

MINISTRY OF POWER

DEMANDS FOR GRANTS 2023-24

THIRTY-FIFTH REPORT



LOK SABHA SECRETARIAT NEW DELHI

March, 2023/ Phalguna, 1944 (Saka)

THIRTY-FIFTH REPORT

STANDING COMMITTEE ON ENERGY (2022-23)

(SEVENTEENTH LOK SABHA)

MINISTRY OF POWER

DEMANDS FOR GRANTS (2023-24)

Presented to Lok Sabha on 21.03.2023

Laid in Rajya Sabha on 21.03.2023



LOK SABHA SECRETARIAT NEW DELHI

March, 2023/Phalguna, 1944 (Saka)

<u>COE NO</u>. 64

Price: Rs.....

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Published under Rule 382 of the Rules of Procedure and Conduct of Business in Lok Sabha (Sixteenth Edition) and Printed by

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COMPOSITION OF THE STANDING COMMITTEE ON ENERGY (2022-23)

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- 4. Shri Pradeep Kumar Chaudhary*
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- 3. Shri Kulmohan Singh Arora
- 4. Shri Manish Kumar

Joint Secretary Director Additional Director Committee Officer

* Nominated as Member of the Committee w.e.f. 4th November, 2022.

Nominated as Member of the Committee w.e.f. 16th December, 2022.

List of abbreviations

ACS	Average Cost of Supply
AMI	Advanced Metering Infrastructure
APTEL	Appellate Tribunal For Electricity
ARR	Average Revenue Realized
AT&C	Aggregated Transmission and Commercial
AVVNL	Ajmer Vidyut Vitran Nigam Limited
BE	Budgetary Estimate
BEE	Bureau of Energy Efficiency
CAPEX	Capital Expenditure
CEA	Central Electricity Authority
CERC	Central Electricity Regulatory Commission
CMD	Chairman and Managing Director
CPRI	Central Power Research Institute
CPSE	Central Public Sector Enterprises
CPSUs	Central Public Sector Undertakings
CPWD	Central Public Works Department
CSS	Centrally Sponsored Scheme
CVPPPL	Chenab Valley Power Project Private Limited
DBFOT	Design, Build, Finance, Operate and Transfer
DDUGJY	Deendayal Upadhyaya Gram Jyoti Yojana
DISCOM	Distribution Company
DT	Distribution Transformer
DVC	Damodar Valley Corporation
EAP	Energy Action Plan
EBR	Extra Budgetary Resources
EFC	Expenditure Finance Committee
ESCO	Energy Service Company
EV	Electric Vehicle
FY	Financial Year
GBS	Gross Budgetary Support
HEP	Hydro Electric Project
HVDC	High-Voltage Direct Current
I&EBR	Internal and Extra Budgetary Resources
ICT	Information and Communication Technology
IPDS	Integrated Power Development Scheme
ISGAN	International Smart Grid Action Network
IT	Information Technology
J&K	Jammu and Kashmir

JERC	Joint Electricity Regulatory Commission
JVVNL	Jaipur Vidyut Vitran Nigam Limited
KESCO	Kanpur Electricity Supply Company
KUSUM	Pradhan Mantri Kisan Urja Suraksha Evam Utthaan Mahabhiyan
KV	Kilo Volt
MJ	Mega Joule
МоР	Ministry of Power
MOSPI	Ministry of Statistics and Programme Implementation
MSEDCL	Maharashtra State Electricity Distribution Company Limited
MSME	Micro, Small and Medium Enterprises
Mtoe	Million Tonne of Oil Equivalent
MU	Million Unit
MW	Mega Watt
NBFC	Non-Banking Financial Company
NEEPCO	North Eastern Electric Power Corporation Limited
NERPSIP	North Eastern Region Power System Improvement Project
NHPC	National Hydro Power Corporation Limited
NPMU	NSGM Project Management Unit
NPTI	National Power Training Institute
NSGM	National Smart Grid Mission
NTPC	National Thermal Power Corporation Limited
PGCIL	Power Grid Corporation of India Limited
PMA	Projects Management Agency
PMDP	Prime Minister Development Package
PMRP	Prime Minister's Reconstruction Plan
POSOCO	Power System Operation Corporation
PPP	Public-Private Partnership
Qtr	Quarter
RDSS	Revamped Reforms-based and Results-linked, Distribution Sector Scheme
RE	Revised Estimated/Renewable Energy
Rs	Rupees
SCADA	Supervisory Control and Data Acquisition
SDA	State Designated Agency
SDMC	South Delhi Municipal Corporation
SJVNL	Satluj Jal Vikas Nigam Limited
THDCIL	Tehri Hydro Development Corporation India Limited
ТОЕ	Tonne of oil equivalent
UTs	Union Territories
VGF	Viability Gap Funding

INTRODUCTION

I, the Chairperson, Standing Committee on Energy having been authorized by the Committee to present the Report on their behalf, present this Thirty-Fifth Report on Demands for Grants (2023-24) of the Ministry of Power.

2. The Committee took oral evidence of the representatives of the Ministry of Power on 24th February, 2023. The Committee wish to express their thanks to the representatives of the Ministry for appearing before the Committee for evidence and furnishing the information desired by the Committee in connection with the issues relating to the subject.

3. The Report was considered and adopted by the Committee at their sitting held on 13^{th} March, 2023.

4. The Committee place on record their appreciation of the assistance rendered to them by the officials of the Lok Sabha Secretariat attached to the Committee.

5. For facility of reference and convenience, the observations and recommendations of the Committee have been printed in bold letters in Part-II of the Report.

NEW DELHI <u>13th March, 2023</u> Phalguna 22, 1944 (Saka) Jagdambika Pal Chairperson, Standing Committee on Energy

REPORT

PART-I

NARRATION ANALYSIS

I. INTRODUCTORY

1.1 Article 113 of the Constitution mandates that the estimates of expenditure from the Consolidated Fund of India included in the Annual Financial Statement and required to be voted by the Lok Sabha, be submitted in the form of Demands for Grants. The Demands for Grants are presented to the Lok Sabha along with the Annual Financial Statement. Generally, one Demand for Grant is presented in respect of each Ministry or Department.

1.2 Rule 331E (1) (a) of the Rules of Procedure and Conduct of Business in Lok Sabha states that each of the Departmentally Related Standing Committee shall consider the Demands for Grants of the concerned Ministries/ Departments and make a report on the same to the Houses. Accordingly, this Committee examined the Demands for Grants of the Ministry of Power (**Demand No. 79**) for the year 2023-24 in detail and prepared this Report.

Organizational Set-up of the Ministry of Power

1.3 The Ministry of Power started functioning independently with effect from 2ndJuly, 1992. Earlier it was known as the Ministry of Energy comprising the Departments of Power, Coal and Non-Conventional Energy Sources. Electricity is a concurrent subject at Entry 38 in List III of the seventh Schedule of the Constitution of India. The Ministry of Power is primarily responsible for the development of electrical energy in the country. The Ministry's responsibility *inter-alia* includes prospective planning, policy formulation, processing of projects for investment

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decision, monitoring of the implementation of power projects, training and manpower development and the administration and enactment of legislation in regard to thermal, hydro power generation, transmission and distribution.

1.4 The main items of work dealt with by the Ministry of Power are as given below:

- General Policy in the electric power sector and issues relating to energy policy and coordination thereof. (Details of short, medium and long-term policies in terms of formulation, acceptance, implementation and review of such policies, cutting across sectors, fuels, regions and intra-country and inter-country flows);
- All matters relating to hydro-electric power (except small/mini/micro hydel projects of and below 25 MW capacity), thermal power and transmission & distribution system network;
- Research, development and technical assistance relating to hydro-electric and thermal power, transmission system network and distribution systems in the States/UTs;
- Administration of the Electricity Act, 2003, (36 of 2003), the Energy Conservation Act, 2001 (52 of 2001), the Damodar Valley Corporation Act, 1948 (14 of 1948) and the Bhakra Beas Management Board as provided in the Punjab Reorganisation Act, 1966 (31 of 1966);
- All matters relating to the Central Electricity Authority, Appellate Tribunal for Electricity and Central Electricity Regulatory Commission;
- Rural Electrification;
- Power schemes and issues relating to power supply/development schemes/programmes/decentralized and distributed generation in the States and Union Territories;
- Matters relating to the following Undertakings/Organizations:
 - (a) Damodar Valley Corporation (DVC);
 - (b) Bhakra Beas Management Board (except matters relating to irrigation);
 - (c) National Thermal Power Corporation Limited (NTPC);
 - (d) National Hydro-electric Power Corporation Limited (NHPC);
 - (e) Rural Electrification Corporation Limited (REC);
 - (f) North Eastern Electric Power Corporation Limited (NEEPCO);

- (g) Power Grid Corporation of India Limited (PGCIL);
- (h) Power Finance Corporation Limited (PFC);
- (i) THDC India Limited;
- (j) SJVN Limited;
- (k) Central Power Research Institute (CPRI);
- (l) National Power Training Institute (NPTI); and
- (m) Bureau of Energy Efficiency (BEE).
- All matters concerning energy conservation and energy efficiency pertaining to the Power Sector.

In all technical and economic matters, the Ministry of Power is assisted by 1.5 the Central Electricity Authority (CEA). While the Authority (CEA) is a Statutory Body constituted under section 3 of the repealed Electricity (Supply) Act, 1948 and continued under section 70 of the Electricity Act, 2003, where similar provisions exist, the office of the CEA is an "Attached Office" of the Ministry of Power. The CEA is responsible for technical coordination and supervision of programmes and is entrusted with a number of statutory functions. The CEA is headed by a Chairperson, who is also ex-officio Secretary to the Government of India, and comprises six full time Members of the rank of Ex-officio Additional Secretaries to the Government of India. They are designated as Member (Thermal), Member (Hydro), Member (Economic & Commercial), Member (Power System), Member (Planning) and Member (Grid Operation and Distribution). 14 subordinate offices are functioning under the control of the Central Electricity Authority. The Ministry of Power has a monitoring system for capacity addition programmes for timely execution of the cleared projects. The monitoring mechanism operates at 3 broad levels, viz. by the Central Electricity Authority, by the Ministry of Power and through the Power Project Monitoring Panel (PPMP).

1.6 The Section 3 of the Electricity Act required the Central Government to prepare the National Electricity Policy from time to time. The Central Government may, from time to time, in consultation with the State Governments and the Authority, review or revise, the National Electricity Policy. In compliance of that the Central Government had notifies the National Electricity Policy in 2005.

