximum budgetary support to its programmes especially for R&D Sector.

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The Committee feel constrained to observe that the physical performance of the Indian Rare Earths Limited has shown a declining trend during 1996-97 and 1997-98. The production of minerals such as ilmenite, zircon, rutile, zirflor and monazite as well as rare earths like R.E. chloride and T.S.P. was far short of the target during 1996-97. Similarly, the undertaking also failed to achieve the production target in respect of items like zircon, zirflor, monazite, R.E. chloride and T.S.P. during 1997-98. The financial performance of the undertaking has also not been very promising. The Committee are distressed to note that the profit of IRE before depreciation and interest during 1996-97 has been short of the target fixed in this regard. Equally disturbing is the fact that the gross earnings and cost of sales of the undertaking during

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1997-98 have not matched the targets. Another matter for concern is that the targets fixed for the year 1998-99 with regard to profits before and after depreciation and interest are far short of the provisional achievements of the year 1997-98. The Committee are at a loss to understand the rationale behind fixation of such low targets for the year 1998-99. The Committee trust that the physical and financial performance of the undertaking will be analysed in detail and improvements brought in.

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The Committee note with concern that the physical and financial performance of the Electronics Corporation of India Limited (ECIL) has been dismal over the years. The production and net sales of ECIL have fallen short of the targets during 1995-96, 1996-97 and 1997-98 as also the gross earnings, cost of sales, gross profit and net profit. ECIL's inability to commit resources for the year 1996-97 towards building up of work-in-progress has been cited as the reason for the variance in production. However, the Committee are not convinced by this explanation. The Committee feel that lack of concerted efforts on the part of the Corporation has contributed significantly to its dismal performance. Considering the performance of the Corporation in the previous years, the Committee

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		<p>express grave concerns as to how the targets set for 1998-99 would be achieved by ECL. The Committee are also unhappy to note that unrealistic targets have been fixed for the Corporation since 1995-96. The Committee feel that targets should be fixed realistically based on the actual performance of the Corporation. The Committee hope that the reasons for poor performance would be analysed in detail and the performance of ECIL improved in future.</p>
4.	1.24	<p>The Committee observe with dismay that the Nuclear Fuel Complex (NFC) has not been able to achieve the production targets of some major items during 1996-97 and 1997-98. NFC failed to achieve the targets in the production of PHWR Fuel and Coolant Tubes during 1996-97. Similarly, during 1997-98 the production of BWR Fuel and Coolant Tubes fell short of the targets fixed in this regard. The Committee expect that the reasons for failure on the part of the Nuclear Fuel Complex to achieve the fixed targets would be analysed and its performance improved.</p>
5.	1.26	<p>The Committee are troubled to note that the estimated gross margin and the estimated net profit of the year 1998-99 in case of the Tarapur Atomic Power Station (TAPS), Madras Atomic Power Station (MAPS) and</p>

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Narora Atomic Power Station (NAPS) are significantly lower than the provisional gross margin and the provisional net profit for the year 1997-98. The Committee are particularly concerned about NAPS in which case the gross margin and the net profit projected for the year 1998-99 (estimated) are lower than those of the previous three years. The figures of gross margin and net profit projected for the year 1998-99 for MAPS are also not encouraging compared to the similar figures of the preceding two years. The Committee desire to be apprised of the reasons for such low projections as also the corrective measures taken in this regard.

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The Committee note with concern that the Plant Load Factor of the year 1998-99 (estimated) of the Nuclear Power Corporation of India Limited (NPCIL) is lower than that of the years 1997-98 (provisional) and 1996-97. Further, the gross margin and net profit of the company are likely to be considerably lower in 1998-99 as compared to the preceding two years. The Committee direct the Department to take remedial measures so as to effect improvement in plant load factor, gross margin and net profit of the company.

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The Committee are happy to learn that scientists and engineers of DAE

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have been able to make RAPS-II critical, using indigenous technology only. What is more heartening to note is that in spite of embargoes put by foreign countries in respect of men, material, machinery and technology, the nuclear scientists have been able to demonstrate their skill and capabilities beyond doubt. By this singular feat, the Government was able to save around Rs. 200 crore, as compared to what would have been the position had the project been handled by foreign agencies/companies. Furthermore, the commissioning schedule was reduced by as many as six months. The Committee hope and trust that with the commissioning of this units, the chronic problem of power shortage in Northern Grid will be met to a large extent.

