4

STANDING COMMITTEE ON ENERGY (2019-20)

SEVENTEENTH LOK SABHA

MINISTRY OF POWER

DEMANDS FOR GRANTS 2020-21

FOURTH REPORT

LOK SABHA SECRETARIAT
NEW DELHI

March, 2020/ Phalguna, 1941 (Saka)

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(2020-21)

Presented to Lok Sabha on 12.03.2020

Laid in Rajya Sabha on 12.03.2020

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CONTENTS

Page No.

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2	Shri N.K. Pandey	Director
3	Shri Manish Kumar	Assistant Executive Officer

 # Joined this Committee w.e.f. 04.02.2020

INTRODUCTION

I, the Chairperson, Standing Committee on Energy having been authorized by the Committee to present the Report on their behalf, present this Fourth Report on Demands for Grants of the Ministry of Power for the year 2020-21.

2. The Committee took oral evidence of the representatives of the Ministry of Power on 18th February, 2020. 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 27th February, 2020.

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
6th March, 2020
16 Phalguna 1941 (Saka)

RAJIV RANJAN SINGH alias LALAN SINGH
Chairman,
Standing Committee on Energy

REPORT

PART-I

NARRATION ANALYSIS

I. INTRODUCTORY

The Power Sector of the Country is passing through a transition period wherein, we are witnessing various changes. The Government have achieved many goals for which they have been aspiring for quite long time. Now all the hard work done in the previous years have provided a solid base on which the Government can capitalize and transform this sector to make it comparable with that of any other developed Nation. We have adequate generation capacity, one unified synchronous grid capable of transmission of electricity from one corner of the country to another and immense potential for growth in the form of billions of consumers having electricity access but with a very low per-capita electricity consumption that is only about one-third of world's average. The Government is committed to provide 24x7 power to all and the same has been reiterated in current year's Budget Speech also. However, to provide 24x7 power to all on sustainable basis more reforms are needed in the power sector. On one side - to increase electricity consumption in the country, Government needs to focus on providing its access but also on it affordability. On the other side – it has to be ensured that Distribution as well as Generation Sector remain economically viable.

1.2 The Ministry of Power is primarily responsible for the development of electrical energy in the country. The Ministry's responsibility *inter-alia* includes perspective planning,

policy formulation, processing of projects for investment 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.

1.3 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) NTPC Limited;
    (d) NHPC Limited;
    (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.

1.4 In all technical and economic matters, the Ministry of Power is assisted by 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).

1.5 The National Electricity Policy, which has been evolved in consultation with and taking into account the views of the State Governments, the Central Electricity Authority (CEA), the Central Electricity Regulatory Commission (CERC) and other stakeholders, aims at laying guidelines for accelerated development of the power sector, providing supply of electricity to all areas and protecting the interests of consumers and other stakeholders, keeping in view the availability of energy resources, technology available to exploit these resources, economics of generation using different resources, and energy security issues. The National Electricity Policy (2005) aimed at achieving the following objectives:

- Access to Electricity - Available for all households in the next five years.
- Availability of Power - Demand to be fully met by 2012. Energy and peaking shortages to be overcome and adequate spinning reserve to be available.
- Supply of Reliable and Quality Power of specified standards in an efficient manner and at reasonable rates.
- Per capita availability of electricity to be increased to over 1000 units by 2012.
- Minimum lifeline consumption of 1 unit/household/day as a merit good by the year 2012.
- Financial Turnaround and Commercial Viability of Electricity Sector.
- Protection of consumers' interests.

II. ANALYSIS OF DEMANDS FOR GRANTS (2020-21)

2.1 The Minister of State for Power laid on the Table of the Lok Sabha, the detailed Demands for Grants (2020-21) for the Ministry of Power on 6th February, 2020. The Demands show a budgetary provision of GBS of Rs. 15,874.82 crore. The Central Plan Outlay, including IEBR, i.e. Rs. 49,884.38 crore, however, stands at Rs. 65,759.2 crore. The Head-wise Demands for Grants of the Ministry are given as per **Annexure-I**. The Programmes and Schemes of the Ministry within the financial provisions made under the Demands are briefly as under:

1. Secretariat:..Provision is made for expenditure on establishment matters of the Secretariat of the Ministry of Power.

2.01. Central Electricity Authority:..The Central Electricity Authority (CEA) as a statutory organization is responsible for overall power sector planning, coordination, according concurrence to hydro-electric schemes, promoting and assisting the timely completion of projects, specifying technical standards and safety requirements, Grid Standards and conditions for installation of meters applicable to the Power Sector of the country.

2.02. Setting up of JERC for UTs and Goa:..The Central Government has set up a Joint Electricity Regulatory Commission (JERC) for Goa and all Union Territories except Delhi. Expenditure of the Joint Commission is borne by the Central Government and the Government of Goa in the ratio of 6:1.

2.03. Appellate Tribunal for Electricity:..Under the provisions of Electricity Act, 2003, the Central Government has set up the Appellate Tribunal for Electricity. It hears appeals against the orders of the adjudicating officer or the Appropriate Commissions under the Electricity Act, 2003. Under the provisions of the Petroleum

and Natural Gas Regulatory Board Act, 2006, APTEL is the Appellate Tribunal for the purpose of that Act.

2.04. Central Electricity Regulatory Commission (CERC) Fund:..CERC is a statutory body constituted under the provision of the erstwhile Electricity Regulatory Commissions Act, 1998 and continued under Electricity Act, 2003 (which has since repealed inter alia the ERC Act, 1998). The main functions of the CERC are to regulate the tariff of generating companies owned or controlled by the Central Government, to regulate the tariff of generating companies other than those owned or controlled by the Central Government, if such generating companies enter into or otherwise have a composite scheme for generation and sale of electricity in more than one State, to regulate the inter-State transmission of energy including tariff of the transmission utilities, to grant licences for inter-State transmission and trading and to advise the Central Government in formulation of National Electricity Policy and Tariff Policy.

3.01. Energy Conservation:..The funds would be utilized for (i) carrying out awareness creation on Energy Conservation through print, electronic and other media for general public, (ii) Continuation of EC awards and painting competition on Energy Conservation, (iii) implementation of the National Mission for Enhanced Energy Efficiency (NMEEE) and (iv) the upscaling of the efforts to create and sustain market for energy efficiency to unlock investments. (v) Shields and certificates are given by MoP to generating stations, transmission and distribution utilities and rural distribution franchise for recognising meritorious performance in operation, project management and environmental protection.

4. Deen Dayal Upadhyaya Gram Jyoti Yojna:..Deendayal Upadhyaya Gram Jyoti Yojna (DDUGJY)has the following objectives : (a) to separate agriculture and non-agriculture feeders to facilitate Discoms in the judicious rostering of supply to agricultural & non-agricultural consumers (b) strengthen and augment sub-transmission & Distribution infrastructure in rural areas and (c) Rural electrification.

The scope of works covered under the scheme are Feeder separation, creation of new sub-stations, provision of micro-grid and off-grid distribution network, HT/LT lines, augmentation of sub-stations and metering at all levels. Under the scheme, Govt. of India is providing financial support in the form of grants to the DisComs for implementation of the scheme. All DisComs including Private Sector DisComs are eligible for availing financial support under the scheme. The erstwhile Rajiv Gandhi Gramin Vidutikaran Yojna (RGGVY) has been subsumed in DDUGJY as its Rural Electrification component.

6. Integrated Power Development Scheme:..The objective of the scheme is 24x7 power supply for consumers, reduction of AT&C losses and providing access to all households. The scheme has three major components namely improvement of sub-transmisison and distribution system in urban areas, metering & IT enablement in distribution sector under ongoing Restructured-Accelarated Power Development Reform Programme (R-APDRP) scheme, which has been subsumed under Integrated Power Development Scheme (IPDS). R-APDRP has two major components: Part-A includes projects for establishment of information technology-based energy accounting and audit system leading to finalization of verifiable base-line AT&C loss levels in the project areas; Part-B envisages distribution network strengthening investments leading to reduction in loss level. The scheme has both Grant and loan components.

6.01. **Transfer to Central Road and Infrastructure Fund (CRIF):**..The amount under the scheme is met from Central Road and Infrastructure Fund (CRIF).

6.02. IPDS-Grant:..Grant is given to the utilities through the Nodal Agency for carrying out the activities under the Scheme within a specified time frame.

6.03. IPDS-Loans:..Loan has been given to the utilities for carrying out the activities through the Nodal Agency, which will be converted into grant after successful completion of the programme.

6.07. Scheme for Smart Metering:..To accelerate the smart metering, a scheme with GoI funding for supply and installation of smart meter on PAN india basis.

7.01. Smart Grids:..The scheme envisages setting up of an institutional mechanism by launching 'National Smart Grid Mission' which would serve the need of an electrical grid with automation, communication and IT systems that can monitor power flows from points of generation to points of consumption and ensure control of power flow or curtailment of loads matching generation on real time basis.

7.02. Green Energy Corridors:..The scheme is proposed for maximization of renewable energy generation and integration with the main grid without compromising on the security and stability of power system.

7.03. Interest Subsidy to National Electricity Fund:..The National Electricity Fund (NEF) is being set up to provide interest subsidy on loans to be disbursed to the Distribution Companies (DISCOMS) both in the Public and Private Sector, to improve the distribution network for areas not covered by RGGVY and R-APDRP scheme (since subsumed in DDUGJY and IPDS respectively) Project areas.

7.05. 220 kV Transmission line from Srinagar to Leh via Kargil:..The provision is for construction of 220kV Transmission System from Alusteng (Srinagar) to Leh (via Drass, Kargil & Khalsti 220/66 PGCIL substations) and 66 PGCIL interconnection system for Drass, Kargil, Khalsti and Leh sub-stations in Jammu & Kashmir (J&K).

7.06. Power System Improvement in North Eastern States excluding Arunachal Pradesh and Sikkim (Program Component):..The project is for Power System Improvement in six NER states viz. Assam, Manipur, Meghalaya, Mizoram, Tripura and Nagaland. It is funded by the World Bank. Intra-State Transmission & Distribution projects for Sikkim & Arunachal Pradesh have been segregated for implementation through budgetary support from Government of India in view of these States having sensitive borders.

7.08. Strengthening of Transmission System in the States of Arunachal Pradesh and Sikkim:..A comprehensive scheme for strengthening of transmission, sub-transmission and distribution system in the entire NER including Sikkim has been conceptualized.

8. Power System Development Fund:..The scheme envisages (a) strengthening of existing distribution and transmission infrastructure by part-funding through Grants. (Non-Gas component) (b) Provision for subsidy to DISCOMS purchasing electiricty from stranded Gas based Power Plants (Gas component).

9. Reform Linked Distribution Scheme:..A scheme for Distribution sub sector as mix of Results and Reforms based financial support with an objective of ensuring 24 . 7 sustainable Power for all, and a financially viable Distribution Sector. The scheme envisages support to DISCOMs in case of adoption of Reform packages including Public Private Ownership of Distribution Companies , Adoption of various franchisee models at Distribution level including multiple supply franchisees .

10.01. Central Power Research Institute:..Central Power Research Institute, Bengaluru serves as a National Laboratory for applied research in the field of electrical power and also functions as an independent authority for testing, evaluation and certification of electrical equipment and components.

10.02. National Power Training Institute:..National Power Training Institute is engaged in imparting training in various aspects of power sector including operation and maintenance of power stations.

11. Conservation and Energy Efficiency:..Funds are provided to Bureau of Energy Efficiency (BEE) for implementation of various energy efficiency initiatives in the areas of household lighting, commercial buildings, Standards & Labeling appliances, Demand Side Management in Agriculture or Municipalities, SMEs and large industries including

the initiation of the process for development of Energy Consumption norms for industrial sub-sectors, capacity building of SDAs, DISCOMS etc.

12.01. National Hydro Electric Power Corporation Ltd:..NHPC was set up in 1975 under Companies Act, 1956, with a view to securing speedy, efficient and economical execution and operation of Hydro-Electric projects in the Central Sector. NHPC is a schedule A (Mini Ratna) Enterprise of the Government of India. The Capital Outlay is for meeting in part the need for funds for Chutak HEP/ Nimoo Bazjo.