II. ANALYSIS OF DEMANDS FOR GRANTS (2023-24)

2.1 The Demands for Grants of the Ministry of Power (**Demand No. 79**) was laid on 9th February, 2023. The Demands show a budgetary provision of Gross Budgetary Support (GBS) of **Rs. 20,671.32 crore** that includes Rs. 20,654.52 crore of Revenue and Rs.16.80 crore of Capital Section. All the GBS provisions of the Ministry of Power are under 'Voted' category and there are no 'Charged' components. The Central Plan Outlay, including Internal and Extra Budgetary Resources (I&EBR), i.e. **Rs. 60,805.22 crore**, however, stands at **Rs. 81,476.54 crore.**

2.2 The Ministry of Power, however, had sought an outlay of **Rs. 25,280.89 crore** (GBS component) for 2023-24. The details of funds demanded by the Ministry of Power and funds allocated by the Ministry of Finance are as follows:

S.No.	Scheme	Requirement in BE(2023-24) by MOP	Final Allocation BE(2023-24) as per ceiling by MoF	Cut (%)
1	Energy Conservation	30.90	30.90	0.00
2	Reform Linked Distribution Scheme	16,000.00	12,071.60	▼24.55
3	Smart Grid	14.62	14.62	0.00

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S.No.	Scheme	Requirement in BE(2023-24) by MOP	Final Allocation BE(2023-24) as per ceiling by MoF	Cut (%)
4	Green Energy Corridor	1.00	1.00	0.00
5	Interest Subsidy to National Electricity Fund	500.00	500.00	0.00
6	Power System Improvement in North Eastern States excluding Arunachal Pradesh and Sikkim	987.00	987.00	0.00
7	Strengthening of Transmission System in the States of Arunachal Pradesh and Sikkim	1,400.00	1,400.00	0.00
8	Power System Development Fund (PSDF)	1,185.46	1,000.00	▼15.64
9	Scheme for Promoting Energy Efficiency activities in different sectors of Indian Economy	103.80	103.80	0.00
	Total CS	20,222.78	16,108.92	▼20.34
10	Payment to SDMC- Badarpur thermal Power Station	16.08	16.08	0.00
11	Payment pertaining to International Arbitration case	28	12	▼57.14
12	Advance ultra super critical plant in Sipat, Chattisgarh	0.01	0.01	0.00
13	Support for Flood moderation storage Hydro Electric Projects	0.01	0.01	0.00
14	Support for Cost of Enabling Infrastructure i.e., roads/ bridge	89.94	10	▼88.88
15	Reimbursement of Claim for any expenditure already incurred by NTPC on Lohari Nagpala Hydro Power Projects	104.4	104.4	0.00
16	Central assistance for Pakul Dul HEP under J&K PMDP 2015 as grant and loan to CVPPPL	1448	1448	0.00
17	GoI fully service bond- issue expenditure and interest (PFC Bonds)	376.4	376.4	0.00

S.No.	Scheme	Requirement in BE(2023-24) by MOP	Final Allocation BE(2023-24) as per ceiling by MoF	Cut (%)
18	GoI fully service bond- issue expenditure and interest (REC Bonds)	1,945.56	1,945.56	0.00
19	Central Power Research Institute, Bengaluru	373.66	208	▼44.33
20	National Power Training Institute (NPTI)	50	35	▼30.00
21	Bureau of Energy Efficiency			
22	Grant towards cost of Down stream protection work of Subansiri Lower project (NHPC)	56.98	56.98	0.00
23	Creation of a Central Transmission Utility (CTU)	0.01	0.01	0.00
24	Manufacturing zones under Atmanirbhar Bharat package	100	100	0.00
25	Subsidy to Indian Shipping Companies	0.01	0.01	0.00
26	Additional fund requirement for PMRP(J&K)	86.54	0.01	▼99.99
27	Viability Gap Funding	96	0.01	▼99.99
	Total Other CSS	4,771.60	4,312.48	▼9.62
a	Secretariat	66.61	60.72	▼8.84
b	CEA	165.74	135.04	▼18.52
C	APTEL	40.66	40.66	0.00
d	JERC	13.50	13.50	0.00
e	CERC	152.00	140.00	▼7.89
	Less CERC	-152.00	-140.00	
28	Total Establishment Expenditure	286.51	249.92	▼12.77
	Grand Total	25,280.89	20,671.32	▼18.23

2.3 Out of total Union Budget 2023-24 of **Rs 45,03,097.45** crore, an amount of Rs 20,671.32 crore is allocated for Ministry of Power which is **0.46 %** of total Budget. Details of allocation of Budget of other important Ministries are as under:

S.No.	Ministry	Ministry Budget 2023-24			
1	MNRE	10,222.00	0.23		
2	Coal	5,254.58	0.12		
3	Ports, Shipping and Waterways	20,671.32	0.46		
4	Atomic Energy	25,078.49	0.56		
5	MSME	22,137.95	0.49		

2.4 The targets in regard to Internal & Extra Budgetary Resources (I&EBR)of Central Public Sector Undertaking (CPSUs) of the Power Sector for 2023-24, are given below:

		(Rs. in crore)
Sl. No.	Name of CPSEs	IEBR Target for 2023-24
1	NTPC	22,454.00
2	PGCIL	8,800.00
3	NHPC	10,857.22
4	SJVNL	1,00,00.00
5	THDCIL	3,900.41
6	NEEPCO	2,018.59
7	DVC	2,708.00
8	Grid India Ltd (POCSOCO)	67.00
	TOTAL	60,805.22

2.5 The Committee were informed that the internal accruals out of operations (of CPSUs) and borrowings (both domestic and foreign) constitute I&EBR. The CAPEX plan of CPSUs (for generation/transmission projects) is funded substantially through I&EBR. In fact, the budgetary support (to CapEx plan) is provided only to Hydel CPSUs (NHPC, THDC and NEEPCO), that too, on a limited scale. The expenditure under I&EBR is not routed through Government Budget/Demand for Grant. It is managed by the Board of the respective PSUs.

2.6 It was further informed that the GBS, on the other hand, is the gross budgetary support/demand for grant provided from out of the Consolidated Fund

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of India for implementation of various schemes of the Ministry, forming part of the Five Year Plan/Annual Plans. The expenditure under GBS is routed through the Ministry's budget. Further, Extra Budgetary Resources (EBR) is the borrowing raised by the Government entities for the Government Scheme.

2.7 On being asked by the Committee whether Demands for Grants (2023-24) of the Ministry of Power is in accordance with the long term planning for the Power Sector and how will it help in fulfilling the aspiration of the Sector, the Ministry of Power has submitted as under:

"Ministry of Power had proposed for Budget Allocation of ₹ 25,280.89 crore for the FY 2023-24. The Ministry of Finance has allocated a sum of ₹ 20,671.32 crore to implement the ongoing schemes/ projects of the Ministry. This includes ₹ 16,108.92 crore for Schemes/projects of the MoP and ₹ 4,312.48 crore is for meeting the Non scheme Expenditure and Establishment expenditure of ₹ 249.92 crore. Further requirement of funds will be raised before the Ministry of Finance at the time of Revised Estimate/ final Estimates through Supplementary. Power Sector is the backbone of all industrial/ economic activities of the country. The Budget allocation will be utilised in the schemes of Ministry of Power namely Reform Linked Distribution Sector Scheme, Transmission and Strengthening of Power System in the country. The objectives of these schemes of MoP are to provide 24*7 uninterrupted Power Supply to all the households and for Industrial activities."

2.8 The Ministry has further added:

"The viability of Distribution Companies has been a serious concern. Ministry of Power, Government of India has notified the Revamped Distribution Sector Schemes – A Reforms based and Results linked Scheme" with the objective of improving the quality and reliability of power supply to consumers through a financial sustainable and operationally efficient distribution Sector. The total outlay of the Scheme is Rs. 3,03,758 crore to achieve the long term targets. The objectives of this scheme will be to further strengthen the Subtransmission and Distribution network, ensure quality power supply to all domestic and industrial customer, reduction in national ACS-ARR gap to zero by 2024-25. In FY 2023-24, budget provision of Rs.12,071.60 crore made for RDSS scheme. Also, strengthening of the transmission and distribution network in North Eastern region is another priority of the power sector. So, provisions of budget are in tune with the long term objectives and planning of the power sector."

III. ANALYSIS OF PAST FINANCIAL PERFORMANCE OF THE MINISTRY

3.1 The Ministry of Power was allocated **Rs. 15,322.00 crore** and **Rs.16,074.74 crore** for the Financial Year 2021-22 and 2022-23 respectively. Scheme-wise details of BE, RE and the actual expenditure are given below:

(Rs in crore)

			2021-22			2023-24		
S.No	Name of the scheme	BE	RE	Actal Exp.	BE	RE	Exp incurred upto 20.02.23	BE
1	Energy Conservation	80.00	40.00	40.00	60.00	30.00	0.00	30.90
2	Deen Dayal Upadhyaya Gram Jyoti Yojna	3,600.00	4,720.00	4,655.23	0.00	0.00	0.00	0.00
3	Integrated Power Development Scheme (IPDS)	5,300.00	4,899.70	8,468.64	0.00	0.00	0.00	0.00
4	Reform Linked Distribution Scheme	0.01	999.99	814.00	7,565.59	6,000.00	4,555.94	12,071.60
5	Smart Grid	40.00	2.24	2.24	35.73	28.56	5.26	14.62
6	Green Energy Corridor	14.95	18.16	18.16	13.11	13.11	13.11	1.00
7	Interest Subsidy to National Electricity Fund	200.00	1000.00	1000.00	582.89	582.89	393.97	500.00
8	220 KV Transmission Line from Srinagar to Leh via Kargil	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	Power System Improvement in North Eastern States excluding Arunachal Pradesh and Sikkim	600.00	675.01	675.01	644.00	973.00	844.00	987.00
10	Strengthening of Transmission System in the States of Arunachal Pradesh and Sikkim	600.00	1,600.00	1,600.00	1,700.00	1,145.60	730.00	1,400.00
11	Power System Development Fund (PSDF)	574.16	774.16	771.71	604.48	800.00	716.32	1,000.00
12	Viability Gap Funding	0.00	0.00	0.00	0.00	0.00	0.00	0.01

			2021-22		2022-23			2023-24
S.No	Name of the scheme	BE	RE	Actal Exp.	BE	RE	Exp incurred upto 20.02.23	BE
13	Additional fund for PMRP	0.00	0.00	0.00	0.00	0.01	0.00	0.01
	Total CS	11009.12	14729.26	18044.99	11205.80	9573.17	7258.60	16005.14
12	Payment to SDMC- Badarpur thermal Power Station	16.08	16.08	16.08	16.08	16.08	0.00	16.08
13	Payment pertaining to International Arbritation case	28.00	12.00	11.95	28.00	12.00	9.13	12.00
14	Advance ultra super critical plant in sipat, chattisgarh	0.01	0.01	0.00	0.01	0.01	0.00	0.01
15	Support for Flood moderation storage Hydro Electric Projects	0.01	0.01	0.00	0.00	0.01	0.00	0.01
16	Support for Cost of Enabling Infrastructure i.e., roads/ bridge	0.01	10.00	10.00	0.00	10.00	0.00	10.00
17	Reimbursement of Claim for any expenditure already incurred by NTPC on Lohari Nagpala Hydro Power Projects	104.40	11.24	11.24	104.40	104.40	104.40	104.40
18	Central assistance for Pakul Dul HEP under J&K PMDP 2015 as grant and loan to Chenab Valley power projects pvt limited (CVPPPL)	602.53	763.99	763.99	1,455.98	424.92	424.92	1,448.00
19	Loan to NHPC	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	Tehri Hydro Development Corporation (THDC)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	NEEPCO	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	GoI fully service bond- issue expenditure and interest (PFC Bonds)	376.40	376.40	376.39	376.40	376.40	299.53	376.40
23	GoI fully service bond- issue expenditure and interest (REC Bonds)	2,416.00	1,945.00	1,944.63	1,986.52	1,944.86	1,285.71	1,945.56
24	Central Power Research Institute, Bengaluru	180.00	120.00	120.00	302.77	205.00	192.41	208.00
25	National Power Training Institute (NPTI)	70.00	30.00	16.07	50.00	30.00	12.00	35.00
26	Bureau of Energy Efficiency	117.82	117.82	115.82	150.00	115.00	71.93	103.80
27	Grant towards cost of Down stream protection	145.00	74.08	74.07	56.98	56.98	0.00	56.98

			2021-22 2022-23 2023			2022-23		
S.No	Name of the scheme	BE	RE	Actal Exp.	BE	RE	Exp incurred upto 20.02.23	BE
	work of Subansiri Lower project (NHPC)							
28	Creation of a Central Transmission Utility (CTU)	30.00	0.10	0.00	0.01	0.05	0.00	0.01
29	Subsidy to Indian Shipping Companies	0.01	0.01	0.00	10.00	0.01	0.00	0.01
30	Manufacturing zones under Atamnirbhar Bharat Package	0.01	0.01	0.00	100.00	10.00	0.00	100.00
	Total Other CSS	4,086.28	3,476.75	3,460.24	4,637.15	3,305.72	2,400.03	4,416.26
31	Establishment Expenditu	re						
а	Secretariat	58.86	46.95	45.52	56.00	53.71	46.84	60.72
b	CEA	130.66	127.80	113.64	121.00	121.00	111.88	135.04
С	APTEL	23.08	23.50	22.38	41.30	39.49	30.73	40.66
d	JERC	14.00	12.00	11.22	13.49	13.49	10.31	13.50
e	CERC	220.00	290.00	67.00	205.00	135.00	0.00	140.00
	Less: met from CERC fund	-220.00	-290.00	-170.06	-205.00	-135.00	0.00	-140.00
	Total: Establishment Exp.	226.60	210.25	89.70	231.79	227.69	199.76	249.92
	Grand Total	15,322.00	18,416.26	21,594.93	16,074.74	13,106.58	9,858.39	20,671.32