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The Committee note that NPCIL at present operates ten nuclear power reactors with a capacity of 1840 MWe. It was pursuing a programme of establishing 10,000 MWe by the turn of this century. Though at the time of formation of company, a debt-equity ratio of 1:1, with equity flowing initially was committed by the Government, the debt-equity ratio increased to 2:1 due to lack of requisite budgetary support over a period of time. In spite of mobilising a substantial amount of funds from the capital market through issue of bonds, the Corporation has been

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plagued by difficulties in going in for substantial market borrowings because of short maturity period of bonds in the context of longer gestation period (8 years) of nuclear power projects, coupled with prevailing high market interest of loans. The tariff structures are also not conducive to resource mobilisation. On account of Corporation's small operating base, the generation of sizeable internal surpluses is not possible. The outstanding dues of as much as Rs. 2,000 crore from State Electricity Boards has affected the liquidity of the Corporation. The strategic nature of operation of NPCIL forbid it to have access to foreign sources of funding. The Committee are of the opinion that unless and until drastic steps are taken, realisation of a total installed capacity of 6,560 MWe of nuclear power by the year 2009 will remain a distant dream. It is in this context that the Committee recommend that the benefits/incentives of infrastructural projects be extended to nuclear power stations and long-term loans and lower rate of interest be made applicable to them. Since the country has demonstrated ample indigenous technology and capability in designing, constructing, operating and maintaining nuclear power plants, a beginning has to be made to reduce the gestation period of nuclear power plants from the present level of 8 years to 5-5½ years. This will not only yield much

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		needed resource, but will also reduce the capital cost of the project, to a large extent. The Committee also recommend perspective planning to increase the share of atomic energy in electricity generation.
9.	1.42	The Committee are pained to note that whereas power generating units of State Electricity Boards are financed through PFC, no such mechanism exists for nuclear operated power generation units. The Committee are of the view that power generation entities, whether in hydel, thermal or nuclear sector ought to be on equal pedestal. The Committee, therefore, recommend that PFC should also extend term-finance to NPCIL for power generation projects.
10.	1.43	The Committee further note that in the matter of tariff fixation and distribution, the writ of CEA prevails to a large extent and such activities are within the domain of it (CEA). At present, the tariff fixed for nuclear power units are not so lucrative and conducive to attract adequate resource mobilisation. The Committee hope and trust that with the setting up of tariff fixation authorities at Centre, the resource mobilisation may find a sea-change. However, the Committee are still in doubt whether a corresponding reform in the distribution system would also be forthcoming. The Committee are of the firm view that certain extent of freedom and autonomy should be

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provided to NPCIL especially in the matter of distribution of power. At present NPCIL transmit and distribute its power mainly to State Electricity Boards in a manner decided by CEA. The Committee recommend that NPCIL should be afforded an opportunity to market their bulk produce not only to SEBs but also to a cluster of industries, co-operatives or any other group entity through MoU route.

11.

1.44

It has been brought to the notice of the Committee that menace of outstanding dues has plagued the operation of NPCIL too. The MD, NPCIL was candid enough to admit before the Committee that arrears amounting to Rs. 2,000 crore were due from State Electricity Boards which had a deleterious effect on the operating performance of NPCIL. The Committee are of the firm view that outstanding dues of cash strapped PSUs like NPCIL ought to be wiped out at the first opportunity. The Committee note that in order to liquidate the dues of SEBs to public sector undertakings, the Government has formulated a guarantee scheme for the power sector. The Committee recommend that similar benefits should also be made applicable to central power entities under the Department of Atomic Energy. Alternatively, SEBs drawing power from NPCIL should open LoC for meeting the expenditure.

PART II

MINUTES OF THE SECOND SITTING OF STANDING COMMITTEE ON ENERGY HELD ON 16TH JUNE, 1998 IN COMMITTEE ROOM 'C', PARLIAMENT HOUSE ANNEXE, NEW DELHI

The Committee sat from 11.00 hrs. to 13.15 hrs.

PRESENT

Shri K. Karunakaran — *Chairman*

2. Shri Basudeb Acharia
3. Shri Tariq Anwar
4. Smt. Rani Chitralekha Bhosle
5. Shri Bikash Chowdhury
6. Shri K.C. Kondaiah
7. Dr. H. Lallungmuana
8. Shri Rajbanshi Mahto
9. Shri Sanat Kumar Mandal
10. Smt. Sukhda Mishra
11. Shri Vilas Muttemwar
12. Shri Ravindra Kumar Pandey
13. Shri Naresh Kumar Chunnalal Puglia
14. Shri Kanumuru Bapi Raju
15. Shri Braj Mohan Ram
16. Shri N.T. Shanmugam
17. Shri Th. Chaoba Singh
18. Shri Chandramani Tripathi
19. Prof. (Smt.) Rita Verma
20. Shri Sushil Chandra Verma
21. Shri E. Balanandan
22. Shri S.M. Krishna
23. Shri Bangaru Laxman

SECRETARIAT

- | | | |
|-----------------------|---|-------------------------|
| 1. Shri John Joseph | — | <i>Joint Secretary</i> |
| 2. Shri P.K. Bhandari | — | <i>Deputy Secretary</i> |
| 3. Shri R.S. Kambo | — | <i>Under Secretary</i> |