12.02. Tehri Development Corporation (THDC):..THDC India Limited is a Joint Venture of Govt. of India and Govt. of Uttar Pradesh. The equity is shared between GoI and GoUP in the ratio of 3:1. The company was incorporated in July, 1988 to develop, operate and maintain the 2400 MW Tehri Hydro Power Complex and other hydro projects in the Bhagirathi valley. The Capital outlay is for meeting in part the expenditure on VishnuGadh Pipal Koti HEP.

12.03. North Eastern Electric Power Corporation (NEEPCO):..The North Eastern Electric Power Corporation Limited (NEEPCO), a Schedule A Mini Ratna company under Ministry of Power, set up on 2nd April, 1976, carries the objective of developing the power potential in India and abroad with special emphasis on the NE Region of the country through planned development and commissioning of power projects, which in turn would promote the overall development of the country and NE region in particular. The capital outlay is for meeting part of the expenditure on Kameng HEP as per the requirement.

12.04. Central Assistance for Pakul Dul HEP under J and K PMDP 2015 as grant to Chenab Valley Power Projects Private Limited (CVPPPL):..It is part of Prime Minister development package (2015), the asistance is for the Pakul Dul HEP implemented through joint venture with Chenab Valley Power project Pvt limited.

12.05. GoI fully serviced bond issue expenditure and interest (PFC bonds):..The allocation is required for expenses and on the issue of Bonds, interest payable on infrastructure bonds raise by Power Finance Corporation (PFC).

12.06. GoI fully serviced bond issue expenditure and interest (REC Bonds):..Interest payment on account of EBR of Rs 4000 cr raised during FY 2017-18 and Rs 15000 crore to raised during FY 2018-19 for DDUGJY & Saubhagaya (Rural).

12.07. Reimbursement of Claim for any expenditure already incurred by NTPC on Lohari Nagpala Hydro Power:..The scheme is for distribution of award in respect of Lohari Nag Pala Hydro Power Project.

13. Acquistion of Coal bearing areas for NTPC:..The allocation is budget neutral as met through recoveries from NTPC on acquisition of Coal bearing areas for NTPC.

14. Advance Ultra Super Critical plant in Sipat, Chattisgarh:..Setting up of technology demonstration project at Sipat, Chattisgarh.

15. Payment to Law firm P and A Law associates in KOWEPO case:..Payment to Law firm under the India Korea CEPA and India Korea BIT for defending case and dispute on behalf of GoI.

16. Payment to SDMC- Badarpur Thermal Power Station:..Payment to South Delhi Municipal Corporation on account of Land Lease in respect of Badarpur Thermal Power Station.

17. Support for cost of enabling infrastructure i.e Roads/ Bridge etc:..Allocation for developing enabling infrastructure such as Roads, Bridges etc at site of Hydro Project.

18. Support for flood moderation storage- Hydro electric projects:..Allocation for support for Flood moderation storage at Hydro electric projects.

19. Dispute Resolution Authority:..Allocation is for Dispute Resolution Authority that has been envisaged for adjudication of disputes involving generating companies or transmission licensee and to refer any dispute for arbitration, as per Section 79(1) (f) of the Electricity Act, 2003

III. ANNUAL PLAN OUTLAY

3.1 During the Budget of 2020-21, the Ministry of Power sought an outlay Rs. 33,366.75 crore (GBS component). However, the Ministry of Finance has approved an allocation of Rs. 15,874.82 crore only. The total outlay for the year 2020-21 is Rs. 65,759.2 crore comprising IEBR of Rs. 49,884.38 crore and GBS of Rs. 15,874.82 crore. Details of the GBS components as sought by the Ministry of Power are as given as **Annexure-II**.

3.2 The Ministry have informed that apart from Budgetary Estimate for the year 2020-21, the Ministry of Finance has allowed for raising Extra Budgetary Resources (EBR) to the tune of Rs. 5,500 crore specifically for DDUGJY and Saubhagaya Scheme of the Ministry of Power. However, the Ministry had requested to raise EBR to the tune of Rs. 10,491 crore.

3.3 The details of Internal & Extra Budgetary Resources (I&EBR) for the year 2020-21 are given below:

S.No	Name of PSU	(Rs in crore)
1	National Thermal Power Corporation Limited	21.000,00
2	National Hydro Electric Power Corporation Limited	5.317,02
3	Damodar Valley Corporation Limited	2.342,00
4	North Eastern Electric Power Corporation Limited	564,36
5	Satluj Jal Vidyut Nigam Limited	2.880,00
6	Tehri Hydro Development Corporation Limited	1.781,00
7	Power Grid Corporation of India Limited	10.500,00
	Total	**49.884,38**

3.4 The Committee were informed that the internal accruals out of operations (of CPSUs) and borrowings (both domestic and foreign) constitute IEBR. 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 PSUs (NHPC, THDC and NEEPCO), that too, on a limited scale. The expenditure under IEBR is not routed through government budget/demand for grant. It is managed by the Board of the respective PSUs.

3.5 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 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.

3.6 During the Regular Budget of 2019-20, the Ministry of Power had sought an outlay Rs. 32,001.11 crore (GBS component). However, the Ministry of Finance had approved an allocation of Rs. 15,874.82 crore only. At the time of Revised Estimate (RE) the allocation remained the same i.e. Rs. 15,874.82 crore.

3.7 The actual utilization of budgetary allocation since the year 2015-16 as against the Budget Estimates is shown below:

(₹ in crore)

Financial Year	Component	BE	RE	Actual
2015-16	GBS	6799.74	8084.37	7826.84
	IEBR	54604.73	58285.19	55815.83

	Total	61404.47	66369.56	63642.67
2016-17	GBS	12200.00	10413.66	7259.32
	EBR	-	5000.00	5000.00
	IEBR	67683.57	67069.66	42208.37
	Total	79883.57	82483.32	54467.69
2017-18	GBS	13881.14	14914.93	9601.51
	EBR	4000.00	4000.00	4000.00
	IEBR	68256.70	60317.69	55309.99
	Total	86137.84	79286.62	68911.50
2018-19	GBS	15046.92	15625.19	15576.88
	EBR	15000.00	20504.76	19331.76
	IEBR	53468.66	73188.72	71996.59
	Total	83515.58	109285.67	106905.23
2019-20	GBS	15874.82	15874.82	13279.77 (up to 31.01.2020)
	EBR	9000.00	8500.00	0.00
	IEBR	41658.74	43921.70	34881.16 (up to 31.01.2020)
	Total	66533.56	68296.52	48160.93 (up to 31.01.2020

3.8 In regard to reasons for the variations between BE/RE and Actual in respect to Gross Budgetary Support (GBS) component, the Ministry have furnished the following year wise details:

2015-16:

The allocation in BE 2015-16 for Ministry of Power was ₹ 6799.74 crore which was enhanced to ₹ 8084.37 crore in RE 2015-16. The actual utilization was ₹ 7826.84 crore which is 115.10% of BE and 96.81% of RE. Therefore, there is no significant shortfall in expenditure with reference to RE.

2016-17:

During the year 2016-17 against the allocation of ₹12350.99 crore in BE, the RE 2016-17 was reduced to ₹10574.23 crore due to reduced allocation under IPDS and PSDF. The actual expenditure was ₹. 11113.82 crore, which was 89.98% of BE and 105.10% of RE.

2017-18:

During the year 2017-18 against the allocation of ₹13881.14 crore in BE, the RE 2017-18 was enhanced to ₹14914.93 crore due to launch of Har Ghar Shaj Bijli Yojana (Saubhagya) Scheme. The actual expenditure was ₹13975.76 which was 100.68 % of BE and 93.70% of RE. The fund under Prime Minister Development Package (PMDP) could not be utilized due to reason of unspent balance of previous year.

2018-19

During the year 2018-19 against the allocation of ₹15046.92 crore in BE, the RE 2018-19 was enhanced to ₹ 15625.19 crore due to requirement of funds under NERSIP and Comprehensive scheme Strengthening of Transmission System in States of Arunachal Pradesh & Sikkim. The actual expenditure was ₹15576.30 which is 103.52 % of BE and 99.69% of RE. As such there is no short fall in expenditure

2019-20:

During the year 2019-20 against the allocation of ₹15874.82 crore in BE and ₹15874.82 crore in RE 2019-20, the actual expenditure is ₹13279.77 crore up to 31st January, 2020 which is 83.65 % of BE and 83.65% of RE. The remaining fund of ₹2595.05 crore may be utilized during February/March, 2020.

3.9 The Ministry of Finance (MoF) have issued instructions to the effect that expenditure during the financial year be evenly spread through Monthly Expenditure Plan (MEP). The instructions *inter-alia* provide that the expenditure in the last quarter should not be more than 33% of the budget and also not more than 15% during the month of March of a financial year.

3.10 The Ministry have furnished the details of Plan & Non-Plan quarter wise utilization of the budget allocations for the last five years as under:

(₹ in crore)

FY (Allocation in BE)		**Qtr 1**	**Qtr 2**	**Qtr 3**	**Qtr 4**	**Total**
2015-16 (6799.74)	**Actuals (₹)**	1522.92	2269.01	2411.88	1623.03	7826.84
Plan	**Percentage**	22.40	33.37	35.47	23.87	115.10

2015-16 (134.76) Non-Plan 2016-17 (12350.99)	**Actuals(₹)**	35.49	36.77	32.57	22.97	127.80
	Percentage	26.34	27.29	24.17	17.05	94.84
	Actuals(₹)	2583.35	2984.95	1566.31	3979.16	11113.82
	Percentage	20.91	24.16	12.68	32.21	89.98

2017-18 (13881.14)	**Actuals(₹)**	2676.57	2323.30	4151.72	449.92	9601.51
	Percentage	19.28	16.74	29.91	3.24	69.17
2018-19 (15046.92)	**Actuals(₹)**	8038.03	2096.32	1942.02	3499.93	15576.30
	Percentage	53.42	13.93	12.91	23.26	103.59

2019-20 (15874.82)	**Actuals(₹)**	4451.55	5737.51	2606.30	484.41 (31.01.20)	13279.77 (up to 31.01.2020)
	Percentage	28.04	36.14	16.41	3.06	83.65

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

> "The significant rise in expenditure during 4th Quarter of 2016-17 is because of accumulation of the releases due under the flagship schemes IPDS, PSDF and DDUGJY during 3rd Quarter.
>
> The progress of expenditure/release of scheme funds is dependent on the number of factors such as the time of receipt of mature 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. Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY)

4.1 The Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY) is the scheme introduced by the Government of India in 2014-15. The erstwhile Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) scheme which was launched by Government of India in April, 2005 for providing access to electricity to all households has been subsumed under DDUGJY Scheme as Rural Electrification Component. The scheme will cover works relating to feeder separation, strengthening of sub-transmission & distribution systems, including metering of distribution transformers/feeders/consumers and rural electrification.

4.2 The following components have been prescribed under the DDUGJY:

(i) Separation of agriculture and non-agriculture feeders to facilitate Discoms in the judicious rostering of supply to agricultural and uninterrupted quality power supply to non-agricultural consumers.

(ii) Strengthening and Augmentation of Sub Transmission & Distribution infrastructure in rural areas, including metering of Distribution Transformers/feeders/consumers and

(iii) Rural Electrification: The erstwhile Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) scheme which was launched by Government of India in April, 2005 for providing access to electricity to all households has been subsumed under DDUGVY Scheme as RE component. The outlay of RGGVY scheme for the 12th and 13th Plans shall be carried forward under DDUGJY.

4.3 In regard scope of the works under DDUGJY, the Ministry has furnished the following details:

1. Feeder Separation

(i) Physical separation of HT feeders for Agricultural and non-Agricultural consumers

(a) Erection of HT lines for drawing new feeders and reorientation/re-alignment of existing lines

(b) Installation of new distribution transformers and augmentation of existing distribution transformers

(c) Re-location of distribution transformers and associated LT lines for re-grouping of consumers (Agricultural and Non-Agricultural)

(ii) Virtual separation of feeders

(a) Installation of new distribution transformers and augmentation of existing distribution transformers

(b) Re-location of distribution transformers and associated LT lines for re-grouping of consumers (Agricultural and Non-Agricultural)

(c) Installation of rotary switch and associated hardware at sub-stations

Feeders already segregated by the States Discoms / Power Deptt. shall not be eligible to be covered under this scheme. However, the feeders already segregated by virtual means could be considered for undertaking physical separation under the scheme.