3.2 The details of targets and achievement in regard to I&EBR of CPSEs of the Power Sector for the last three years are as under:

(Rs. in crore)

Sr. No	Name of CPSEs	F.Y. 2020-21			F.Y. 2021-22			F.Y. 2022-23		
		Target (RE)	Actual	%Exe	Target(RE)	Actual	%Exe	Target (RE)	Actual (upto Jan,2023)	%Exe
1	NTPC	21,000.00	21,000.00	100.00	23,736.00	21,126.07	89.00	22,454.00	19,945.08	88.83
2	PGCIL	10,500.00	10,500.00	100.00	7,500.00	9,426.00	125.68	8,800.00	6,010.00	68.30
3	NHPC	5,296.00	5,296.00	100.00	6,772.21	5,523.35	81.56	7,128.95	4,876.00	68.40
4	SJVNL	2,880.00	2,880.00	100.00	5,000.00	5,259.39	105.19	8,000.00	6,525.53	81.57
5	THDCIL	1,828.03	1,828.03	100.00	2,693.93	3,232.51	119.99	3,315.00	3,305.77	99.72
6	NEEPCO	965.00	965.00	100.00	733.20	707.89	96.55	1,133.26	595.56	52.55
7	DVC	2,342.00	2,342.00	100.00	2,536.95	2,752.56	108.5	2,010.00	1,615.89	80.39

Sr. No	Name of CPSEs	F.Y. 2020-21			F.	F.Y. 2021-22			F.Y. 2022-23			
		Target (RE)	Actual	%Exe	Target(RE)	Actual	%Exe	Target (RE)	Actual (upto Jan,2023)	%Exe		
	Grid India											
8	(POCSOCO)	19.30	19.30	100.00	34.01	107.28	315.44	36.87	25.89	70.22		
9	REC	5,500.00	2,500.00	45.45	0.00	0.00	0.00	0.00	0	0.00		
	TOTAL	50,330.33	47,330.33	94.04	49,006.30	48,135.05	98.22	52,878.08	42,899.72	81.13		

3.3 The details of the demands posted by the Ministry of Power and the funds allocated by the Ministry of Finance since the financial year 2018-19, are as under:

Financial Year	Demand posted by Ministry of Power	Fund allocated by the Ministry of Finance	Cut
2018-19	36,843.32	15,046.92	59.2 %
2019-20	32,001.11	15,874.82	50.4 %
2020-21	33,366.75	15,874.82	52.4 %
2021-22	30,155.40	15,322.00	49.2 %
2022-23	23,949.99	16,074.74	32.9%
2023-24	25,280.89	20,671.32	18.2%



3.4 Details of year-wise budgetary allocation of the Ministry of Power both at BE and RE stages and its actual utilization since the year 2018-19 are given below:

(Rs. in crore)

Financial Year	Component	BE	RE	Actual
	GBS	15,046.92	15,625.19	15,575.84
2018-19	EBR	0.00	20,504.76	19,331.70
2010 17	IEBR	53,468.66	52,683.96	54,681.86
	Total	68,515.58	88,813.91	89,589.40
	GBS	15,874.82	15,874.82	15,321.88
2010 20	EBR	9,000.00	8,500.00	3,782.00
2019-20	IEBR	42,407.41	43,946.70	58,853.92
	Total	67,282.23	68,321.52	77,957.80
	GBS	15,874.82	10,835.13	10,581.92
2020-21	EBR	5,500.00	5,500.00	2,500.00
2020 21	IEBR	44,384.38	44,745.72	44,830.33
	Total	65,759.20	61,080.85	57,912.25
	GBS	15,322.00	18,416.26	17,950.95
2021-22	IEBR	59,990.52	49,006.30	48,135.05
	Total	75,312.52	67,422.56	66,086.00
	GBS	16,074.74	13,106.58	9,439.21
2022-23*	IEBR	51,470.14	52,878.08	42,899.72
	Total	67,544.88	65,984.66	52,338.93

(upto 31.01.2023)



^{(*}upto 31.01.2023)



^{(*}upto 31.01.2023)

3.5 When the Committee asked for the reasons for the variation between BE, RE

and the actual expenditure, the Ministry, in their written reply, has submitted as under:

"The reasons for variation between BE/, RE and Actual in respect of Gross Budgetary Support (GBS) component for the years viz. 2018-19, 2019-20, 2020-21,2021-22 and 2022-23 are as follows. **2018-19:**

During the year 2018-19 against the allocation of Rs.15,046.92 crore in BE, the RE 2018-19 was enhanced to Rs.15,625.19 crore due to requirement of funds under NERPSIP and Comprehensive scheme for Strengthening of Transmission System in the States of Arunachal Pradesh & Sikkim. The actual expenditure was Rs.15,575.84 which is 103.51 % of BE and 99.68 % of RE. As such there is no short fall in expenditure.

2019-20:

During the year 2019-20, Budget allocation of Rs.15,874.82 crore at BE stage was kept at same level at RE stage. The actual expenditure was Rs.15,321.88 crore which is 96.52 % of BE/RE.

2020-21:

During the year 2020-21 against the allocation of Rs.15,874.82 crore in BE and Rs.10,835.13 crore in RE 2020-21, the actual expenditure is Rs.10,581.92 crore which is 66.65 % of BE and 97.66 % of RE. The

reduction of budget allocation in RE stage was decided on the basis of less expenditure due to COVID-19.

2021-22:

During the year 2021-22 against the allocation of Rs. 15,322.00 crore in BE, allocation was enhanced to Rs.18,416.26 crore in RE/ final supplementary stage, due to requirement of additional funds for DDUGJY/IPDS schemes, being sunset year. The actual expenditure was Rs.17,950.95 crore which is 117.16 % of BE and 97.47 % of RE. As such there is no short fall in expenditure.

2022-23:

In FY 2022-23, Budget allocation is Rs.16,074.74 crore in BE. In RE (2022-23), budget allocation is Rs.13,106.58 crore. The actual expenditure incurred upto 31th January, 23 is Rs.9,439.21 crore which is 58.72% of BE and 72.02% of RE. The balance funds of Rs.3,680.71 crore is planned to be utilized during February/March, 2023."

3.6 In regard to less utilization of funds during the 2022-23, the Secretary Power

deposed before the Committee as under:

"States are taking too much time in awarding the tenders for the projects which have been approved for the states under the RDSS scheme. This matter was also raised in RPM meeting which was held by the Honorable Minister. I also review it every week. Every state has a different system. For example, in Andhra Pradesh they have a local norm that those who get big tenders, they get judicial review of tender documents. Judicial review took two months. Haryana has made a rule that all the big tenders will be uploaded on a centralized portal. It took them about two months. I just want to inform that the process of tenders, since these are big tenders, states follow their own rules and procedures. We are just telling them and for that I have written a letter to the Chief Secretary, the minister has reviewed that it should be awarded soon. Because, when it will be awarded, only after that the work will be done on the spot. Thereafter the money will be spent. Our financial advisor has told that out of the RDSS funds given to the states, around Rs. 3,500 thousand crores are still lying in their accounts, they have not flowed it down. The basic thing is that we are pursuing it with the state governments.

Sir, firstly our expenditure has reduced, we have two schemes, which are related to transmission, we are implementing them in the North-East through power grid. Sir, the first scheme is – Comprehensive Scheme for Arunachal Pradesh and Sikkim. The second scheme is NERPSIP scheme. Sir, NERPSIP scheme has shown tremendous progress in the previous years and the scheme is progressing in the right direction. But the scheme of Arunachal Pradesh and Sikkim is a vast scheme. We have organized at least half a dozen meetings with the Chief Secretaries of Sikkim and Arunachal Pradesh, written them letters, reviewed them, I myself went to Sikkim. There are many challenges regarding land records in those States. To whom the compensation is to be distributed, how to work for the line, even after paying them, they are not able to distribute it "

3.7 The Ministry of Finance, Department of Economic Affairs has prescribed that each Ministry/Department shall prepare the Monthly/Quarterly (Plan). It was also stated that not more than 33% and 15% expenditure of Budget Estimates (BE) shall be permissible in the last quarter and last month of the financial year respectively. Accordingly, Ministry of Power had prescribed Monthly Expenditure Plan (MEP) in the DDG (2022-23) which is under:

		(In Rupees Crore)
Month	Total	Cumulative
		Expenditure
April	1,339.56	1,339.56
Мау	1,168.31	2,507.87
June	1,438.05	3,945.92
July	1,339.56	5,285.48
August	1,282.27	6,567.75
September	1,343.57	7,911.32
October	1,339.23	9,250.55
November	1,309.74	10,560.29
December	1,357.34	11,917.63
January	1,414.39	13,332.02
February	1,403.42	14,735.44
March	1,339.30	16,074.74
Total	16,074.74	

3.8 The Ministry has furnished the details of quarter-wise utilization of budget allocations during the last five years which are given below:

FY (Allocation)		Qtr 1	Qtr 2	Qtr 3	Qtr 4	Total
2018-19	Actuals (₹)	8,038.03	2,096.32	1,942.02	3,499.93	15,576.30
(BE-15,046.92)	Percentage	53.42	13.93	12.91	23.26	103.59
2019-20	Actuals (₹)	4,451.55	5,737.51	2,606.30	2,526.52	15,321.88
(BE-15,874.82)	Percentage	28.04	36.14	16.41	15.91	96.50
2020-21	Actuals (₹)	2,170.00	2,348.94	1,538.32	4,488.66	10,581.92
(BE-15,8/4.82)	Percentage	13.67	14.80	9.69	28.28	66.66
2021-22	Actuals (₹)	1,728.45	2,790.49	3,693.63	9,738.38	1,7950.95
(BE-15,322.00)	Percentage	11.28	18.21	24.11	63.56	117.16
2022-23	Actuals (₹)	1,411.40	4,005.93	3,248.10	773.78	9,439.21
(BE-16,074.74)	D. I	0 50	04.00	00.0	(upto 51.01.2023)	(upto 31.01.2023)
	Percentage	8.78	24.92	20.2	4.81	58.72

(Rs. in crore)



* upto 31.01.2023

3.9 When the Committee asked the reasons for deviation in quarterly spending, the Ministry, in their written reply, stated as under:

"The progress of expenditure/release of scheme funds depends on various factors such as the time of receipt of proposals for release of funds, availability of utilization certificates which are due for the funds released in the past, position regarding unspent balances at the time of receipt of proposals, completion of the process of appraisal and approval of investment proposals. These have been the major factor for variation in the expenditure across different quarter."

IV. MINISTRY OF POWER SCHEMES (FUNDED THROUGH GBS)

A. Revamped Reforms-based and Results-linked, Distribution Sector Scheme (RDSS)

4.1 Revamped Distribution Sector Scheme (RDSS) is aimed for improving the operational efficiencies and ensuring financial sustainability of the distribution sector. These objectives are proposed to be met through financial assistance to DISCOMS for strengthening of supply infrastructure.

4.2 The Ministry has stated that one pillar of this scheme is reforms, a part of which goes as pre-qualifying criteria for applying funds under this scheme. Subsequently, the utilities are proposed to be evaluated under a Results Evaluation Framework (REF) which will check the outcomes of the investments and thereby enable additional grants under the scheme.

4.3 The objectives of the scheme are to:

- Improve the quality, reliability and affordability of power supply to consumers through a financially sustainable and operationally efficient Distribution Sector.
- Reduce the AT&C losses to Pan-India levels of 12-15% by 2024-25.
- Reduce ACS-ARR gap to zero by 2024-25.

4.4 The Ministry has stated that the state-wise targets for each year will depend on their current levels of AT&C losses and ACS-ARR gap. The Revamped Distribution Sector Scheme has the following parts:

Part A – Metering & Distribution Infrastructure Works:

• Facilitating in installing prepaid smart meters for all consumers along with associated AMI, communicable meters for DTs & Feeders, ICT including Artificial Intelligence (AI), Machine Learning (ML), etc. based solutions for power Sector and a unified billing and collection system;

• Distribution infrastructure works as required for strengthening and modernizing the system as well as measures for loss reduction. The infrastructure strengthening works will include separation of Agriculture feeders to enable implementation of the KUSUM scheme, Aerial Bunch cables and HVDS for loss reduction, replacement of HT/LT lines as required, construction of new/ up-gradation of substations, SCADA and DMS system etc. Each DISCOM/ State will draw up the scheme according to its requirement with the end objective of reducing losses and ensuring 24 x 7 supply.