WITNESSES

Department of Atomic Energy

1. Dr. R. Chidambaram, Secretary, DAE
2. Shri Anil Kakodkar, Director, BARC
3. Dr. Y.S.R. Prasad, CMD, NPCIL
4. Shri S.V. Kumar, Vice Chairman, AERB
5. Shri B.K. Saha, Additional Secretary, DAE
6. Smt. Sudha Bhave, Joint Secretary (R&D), DAE
7. Shri A. Dasgupta, Joint Secretary (I&M), DAE
8. Shri A.R. Kale, Chief Controller of Accounts, DAE
9. Dr. Placid Rodriguez, Director, IGCAR
10. Dr. C. Ganguly, Chief Executive, NFC
11. Shri S.P. Mukherjee, Chief Executive, HWB
12. Dr. T.K. Mukherjee, CMD, IREL
13. Shri J.L. Bhasin, CMD, UCIL

At the outset, the Committee placed on record their deep appreciation of the work of Indian scientists and engineers in successfully conducting nuclear tests. The Committee also congratulated Dr. R. Chidambaram, Secretary, Department of Atomic Energy and his colleagues for this endeavour.

2. Thereafter, the Secretary of the Department of Atomic Energy gave a brief on the mandate and Demands for Grants (1998-99) of the Department.

3. The Committee then took oral evidence of the representatives of the Department of Atomic Energy in connection with the examination of Demands for Grants (1998-99) of the Department.

4. The following important points were discussed by the Committee:

- (i) Budgetary allocation and achievements under various heads.
- (ii) Mobilisation of Internal and Extra Budgetary Resources (IEBR).
- (iii) Nuclear power generation.
- (iv) Possible effects of sanctions on nuclear projects.
- (v) Private participation in the Nuclear Power Sector.
- (vi) Safety of nuclear power stations.
- (vii) Performance of Indian Rare Earths Limited (IRE).
- (viii) Incident of dome delamination of Kaiga Atomic Power Station.

5. 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 SIXTH SITTING OF
STANDING COMMITTEE ON ENERGY (1998-99) HELD
ON 25TH JUNE, 1998 IN COMMITTEE ROOM 'C',
PARLIAMENT HOUSE ANNEXE, NEW DELHI.

The Committee sat from 15.30 hours to 16.30 hours

PRESENT

Shri K. Karunakaran — *Chairman*

MEMBERS

2. Shri Bikash Chowdhury
3. Shri Rajbanshi Mahto
4. Shri Sanat Kumar Mandal
5. Smt. Sukhda Mishra
6. Shri Salkhan Murmu
7. Shri Vilas Muttemwar
8. Shri Amar Roypradhan
9. Shri Kanumuru Bapi Raju
10. Shri Braj Mohan Ram
11. Shri Larang Sai
12. Shri Shailendra Kumar
13. Shri N.T. Shanmugam
14. Prof. (Smt.) Rita Verma
15. Shri Parmeshwar Kumar Agarwalla
16. Shri Jalaludin Ansari
17. Shri S. Austin
18. Shri Gandhi Azad
19. Shri E. Balanandan
20. Shri Brahmakumar Bhatt
21. Shri Bangaru Laxman
22. Shri Nabam Robia

SECRETARIAT

- | | | |
|-----------------------|---|-------------------------|
| 1. Shri John Joseph | — | <i>Joint Secretary</i> |
| 2. Shri P.K. Bhandari | — | <i>Deputy Secretary</i> |
| 3. Shri R.S. Kambo | — | <i>Under Secretary</i> |
| 4. Shri R.K. Bajaj | — | <i>Under Secretary</i> |

Consideration and adoption of Draft Report on Demands for Grants (1998-99) relating to the Ministry of Non-Conventional Energy Sources

** ** ** **

II. Consideration and adoption of Draft Report on Demands for Grants (1998-99) relating to the Department of Atomic Energy

2. The Committee then considered the Draft Report on the Demands for Grants (1998-99) of the Department of Atomic Energy and adopted the same with the amendments/modifications as shown in the Appendix-I.

3. 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 these Reports to both the Houses of Parliament during the current Session.

The Committee then adjourned.

**Minutes relating to consideration and adoption of Draft Report as Demands for Grants of MNES, is not included.

APPENDIX-I

(Vide Para 2 of Minutes dated 25.6.98)

Amendments/Modifications made by Standing Committee on Energy in the Draft Report on Demands for Grants (1998-99) relating to Department of Atomic Energy

Sl. No.	Para No.	Line	Amendments/Modifications
1	1.14	21	<i>after programmes, Add "especially for R&D Sector" at the end.</i>
2.	1.41	31	<i>After extent, Add a new sentence "The Committee also recommend perspective planning to increase the share of atomic energy in electricity generation"</i>