2. Strengthening of sub-transmission and distribution system in rural areas to address critical gaps

The following works shall be eligible to be covered under the scheme based on study/ assessment carried by the respective State Discoms/ Power Department for identifying critical gaps in sub-transmission and distribution network considering all relevant parameters (such as voltage regulation, HT & LT ratio, optimum loading of transformers & lines, reactive power management, power factor improvement, standard of performance, ongoing works under other schemes, etc.)

(i) Creation of new sub stations along with associated 66 KV / 33 KV/ 22 KV/ 11 KV lines.

(ii) Augmentation of existing sub-stations capacity by installation of higher capacity/additional power transformer along with associated equipment/ switchgear, etc.

(iii) Erection of HT lines for reorientation/re-alignment, including augmentation of existing lines

(iv) Installation of new distribution transformers and augmentation of existing distribution transformers along with associated LT lines

(v) Installation of capacitors

(vi) Renovation and Modernization of existing sub-stations and lines

(vii) High Voltage Distribution System (HVDS)

(viii) Arial Bunched Cable for theft prone areas

3. Metering

(i) Installation of suitable static meters for feeders, distribution transformers and all categories of consumers for existing un-metered connections, replacement of faulty meters & electro-mechanical meters

(ii) Installation of Pillar Box for relocation of meters outside the premises of consumers, including associated cables and accessories.

4. **Rural electrification** component as per ongoing RGGVY scheme in accordance with CCEA approval dated 01.08.2013 for continuation of scheme in 12th and 13th Plan and applicable guidelines.

5. **Completion of optical fibre** missing links to connect all the 33 KV or 66 KV grid sub stations under the establishment of the National Optical Fibre Network (NOFN).

6. **Creation of rural electrification data hub at REC**.

7. **Provisioning of micro-grid and off-grid distribution network**.

Above works shall be eligible under the scheme provided the proposed scope of works is not covered under any GoI program like R-APDRP/ RGGVY / NEF, etc. The projects for which any other grant / subsidy from Government of India has already been received / proposed to be received shall not be eligible under this scheme. State Level Standing Committee (SLSC) under the chairmanship of Chief Secretary shall ensure that there is no duplication of works while recommending the projects to the Nodal Agency.

4.4 All Discoms, including private sector Discoms and State Power Departments, are eligible for financial assistance under the scheme. In case of private sector Discoms where

the distribution of power supply in rural areas is with them, projects under the scheme will be implemented through a State Government Agency and the assets to be created under the scheme will be owned by the State Government / State owned companies. These assets will be handed over to the Discom concerned for their use during the license period on mutually agreed terms & conditions. The responsibility of operation and maintenance of these assets would be of the Discom concerned.

4.5 The Discoms will prioritize strengthening of rural infrastructural works considering specific network requirement and will formulate Detailed Project Reports (DPRs) of the projects for coverage under the scheme. The DPRs will be recommended by existing State Level Standing Committee (SLSC) constituted for RGGVY programme under the chairmanship of Chief Secretary before submission to the Nodal Agency. The projects shall be appraised and duly recommended by the Nodal Agency for approval of the Monitoring Committee chaired by Secretary, Ministry of Power, and Government of India.

4.6 The projects shall be implemented on turn-key basis. The turn-key contract shall be awarded by the utilities concerned through e-tendering in accordance with the prescribed Standard Bidding Document and Technical Specifications. The projects have to be awarded within six months of date of communication of the approval by the Monitoring Committee. However, in exceptional circumstances, execution on partial turn-key/departmental basis shall be permitted with the approval of the Monitoring Committee.

4.7 The Ministry have enumerated the following features of DDUGJY:

- DDUGJY scheme covers all rural areas, irrespective of any population criteria to ensure access to electricity to all rural households in the country.
- DDUGJY is a comprehensive scheme which covers all aspects of distribution of electricity in rural areas, including feeder separation, strengthening & augmentation of sub-transmission & distribution network and metering for feeders/distribution transformers/ consumers. Besides this, provision has been made to connect all 33/11 KV sub-stations under National Optical Fiber Network,
- Installation of higher capacity Distribution Transformers (63 KVA and 100 KVA) have been allowed.
- Complete flexibility has been provided to the States to priorities scope of work as per their requirement.
- The works in Gram Panchayat selected under Saansad Adarsh Gram Yojana (SAGY) shall necessary be included in the DPR.
- States have notified District Electricity Committee headed by the senior most MP of the district. The District Electricity Committee are expected to meet at least once in 3 months at the District headquarters. The Committee are consulted in the preparation of DPRs and monitor the implementation of the scheme.
- Uniform Procurement Policy with Standard Bidding Document and Technical Specifications has been prescribed. E-tendering has been made mandatory.
- To ensure efficient and effective implementation of scheme by the States, provision for Project Management Agency (PMA) has been made to assist them in project formulation, bid processing, monitoring, etc. for timely implementation of scheme. 100% grant will be provided by Government of India towards expenditure incurred on Project Management Agency (PMA) as per provision in the scheme, i.e. up to 0.5% of cost of works.
- No cost overrun on account of any reasons whatsoever shall be allowed over & above project cost approved by the Monitoring Committee for the purpose of determining grant component. Any such escalation to be borne by utilities / State through own resources/loan from FIs.
- Utilities have to appoint a Project Management Agency to assist them in project formulation, bid process, preparing detailed work schedule, monitoring, MIS, etc. till completion of project. 100% grant (limited to 0.5% of project cost) will be provided by GOI.

- Rural Electrification Corporation (REC) is the Nodal Agency for operationalisation of the scheme.
- All Discoms, including private sector Discoms and State Power Departments, are eligible for financial assistance under the scheme.
- The scheme will be implemented during the 12th and 13th Plans in cooperation with the Discoms and the State Governments and will facilitate 24x7 reliable and adequate power supply in the rural areas.

4.8 The Funding Mechanism for DDUGJY will be as given under:

Agency	**Nature of support**	**Quantum of support (Percentage of project cost)**
		Other than Special Category States
Govt of India	Grant	60
Discom Contribution	Own Fund	10
Lender (FIs/ Banks)	Loan	30
Additional Grant from GOI on achievement of prescribed milestones	Grant	50% of total loan component (30%) i.e. 15%
Maximum Grant by GOI (including additional grant on achievement of prescribed milestones)	**Grant**	**75%**

#Special Category States *(All North Eastern States, including Sikkim, J&K, Himachal Pradesh, Uttarakhand)*

4.9 Additional grant (i.e. conversion of 50% of loan component) under the scheme will be released, subject to achievement of following milestones:

(a) Timely completion of the scheme as per laid down milestones
(b) Reduction in AT&C losses as per trajectory finalized by MOP in consultation with State Governments (Discom-wise)
(c) Upfront release of admissible revenue subsidy by State Govt. based on metered consumption,

4.10 The Ministry have stated that under DDUGJY, project of Rs. 43,438.74 crores have been approved by the Monitoring Committee of Ministry of Power. Further, additional projects of Rs.14,270 crore have been sanctioned under DDUGJY for creation of additional infrastructure to cater to the requirement of household electrification under Saubhagya

scheme. The scheme is available till 2021-22. The States have reported that all the inhabited census villages across the country stand electrified on 28.04.2018, ahead of the timeline i.e. May, 2018.

4.11 Projects of ₹43,486 crore have been sanctioned by the Inter-Ministerial Monitoring Committee of DDUGJY. Besides this, additional projects with total cost of ₹14,270 crore have also been sanctioned for creation of infrastructure to support household electrification under Saubhagya. The scheme is available till 2021-22. Govt. of India have released grant of ₹ 45,174.89 crore since 2014-15 up to 31.12.2019. The year-wise details are as under:

(Rs. in crore)

Year	**Budget allocation**	**Fund Released by MoP**
2004-05	400	400
2005-06	1,100	1,100
2006-07	3,000	3,000
2007-08	3,945	3,913
2008-09	5,500	5,500
2009-10	5,000	5,000
2010-11	5,000	5,000
2011-12	3,544	2,237
2012-13	2,492	698
2013-14	3,138	2,939
2014-15	3,386	3,374
2015-16	4,500	4,500
2016-17	8,000 (GBS:3,000 & EBR: 5,000)	7,966
2017-18	9,400 (GBS:5,400 & EBR: 4,000)	9,050
2018-19	16,427 (GBS:3,800 & EBR: 12,627)	16,427
2019-20 (upto 31.12.2019)	11,066 (GBS:4,066 & EBR: 7,000)	3857,86
Total	**85,898**	**74961,86**

4.12 Projects sanctioned under DDUGJY:

Sl. No.	Particulars	Sanctioned Cost (Rs. in crore)
1.	Feeder Separation	15,560
2.	System Strengthening including access to HHs	20667
3.	Metering	3896
4.	Electrification of un-electrified villages (Grid)	1,512
5.	Electrification of un-electrified villages (Off-Grid)	1,208
6.	SAGY works	398
7.	Provision for Project Management Agency	210
	Total Project Cost	**43,451**

• Additional projects with total cost of Rs.14270 crore also sanctioned under DDUGJY to support 100% household electrification of Saubhagya, with the approval of MoF.

4.13 In regard to funding of the Scheme the Ministry have stated that sufficient funds are made available by the Government of India and there are no fund constraints under the scheme.

4.14 In regard to status of implementation of components other than rural electrification of DDUGJY, the Ministry have stated that DDUGJY scheme is available till 2021-22. However, Government of India is impressing upon states for completion of all the component of DDUGJY including separation of agriculture and non-agriculture feeders, strengthening and augmentation of sub-transmission & distribution infrastructure before the schedule time.

4.15 When the Committee desired to know about the progress of the Scheme, the Ministry in their written reply have submitted as under:

> "The achievement under separation of agriculture and non-agriculture feeders, strengthening and augmentation of sub-transmission & distribution infrastructure components have generally been satisfactory considering a large focus towards expeditious completion of village and household electrification. States have reported that feeder separation involving 100901Ckm of 11 KV line has been completed. Under system strengthening component States have reported that 3190 new Sub-Stations have been established/augmented; 4,97,268 DT installed; 3,55,708 km LT and 1,76,045 km HT (11KV and 33/66

KV) line erected. The progress in some of the States is slow due to delay in award of the contract, delay in getting forest & railway clearances, land acquisition for sub-stations, Right of Way (RoW) issues, law & order issues and difficult terrain etc."

4.16 In reply to the specific query of the Committee regarding deadline for implementation of all the components of the scheme, the Ministry have stated as under:

"The scheme is operational upto FY 2022. However, the Government of India is targeting to complete all the works before that. The progress of the scheme for all components is reviewed regularly by the Ministry. Issues are regularly taken up with concerned Additional Chief Secretaries/ Principle Secretaries Energy/Power of the States/UTs highlighting specific details advising them to promptly resolve the issues hampering the progress to ensure timely completion of works. Keeping in view the important aspects of each of the components of the scheme, the Ministry has requested all the concerned States to ensure early completion of sanctioned works. Nodal Agency through its regional offices and officers also reviews the progress and facilitates expediting the projects."

4.17 On being asked by the Committee about the the materials used under DDUGJY and how is it ensured that the materials used are of the prescribed nature, the Ministry in their reply have stated as under:

"The nodal agency has specified broad technical specifications of major material/equipment for the scheme as part of Standard Bidding Documents. As per the Quality Assurance Mechanism established under the scheme, at first level; State Power Utilities carryout necessary quality checks including pre-dispatch inspection of materials as well as quality of erection works in the field. At second level, the Nodal agency, REC Limited has also been entrusted with the responsibility to carryout pre-dispatch quality inspection of materials and erection works in villages on random sample basis through third party agencies designated as REC Quality Monitoring Agencies (RQMs). The defects notified by quality monitoring agencies are forwarded to Project Implementing Agencies for rectification & corrective measures."

4.18 When the Committee desired to know whether there have been instances when it is found that the material being used under the Scheme is not up to the mark, the Ministry in their written reply have stated as under:

"The status of quality assurance is regularly reviewed by the nodal agency and the Ministry with the States / Power Utilities and necessary directions are issued from time to time in order to further improve the quality of materials as well as

quality in erection works. All material procurement and execution of work is done by States/Discoms themselves. The defects generally found are relating to erection of poles (tilted pole, improper grouting), earthing (inadequate or loose), proper use of hardware (loose Nuts & Bolts, lugs not crimped, PG Clamps not used), oil leakage in transformers, stay wire and guard wire) etc. The defects notified by quality monitoring agencies are forwarded to Project Implementing Agencies for rectification & corrective measures."