Part B - Training & Capacity Building and other Enabling & Supporting Activities:

Supporting and enabling components, such as Nodal Agency fee, enabling components of MoP (communication plan, publicity, consumer awareness, consumer survey and other associated measures such as third party evaluation etc.), up-gradation of Smart Grid Knowledge Centre, training and capacity building, awards and recognitions etc.

4.5 RDSS Scheme envisages installation of 25 crore Smart Meters at consumer, DT, and feeder level by 2025-26. Smart metering projects are envisaged to be implemented in DBFOT mode through PPP. During the evidence on the subject when the Committee asked about the present status of installation of Smart Meters and the issues being faced in this regard the Secretary Power deposed as under:

"There are about 70,00,000 smart meters installed across the country. There are approximately 10,00,000 prepaid meters. Sir, wherever there are projects regarding installation of smart meters, there were problems in the supply of smart meters a few months ago. Some chips are used in smart meters. We faced shortage. It is ease out now, and smart meters are being received. The DISCOMS have to be told on which feeder it is to be installed. For that DISCOMS' cooperation is needed. They reach out to the consumer, in it efforts have to be made. Only in the smart meter project of Uttar Pradesh, there were some issues, which have been resolved. Smart meters are being awarded at the remaining places." 4.6 On being asked by the Committee about the Budgetary Support and the timelines for this scheme, it has been stated that a total layout of **Rs. 3,03,758 crore** including Gross Budgetary Support (GBS) of **Rs. 97,631 crore** has been made. The scheme duration is 5 years (FY 2021-22 to FY 2025-26). The sunset of this scheme will be 31.03.2026. The year-wise phasing of GBS under the scheme as provided in the EFC note of the scheme is as under:

Financial Year	Amount in (Rs. Crore)
2021-22	7,500
2022-23	10,000
2023-24	25,800
2024-25	27,400
2025-26	29,558
Total	1,00,258

4.7 The details of allocation and the actual utilization of funds under RDSS are as under:

BE RE Actual BE RE Actual BE	
- 1,000 814 7,565 6,000 4,555.94* 12,07	1.60

*Upto 20.02.2023

4.8 When the Committee raised the issue of less allocation and under utilization of allocated funds under the Scheme, the Secretary Power explained to the Committee as under:

"The scheme has two aspects. One is the pre-qualification for power sector reforms like timely issue of tariff orders, timely payment of subsidy, timely payment of Government dues, publishing of accounts, etc. That aspect has shown very good impact and we have been able to reduce AT&C losses from 22.62 per cent to 16.68 per cent in one year. That scheme of RDSS scheme is showing very effective results. Regarding expenditure, your observation is very correct. We have been pursuing with the States almost on weekly basis."

4.9 The following are the State/DISCOM's-wise details of loss reduction works sanctioned under RDSS:

State/DISCOM's	Loss Reduction Sanctioned Cost including PMA (Rs. Cr.)
Andhra Pradesh	9,276.66
Assam	2,609.10
Bihar	7,081.05
Chhattisgarh	3,597.55
Goa	247.08
Gujarat	6,021.49
Haryana	3,158.42
Himachal Pradesh	1,913.08
Jammu & Kashmir	4,635.56
Jharkhand	3,262.27
Kerala	2,346.82
Madhya Pradesh	9,403.43
Maharashtra	14,157.91
Manipur	400.98
Meghalaya	796.49
Mizoram	237.33
Puducherry	84.39
Rajasthan	8,912.32
Sikkim	263.61
Tamil Nadu	9,066.27
Tripura	484.56
Uttar Pradesh	16,746.09
Uttarakhand	1,447.39
Punjab	3,873.37
Ladakh	697.36
Arunachal Pradesh	799.99
West Bengal	7,222.57
Nagaland	391.18
Grand Total	1,19,134.32

4.10 The following are the State/DISCOM's-wise details of Smart Metering works sanctioned under RDSS:

State	Sanctioned cost of metering (Including PMA)Rs in Cr.
Andhra Pradesh	4,128
Arunachal Pradesh	184
Assam	3,677
Bihar	2,021
Chhattisgarh	4,105
Goa	469
Gujarat	10,642
Haryana	4,967
Himachal Pradesh	1,788
Jammu & Kashmir	1,053
Jharkhand	858
Kerala	8,231
Ladakh	0
Madhya Pradesh	8,769
Maharashtra	15,215
Manipur	120
Meghalaya	310
Mizoram	180
Nagaland	208
Punjab	5769
Puducherry	251
Rajasthan	9,715
Sikkim	98
Tamil Nadu	19,235
Tripura	317
Uttar Pradesh	18,956
Uttarakhand	1,051
West Bengal	12,671
Grand Total	134,986

4.11 In regard to the AT&C losses in the country, the Ministry has furnished the following information:

"As per 'Report on Performance of Power Utilities 2020-21', released on September 2022, total all India AT&C losses for the year 2020-21 is 22.32%, for the year 2019-20 is 20.73% and for the year 2018-19 is 21.64%. As per 'Report on Performance of Power Utilities 2019-20', released on August 2021, total all India AT&C losses for the year 2017-18 is 21.50%. The AT&C losses for the year 2021-22 (Provisional) are 16.68%."

4.12 When the Committee specifically asked for the details of the States where AT&C losses have increased during the last five years, the following information has been furnished:

State	2020-21	2019-20	2018-19	2017-18
Andaman & Nicobar	51.94	23.34	23.43	19.34
Island				
Chandigarh	11.89	15.86	13.5	4
Himachal Pradesh	14.02	13.33	12.46	11.08
Jammu & Kashmir	59.28	60.46	49.94	53.67
Jharkhand	41.36	37.13	28.33	32.48
Maharashtra	26.55	19.24	15.8	14.38
Mizoram	36.53	20.66	16.2	22.4
Nagaland	60.39	64.79	65.73	41.36
Puducherry	19.92	18.45	19.77	19.19
Tripura	37.36	35.71	38.03	30.31

B. Viability Gap Funding

4.13 The Government of India in the Budget 2023-24 has announced Viability Gap Funding (VGF) Scheme for development of Pump Storage Plants and Battery Energy Storage Systems. The objective is development of a financially viable Gridscale Long duration energy storage and to enable deployment of renewable energy, of energy storage services, integration of larger amount of renewable energy. The Ministry has stated that the estimated Capital Cost of the scheme is Rs 9,400 crore with gross budgetary support of Rs. 3,760 crore. The VGF support will bring down the tariff from storage at acceptable levels to DISCOMS/consumers.

4.14 For '**Viability Gap Funding'** only a token amount has been provided for the year 2023-24. However, the Ministry of Power had sought **Rs. 96 crore** for this.

During the evidence, the Secretary Power further explained about the Scheme as under:

"A note of Expenditure Finance Committee has been finalized and attached. EFC meeting will be held on 2nd March. Whatever will be decided, we will approach cabinet after that. We will be in a position to award the project in the next financial year. VGF will be given in the next three-four years as the project will come up. There is also a need for battery storage, as renewable energy demand increases. "

4.15 When the Committee desired to know as to how this scheme will work, the Secretary Power explained to the Committee as under:

"At present, the cost of storage is about ten rupees, if 40 percent VGF is given, then its tariff will be reduced to about Rs. 6.00 or Rs. 6.25. If solar power is chosen for storage, the electricity will cost around Rs.8.50. The peak hour prices in the power exchange were about Rs. 8.30 last year. The plan is such designed that if battery storage is with peaking power with 40% gap funding then it will be according to market rate and then it will supplement our peak demand by storing electricity in off-peak hours."

V. STATUTORY/AUTONOMOUS BODIES

A. <u>Bureau of Energy Efficiency (BEE)</u>

5.1 The Bureau of Energy Efficiency (BEE) is the nodal central statutory body to assist the Government in implementing the provisions of the Energy Conservation Act. As a quasi-regulatory and policy advisory body, the Bureau helps in developing policies and strategies that emphasize self-regulation and market principles to achieve the primary objective of reducing the energy intensity of the Indian Economy. The Energy Conservation Act also empowers the State Government to facilitate and enforce the efficient use of energy through their respective State Designated Agencies (SDAs) in consultation with BEE. It also empowers the Central Government to specify energy performance standards. 5.2 The Bureau of Energy Efficiency is implementing schemes / programmes for promoting Energy Efficiency in the country. The details of schemes / programmes and other initiatives relating to Energy Conservation have been given below:

- National Level Painting Competition
- National Energy Conservation Award
- National Energy Efficiency Innovation Awards (NEEIA)
- Standards & Labelling
- Energy Conservation Building Code (ECBC)
- Enhancing energy efficiency in Industries Implementation of Perform Achieve and Trade (PAT)
- Demand Side Management (DSM)
- Energy Efficiency in Small and Medium Enterprises (SMEs)
- Improving Energy Efficiency in Transport Sector
- Energy Accounting in DISCOMS
- Strengthening of State Designated Agencies (SDA) To Promote Efficient Use of Energy and its Conservation.

5.3 The details of budgetary allocation for BEE during the last five years and their actual utilization are as below:

Schemes	BE	RE	Actual Utilization				
			Q1	Q2	Q3	Q4	Total
		<u>201</u>	<u>8-19</u>				
BEE Schemes (Energy Efficiency	100.16	10.49	-	-	-	10.49	10.49
Ongoing EAP Scheme under "BEE" head	3.21	3.21	-	3.21	-	-	3.21
Energy Conservation Schemes	55.00	27.00	-	15.00	-	11.49	26.49
Total	158.37	40.70	-	18.21	-	21.98	40.19
Utilization in			0%	45%	0%	54%	99%
Percentage w.r.t RE							
		<u>201</u>	<u>9-20</u>				
BEE Schemes (Energy Efficiency	100.16	100.16	23.69	14.70	30.47	31.30	100.16
Ongoing EAP Scheme under "BEE" head	3.21	3.21	-	0.50	-	-	0.50
Energy Conservation Schemes	110.00	110.00	-	13.51	62.50	20.00	96.01
Total	213.37	213.37	23.69	28.71	92.97	51.30	196.67
Utilization in Percentage w.r.t RE			11%	13%	44%	24%	92%s

	2020-21 (Scheme extended upto 31.03.2021)									
BEE Schemes (Energy Efficiency	100.16	56.32	15.00	21.00	-	20.00	56.00			
Ongoing EAP Scheme under "BEE" head	3.21	0.01	-	-	-	-	-			
Energy Conservation Schemes	109.99	36.95	-	-	-	5.00	5.00			
Total	213.36	93.28	15.00	21.00	-	25.00	61.00			
Utilization in Percentage w.r.t RE			16%	23%	0%	27%	65%			
<u>2021-22</u>										
BEE Schemes (Energy Efficiency	115.82	115.82	-	20.00	41.52	54.30-	115.82			
Ongoing EAP Scheme under "BEE" head	2.00	2.00	-	-	-	-	-			
Energy Conservation Schemes	80.00	40.00	-	-	-	40.00	40.00			
Total	197.82	157.82	-	20.00	41.52	94.30	155.82			
Utilization in Percentage w.r.t RE			0%	13%	26%	60%	99%			
		2022	2-23*							
BEE Schemes (Energy Efficiency	148.00	113.00	-	41.12	30.81	-	71.93			
Ongoing EAP Scheme under "BEE" head	2.00	2.00	-	-	-	-	-			
Energy Conservation Schemes	30.00	30.00	-	-	-	-	-			
Total	180.00	145.00	-	41.12	30.81	-	71.93			
Utilization in Percentage w.r.t RE			0%	28%	21%	0%	49%			



(*upto 20.02.2023)

5.4 For the year 2023-24, no fund is allocated under the head BEE, however, under a new head 'Scheme for Promoting Energy Efficiency activities indifferent sectors of Indian Economy' a provision of Rs. 103.80 crore has been made. Also, for Energy Conservation Rs. 30.90 crore has been allocated.