4.19 In regard to monitoring mechanism for DDUGJY, the Ministry have provided the following information:

"The following monitoring mechanisms for proper implementation of Deen Dayal Upadhyaya Gram Jyoti Yojana, has been adopted:

a. At State level, a Committee under the Chairmanship of Chief Secretary is in place to monitor progress and resolve issues relating to implementation viz. allocation of land for sub-stations, right of way, forest clearance, railway clearance, safety clearance etc.
b. At District level, District Development Co-ordination & Monitoring Committee namely DISHA (administered by Ministry of Rural Development) headed by senior most Member of Parliament (Lok Sabha) is in place to review and monitor implementation of central sector schemes including DDUGJY.
c. At Central level, Inter-Ministerial Monitoring Committee on DDUGJY headed by the Secretary, Ministry of Power, Government of India also monitors implementation of scheme. Besides, progress is also reviewed with States / Power Utilities in Review, Planning and Monitoring (RPM) meeting of Ministry of Power.
d. REC Limited, the nodal agency, monitors implementation of scheme through its project offices at field level.
e. The Project Management Agency (PMA) appointed by Project Implementing Agencies (PIAs) to assist them in implementation of projects in such activities which involves formulation of Detailed Project Reports (DPRs), award of works, monitoring the progress, quality monitoring etc.

4.20 When the Committee inquired as to how far this mechanism has been successful considering many complaints about various irregularities and use of sub-standard materials by various Members of Parliament, the Ministry have replied as under:

"For monitoring the quality of material/equipment and the erection works, three-tier quality assurance mechanism has been established under RE Component. At first tier Project Implementing Agency (PIA) i.e.

DISCOMs/Power Department have engaged a Third Party Inspecting Agency (TPIA) for assuring quality. They conduct pre-dispatch quality checks of 10% of major items such as DTR, conductor, Energy meter, poles and insulators etc. and verify the quality of works in 50% of the villages. At Second Tier, REC has engaged independent agency to verify the quality of works in 10% of the villages in addition to conducting pre-dispatch quality checks of six major items at the vendor's outlet. At third tier, National Quality Monitors-NQM have been engaged by the Ministry. NQM covers 1% of villages covered in the project. For new project under DDUGJY, the DISCOMs/Power Departments are responsible & accountable for assuring quality.

Further, REC has appointed independent agencies to carryout inspections for concurrent evaluation for quality assurance. The defects in works reported by Quality Monitors are rectified by the respective Implementing Agencies. The complaints received, are addressed by the concerned State, Utility, Implementing Agencies for remedial measures/compliance.

Apart from aforesaid Quality Assurance Mechanism, Ministry of Power, through REC, has imparted trainings to the frontline supervisors of State Power Utilities, Turnkey Contractors & Project Implementing Agencies (PIA) to improve quality of the works being executed under DDUGJY. In order to enforce quality in the DDUGJY works, payment to the PIAs is linked with defect rectification and other quality compliances.

In case of complaints from Public Representatives, a Committee/Team consisting of officials from REC, State Power Utilities, Project Implementing Agencies, Quality Monitors etc., is constituted to enquire into the matter and ensure redressal of the concerns raised."

SAUBHAGYA SCHEME

4.21 Government of India has approved Pradhan Mantri Sahaj Bijli Har Ghar Yojana–"Saubhagya" with an outlay of Rs. 16,320 crore including a Gross Budgetary Support (GBS) of Rs. 12,320.00 crore from Government of India. As per the Ministry of Power the objective of the scheme is to achieve universal household electrification by providing last mile connectivity and electricity connections to all remaining un-electrified households in rural and urban areas. The scheme provides:

(a) Last mile connectivity and electricity connections to all un-electrified households in rural areas.

(b) Solar Photo Voltaic (SPV) based standalone systems for un-electrified households located in remote and inaccessible villages / habitations, where grid extension is not feasible or cost effective

(c) Last mile connectivity and electricity connections to all remaining economically poor un-electrified households in urban areas. Non-poor urban households are excluded from this scheme.

4.22 The Ministry of Power has enumerated the following salient features of the Saubhagya: Pradhan Mantri Sahaj Bijli Har Ghar Yojana:

- ✓ 'Har Ghar' – Universal coverage without any discrimination
- ✓ 'Sahaj' – Simple / Easy / effortless
  - Camps in villages / cluster of villages
  - Use of Mobile App for electronic registration including requisite documentation
  - On spot release of connection
- ✓ No upfront fee for availing electricity connection
  - Free connection for poor households
  - For other households, Rs.500 to be charged after release of connection in 10 instalments (Rs50 each) to be adjusted in monthly electricity bills
- ✓ Identification of beneficiaries based on SECC 2011 data
- ✓ SPV based standalone systems for households located in remote and inaccessible areas

4.23 The Ministry have informed that all States declared electrification of all households on Saubhagya portal as on 31st March, 2019, except few households in LWE affected Bastar region of Chhattisgarh. As reported by states, 2.63 crore households were electrified across the country up to 31.03.2019 since launch of Saubhagya.

4.24 It has been further submitted that subsequently seven States namely Assam, Chhattisgarh, Jharkhand, Karnataka, Manipur, Rajasthan, and Uttar Pradesh reported that there are 19.09 lakh un-electrified households which were earlier un-willing, and now willing to get electricity connection, identified before 31st March, 2019. Out of these 10.71 lakh households have been electrified up to 31.01.2020.

4.25 The State-wise households to be electrified, which were earlier unwilling and now willing to get electricity connection, as on 31.01.2020 is given below:

Sl. No	State	Un-willing households, now willing, as on 31.03.2019	Progress from 01.04.2019 to 31.01.2020	Balance now willing households
1	Assam	2,00,000	1,35,291	64,709
2	Chhattisgarh	40,394	21,295	19,099
3	Jharkhand	2,00,000	1,27,645	72,355
4	Karnataka	39,738	26,687	13,051
5	Manipur	1,141	1,980	-
6	Rajasthan*	2,28,403	2,12,786	-
7	Uttar Pradesh	12,00,003	5,45,652	6,54,351
Total		19,09,679	10,71,336	8,23,565

*With progress of electrification of 2,12,786 Households from 01.04.2019 to 31.12.2019, the State of Rajasthan reported 100% electrification.

4.26 When the Committee desired about the issue, if any, being faced in electrification of balanced households, the Ministry have stated that At present, there is no major issue in electrification of balance un-electrified households brought to the notice. Nevertheless, proactive steps are taken by Ministry of Power, Government of India and concerned State Government/DISCOM for early electrification of balance un-electrified households.

B. Integrated Power Development Scheme (IPDS)

4.27 The Integrated Power Development Scheme (IPDS) was formulated on 20th November, 2014 with an objective to provide 24x7 power supplies for consumers, to providing access to all urban households and facilitate State Power Utilities to reduce the level of AT&C losses to 15% by:

i. Strengthening of sub-transmission and distribution network in the urban areas
ii. Metering of distribution transformers/feeders/consumers in the urban areas
iii. IT enablement of distribution sector and strengthening of distribution network as per CCEA approval dated 21.06.2013 for completion of targets laid down under Restructured Accelerated power Development and Reforms Programme (R-APDRP) for 12th and 13th Plans by carrying forward the approved outlay of R-APDRP to IPDS.

4.28 The scheme is designed to help in AT&C loss reduction, establishment of IT enabled energy accounting/auditing improvement in billed energy based on metered consumption and improvement in collection efficiency.

4.29 The programme (excluding R-APDRP component) have estimated outlay of Rs. 32,000 crore including a budgetary support of Rs. 25,354 crore from Government of India during the entire implementation period. Besides this R-APDRP scheme cost of Rs 44,011 crore including a budgetary support of Rs 22,727 crore as already approved by CCEA will be carried forward to the new scheme of IPDS in addition to the outlay for other components. It has been further informed that funding under IPDS shall also be for completion of optical fiber missing links to connect all the 33 KV or 66 KV grid sub-stations under the establishment of National Optical Fiber Network, establishment of National Power Data hub at CEA and installation of solar panels.

4.30 The funding mechanism under IPDS scheme is proposed as under:

Agency	Nature of support	Quantum of support (Percentage of project cost)
		Other than Special Category States
Govt. of India	Grant	60
Discom Contribution*	Own Fund	10
Lender (FIs/ Banks)	Loan	30
Additional Grant from GOI on achievement of prescribed milestones	Grant	50% of total loan component (30%) i.e. 15%
Maximum Grant by GOI (including additional grant on achievement of prescribed milestones)	**Grant**	**75%**

Special Category States (All North Eastern States including Sikkim, J&K, Himachal Pradesh, Uttarakhand)
*Minimum contribution by Discom(s) is 10% (5% in case of Special Category States). However, Discom(s) contribution can go up to 40% (15% in case of Special Category States), if they do not intend to avail loan. In case, the Discom(s) do not avail loan, the maximum eligible additional grant would be 15% (5% in case of Special Category States) on achievement of prescribed milestones. The loan component would be provided by PFC or by other FIs / Banks.

4.31 Additional grant (50% of loan component i.e. 5% for special category States and 15% for other States) shall be released subject to achievement of following milestones:

(a) Timely completion of the scheme as per laid down milestones
(b) Reduction in AT&C losses as per trajectory finalized by MOP in consultation with State Governments (Discom-wise)
(c) Upfront release of admissible revenue subsidy, if any, by State Govt. based on metered consumption.

4.32 Restructured Accelerated Power Development & Reforms Programme (R-APDRP) was approved as a central sector scheme for implementation during XI Plan & the sanction of the President for same was conveyed vide MoP order dated September 19,2008. The completion period for Part-A of the scheme was further extended by 2 years vide MoP order dated July 08, 2013. The scheme has been approved by CCEA for continuation in 12th and 13th Plans and R-APDRP Steering Committee has been authorized to grant further time extension for successful completion of project.

4.33 The scheme comprises of three parts-Part-A, Part-B & Part C. Part-A of the scheme is dedicated to establishment of IT enabled system for achieving reliable & verifiable baseline data system in all towns with population greater than 30,000 as per 2001 census (10,000 for Special Category States). Implementation of SCADA/DMS for towns with population greater than 4 lakhs & annual input energy greater than 350 MU is also envisaged under Part-A.

4.34 Part-B deals with regular Sub Transmission & Distribution system strengthening & upgradation projects. The focus in Part-B is on reduction of Aggregate Technical & Commercial (AT&C) losses on sustainable basis and on improvement of Distribution system. Part-B is considered for sanction for towns where Part-A(IT) is implemented. R-APDRP also has provision for Capacity Building of Utility personnel and development of franchises under Part-C of the scheme. Few pilot projects adopting innovations are also envisaged under Part-C. The funding under Part C is through grant.

4.35 In regard to progress of implementation of the scheme, the Ministry have furnished a note as under:

> "Total Sanction Rs. 32,059 Cr. for 546 circles in 32 States/UTs including IT-Phase -II projects worth ₹985 Cr. have been sanctioned for 1931 towns, ERP projects worth ₹792 crore and Smart metering projects worth ₹835 crore, RT DAS projects of ₹209 crore and GIS projects worth ₹ 978 crore. An amount of ₹11,989 Cr. (of GOI component of ₹20,103 Cr) has been released by MoP to States in addition to ₹181 Cr. for enabling activities for implementation of urban distribution system strengthening projects under IPDS.

4.36 Financial Progress in FY 2019-20 is as follows:

(₹ in crore)

	Budget(BE)	Budget(RE)	Amount Released	Claims at MoP
IPDS-Grant	4380.4	4762.72	4175.29	862.78
IPDS-Loan	900	900	689.86	44.52

4.37 In regard to physical achievements, the Ministry have stated that as reported by Utilities, ST&D works completed in 403 circles out of 546 Circles. The completed works include new 868 sub-stations, capacity augmentation of 1442 existing sub-stations, 30,350KM new overhead lines, laying of 67,851KM underground/Aerial Bunched Cables etc.

4.38 The Ministry have further stated that the achievements are on expected lines. Against target of 223 Circle completion in FY 18-19, 100% completion was achieved. Further, against target of 424 Circle completion (cum) in FY19-20, works in 403 Circles (cum) have already been declared completed by State Utilities.

4.39 The Ministry have informed that AT&C losses at All India level as per latest available report (2015-16) of 'Performance of State Power Utilities' as released by Power Finance Corporation stand at 23.98%.

4.40 In regard to implementation of the scheme, it was stated by the Ministry that IPDS scheme is sanctioned/implemented Circle wise and not town wise. The scheme has been sanctioned in 546 Circles across the country and till date has been completed in 403 Circles. Discom-wise completion of Circles is as follows:

S.No.	State	Utility	Circles Covered (No)	Circles Completed (No)
1	Andaman and Nicobar	AN-DISCOM	1	0

S.No.	State	Utility	Circles Covered (No)	Circles Completed (No)
	Islands			
2	Andhra Pradesh	APEPDCL	5	5
3		APSPDCL	8	8
4	Arunachal Pradesh	Arunachal-PD	3	0
5	Assam	APDCL	19	11
6	Bihar	NBPDCL	7	1
7		SBPDCL	9	3
8	Chhattisgarh	CSPDCL	15	11
9	Delhi	NDMC	1	0
10	Goa	Goa-PD	2	2
11	Gujarat	DGVCL	4	4
12		MGVCL	5	5
13		PGVCL	11	11
14		UGVCL	4	4
15	Haryana	DHBVNL	9	7
16		UHBVNL	9	8
17	Himachal Pradesh	HPSEBL	12	10
18	Jammu & Kashmir	JKPDD	12	0
19	Jharkhand	JBVNL	15	8
20	Karnataka	BESCOM	9	9
21		CESCOM	4	4
22		GESCOM	4	4
23		HESCOM	7	7
24		MESCOM	4	4
25	Kerala	CPT	1	1
26		KSEBL	25	25
27	Madhya Pradesh	MPMKVVCL-C	14	13
28		MPPKVVCL-E	15	15
29		MPPKVVCL-W	14	12
30	Maharashtra	BEST	1	0
31		MSEDCL	45	28
32	Manipur	Manipur-PD	3	1
33	Meghalaya	MePDCL	6	4
34	Mizoram	Mizoram-PD	1	0
35	Nagaland	Nagaland-PD	2	0

S.No.	State	Utility	Circles Covered (No)	Circles Completed (No)
36	Odisha	CESU	5	2
37		NESCO	5	2
38		SOUTHCO	6	3
39		WESCO	5	4
40	Puducherry	Puducherry-PD	1	0
41	Punjab	PSPCL	20	13
42	Rajasthan	AjVVNL	12	12
43		JaVVNL	13	13
44		JoVVNL	10	10
45	Sikkim	Sikkim-PD	6	0
46	Tamil Nadu	TANGEDCO	37	31
47	Telangana	TSNPDCL	5	5
48		TSSPDCL	9	9
49	Tripura	TSEC	9	0
50	Uttar Pradesh	DVVNL	17	16
51		KESCO	1	1
52		MVVNL	12	10
53		PaVVNL	21	18
54		PoVVNL	16	11
55	Uttarakhand	UPCL	11	9
56	West Bengal	DPL	1	0
57		WBSEDCL	18	9
	Total		**546**	**403**

4.41 When the Committee enquired about the level of losses in the town wherein the scheme has already been implemented, the Ministry in their written reply have stated as under:

> "IPDS scheme intends to supplements the efforts of States/Discoms and synergize with other initiatives of GoI (viz. UDAY, DDUGJY, SAUBHAGYA) etc., the scheme does not specify monitoring of AT&C losses at circle level, but Discom level AT&C losses.
>
> IPDS envisages minimum 60% Grant (85% for Special Category States) with provision to extend grant component to 75%(90% for Special Category States) on achievement of following milestones:
>
> - Timely completion of the scheme as per laid down milestones

- Reduction in AT&C losses as per trajectory finalized by MOP in consultation with State Governments (Discom-wise)
- Upfront release of admissible revenue subsidy, if any, by State Govt. based on metered consumption

As per IPDS Guidelines the Discom-wise AT&C losses as determined by PFC in its 'Report on Performance of State Power Utilities' shall be source for examining compliance of the above condition.

Works in 403 Circles have been completed in FY18-19 & FY19-20, but 'Report on Performance of State Power Utilities' is yet to be released for said FY.

Further, in order to calculate town-wise AT & C losses, IT enablement has been extended to 1931 new towns under IPDS. These towns once IT enabled along with the existing sanctioned 1288 towns (already IT enabled under RAPDRP) are likely to enable calculation of AT&C losses in 3,000+ urban areas (towns) falling in the Circles where IPDS system strengthening & metering projects have been sanctioned. As such, Circle-wise AT&C losses (Urban Component) are likely to be established upon completion of the aforesaid IT projects under IPDS."

4.42 When the Committee asked as to why underground cabling cannot be done in all the town under IPDS, the Secretary, Power deposed before the Committee as under:

"यह आईपीडीएस स्कीम जो अंडरग्राउंड केबलिंग है वह ऐट टू टेन टाइम्स ज्यादा महँगा होता है। यह तो आइडियल है कि हम लोग सब अंडरग्राउंर कर पाएं। अभी उस तरह के रिसोर्सेस नहीं हैं। हम लोग डिस्कॉम्स को कह रहे हैं, जहाँ पर चोरी ज्यादा है और यूपी के कानपुर में इन्होंने एक्सपेरिमेंट भी किया, अंडरग्राउंड केबल करने के बाद तीन साल के अंदर ही उनके पैसे वापस आ गए, क्योंकि वह कांटा नहीं लगा पा रहे थे। हमने आपके सजेशन को नोट कर लिया है और जिस तरीके से हो सकता है, यह बहुत ही अच्छा सजेशन है।"

C. Bureau of Energy Efficiency (BEE)

4.43 The Government of India enacted the Energy Conservation Act (EC Act, 2001 and for implementing various provisions in the EC Act, Bureau of Energy Efficiency (BEE) was operationalised with effect from 1st March, 2002. The EC Act provides a legal framework for energy efficiency initiative in the Country. The Act has mandatory and promotional initiatives which broadly relates to Designated Consumers, Standards and Labeling programme for equipment and appliances and Energy Conservation Building Codes (ECBC) for new commercial buildings and residential buildings. The EC Act also empowers the State Government to facilitate and enforce the efficient use of energy through their respective State Designated Agencies in consultation with BEE. It also empowers the Central Government to specify energy performance standards.

4.44 Bureau of Energy Efficiency (BEE) is the nodal central statutory body to assist the Government in implementing the provisions of the EC 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 EC Act also empowers the State Government to facilitate and enforce the efficient use of energy through their respective State Designated Agencies in consultation with BEE. It also empowers the Central Government to specify energy performance standards.

4.45 Committed towards reducing the emissions, India has been participating as one of the leading party in the Conference of Parties (COP) under the United Nations Framework Convention on Climate Change (UNFCCC). The twenty-first session of the COP that took place in 2015 at Paris reached a landmark agreement called the "Paris Agreement" to combat climate change. The aim of the Paris Agreement is to strengthen the global response to the threat of climate change by keeping the global temperature rise well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. The Government of India has submitted its Nationally Determined Contributions (NDCs) to UNFCCC in 2015, endorsing country's ambitious commitment towards the issues related to climate change and ratified it in the year 2016.

4.46 Budgetary Allocation and its actual utilization for BEE (2015-16 onwards) is as given below:

	2015-16	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**
BE	48.00	63.29	49.00	100.16	100.16	100,16
RE	43.00	60.04	27.00	10.49	100,16	
Actuals	35.00	54.15	27.00	10.49	-	

4.47 The detailed year wise Budget allocation/Actual utilization is as under:

Bureau Energy Efficiency **Year wise Budget allocation/ Actual Utilization**								
								(₹ in crore)
Schemes	**BE**	**RE**	**Actual Utilization**					**Reason for deviation**
			Q1	**Q2**	**Q3**	**Q4**	**Total**	
2014-15								
BEE Schemes	137.55	9.00	-	-	-	9.00	9.00	1. The XII Plan

Ongoing EAP Scheme under "BEE" head	2.00	1.00	-	-	-	-	-	proposed schemes got delayed due to changes suggested by then Planning Commission. 2. BEE originally, proposed 9 Schemes under 2 major Account head, which was clubbed to 5 schemes as per the instruction of the Planning Commission. 3. The schemes were approved in middle of the Plan period which was the main reason for less utilization.
Energy Conservation Schemes	107.65	40.72	-	-	16.58	16.15	32.73	
Total	247.20	50.72	-	-	16.58	25.15	41.73	
Utilization in Percentage w.r.t BE			0%	0%	7%	10%	17%	
Utilization in Percentage w.r.t RE			0%	0%	33%	50%	82%	
2015-16								
BEE Schemes	48.00	43.00	-	13.47	20.96	0.57	35.00	
Ongoing EAP Scheme under "BEE" head	2.00	2.00	-	-	-	2.00	2.00	
Energy Conservation Schemes	60.00	55.00	-	-	28.02	26.80	54.82	
Total	110.00	100.00	-	13.47	48.98	29.37	91.82	
Utilization in Percentage w.r.t BE			0%	5%	20%	12%	37%	
Utilization in Percentage w.r.t RE			0%	27%	97%	58%	181%	
2016-17								
BEE Schemes	63.29	60.04	-	54.15	-	-	54.15	
Ongoing EAP Scheme under "BEE" head	0.71	0.59	-	-	-	0.59	0.59	
Energy Conservation Schemes	100.00	50.62	23.70	-	-	-	23.70	
Total	164.00	111.25	23.70	54.15	-	0.59	78.44	
Utilization in Percentage w.r.t BE			14%	33%	0%	0%	48%	
Utilization in Percentage w.r.t RE			21%	49%	0%	1%	71%	
2017-18								1. The SFC approval got
BEE Schemes	49.00	27.00	-	-	27.00	-	27.00	

Ongoing EAP Scheme under "BEE" head	1.00	-	-	-	-	-	-	delayed since as advised by IFD, BEE was directed to further club all proposed 5 schemes to 2 i.e. per Account head 1 scheme. 2. Both schemes were approved in 2018 and 2019 respectively. 3. However, BEE utilized the allocated Budget Estimate/Revised Estimate since, the schemes were ongoing in nature. 4. It may be noted that BEE completed all those activities, which were not dependent on funds but were contributing for the energy conservation in the country.
Energy Conservation Schemes	50.54	50.00	-	36.99	-	-	36.99	
Total	100.54	77.00	-	36.99	27.00	-	63.99	
Utilization in Percentage w.r.t BE			0%	37%	27%	0%	64%	
Utilization in Percentage w.r.t RE			0%	48%	35%	0%	83%	
2018-19								
BEE Schemes	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 Percentage w.r.t BE			0%	11%	0%	14%	25%	
Utilization in Percentage w.r.t RE			0%	45%	0%	54%	99%	

4.48 When the Committee asked for the reasons responsible for under utilization of allocated fund, the Ministry have enumerated the following:

> "The XII Plan proposed schemes got delayed due to changes suggested by then Planning Commission. BEE had originally proposed 9 Schemes under 2 major Account head, which was clubbed to 5 schemes as per the instruction of the Planning Commission. These schemes were approved in middle of the Plan period which was the main reason for less utilization.
>
> a) Scheme beyond XII Plan - The SFC approval got delayed since as advised by IFD, MoP, BEE was directed to further club all the proposed 5 schemes to 2 i.e. as per Account head. Both schemes were approved in 2018 and 2019 respectively.

However, BEE utilized the allocated Budget Estimate/Revised Estimate since, the schemes were ongoing in nature. It may be noted that BEE completed all those activities, which were not dependent on funds but were contributing for the energy conservation in the country."

4.49 In reply to the specific query of the Committee about budgetary allocation they have stated that adequate budgetary allocations are being made to support the activities/ programmes relating to energy conservation.