5.5 In regard to utilization of allocated funds, it has been stated that Bureau of Energy Efficiency (BEE) could utilize the funds allocated and it was sufficient to carry out activities. Additionally, BEE also undertook all those activities, which were not dependent on funds but were contributing for energy conservation in the country. Funds are released by the Ministry of Power on the basis of demand raised by BEE. BEE utilizes the funds against activities planned. All efforts are made by BEE to utilize the funds for, as per the planned activities.

5.6 The Ministry informed the Committee that 36 States/UTs have nominated a State Designated Agency (SDA) in their respective State/UT. These agencies differ from State to State with Renewable Energy Development Agency comprising 44%, Power Department comprising 22%, Electrical Inspectorate comprising 17%, Distribution Companies comprising 17%, and Stand-Alone SDA comprising 6%. Only two States – Kerala and Andhra Pradesh have established Stand-Alone SDA.

5.7 The Ministry has stated that as per the assessment, energy saving potential of the country is estimated to be 86.9 Million TOE by the year 2031, under the moderate savings scenario, with the industrial sector constituting highest energy saving potential. The moderate scenario is developed assuming moderate technological improvements and technology penetration, successful achievement of program targets and moderate fuel mix shift from fossil fuel to RE/ electricity based consumption. In the ambitious saving scenario, the saving estimates

increased to about 129 Million TOE. The details of energy saving potential with sector wise breakup is as under:

Energy Savings (Mtoe) – 2031					
Sectors	Moderate	Savings Scenario	Ambitious Savings Scenario		
	Mtoe	%	Mtoe	%	
Agriculture	5.7	9%	9.9	15%	
Commercial	4.9	17%	6.4	22%	
Domestic	12.1	12%	15.1	15%	
Municipal	0.9	12%	1.5	19%	
Industrial	47.5	11%	72.3	16%	
Transport	15.8	7%	23.8	10%	
Total	86.9	10%	129.0	15%	

5.8 The Ministry has further stated that owing to the various energy efficiency measures taken so far, energy intensity of the country has declined from 0.2787MJ/rupee in 2012 to 0.2232 MJ/rupee by 2019-20 indicating a decrease of 19%.



Source: Energy Statistics, 2021-(MOSPI)

5.9 On being asked by the Committee about the constraints being faced by the Bureau of Energy Efficiency (BEE), it has been stated that Energy efficiency financing is still considered to be loaded with high risks in most of the cases. Industries are hesitant to invest with the perception of larger return on investment period. Banks are also skeptical of the projects being undertaken on energy efficiency. Energy Service Company (ESCOs) are facing shortage of adequate funds thereby stalling the projects on ESCO mode and restricting their adequate institutionalization. Though various schemes are in place and picking up the required momentum, still awareness and capacity building on these are required. Further, Energy Efficiency Financing through commercial banks and NBFCs is facing the lack of awareness and capacity to understand the EE Financing concepts like factors to be considered during appraisal process, technical risk appraisal considerations, etc.

5.10 It has further been submitted that implementation of EE projects through ESCO route is one of the tried and tested mechanisms to achieve scalability in many parts of the world. However, this mechanism has not seen much success in India. This is primarily due to the difficulty to undertake Measurement & Verification (M&V) in a reliable manner based on a standard M&V protocol, along with lack of understanding and financing. All these factors in combination with the other sector deficiencies have been the major barriers to realization of the objectives of improving energy efficiency.

B. <u>Central Power Research Institute (CPRI)</u>

5.11 Central Power Research Institute (CPRI) was established by the Government of India in 1960. It became an Autonomous Society in the year 1978 under the aegis of the Ministry of Power, Government of India. Central Power Research Institute (CPRI) with its Head Office in Bangalore has Units at Bhopal, Hyderabad, Nagpur, Noida and Kolkata. Establishment of a new unit at Nasik is under progress. 5.12 The core activities of CRPI are as follow:

- Applied Research in electrical power engineering
- Testing & Certification of Power equipment

- Consultancy and Field testing services to Power Utilities and Industries
- Third Party Inspection and Vendor Analysis
- Organizing Customized Training programs for Utilities and Industries

5.13 The details of the budgetary allocation for CPRI during the last five years and their actual utilization is as under:

Year	Budget Estimates	Revised Estimates	Actual Expenditure	(Utilization of BE)
2017-18	150.00	50.36	50.35	33.6%
2018-19	150.00	94.34	94.34	62.9%
2019-20	200.00	200.00	178.00	89.0%
2020-21	200.00	80.00	80.00	40.0%
2021-22	180.00	120.00	110.00	61.1%
2022-23	302.77	205.00	192.41*	63.5%
2023-24	208.00	-	-	-





(* upto 31.01.2023)

5.14 When the Committee asked about the measures being taken to ensure that the funds allocated to CPRI are fully utilized, it has been stated that CPRI estimates the fund allocation based on the current progress of the ongoing schemes/projects. While preparing the budget estimate, the purchase orders to be placed, Letter of credit to be opened, part payments to CPWD with respect to civil work, balance

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payments for equipment installed and commissioned, outlay of approved research projects are taken into consideration. Any delay in the above is taken into consideration while making the Revised Estimate (RE) and accordingly the fund is utilized.

5.15 On being asked by the Committee the expectation of the CPRI from the Government to make them more effective, it has been submitted as under:

"Global Acceptance of CPRI certificate

Government shall help CPRI in acceptance of its test certificate globally. **Financial Support**

100% Grant in Aid from Government of India for all the upcoming capital projects to augment its existing test facilities and establishing new facilities.

Land Acquisition

Central / State Government shall help CPRI in allotting land for establishment of new units for expansion of Research and Test facilities."

C. <u>National Power Training Institute (NPTI)</u>

5.16 National Power Training Institute (NPTI) an ISO 9001 & 14001 organization is a National Apex body under the Ministry of Power, Govt. of India for fulfilling the training and Human Resource Development requirements of the power sector in the country. It serves as a National Certification Authority for the purpose of certification of competence to ensure availability of properly trained professionals. NPTI has Pan India presence with 11 Institutes in the different zones of the country.

5.17 The Committee was informed that the main objective of NPTI is to:

• To function as a National Organization for training in the field of (a) operation and maintenance of Power Stations; and (b) all other aspects of Electrical Energy Systems including Transmission, Sub-Transmission and Distribution.

- To act as an apex body for initiating and coordinating training programmes in the power sector in the country.
- To establish and run training Institutes for Engineers, Operators, Technicians and other personnel of Power Sector.

5.18 The details of budgetary allocations for NPTI for the last five years and their actual utilization are as under:

Year	BE	RE	Actual	(% utilization of BE)
2017-18	57.20	57.20	57.20	100
2018-19	100.55	100.55	100.55	100
2019-20	69.00	50.00	28.90	41.9
2020-21	82.34	25.96	18.45	22.4
2021-22	70.00	30.00	12.00	17.1
2022-23	50.00	30.00	12.00*	24
				(* as on 31.01.2023)



^{(*} as on 31.01.2023)

5.19 In regard to constraints being faced by the NPTI in achieving its objectives and their expectations from the Government, it was stated as under:

• "NPTI was mainly involved in catering the training needs of Thermal and Hydro Sector besides distribution and transmission sector. Now the focus of the Power Sector is in the area of New & Renewable Energy/Alternative Sources of Energy. Consequently, the demand of training in the conventional Sector has decreased. The number of training institutes has multiplied in recent years.
NPTI has to compete with a number of training institutes in Public and Private sector resulting in tough competition in getting new trainees.
Due to outbreak of COVID-19 pandemic in 2020-21, the

physical/offline training at the institutes has become difficult.

NPTI needs financial support on periodic basis to augment their training infrastructure to cater to the training needs of Indian Power Sector which is dynamically changing with technology integration & Energy Transition Path. CPSEs and State Power Utilities may consider NPTI as the most preferred Training Institute for training their personnel and take advantage of the quality curriculum and infrastructure."

5.20 On being asked by the Committee about the particular areas/fields that have shortage of trained manpower, it was replied as under:

"As per the various studies following are the two new areas where shortage of trained manpower is felt:

• **Lack of Cyber Security expertise:** Cyber security is a missioncritical priority for organizations. But the cyber profession continues to face a major challenge: a substantial talent gap. There are not enough qualified individuals to fill millions of open positions globally. It is projected that the population of cyber workers would have to grow 145 percent to meet the global demand.

• **Smart Distribution Sector Professionals:** The upcoming Industry 4,0 standards require manpower to understand and implement digitalization. New technologies like AMI, SCADA, Smart Grid, ADMS (Advanced Distribution Management System) and Smart Metering have to be implemented for AT&C Loss reduction and Efficiency Improvement of distribution sector. Also Machine Learning, Artificial Intelligence, Data Analytics, Data Mining, ERP Software are some of the new technologies which will need trained manpower for modernization of distribution sector from Classical network to Modern Grid network to achieve Smart Power Distribution System in the Coming years.

• **Certified Trained Manpower:** There is also a need to certify and train the manpower who are working on contract basis in the Power Sector, starting from the linemen to Supervisor in the field of Electrical Safety, Behavior Science, Best Operation & Maintenance Practices, Information Technology in Power sector and overview of Smart Power Distribution System etc."

VI. <u>DEVELOPMENT OF POWER SECTOR</u>

A. <u>Strengthening of Power Systems</u>

6.1 Under 'Strengthening of Power System' programme, following works are included:

- North Eastern Region Power System Improvement Project (NERPSIP) for Six (6) States (Assam, Manipur, Meghalaya, Mizoram, Tripura and Nagaland) for strengthening of the Transmission and Distribution Systems (33kV and above).
- Comprehensive Scheme for Strengthening of Transmission and Distribution System in Arunachal Pradesh and Sikkim.
- Setting up of Renewable Energy Management Centre under Green Energy Corridor.
- National Smart Grid Mission.
- National Electricity Fund.

6.2 Transmission system plays an important role in the power delivery system by establishing the vital link between the generating stations and the distribution system, which is connected to the ultimate consumer. The transmission network has expanded over the years for evacuation of power from Intra-state & Inter-State generating stations to load centres through Intra-State and Inter-State Transmission System (ISTS) and strengthening of existing network to cater to the projected peak demand. However, bottlenecks have been observed in intra-state transmission and distribution network in the North Eastern Region including Sikkim.

6.3 Year-wise details of budgetary allocation both Budgetary Estimate and Revised Estimate stages and its actual utilization under Strengthening of Power Systems scheme since 2017-18 are as follows:

	Powe Impr Easte exclu Prade (NER	Power System Improvement in North Eastern States excluding Arunachal Pradesh and Sikkim (NERPSIP)		Strengthening transmission System i States of Arunachal Pra and S (Comprehensive Scher		of stem in the nal Pradesh Sikkim Scheme)	Green Corrid	lor (REN	Energy AC)
FY	BE	RE	Actual	BE	RE	Received	BE	RE	Actual
2017-18	179	282.5	282.5	193	300	300	Nil	Nil	Nil
2018-19	282	1,282.5	1,282.5	300	800	800	10	105	105
2019-20	570	770	770	595	800	800	15	1.5	1.5
2020-21	770	281	281	800	300	300	33	18.67	18.7
2021-22	600	675	530	600	1,600	600	14.95	18.16	9.07
2022-23 (upto 31.01.23)	644	973	844	1700	1145.60	730.00	13.11	13.11	13.11

6.4 The estimated cost of 'Power System Improvement in North Eastern States excluding Arunachal Pradesh and Sikkim' was Rs. 5,111.33 crore which has been revised to Rs.6,700 crore. Similarly, the estimated cost of 'Strengthening of transmission System in the States of Arunachal Pradesh and Sikkim' was Rs. 4,754.42 crore which has been revised to Rs.9,129.32 crore.

6.5 When the Committee during the evidence raised the issue of cost escalation in regard to 'Strengthening of transmission System in the States of Arunachal Pradesh and Sikkim', the CMD, PGCIL deposed as under:

"The tender we had floated, it was to be done in Arunachal Pradesh, there occurred a lot of cost escalation, the response was also very low, so we had to float tenders thrice. One reason was that. The DPR was prepared without complete survey of the hilly terrain and the local conditions. That was a drawback. Situation was such that neither the land of the substations was identified nor the routes were fixed. That's why there has been variation in the actual ground reality compared to the estimation done." 6.6 In regard to utilization of fund under the above-mentioned Schemes, the Ministry has stated as under:

"Fund released has been fully utilized. However, the delay in project execution is mainly attributed to the following reasons:

- Poor response from the vendors
- High difference between the quoted cost and the estimated cost."