4.50 It has been stated that Ministry of Power and Bureau of Energy Efficiency has been taking various steps for conserving energy through various flagship programmes in the areas of industries, appliances, buildings, transport, agriculture and demand side management etc. in order to fulfill the goals committed in the NDC and foster long term sustainable development. A brief of all the schemes being implemented by BEE is as follows:

1. **Standards & Labelling**

This scheme entails laying down minimum energy performance norms for appliances / equipment, rating the energy performance on a scale of 1 to 5 , 5 star being the most energy efficient one. The programme covers 24 appliances out of which 10 appliances are under the mandatory regime while as the remaining 14 appliances are under the voluntary regime.

Energy Conservation Building Code (ECBC)

The Energy Conservation Building Code (ECBC) developed by BEE sets minimum energy standards for commercial buildings having a connected load of 100kW or contract demand of 120 KVA and above. While the Central Government has powers under the EC Act, the State Governments have the flexibility to modify the code to suit local or regional needs and notify them. Presently, 15 States/UTs have notified ECBC for their states. Other states are at advance stages of adopting the ECBC.

2. Strengthening Institutional Capacity of States

Strengthening of State Designated Agencies (SDAs)

As has been mentioned earlier, the implementation and enforcement of the provisions of the EC Act in the states is to be carried out by SDAs. As on date, the SDAs have been set up in 36 states/UTs by designating one of the existing organizations as required under section 15 (d) of the EC Act. These agencies differ from State to State with the Renewable Energy Development Agency (44%), Electrical Inspectorate (19%), Distribution Companies (19%), Power Departments (11%) and others (6%). In order to kick start the energy conservation activities at the state level with an emphasis on building institutional capacities of the SDAs, Ministry of Power had approved the scheme of providing financial assistance to the State Designated Agencies for strengthening their institutional capacities and capabilities with thrust on establishment of the enforcement machinery at the State level.

Contribution to State Energy Conservation Fund (SECF) Scheme

The State Energy Conservation Fund (SECF) is an instrument to overcome the major barriers for implementation of energy efficiency projects. The contribution under State Energy Conservation Fund (SECF) was made to those State Governments / UT Administrations who have created their SECF and finalized the rules and regulations to operationalise the same.

3. Demand Side Management (DSM)

Demand Side Management (DSM) has been traditionally recognized as one of the major intervention to achieve reduction in energy demands while ensuring continuous development. In recent past, DSM has gained unprecedented importance and has become an integral part of almost all the central and state missions on promotion of EE. DSM interventions have helped utilities not only to reduce the peak electricity demands and but also defer high investments in generation, transmission and distribution networks.

4. Energy Efficiency in Small and Medium Enterprises (SMEs)

The MSME (micro, small and medium enterprises) sector accounts for about 33% of India's manufacturing output and around 28% contribution in the GDP. There are about 8 million MSMEs in India – and majority of them have not been exposed to energy efficiency (or) technology upgradation measures since they continue to depend on obsolete, low efficiency technologies that result in wasteful energy consumption, thereby reducing their profitability and competitiveness in the sector.

5. Awareness & Outreach

SCHEME B: NATIONAL MISSION FOR ENHANCED ENERGY EFFICIENCY (NMEEE)

The National Mission for Enhanced Energy Efficiency (NMEEE) is one of the eight missions under the National Action Plan on Climate Change (NAPCC). NMEEE aims to strengthen the market for energy efficiency by creating conducive regulatory and policy regime and has envisaged fostering innovative and sustainable business models to the energy efficiency sector.

A. Perform Achieve and Trade (PAT)

Perform, Achieve and Trade (PAT) PAT scheme is a regulatory mechanism that aims at reduction in specific energy consumption of large industries followed by conversion of excess energy saving into tradable instruments called Energy Saving Certificates (ESCerts). In the first cycle of PAT, 478 industrial units in 8 sectors (Aluminium, Cement, Chlor-Alkali, Fertilizer, Iron & Steel, Paper & Pulp, Thermal Power Plant, Textile) were mandated to reduce their Specific Energy Consumption (SEC) i.e. energy used per unit of production.

Financing Initiatives

B. Framework for Energy Efficient Economic Development (FEEED):

To build the market for energy efficiency it is imperative to ease the financing of energy efficiency projects. Under the initiative of Framework for Energy Efficient Economic Development (FEEED), BEE has created two financial instruments – Partial Risk Guarantee Fund for Energy Efficiency (PRGFEE) and Venture Capital Fund for Energy Efficiency (VCFEE) – to help financial institutions actively engage with industries, large commercial establishments, and project implementation agencies and provide funds for energy efficiency projects across the country. To upscale EE financing BEE is in process of designing new financing instruments under FEEED.

C. Energy Efficiency Financing Platform (EEFP):

This was launched as one of the initiatives under National Mission for Enhanced Energy Efficiency to provide a platform to interact with Financial Institutions (FIs) and project developers for implementation of energy efficiency projects. Under this programme, MoUs have been signed by BEE with M/s. PTC India Ltd, M/s. SIDBI, HSBC Bank, Tata Capital and IFCI Ltd to promote financing for energy efficiency projects.

4.51 In regard to impact of Energy Efficiency in the country, the Ministry have furnished the following details:

Electric Energy

- Savings of 109.54 BUs i.e. 7% of total electricity consumption of the country
- Resulted cost savings worth INR 54770 crores.

Thermal energy

- Savings of 9.41 Million Tonnes of oil Equivalent
- Resulted cost savings worth INR 5487 crores.

Total energy

- Savings of 18.82 Million Tonnes of oil Equivalent i.e. 2% of total primary energy supply of the country
- Reduction in CO_2 emission of around 125.18 Million Tonnes

Energy intensity has reduced from 0.274 to 0.233 mega joule / INR resulting in an improvement of 15% from 2011-12 to 2017-18

D. Central Power Research Institute (CPRI)

4.52 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.

4.53 The major objectives of the CPRI are as under:

- Function as a National Power Research Organization for undertaking and sponsoring R&D projects in the fields of generation, transmission, distribution and operation of electricity supply systems.
- Provide necessary centralized research and testing facilities for evaluation of electrical materials and performance of power equipment.
- Serve as a National Testing and Certification Authority for the purpose of certification of rating and performance to ensure availability of quality equipment for use under conditions prevalent in Indian Power Systems

4.54 The followings have been stated to be the core activities of CPRI:

- 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

4.55 Funds Allocated for CPRI during the last five years is given below:

(Rs. in Cr)

Financial Year	BE	RE	Actual
2014-15	295.53	79.82	79.82
2015-16	125.00	37.28	37,28
2016-17	125.00	65.79	65.79
2017-18	150.00	50.36	50,36
2018-19	150.00	94.34	94.34
2019-20	200.00	200	178.00 (as on 31st Jan 2020)

4.56 It was submitted to the Committee that the fund allocated for CPRI was sufficient. In reply to the query of the Committee about the non-utilization of allocated fund and the efforts to avoid them, it has been stated as under:

> "During the financial year 2014-15, the fund allocated could not be utilized in full. The XII plan capital projects were approved in Feb 2014 and first installment was released only during March 2014 and hence budget allocated could not be utilized in full.
>
> Fund allocation under Budget Estimate is estimated on the basis of outlay of approved research projects and current progress of the ongoing schemes/projects. Any delay in the above is taken into consideration while making the Revised Estimate (RE) and the same is utilized in full."

4.57 When asked by the Committee about the main achievements of CPRI, the following information was provided:

> "The Institute has rendered six decades of dedicated service in the field of Short circuit, High Voltage, Seismic, Environmental, Mechanical test to the power sector since its inception. The Institute has strength of around 545 personnel of which over 200 are well qualified and experienced Scientists/Engineers. CPRI is the only testing Laboratory in the world having all the test facilities for power equipment under one roof.
>
> The Institute has completed over more than 400 R&D projects and has been awarded 25 patents over the years and 72 patents are in process for the award. To its credit, the Institute has published over 3700 technical and research papers in national & international forums. The Institute has also brought out over 450 technical reports which are widely referred to by both the utilities and industry. The senior scientists & Engineers represent CPRI in various Electro-Technical Committees of BIS. CPRI officers are also represented in International Standards Committees like IEC, IEEE, and CIGRE etc.
>
> **Main Achievements of CPRI in terms of R&D**
>
> CPRI has played crucial role in creation of a conducive environment for R&D in the area of Power Sector to flourish in the country by carrying out/co-ordinating various research projects on identified thrust areas leading to new technology development, evaluation studies for bringing out new standards and process improvement. Majority of the projects are taken up in a collaborative mode
>
> involving Utility, Industry, Academia and Research Organizations. During the last five years, 126 projects with an outlay of Rs 75.42 crores has been

awarded to eminent institutions across India like IIT Kharagpur, IIT Kanpur, IIT Madras, IIT Bombay, NIT Meghalaya, NIT Silchar, CMET Thrissur etc. CPRI has also encouraged collaborative research projects with manufacturers/utilities like BHEL, Raychem RPG, C-DAC etc to boost indigenous development. As on date 13 patents and 185 publications have been achieved as outcome of the projects."

4.58 In reply to the query of the Committee about the programmes/projects which are currently being run by CPRI and their importance for the power sector, it has been stated by the Ministry as under:

"**Major / Important Projects –XII Plan**

Augmentation of High Power Short Circuit test facilities by installation of two additional 2500 MVA generators- Outlay ₹ 509 .00 Cr – The objective of the proposal is to provide enhanced test facilities for High Power testing of Circuit breaker, Power Transformers and other Power System Equipment.

Establishment of 350 MVA Online Short Circuit Test Facility at UHVRL, Hyderabad-Outlay ₹ 120.00 Cr -This project will meet the demand on the short circuit current withstand capability testing of the LT and MV equipment.

Establishment of New Unit at Nashik –Outlay ₹ 115.3 Cr -The project of establishing new regional unit at Nashik for testing of Distribution & Power transformers, Oil & energy meter will help the manufacturer to test their product at their close proximity in western region.

Establishment of Tower Testing Station at Hyderabad –Outlay ₹ 90 Cr - Creation of test facility for testing of full scale UHV transmission line towers.

R&D Schemes-Important Projects

Research and Development on the priority areas identified in the National Electricity Plan and identified thrust areas for the Indian power sector is promoted through Central Power Research Institute (CPRI), which encourages applied research leading to technology development in the power sector through the following three schemes:

- In-House R&D (IHRD)
- Research Scheme on Power (RSoP)
- R&D under National Perspective Plan (NPP)

CPRI is responsible for coordinating and monitoring the R&D schemes of the Ministry of Power (MoP), Government of India and also schemes like Uchhatar Avishkar Yojana (UAY) and Impacting Research Innovation and Technology (IMPRINT) under MHRD, where MoP is a stakeholder. All the schemes are continuing scheme from past Plan periods and are included in current Plan period. 87 projects are ongoing at an outlay of ₹ 62.35 Cr."

4.59 When the Committee desired to know whether there is any constraint that CPRI is facing in achievement of its objectives, it has been stated as under:

> "There are no constraints for CPRI in achieving its objectives. CPRI being the nodal coordinator carries out / co-ordinates the R&D schemes of MoP by identifying projects on thrust areas leading to new technology development. CPRI is continuously augmenting its test facilities with grant in aid from Ministry of Power to meet the needs of the electrical industry for development of products indigenously and also serve the requirement of certification as per National and International standards."

4.60 On being asked by the Committee as to how CPRI be made more effective, the CPRI has stated as under:

> "**Global Acceptance of CPRI certificate**
> CPRI will take up with concerned authorities through Ministry of Power for acceptance of its test certificates globally.
> **Financial Support**
> Grant in Aid from Government of India for approved capital projects to augment its test facilities
> **Land Acquisition**
> CPRI will seek assistance of Central/State Government in allotting land for establishment of new units for expansion of Research and Test facilities."

E. National Power Training Institute (NPTI)

4.61 National Power Training Institute (NPTI) is a National Apex body for fulfilling the training requirements of the power sector in the country formed by Gazette notification of Govt. of India dated: 03.07.1993. It serves as a National Certification Authority for the purpose of Certification of competence and/ or participation to ensure availability of properly trained personnel to man the electricity Supply Industry. NPTI is an ISO 9001 & ISO 14001 leading Training Institute under the Ministry of Power, Govt. of India for Human Resources Development in Power Sector.

4.62 PTI has been appointed as the Certifying Authority for SYSTEM OPERATORS of NLDC, RLDCs, SLDCs. Also, NPTI functions as an Apex Cadre Training Institute for Engineers/Officers of Central Power Engineering Service (Ministry of Power, Govt. of. India). NPTI has been recognized as Training, Assessment & Certification body by Ministry of Skill Development through Gazette Notification dated 5th December, 2019 for DDU-GKY.

4.63 It operates through the Eleven(11) Institutes in the different power zones of the country on an all India basis with Manpower Strength of 211 including 84 Officers. Two more new Institutes at Alapuzza, Kerala and Shivpuri, Madhya Pradesh have also been made operational in 2020.

4.64 The followings are the objective of NPTI:

- 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 Engineer, Operator, Technicians and other personnel of Power Sector.

4.65 The following functions of NPTI have been enumerated:

"Long-Term, Medium-Term & Short-Term Training Programs for Engineer & Supervisor in:

- ✓ Thermal Power plant engineering
- ✓ Hydro Power
- ✓ Transmission / Sub-Transmission /Distribution
- ✓ Smart Grid Technologies
- ✓ Power System Operations
- ✓ Energy Market Management
- ✓ New Regulations for Transmission and Distribution utilities/ generating plants both conventional and RE power plants
- ✓ Hybrid Energy such as Solar, Wind, Biomass, Co-generation etc.
- ✓ Large RE Grid Integration technologies
- ✓ e-Mobility Infrastructure

- Apart from CEA Induction Training Program, NPTI is providing Induction Training to Engineer Trainees of various Public Sector and Private Sector organizations
- NPTI is conducting Seminar, Workshops, Conferences in upcoming thrust areas on concurrent themes and addressing the National Requirements.
- NPTI is conducting specialized training & certification programs for various Institutions/ utilities in e-learning mode.
- NPTI is well known established premier organisation and Apex body serving Indian power sector more than five decades for the development of Human Resource. NPTI is having largest network in the sector by it's alumni.
- Designing National Training Modules best suited for the sustainability of Power sector Manufacturing units and Utilities.

- Customized Course Design based on Power Sector changing requirements.
- Capacity Assessment , Certification and Evaluation of existing technical work force for recommendation to Promotion
- Up-gradation/Creation of Training Facilities within India and abroad.

4.66 The following is the details of the budgetary allocation for NPTI since 2014-15 and its actual utilization:

(Rs. in crore)

Year	BE	RE	Actual
2014-15	66,92	19,1	15,29
2015-16	46,4	37	30
2016-17	40,4	40,4	40,4
2017-18	57,2	57,2	57,2
2018-19	100,55	100,55	100,55
2019-20	69	50	28.90 (as on 5th February, 2020)

4.67 In regard to details regarding training provided by NPTI so far, the following details were provided:

No of Personnel Trained by NPTI Since 1965			
No	**Period**	**No of Personnel Trained**	**Remarks**
1	1965 to 1979	3587	Under CEA
2	1980 to 31-03-1993	35591	PETS
3	01-04-1993 to 31-03-2019	298722	NPTI
	Total	**337900**	

4.68 It was also informed that there are no constraints for NPTI in achieving its objectives. NPTI has already trained over 3,37,900 power professionals in its regular programmes. NPTI is continuously augmenting its training facilities with grants-in-aid from Ministry of Power to meet the needs of the electrical industry.

4.70 Further when the Committee desired to know as to how NPTI can be made more effective, they have submitted as under:

"**Financial Support:** Grant in Aid from Government of India for the approved training infrastructure and to meet the upcoming requirements.
Land Acquisition: NPTI will seek assistance of Central/State Govt. in allotting land for establishment of new units for expansion of Training Facility."

V. UJAWAL DISCOMS ASSURANCE YOJANA (UDAY)

5.1 The Ministry have stated that State DISCOMs in the country had huge accumulated losses and outstanding debt. As a result of which financially stressed DISCOMs are not able to supply adequate power at affordable rates, which hampers quality of life and overall economic growth and development. Efforts towards 100% village electrification, 24X7 power supply and clean energy cannot be achieved without performing DISCOMs. Power outages also adversely affect national priorities like "Make in India" and "Digital India". In addition, default on bank loans by financially stressed DISCOMs has the potential to seriously impact the banking sector and the economy at large.

5.2 Accordingly, "UDAY" (Ujwal DISCOM Assurance Yojana), a scheme for financial and operation turnaround of Power Distribution Companies (DISCOMs) was formulated and launched by the Government on 20-11-2015 in consultation with the various stakeholders to ensure a sustainable permanent solution to the problem of legacy of debts and address potential future losses. The scheme also envisages reform measures in all sectors – generation, transmission, distribution, coal, and energy efficiency.

5.3 The Scheme envisages reducing interest burden, cost of power and AT&C losses. Under the scheme, States are to take over 75% of debt of DISCOMs as on 30-09-2015 which would be outside the FRBM limits. The Scheme is operationalized through a bipartite/tripartite agreement amongst the Ministry of Power, State Government and the DISCOMs. The Scheme "UDAY" is optional for all States to join.

5.4 It has been submitted that no budgetary provision is made for this scheme as there in no financial implication on the part of the Government of India.

5.5 In regard to objective and scope of this scheme, it was stated that financial liabilities of DISCOMs are the contingent liabilities of the respective States and need to be recognized as such. Bank loans to DISCOMs are de facto borrowings of States which is not counted in de jure borrowing. Following financial interventions to improve the financial efficiency of DISCOMs have been approved by the Government:

- Empowers DISCOMs with the opportunity to break even in the next 2-3 years through various initiatives.
- Operational efficiency improvements viz. metering, up-gradation of transformers/ other infrastructures, energy efficiency measures like efficient LED bulbs, agricultural pumps, fans & air-conditioners etc. to reduce the average AT&C loss from around 22% to 15%; Elimination of the gap between ACS and ARR by 2018-19.
- Reduction in cost of power through measures such as increased supply of cheaper domestic coal, coal linkage rationalization, liberal coal swaps from inefficient to efficient plants, coal price rationalization based on GCV, supply of washed and crushed coal, and faster completion of transmission lines.

5.6 It was further stated that Financial turnaround through States taking over 75% of DISCOM debt as on 30th Sept, 2015 over two years is envisaged.

- 75% of DISCOM debt to be taken over by 2016-17 – reduction of the interest cost on the debt taken over by the States to around 8-9%, from as high as 14-15%.
- DISCOM debt not taken over by the State shall be converted by the Banks / FIs into loans or bonds with interest rate not more than the bank's base rate plus 0.1%. Alternately, this debt may be fully or partly issued by the DISCOM as State guaranteed DISCOM bonds at the prevailing market rates which shall be equal to or less than bank base rate plus 0.1%.
- Further provisions for spreading the financial burden on States over three years to give flexibility in managing interest payment within their fiscal place in initial years.

- ❖ Provision for incentives/ disincentives for future financial performance for participating states.
- ❖ States to take over and fund at least 50% of the future losses (if any) of DISCOMs in a graded manner.
- ❖ State DISCOMs to comply with the Renewable Purchase Obligation (RPO) outstanding since 1stApril, 2012
- ❖ States joining UDAY and performing as per operational milestones will be given additional/priority funding through DDUGJY, IPDS and PSDF or other such schemes of Ministry of Power and Ministry of New and Renewable Energy.
- ❖ Such States shall also be supported with additional coal at notified prices and, in case of availability through higher capacity utilization, low cost power from NTPC and other Central Public Sector Undertakings (CPSUs).
- ❖ States not meeting operational milestones will be liable to forfeit their claim on IPDS and DDUGJY grants.

5.7 When the Committee asked about the achievements so far due to UDAY, they have replied as under:

> "As per the data submitted by UDAY states, improvement in performance has been noted during UDAY period. Some of the key highlights are given below:
>
> - AT&C losses: The AT&C losses have been declining consistently and have come down from 20.81% in FY16 to 18.19% in FY19.
> - ACS-ARR Gap: ACS-ARR gap has come down from Rs. 0.60 per kWh in FY16 to ₹ 0.27 per kWh in FY19.
> - Book losses: UDAY states have showcased an improvement in annual book losses from ₹51,562 Cr. in FY16 to ₹27,250 Cr. in FY19."

5.8 When the Committee raised the issue of non effectiveness of UDAY Scheme as the losses of Discoms have once again started rising, the Secretary, Power deposed before the Committee as under:

> "'उदय' बनाया गया था, सरकार की तरफ से रीस्ट्रक्चरिंग किया गया था, जिसमें राज्य सरकारों को कहा गया था कि डिसकॉम के लोन्स को टेकओवर करेंगे और उनको एफआरबीएम के लिमिट से हटा दिया गया था। इस स्कीम में जो सोचा जा रहा है और यह शीघ्र ही कैबिनेट के समक्ष रखा जाएगा। स्कीम में मुख्य बिंदु स्मार्ट प्रीपेड मीटरिंग का है। इसका हम लोगों को अनुभव है कि करीब डेढ़ लाख करोड़ रुपये का खर्च होगा। यह अपेक्स मॉडल में काम कर जाएगा, क्योंकि इसमें

बहुत सेविंग्स हैं। उत्तर प्रदेश में देखा गया है कि जहां स्मार्ट प्रीपेड मीटर्स लगे हैं, वहां महीने का डेढ़-दो सौ रुपये के रेवेन्यू का एप्रिसिएशन है। यह अपेक्स मॉडल में हो जाएगा, जिसमें कोई डिसकॉम या सरकार को अपनी तरफ से खर्च करने की जरूरत नहीं है। स्मार्ट प्रीपेड मीटर्स से एटी एंड सी लॉसेज में बहुत फर्क पड़ेगा, क्योंकि गांव में मीटर रीडर्स महीनों नहीं जाते हैं और बाद में बहुत बड़ा बिल दे दिया जाता है। कई सारे डिसप्यूट्स हैं।"

VI. DEVELOPMENT OF POWER SECTOR

6.1 The following is the All India Installed Capacity(MW) Sector-wise as on 31.12.2019:

Sector	Thermal					Nuclear	Hydro	RES*
	Coal	Lignite	Gas	Diesel	Total			
State	65861.50	1290.00	7118.71	236.01	74506.21	0.00	26958.50	2350.43
Private	74173.00	1830.00	10580.60	273.70	86857.30	0.00	3394.00	80417.17
Central	58460.00	3640.00	7237.91	0.00	69337.91	6780.00	15046.72	1632.30
All India	198494.50	6760.00	24937.22	509.71	230701.42	6780.00	45399.22	84399.90

*RES as on 31.10.2019

6.2 The Actual Power Supply Position in the country since 2014-15 in terms of Energy (BU) and Peak (MW) is given in the following table:

Year	Energy				Peak			
	Energy Requirement	Energy Supplied	Energy Not Supplied		Peak Demand	Peak Met	Demand Not Met	
	(BU)	(BU)	(BU)	%	(MW)	(MW)	(MW)	%
2014-15	1,068.9	1,030.8	38.1	3.6	148,166	141,160	7,006	4,7
2015-16	1,114.4	1,090.8	23.6	2.1	153,366	148,463	4,903	3,2
2016-17	1,142.9	1,135.3	7.6	0.7	159,542	156,934	2,608	1,6
2017-18	1,213.3	1,204.7	8.6	0.7	164,066	160,752	3,314	2
2018-19	1,274.6	1,267.5	7.1	0.6	177,022	175,528	1,494	0,8
2019-20 (upto Dec2019)	980,9	975,7	5,2	0,5	183804	182553	1271	0,7

6.3 When the Committee desired to know the present demand and supply position of power in the Country, the Ministry have provided the following information:

"The Power Supply Position in the country during the current year 2019-20 (upto August, 2019) in terms of Energy and Peak is given in following table:

Year	Energy				Peak		
	Energy Requirement	Energy Availability	Surplus/Deficit		Peak Demand	Peak Met	Surplus/ Deficit
	(MU)	(MU)	(MU)	%	(MW)	(MW)	(MW)
2019-20 (upto Dec,2019)	981705	976519	-5186	-0,5	183,804	182253	-1271

6.4 When the Committee pointed out the shortages, the Ministry have stated that it has been observed that despite availability of adequate power in the country, there is a marginal mismatch in demand and supply of power in various States/ UTs of the country. The Ministry have stated that this demand–supply gap are constraints in sub-transmission and distribution network, commercial reasons, financial constraints of State utilities, etc.