B. National Smart Grid Mission (NSGM)

6.7 The Government of India had established NSGM in 2015 to plan and monitor implementation of policies and programs related to Smart Grid activities in India. NSGM was operationalized in January 2016 with the formal appointment of Director, NPMU. NSGM is the focal point for coordinating all the activities being undertaken for creation of Smart Grid Infrastructure including Smart Grid training of distribution utility engineers/officials. The Smart Grid being under evolution stage worldwide, NSGM is also tasked with international coordination with ISGAN and Mission Innovation apart from interfacing with other Departments/ministries such as New and Renewable Energy, Heavy Industries, Communication and IT, Telecom, Urban Development etc.

6.8 The Ministry stated that as per NSGM guidelines, under NSGM, the following are the scope of works pertaining to Smart Grid deployments:

- Deployment of Smart Meters and AMI
- Technical up-gradation with deployment of Gas Insulated Substations (GIS) wherever economically feasible
- Development of medium sized micro grids upto 1MW
- Development of Distributed Generation in form of rooftop solar PVs
- Real time monitoring and control of Distribution transformers
- Provision of harmonic filtering and other power quality measures
- Creation of EV charging infrastructure for supporting proliferation of EVs

6.9 Smart Grid solution for Renewable Energy integration is illustrated in below figure:



6.10 The details of the budgetary allocations and their utilization under the head Smart Grid during the last three years is given below:

Year	BE	RE	Actual
2020-21	20.00	20.00	16.08
2021-22	40.00	28.40	2.24
2022-23	35.73	28.40	5.26*
2023-24	14.62	-	-



Year	Targets	Financial Progress	Remarks
2015-16	Establishment of NSGM	Rs.1.31 Cr	Operationalized in Jan 2016
2016-17	Sanction and deployment of Smart Grid projects, collaboration with stakeholders, enhancement of Smart Grid ecosystem, training and capacity building of utility professionals	Rs.4.50 Cr.	Chandigarh Sub Division 5, Amravati and Congress Nagar (Nagpur), Maharashtra, Kanpur sanctioned and AVVNL Smart Grid Pilot completed and demonstrated business case in deploying smart meters
2017-18		Rs.3.07 Cr	Kanpur project surrendered by KESCO
2018-19		Rs.7.125 Cr.	Amravati & Congress Nagar projects surrendered by MSEDCL
2019-20		Rs.6.103 Cr.	6 towns under JVVNL in Rajasthan sanctioned Raipur and Bilaspur project under approval at MoP
2020-21		Rs.16.08 Cr.	Lockdowns and field restrictions hampered field implementations. However, utilities have progressed in implementations
2021-22	Continuation of NSGM with completion of sanctioned Smart Grid projects and handholding of DISCOMS	Rs.2.24 Cr.	Proposal for continuation of NSGM upto March 2024 was considered and approved by the Standing Finance Committee.
2022-23	NSGM has been continued upto FY 2023-24 for completion of sanctioned Smart Grid projects and handholding of DISCOMS	Rs 5.26 Cr. (as on 31.01.2023)	

6.11 The year wise physical and financial progress of NSGM scheme is as below:

6.12 On being asked by the Committee about the cost-benefit analysis/ study has been done in regard to the implementation of Smart Grid, the Ministry has stated as under:

"As the projects are under implementation, detailed cost benefit analysis is possible once they are completed. However, NSGM has developed two tools namely Smart Grid Readiness – Self Assessment Tool (SGR-SAT) and Cost Benefit Analysis (CBA) tool to assist utilities in developing their own specific Smart Grid roadmaps as well as investment analysis for enabling required Smart Grid functionalities. These tools are hosted on web portal and are ready to be used by the DISCOMS to evaluate their roadmaps and cost benefit analysis so that incremental steps towards creation of Smart Grids can be achieved."

C. Issues related to Power Sector

District Electricity Committees

6.13 An instruction was issued by the Ministry of Power in September, 2021 for the constitution of 'District Electricity Committees' by all the States/UTs to ensure the involvement and oversight of the people over all the Government of India schemes and to institutionalize the system of consultation with public representatives. When the Committee raised the issue of no meeting or very few meetings being held by that Committee, the Secretary Power deposed as under:

"I would like to apprise the hon. Committee that based on the instruction of the hon. Committee, we have issued fresh circular to all the States calling for regular meetings of the Committee."

Electrification of left out villages/hamlets

6.14 The Committee have been stressing the need for speedy electrification of the left out villages/hamlets in the country. During the evidence when the Committee desired to know about the status in this regard, the Secretary Power deposed as under:

"The demands have come from three-four states. Uttar Pradesh, Rajasthan and Assam have also said that some of their villages have been left out. Overall, no work worth more than Rs 4-5 thousand crore is left. We are committed to sanctioning it. We are requesting you here also. When that plan comes, it will be done. It will be a very small amount."

Hydro Power Sector

6.15	Given below is the Installed Power	Generation Capacity in the country (as	on
31.01	.2023):		

Fossil Fuel Category	Installed Generation	% Share in Total
	Capacity (MW)	
Coal	2,04,435	49.7
Lignite	6,620	1.6
Gas	24,824	6.0
Diesel	589	0.1
Total Fossil Fuel	2,36,469	57.4
RES (Incl. Hydro)	1,68,400	40.9
Hydro	46,850	11.4
Wind, Solar& Other RE	1,21,550	29.5
Wind	41,983	10.2
Solar	63,894	15.5
BM Power/Cogen.	10,210	2.5
Waste to Energy	523	0.1
Small Hydro Power	4,940	1.2
Nuclear	6,780	1.6
Total Non-Fossil Fuel:	1,75,180	42.6
Total Installed Capacity (Fossil Fuel & Non- Fossil Fuel)	4,11,649	100



6.16 As per assessment made by Central Electricity Authority (CEA), India is endowed with economically exploitable hydro-power potential to the tune of 1,48,700 MW of installed capacity. In addition, 56 number of pumped storage projects have also been identified with probable installed capacity of 94,000 MW. In addition to this, hydro-potential from small, mini & micro schemes has been estimated as 6,782 MW from 1,512 sites. Thus, in totality India is endowed with hydro-potential of about 2,50,000 MW.

6.17 When the Committee raised the issue that hydropower projects have not been given the due priority despite having numerous benefits, the Secretary Power stated as under:

"You are absolutely right. The Ministry fully agree and it is in our priority. I would like to request that at present a capacity of 12 thousand MW is under construction, which is targeted to develop by the year 2025-26."

6.18 When the Committee probe about the landslide incident in Joshimath (Uttrakhand) and about any connection of it with the hydropower project of NTPC, the Secretary Power deposed as under:

"A technical report about Joshimath is available in the Ministry. The problem of Joshimath dates back to 1976, long before the installation of NTPC plant. It is situated on a landslide. There has been a lot of construction and the real problem is with the drainage of water. The state government had constituted committees, first one in 2010 and another in 2019. According to them these problems have nothing to do with the NTPC project. Looking at the situation, the state administration has stopped the work, so it has got stopped. The Ministry's view is very clear and we are also of the same opinion that wherever a project is taken up, its complete environmental impact assessment is done, GSI looks into it, CWC looks into it. Only after assessment by everyone, clearance is given. Whatever the safeguards are recommended in it, it is followed cent percent."

Power Supply Position

6.19 The power supply position from 2014-15 onwards was as under:

Year	Energy Requirement	Energy Availability	Energy Shortage	Energy Shortage
	(MU)	(MU)	(MU)	(%)
2014-15	1068923	1030785	38138	3.6
2015-16	1114408	1090850	23558	2.1
2016-17	1142929	1135334	7595	0.7
2017-18	1213326	1204697	8629	0.7
2018-19	1274595	1267526	7070	0.6
2019-20	1291010	1284444	6566	0.5
2020-21	1275534	1270663	4871	0.4
2021-22	1379812	1374024	5787	0.4
2022-23 (Upto Dec.)	1135192	1129139	6053	0.5

6.20 The peak demand of power from 2014-15 onwards was as under:

Year	Peak Demand	Peak Met	Peak Shortage	Peak Shortage
	(MW)	(MW)	(MW)	(%)
2014-15	148166	141160	7006	4.7
2015-16	153366	148463	4903	3.2
2016-17	159542	156934	2608	1.6
2017-18	164066	160752	3314	2.0
2018-19	177022	175528	1494	0.8
2019-20	183804	182533	1271	0.7
2020-21	190198	189395	802	0.4
2021-22	203014	200539	2475	1.2
2022-23 (Upto Dec.)	215888	207231	8657	4.0



(* upto Dec.2022)

6.21 When the Committee desired to know the assessment of peak summer demand of electricity and the preparation to meet it, the Secretary Power deposed as under:

"We estimate that the peak demand will be 2 lakh 30 thousand MW in the month of April, for which generation capacity is available. Coal stocks are currently around 31 million tonnes, considering the current consumption, there is a capacity of around 13-14 days. There is no problem of coal in the country, where there is availability of coal, there is a constraint of railway logistics. Railways has said that it will take time to remove it as some railways network related work is in progress. There is a management problem in April because hydro generation is less in April, because the snow does not melt completely and wind power also not available. It is available in May. In April, there is supply problem and it is a challenge for us. For this, we have made arrangements for coal and have asked NTPC to run a 5,000 MW gas based plant, for which gas has also been arranged from GAIL. If some amount is required for this, we will give it from the Power System Development Fund. The Ministry has issued the direction in section 11, I want to say that we have made adequate arrangements for the peak load in the coming summer, we are hopeful that the demand will he met."

Part - II

Observations/ Recommendations of the Committee

Budgetary Allocation

1. The Committee note that the Ministry of Power has been allocated Rs. 20,671.32 crore for 2023-24 which is 29% more than the previous year's allocation of Rs. 16,074.74 crore. This allocation of the Ministry is 0.46 % of the total Union Budget (2023-24), which for this year is the highest ever and has decisively breached the budgetary allocation range of 15-16,000 crore for the Ministry of Power which was continuing for years. The Committee treat this improvement as reflective of better budgetary planning of the Ministry when better financial projections have been made against which the Ministry of Finance has been convinced to provide more allocation for the Ministry and hope that similar approach will be maintained in future.

(Para No.1, Recommendation No.1)

2. The Committee observe that the budgetary allocations to the Ministry of Power are being utilized for many important programmes being run by the Ministry to develop the sector to fulfil the present, as well as the future, need for electricity in the country. Programme such as Revamped Reforms-based and Results-linked, Distribution Sector Scheme (RDSS) is aiming to bring down high AT&C losses in the country, Energy Conservation and Efficiency programmes help in avoiding billions of units of electricity. The Committee, therefore, have been emphasizing the need for due attention of the Government for the development of the Power Sector and recommending adequate budgetary allocation for the Ministry of Power. Taking into account

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the importance of the Power Sector in the overall development of the socioeconomic conditions of the people of the country and the fund absorptive capacity of the Ministry, the enhanced budgetary provisions for the Ministry is a welcome step. The Committee desire that the trend of higher budgetary allocation for the Power Sector should continue. They, therefore, recommend the Ministry of Power to post next year's budgetary demands as per the actual requirement of the Sector for its desired growth with a concrete utilization plan to justify the higher budgetary allocation.

(Para No.2, Recommendation No.2)

Past performance of Ministry

3. The Committee note that the Budgetary Estimate of the Ministry of Power for the year 2022-23 was Rs. 16,074.74 crore. However, the same was Revised to Rs. 13,106.58 crore. The actual utilization upto 31.01.2023 is Rs. 9,439.21 crore which is 58.7% of the BE and 72% of RE. The Committee observe that the performance of the Ministry of Power in regard to the utilization of allocated fund (except for the year 2020-21 due to COVID-19) has been good. In 2021-22, the financial performance of the Ministry was 117% of their Budgetary Estimates. The Committee would expect that fund utilization for 2022-23 will not lag and the tempo will be maintained.

The Committee recognizing the importance of the Power Sector has been advocating for higher budgetary allocation for the Ministry. As the Ministry has been allocated the highest-ever budgetary provision of Rs. 20,671.32 crore for the year 2023-24, now the onus falls on them to ensure that the enhanced allocation is fully utilized for achieving the targets

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envisaged under various schemes and heads. Since the utilization of budgetary allocation of the Ministry depends heavily on the progress made by the States, the Committee are of the view that regular meetings with the States, closer monitoring and their hand-holding in critical areas could be the key to ensure timely implementation of Schemes.

(Para No.3, Recommendation No.3)

Quarterly Expenditure

4. The Committee note that the Ministry of Finance, Department of Economic Affairs has prescribed that each Ministry/Department shall prepare the Monthly/Quarterly (Plan). It has also been stated that not more than 33% and 15% expenditure of Budget Estimates (BE) shall be permissible in the last quarter and last month of the financial year respectively. The Committee further note that the fund utilization by the Ministry of Power during the Qtr.1, Qtr.2, Qtr.3 and Qtr.4 of fiscal 2022-23 have been 8.78%, 24.92%, 20.2% and 4.81% (upto 31.01.2023) of the BE of Rs. 16,074.74 crore. Even as per the Revised Estimate of Rs. 13,106.58 for the year 2022-23, they still have a balance of Rs. 3,667.37 crore (28% of RE) which is to be utilized in the remaining two months of the current fiscal. The Committee also note that the Ministry during the year 2021-22 also had utilized as much as 63.5% of their BE and 52.8% of RE in the last Qtr.4 contrary to laid out guidelines. The Committee are of the view that the disciplined quarterly utilization of fund especially in the first quarter greatly helps in optimum utilization of fund allocated for the financial year without resorting to 'March Rush' at the end of the fiscal, which may impair the implementation of Programmes/Schemes. The Committee, therefore, recommend a more consistent and regimented quarterly utilization of fund by the Ministry particularly for the First and the Last Quarter of the financial year.

(Para No.4, Recommendation No.4)

Revamped Distribution Sector Scheme (RDSS)

5. The Committee note that the objective of Revamped Distribution Sector Scheme (RDSS) is to improve the quality, reliability and affordability of power supply to consumers through a financially sustainable and operationally efficient Distribution Sector. It also aims to reduce the AT&C losses to Pan-India levels of 12-15% and Average Cost of Supply (ASC) -Average Revenue Realized (ARR) gap to zero by 2024-25. The Scheme has a total layout of Rs.3,03,758 crore including Gross Budgetary Support (GBS) of Rs. 97,631 crore. As per the Expenditure Finance Committee note of the Scheme the year-wise phasing of GBS for the year 2021-22, 2022-23 and 2023-24 had to be Rs. 7,500 crore, Rs. 10,000 crore and Rs. 25,800 crore, respectively. Against this, the Ministry had made provisions of Rs. 1,000 crore and Rs. 7,565 crore for the year 2021-22 and 2022-23 whereas the actual utilization has been Rs. 814 crore and Rs 4,555.94 crore (upto 20.02. 2023) respectively. For the year 2023-24, the Scheme has been allocated Rs. 12,071.60 crore. Juxtaposing the budgetary allocation so far with the initial trajectory drawn for the tenure of the Scheme, it appears that the funds budgeted may prove to be inadequate. The Committee would expect the Ministry to leave no stone unturned in ensuring that the Scheme is implemented within the targeted timeline. The Committee further desire that the Ministry should impress upon the States to expeditiously complete the tendering process of the envisaged works under the Scheme. They also recommend that the fund allocation for this important program may, if needed, accordingly be suitably enhanced next year with a view to avoid any delay in implementation of this programme.

(Para No.5, Recommendation No.5)

<u>Smart Meters</u>

6. The Committee note that the RDSS Scheme envisages the installation of 25 crore Smart Meters at consumer, DT, and feeder level by the year 2025-26. Smart metering projects are envisaged to be implemented in Design, Build, Finance, Operate and Transfer (DBFOT) mode through Public-Private Partnership (PPP). The Committee also note that so far only 70 lakh Smart Meters have been installed. Out of this, only 10 lakh are Pre-Paid Meters. Considering the present pace of installation of Smart Meters, the target of installation of 25 crore Smart Meters by the year 2025 seems to be a herculean task. The Ministry, however, has stated that the pace of installation of Smart Meters will accelerate in the coming years as the work related to it is at various stages of the tendering process. Nonetheless, the Committee would like to recommend the Ministry to closely monitor the progress of the work related to installation of Smart Meters and take prompt remedial action on the related issues so that targets set in this regard are achieved without any delay. They also desire that the Ministry should ensure that there is no constraint in the supply of technologically updated and good quality Smart Meters in the country.

(Para No.6, Recommendation No.6)

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Aggregate Technical & Commercial (AT&C) losses

7. The Committee note that there are 10 States/Union Territories where Aggregate Technical & Commercial (AT&C) losses, instead of decreasing, have rather increased during the last five years. In Maharashtra, the AT&C losses which were 14.38% in 2017-18 have jumped to 26.55% in the year 2020-21. Similarly, Chandigarh was having only 4% AT&C losses in 2017-18 but it increased to 11.89% in 2020-21. In Nagaland and Jammu & Kashmir, AT&C losses are as high as 60%. These figures do not augur well for the aim of the Government to contain AT&C losses in the country to the level of 12-15%. The Committee, therefore, desire that the Ministry should urgently find out the reasons for the increase in AT&C losses in these States and help the concerned States/DISCOMs to make customized plans to arrest deterioration of the condition. The Committee would also like to be apprised of the findings/outcome of such exercise by the Ministry at the stage of furnishing action taken notes.

(Para No.7, Recommendation No.7)

Viability Gap Funding (VGF)

8. The Committee note that the Ministry of Power has initiated a new Scheme "Viability Gap Funding' for the development of Pump Storage Plants and Battery Energy Storage Systems. The Committee further note that the estimated Capital Cost of the scheme is Rs 9,400 crore with gross budgetary support of Rs. 3,760 crore. The Ministry has stated that the VGF support will bring down the tariff from storage acceptable levels at to DISCOMS/consumers. The Committee find only a token provision has been made for 2023-24 under this Scheme. The Ministry of Power, however, had

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posted a demand of Rs. 96 crore for the Scheme. Due to the advent of variable and intermittent renewable energy into the power system in a big way, the need for Pumped Storage Plants/Battery Storage is being felt for balancing the demand and supply fluctuations in the Grid. The Committee, therefore, welcome this initiative and believe that this Scheme will also provide impetus for the growth of the Hydropower Sector (Pumped Storage Projects). The Committee, therefore, desire that the Ministry should monitor the development of such projects and provide necessary assistance, if required. The Committee expect the Ministry to post additional Demands under this head at the stage of Revised Estimates as per the progress of work in this regard and also spell out as to how the VGF allocation will be used. The Committee also expect that VGF support should be leveraged to increase our understanding of the technology and application and should not be considered as a continuous tool for support.

(Para No.8, Recommendation No.8)

Bureau of Energy Efficiency (BEE)

9. The Committee note that over the years the Bureau of Energy Efficiency (BEE) has not been able to fully utilize the allocated fund. In the year 2020-21 against the allocated fund of Rs. 213 crore the actual utilization was Rs. 61 crore (28% of BE). In 2021-22, against the BE of Rs. 197 crore, the actual utilization was Rs. 155 crore (78% of BE). In the current fiscal also, against the BE of Rs. 180 crore, only Rs. 71 crore (39.4% of BE) could be utilized so far (upto 20.02.2023). The Committee further note that for the year 2023-24, no fund is allocated under the head BEE, however, under a new head 'Scheme for Promoting Energy Efficiency activities in different sectors of Indian Economy'

a provision of Rs. 103.80 crore has been made. Also, for Energy Conservation **Rs. 30.90** crore has been allocated. The Committee also observe that Energy Efficiency and Conservation initiatives have resulted into enormous saving of electricity and brought down the Energy Intensity to 0.22 Mega Joule/Rupee in 2019-20. The Committee further note that as per the assessment made, the energy saving potential of the country is estimated to be 86.9 Mtoe under the moderate savings scenario and 129 Mtoe under the ambitious saving scenario by the year 2031. The Committee, therefore, recommend that the Ministry in collaboration with the other concerned Ministries and Agencies chalk out a comprehensive plan to realise the massive energy-saving potential in the country. The Committee expect the Ministry to provide all possible assistance to the Bureau of Energy Efficiency (BEE) in overcoming the constraints being faced by the energy efficiency sector like shortage of adequate funds for Energy Service Companies (ESCO), hesitancy of Industry/Banks to invest in the Energy Efficiency, States not having Stand-Alone State Designated Agencies, etc.

(Para No.9, Recommendation No.9)

Central Power Research Institute (CPRI)

10. As innovations are coming up across the Globe at a faster pace, research activities especially in the Power Sector is required not only to ensure that the nation does not lag in the know-how but also provide an opportunity for our Nation to take a lead role in Technology Innovations across the world. The Committee, therefore, desire that every possible effort should be made to promote Research and Development in the Power Sector. They also recommend that the budgetary provision of Central Power Research Institute

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(CPRI) shall be reviewed as per the changing scenario and the growing needs of the Power Sector. It should also be ensured that whatever funds are allocated to them are effectively utilized.

(Para No.10, Recommendation No.10)

National Power Training Institute (NPTI)

11. NPTI has submitted that there are areas such as Cyber Security, Smart Distribution Sector, etc. where the shortage of trained manpower is being felt. The Committee, therefore, are of the view that there is a need for a thorough review of the mandate and functioning of NPTI to rediscover its role in the rapidly changing Power Sector scenario. Their budgetary allocations and performance should correspond to the ensuing requirements.

(Para No.11, Recommendation No.11)

Strengthening of Power System

12. The Committee note that there are two programmes for the North-Eastern Region namely, 'North Eastern Region Power System Improvement Project (NERPSIP)' for six States Assam, Manipur, Meghalaya, Mizoram, Tripura and Nagaland for strengthening of the Transmission and Distribution Systems (33kV and above) and 'Comprehensive Scheme for Strengthening of Transmission and Distribution System in Arunachal Pradesh and Sikkim'. The scrutiny of financial provisions for these Schemes by the Committee has revealed that the estimated cost of 'Power System Improvement in North Eastern States excluding Arunachal Pradesh and Sikkim' was Rs. 5,111.33 crore which has been revised to Rs.6,700 crore. Similarly, the original estimation of Rs. 4,754.42 crore for 'Strengthening of transmission System in

the States of Arunachal Pradesh and Sikkim' has been revised to Rs.9,129.32 crore with an increase of 92%. The Committee have been appreciative of these programmes as they would immensely help in strengthening the Power System in the North-Eastern Region. The Committee do understand that due to the difficult geographical conditions in the region there is a possibility of time and cost variation, however, such a high cost escalation is not acceptable. The Committee, therefore, desire that it must be ensured that these programmes are properly executed within their targeted timelines to avoid any further cost overrun. The Committee also desire that Detailed Projects Reports (DPRs) of other projects of the Power Sector shall also be prepared meticulously and examined thoroughly by the agencies concerned to rule out major deviations at the time of execution of the projects.

(Para No.12, Recommendation No.12)

Smart Grid Mission

13. The Committee note that under Smart Grid Mission works such as Deployment of Smart Meters and Advanced Metering Infrastructure, Development of medium sized micro grids upto 1 MW, Real time monitoring and control of Distribution transformers, Creation of EV charging infrastructure for supporting proliferation of Electric Vehicles, etc. are being carried out. The Smart Grid project will also go a long way in integration of Renewable Energy. The Committee, therefore, recommend the Ministry to ensure that the funds under the Scheme are fully and effectively utilized so that the important works envisaged under the Scheme can be accomplished at the earliest.

(Para No.13, Recommendation No.13)

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District Electricity Committees

14. The Committee note that an instruction was issued by the Ministry of Power in September, 2021 for the constitution of 'District Electricity Committees' by all the States/UTs to ensure the involvement and oversight of the people over all the Government of India schemes and to institutionalize the system of consultation with public representatives. However, the Committee have observed instances of no meeting or very few meetings being held by these Committees. The Ministry has submitted that a circular to all the States calling for regular meetings of these Committees has been issued. Nonetheless, the Committee desire the Ministry to issue another circular to the States with the instruction that apart from holding regular meetings of these Committees, it may also be ensured that the senior level Executives/Officers should attend those meetings for swift and proper resolution of issues related to the implementation of the various programmes being run by the Ministry. The Committee expect that the Ministry would provide a copy of communication sent to the States in this regard at the stage of furnishing action-taken notes.

(Para No.14, Recommendation No.14)

Supply of Power

15. The Committee note with satisfaction that the Peak Shortage of power which was 4.7% in the year 2014-15 came down to 0.4% in the year 2020-21. Similarly, the Energy Shortage which was 3.6% in the year 2014-15, came down significantly to 0.4% in 2021-22. The Ministry has stated that they are expecting a peak of 2.30 lakh Mega Watt during April, 2023, therefore, necessary arrangements including running of gas-based power stations have

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been made to meet the peak demand. However, instances of shortages in the supply of power despite having more than 4 lakh MW of installed generation capacity, is a cause of concern for the Committee. The Committee, therefore, recommend that apart from making *ad-hoc* arrangements to meet the peak demand, there should be comprehensive planning to fully meet the peak as well as the energy demand in the country by optimal utilization of the generation resources. The Committee also expect that the endeavour of the Ministry to achieve 24x7 power supply in the country will be fructified sooner than later.

(Para No.15, Recommendation No.15)

Hydropower

16. The Committee note that there are two Schemes *viz*. 'Support for Cost of Enabling Infrastructure i.e., roads/ bridge' and 'Support for Flood moderation storage Hydro Electric Projects' to promote the growth of the hydropower sector in the country. Under 'Support for Cost of Enabling Infrastructure i.e., roads/ bridge' only a total of Rs. 10 crore could be utilized under this Scheme. Further, there is a budgetary provision of Rs. 10 crore for 2023-24 for this Scheme. The Committee also note that the total assessed hydropower potential in the country including Pumped Storage is to the tune of 2,50,000 Mega Watt. Despite the enormous potential, we have been able to develop only 46,850 MW of large hydro (above 25 MW) and 4,940 MW of small hydro. The Committee have observed that in recent years, the Government has been making sincere efforts to give a fillip to this Sector. These efforts have started showing results at the ground also. The Ministry has submitted that hydropower capacity of 12,000 MW is under construction and will be completed by 2026. The Committee would expect that the initiatives taken will bear fruit as per the timeline fixed. The Committee believe that in the emerging scenario of the Power Sector, Hydropower and Pumped Storage would have an important role in grid balancing and power storage and therefore, their timely development would greatly benefit the power sector. The Committee, therefore, desire that the Government should continue their earnest efforts to further develop this Sector.

(Para No.16, Recommendation No.16)

Electrification of left out villages/hamlets

17. The Committee expect that the Ministry would proactively engage with the concerned States to identify un-electrified villages/hamlets in the country which were left out in Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGJY) so that their electrification can be ensured at the earliest. The Committee also expect the Ministry to furnish details of such identified villages/hamlets at the time of furnishing action-taken notes.

(Para No.17, Recommendation No.17)

New National Electricity Policy

18. The Committee note that the present National Electricity Policy was adopted in the year 2005. The Committee observe that the present Policy no longer reflects the aspirations, challenges and dynamics of the fast-changing electricity sector. This Committee had reviewed the subject 'National Electricity Policy' way back in 2017 and in their 30th Report (16th Lok Sabha) had opined that it should be amended at the earliest by taking into account a holistic view of the sector. Further, in their 7th Report (17th Lok Sabha) on 'Demands for Grants (2021-22) of the Ministry of Power', the Committee had again recommended formulation of a New Electricity Policy expeditiously. As the Policy serves as a beacon light for the Power Sector as a whole and lays a coherent trajectory for its future growth and development, therefore, the Committee would reiterate that the new Electricity Policy may be finalized and notified at the earliest.

(Para No.18, Recommendation No.18)

New Delhi; <u>13th March, 2023</u> Phalguna 22, 1944 (Saka) Jagdambika Pal Chairperson, Standing Committee on Energy

MINUTES OF THE SIXTEENTH SITTING OF THE STANDING COMMITTEE ON ENERGY (2022-23) HELD ON 24th FEBRUARY, 2023 IN MAIN COMMITTEE ROOM, PARLIAMENT HOUSE ANNEXE, NEW DELHI

The Committee met from 1100 hrs. to 1400 hrs.

PRESENT

LOK SABHA Shri Jagdambika Pal - Chairperson

- 2. Shri Pradeep Kumar Chaudhary
- 3. Shri Jai Prakash
- 4. Shri Kishan Kapoor
- 5. Shri Sunil Kumar Mondal
- 6. Shri Dipsinh Shankarsinh Rathod
- 7. Shri Rajveer (Raju Bhaiya)
- 8. Shri Shivkumar Chanabasappa Udasi
- 9. Shri Balashowry Vallabbhaneni

RAJYA SABHA

- 10. Shri Gulam Ali
- 11. Shri Rajendra Gehlot
- 12. Shri Javed Ali Khan
- 13. Shri Muzibulla Khan
- 14. Shri Krishan Lal Panwar
- 15. Dr. Sudhanshu Trivedi
- 16. Shri K.T.S. Tulsi

SECRETARIAT

- 1. Dr. Ram Raj Rai Joint Secretary
- 2. Shri R.K. Suryanarayanan -
- 3. Shri Kulmohan Singh Arora Additional Director

Director

LIST OF WITNESSES

S.N. NAME

DESIGNATION

MINISTRY OF POWER

- 1. Shri Alok Kumar
- 2. Shri Ashish Upadhyaya
- 3. Shri Ajay Tewari
- 4. Shri Piyush Singh
- 5. Shri Mohd. Afzal
- 6. Shri Jithesh John
- 7. Shri Hemant Pandey
- 8. Shri Rokhum Lalremruata

Secretary

- Special Secretary & Financial Advisor
- Additional Secretary
- Joint Secretary
- Joint Secretary
- Economic Advisor
- Chief Engineer
- Chief Controller of Accounts

PSUs/AUTONOMOUS BODIES/ STATUTORY BODIES

9.	Shri Ghanshyam Prasad	Chairperson, CEA
10.	Shri Gurdeep Singh	CMD, NTPC
11.	Shri R.K. Vishnoi	CMD, NHPC/NEEPCO/THDC
12.	Shri K.Sreekant	CMD, PGCIL
13.	Shri Ravinder Singh Dhillon	CMD, PFC
14.	Shri Nand Lal Sharma	CMD, SJVNL
15.	Shri S.R. Narasimhan	CMD, Grid Controller of India Ltd.
16.	Shri Ram Naresh Singh	Chairman, DVC
17.	Shri Sanjay Srivastava	Chairman, BBMB
18.	Shri Abhay Bakre	Director General, BEE
19.	Shri Asit Singh	Director General, CPRI
20.	Smt. Tripta Thakur	Director General, NPTI

2. At the outset, the Chairperson welcomed the Members and the representatives of the Ministry of Power to the sitting of the Committee and apprised them of the agenda, i.e., examination of the Demands for Grants of the

Ministry of Power for the year 2023-24, the main topics for the discussion, and the provisions of Directions 55(1) and 58 of the Directions by the Speaker.

3. Thereafter, the Ministry of Power made a PowerPoint presentation on the subject which *inter-alia* included major achievements in the Power Sector, Budgetary Allocation, Fund Allocation for various Schemes, Details of CAPEX Targets, Revamped Sector Scheme (RDSS), Hydro Energy Sector, Major Transmission Schemes, Major Initiatives of the Ministry, etc.

4. The Committee *inter-alia* deliberated upon the following points with the representatives of the Ministry of Power:

- i. Budgetary allocation financial provisions for 2023-24, Gross Budgetary Support (GBS) and Internal and Extra Budgetary Resources (IEBR).
- Performance of Ministry in regard to utilization of funds allocated for 2022-23 – reasons for downward revision of budgetary estimated and low utilization of funds, quarterly utilization.
- iii. Revamped Reforms Based and Results Linked Power Distribution Scheme – budgetary provisions and utilization, delay in tendering of work by the States, need to expedite the Scheme.
- iv. Utilization of funds by Organization under the Ministry of Power reasons for poor utilization of funds, need for optimum utilization of allocated funds.
- v. Viability Gap Funding Scheme reasons for taking this initiative, budgetary provisions, promotion of Storage and Pumped Hydro Projects, need for a policy intervention for speedy development of the Hydro Sector.
- vi. Smart Grid and Smart Meters progress made so far, issues relating to Smart Meters, cyber security of Power System and the budgetary provisions made in this regard.
- vii. Strengthening of Power System fund allocation and utilization, cost escalation of the projects.
- viii. National Electricity Policy, 2005 need for early notification of a new Electricity Policy.

- ix. District Electricity Committees need to hold meetings of the Committee at regular intervals.
- x. Electrification of left-out villages/households.
- xi. Demand and Supply of Electricity preparedness to meet peak demand, import of coal, supply of indigenous coal.

5. The Members also sought clarifications on various issues relating to Demands and the representatives of the Ministry replied to some of the questions. The Committee directed the representatives of the Ministry to furnish written replies to the queries which could not be responded to within five days positively.

The Committee then adjourned.

The verbatim proceedings of the Sitting have been kept for record.

MINUTES OF EIGHTEENTH SITTING OF THE STANDING COMMITTEE ON ENERGY (2022-23) HELD ON 13th MARCH, 2023 IN COMMITTEE ROOM 'D', PARLIAMENT HOUSE ANNEXE, NEW DELHI

The Committee sat from 1015 hours to 1100 hours

PRESENT

LOK SABHA

- 1 Shri Gurjeet Singh Aujla
- 2 Shri Pradeep Kumar Chaudhary
- 3 Dr. A. Chellakumar
- 4 Shri S. Gnanathiraviam
- 5 Shri Kishan Kapoor
- 6 Shri Sunil Kumar Mondal
- 7 Shri Ashok Mahadeorao Nete
- 8 Shri Shivkumar Chanabasappa Udasi (in the Chair)
- 9 Shri Balashowry Vallabbhaneni

RAJYA SABHA

- 10 Shri Gulam Ali
- 11 Shri Rajendra Gehlot
- 12 Shri Narain Dass Gupta
- 13 Shri Muzibulla Khan
- 14 Shri Maharaja Sanajaoba Leishemba
- 15 Shri K.R.N. Rajeshkumar
- 16 Dr. Sudhanshu Trivedi

SECRETARIAT

Dr. Ram Raj Rai
 Shri R.K. Suryanarayanan
 Shri Kulmohan Singh Arora
 Joint Secretary
 Director
 Additional Director

2. Since the Hon'ble Chairperson could not attend the Sitting, Shri Shivkumar Chanabasappa Udasi, a Member of the Committee chaired the sitting in accordance with Rule 258 (3) of the Rules of Procedure and Conduct of Business in Lok Sabha.

3. At the outset, the acting Chairperson welcomed the Members and apprised them about the agenda of the sitting. The Committee then took up for consideration and adoption the following draft Reports:

- Report on 'Action-taken by the Government on recommendations contained in the 24th Report (17th Lok Sabha) of the Committee on Demands for Grants (2022-23) of the Ministry of New and Renewable Energy'.
- (ii) Report on 'Demands for Grants (2023-24) of the Ministry of New and Renewable Energy'.
- (iii) Report on 'Demands for Grants (2023-24) of the Ministry of Power'.

4. After discussing the contents of the Reports in detail, the Committee adopted the draft Report on 'Action-taken by the Government on recommendations contained in the 24th Report (17th Lok Sabha) of the Committee on Demands for Grants (2022-23) of the Ministry of New and Renewable Energy' and draft Report on 'Demands for Grants (2023-24) of the Ministry of Power' without any amendment/modification. The draft Report on 'Demands for Grants (2023-24) of the Ministry of New and Renewable Energy' was adopted with minor modifications/amendments. The Committee also authorized the Chairperson to finalize the above-mentioned Reports and present the same to both Houses of the Parliament.

The Committee then adjourned.

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