6.5 In regard to anticipated demand and supply of power position five years from now, the Ministry have stated that Planning of generation capacity addition is carried out keeping in view no demand and supply gap. Central Electricity Authority (CEA) conducts periodic Electric Power Survey (EPS) of the country to assess the state-wise/UT-wise/region-wise and all India electricity demand on medium term and long-term basis. So far 19 (nineteen) EPS has been conducted and the report of 19th EPS was published in January 2017. The 19th EPS report covers electricity demand projection for the year 2016-17 to 2026-27 as well as perspective electricity demand projection for the year 2031-32 and 2036-37 for each state/UTs.

6.6 The anticipated peak demand and the electrical energy requirement during 2021-22 and 2026-27 as per 19th Electric power survey are given below:

Year	Peak Demand (GW)	Energy Requirement (BU)
2021-22	225.7	1,566
2026-27	298.8	2047

6.7 When the Committee desired to know as to how this demand will be met, the Ministry in their reply have submitted as under:

> "As per the National Electricity Plan for Generation, all India power generation installed capacity by the end of 2021-22 is estimated to be 4,79,419 MW which includes 2,17,1302 MW Coal, 25,735 MW Gas, 51,301 MW Hydro, 10,080 MW Nuclear and 1,75,000 MW Renewable energy Sources. Further, all India power generation installed capacity by the end of 2026-27 is estimated to be 6,19,066 MW which includes 2,38,150 MW Coal, 25,735 MW Gas, 63,301 MW Hydro, 16,880 MW Nuclear and 2,75000 MW Renewable Energy Sources. With this installed capacity, it is envisaged that electricity demand is likely to be fully met on All India basis."

Stress in Power Sector

6.8 Owing to various reasons 34 Power Plants having capacity of 40,130 MW were reported to be stressed. The Committee had examined the subject in detailed and presented a report thereon. When the Committee asked about their present status and the efforts being made by the Government to resolve the issue of stress in Power Sector, the Ministry have submitted as under:

> "Status of 34 thermal power projects of capacity 40,130 MW which are under stress as reported by DFS is as follows:
>
> i. 14 projects with a total capacity of 16,450 MW have been resolved.
> ii. 14 projects with a total capacity of 17,320 MW are at various stages of resolution.

iii. 6 projects with a total capacity of 6,360 MW are at very initial stage of construction and are totally stalled. Such projects have either been ordered to be liquidated or heading towards liquidation.

6.9 It was further stated that the High Level Empowered Committee (HLEC) constituted by the Govt. on 29.07.2018 to address the issues of Stressed Thermal Power Projects identified the following major reasons for stress in power sector:

i. Issues related to Coal supply
ii. Slow growth in Power demand
iii. Delayed payments by Discoms
iv. Inability of the Promoter to infuse the equity and service debt
v. Slow implementation of project by the developers
vi. Issues related to Banks/ FIs
vii. Aggressive tariffs quoted by bidders in competitive bidding process
viii. Regulatory and contractual disputes
ix. Legal issues related to auctioned coal mines
x. Other Operational Issues

6.10 In regard to effort made by the Government to address the issue, the following steps were enumerated:

(i) Introduction of Transparent Linkage policy: On 22.05.2017, Government introduced SHAKTI Policy for grant of linkage to power sector. Linkages granted under SHAKTI Policy:

a. Shakti Policy Para B(i): Linkage granted to 23 nos. Thermal Power Projects (TPPs) totaling 25,060 MW under Central/State Sector category.
b. Shakti Policy Para B(ii): Coal linkages have been allotted under 1st round of B(ii) of Shakti (IPP Projects having PPA but no linkage) for 9045 MW capacity and 2nd round of B(ii) for 877.4 MW capacity.
c. Shakti Policy Para B(iii): Process started. 25 no. of bidders with plant capacity of 24,343 MW and non-PPA capacity of 19,850 MW have been recommended to CIL for auction.

d. Shakti Policy Para B(iv): Coal linkages granted to the State of Gujarat for 4,000 MW, to the State of UP for 1,600 MW and to the State of MP for 2640 MW power to be raised through tariff based competitive bidding.

e. Shakti Policy Para B(viii)(a): Methodology issued by MoP. Guidelines issued by CEA. Applications received from 14 nos. of bidders with plant capacity of 9,813 MW and non-PPA capacity of 8145 MW.

(ii) Pilot project for procurement of 2500 MW power: In order to address the problem of lack of Power Purchase Agreements (PPAs) in the country, the Ministry of Power had notified a scheme for procurement of 2500 MW on competitive basis for a period of 3 years from the generators with commissioned projects having untied capacity.

a. 1st Round (2500 MW): Letter of Award (LOA) was issued to all the successful bidders (1900 MW).

b. 2nd Round (2500 MW): Bid Security for 21 bidders for a total capacity of 6000 MW has been received. Evaluation is under process and financial bids will be opened soon.

(iii) Payment Security Mechanism: Ministry issued an order on 28.06.2019 and subsequent corrigendum thereon 17.07.2019. NLDC & RLDC have been directed to despatch power only after it is intimated by the Generating Company and /Distribution Companies that a Letter of Credit (LC) for the desired quantum of power has been opened. This has ensured timely payments by Discoms to the generators.

6.11 Given below is the Sector wise Plant Load Factor (PLF) of the country (Coal & Lignite based) from 2009-10 to 2019-20:

Year	PLF	Sector-wise PLF (%)	
	%	Central	State

2009-10	77.5	85.5	70.9
2010-11	75.1	85.1	66.7
2011-12	73.3	82.1	68.0
2012-13	69.9	79.2	65.6
2013-14	65.60	76.10	59.10
2014-15	64.46	73.96	59.83
2015-16	62.29	72.52	55.41
2016-17	59.88	71.98	54.35
2017-18	60.67	72.35	56.83
2018-19	61.07	72.64	57.81
2019-20*	57.67	64.49	53.28

Power Purchage Agreements

6.12 When the Committee raised the issue of non honoring of Power Purchase Agreements (PPA) by some of the Discoms, the Secretary, Power explained as under;

> "पीपीएज़ बड़ा इश्यू है, क्योंकि लोग लाँग टर्म पीपीएज़ में एंटर किए हैं, बैंक फाइनेंस नहीं करते हैं, कोई फाइनेंशियल इंस्टीट्यूशन नहीं देता है, जब तक एक लाँग टर्म कमिटमेंट न हो। लाँग टर्म कमिटमेंट की यह एक प्रॉब्लम है कि आपने प्राइस फिक्स कर दिए, एसकेलेशन होता रहता है, जबकि टेक्नोलॉजी डिसरप्शन हो रहा है और टेक्नोलॉजी जो मार्किट में आता है, जैसे आरई पावर कॉस्ट घटता जा रहा है, तो उसमें डिस्कॉम्स को लगता है कि हम तो फंस गए। यह एक कननड्रम है, टेंशन है, प्रॉब्लम है। पर यदि लाँग टर्म पीपीए न हो तो फिर इनवेस्टमेंट भी नहीं आएगा। इसके लिए हमने कई सारे इंटरनेशनल एक्सपीरियंस किए है, उसका साल्यूशन ढूँढा जा रहा है। तीन-चार महीने में we will come out with a Policy Paper. I will send you a copy of that Policy Paper.

6.13 The Committee furthered the issue and desired to know that in case if a power project is delayed for some reasons and consequently the tariff is increased whether the Discoms should not have the right to review the Power Purchase Agreement. The Secretary, Power deposed before the Committee as under:

"आपकी बात एकदम सही है कि जो कॉस्ट एसकेलेशन होता है, पीपीए में कोई कॉस्ट इंडिकेट किया गया है और कॉस्ट एसकेलेशन हो तो डिस्कॉम्स को राइट होना चाहिए। हम लोगों ने एक हाइड्रो प्रोजेक्ट है, डिस्कॉम्स ने मना कर दिया। We have not forced the DISCOMs. क्योंकि उनकी गलती नहीं है। यदि कॉस्ट एसकेलेशन हुआ है और टैरिफ बढ़ रहा है तो अब उस डिस्कॉम के ऊपर है कि वह खरीदे या न खरीदे। यह आपकी बात एकदम सही है कि यदि कॉस्ट बढ़े तो why should a DISCOM suffer?

HYDRO POWER

6.14 India is blessed with immense amount of hydro-electric potential and ranks 5th in terms of exploitable hydro-potential on global scenario. As per assessment made by CEA, India is endowed with economically exploitable hydro-power potential to the tune of 1,48,700 MW of installed capacity. Against this capacity the present hydro power installed capacity in the country is 45,399 MW. When the Committee desired to know the efforts of the Government to promote and expedite the hydro power sector, the Ministry in their written reply have submitted as under:

"In order to promote and expedite the hydro sector, Govt. of India brought out an Office Memorandum on 08.03.2019 wherein apart from declaring all hydro power projects as renewable energy irrespective of capacity, GoI also stipulated for budgetary support for the infrastructure (roads & bridges) as well as flood moderation, Hydro Purchase Obligation, tariff rationalisation etc. These measures would help to bring down the cost of generation of hydropower and secure Power Purchase Agreements(PPAs)

- Due to the initiatives of the Government, Teesta – VI (500 MW), which was stalled for years, has been revived. Approval for pre-investment activities of Dibang (2880 MW) has also been accorded.
- Most hydropower projects suffer time and cost overruns due to a number of reasons, mainly due to geological uncertainties, delayed decision making, inadequate risk sharing mechanism and resultant contractual disputes. On

08.11.2019, the Government issued guidelines to reduce incidents of time and cost overruns with several measures like time-bound dispute resolution, enhanced delegation of powers, web-based e-diary system, fixing responsibilities for delays etc.

- On the advice of the Union Govt., the State Governments have also come forward offering various concessions to reduce the cost of hydropower generation:

✓ Himachal Pradesh has deferred free power, agreed for 50% reimbursement of State GST and BOOT/ BOOM for 70 years. Govt. of Himachal Pradesh signed agreements with 3 CPSUs viz. NTPC, NHPC and SJVN for setting up 11 hydropower projects of 3347 MW entailing an investment of about ₹ 32,000 crore.

✓ Jammu & Kashmir deferred free power, exempted water cess for 10 years and have given exemptions from local taxes to Kiru and Ratle Projects.

- The generation during April to December 2019 was 129.535 BUs, which is 15.95% higher than 111.719 BUs, the generation during the corresponding period in 2018.
-

The environmental reservations against Big Hydro are oversold and exaggerated. Holding water in dams actually makes it possible to intelligently manage the water resource; helps in balancing the needs for drinking water, agriculture, and environmental uses of water.

- Multipurpose hydropower reservoirs deliver a vital means of managing freshwater, providing supplies for agriculture, homes and business, and mitigating the impacts of extreme weather events such as floods and drought."

6.15 When the Committee raised that issue of levying of water cess on Hydro Power Projects by some States, the Secretary, Power deposed before the Committee as under:

"वाटर सेस के बारे में, जेएंडके वाटर सेस लेती है और कोई प्रदेश नहीं ले रहे हैं। जेएंडके चूँकि यूनियन टेरिटेरी बन गया है, होम मिनिस्ट्री उनकी एडमिनिस्ट्रेटिव मिनिस्ट्री है। We have written to them कि आप इसको हटा दीजिए, क्योंकि यह प्रोजेक्ट्स को अन-वाऐबल कर रहा है।"

Emission from Coal based Thermal Power Plants

6.16 On being asked by the Committee about the thermal power stations which have outlived their lives (25 years or more), the Ministry have furnished a list which is as **Annexure-III.**

6.17 On being asked by the Committee about the measures being taken by the Government to reduce the emission by the coal based thermal power plants, the Ministry have submitted as under:

"Ministry of Environment, Forest and Climate Change (MoEF & CC) notified new Emission Norms were notified by MoEF & CC on 07.12.2015, to be complied by all coal based Thermal Power Plants (TPPs) by December 2017.

After extensive consultations held between stakeholders, an year wise implementation plan (Flue Gas Desulphurization installation in 1,61,552 MW (415 units) and Electrostatic Precipitator Up gradation in 65,925 MW (231 unit)), starting from 2018 till December 2022 was prepared, keeping in mind the techno-economic feasibility and ensure availability of power to all at affordable cost, without affecting the electricity requirement of the country. The same was forwarded to MoEF & CC on 13.10.2017.

Based on the phasing plan submitted by MoP, MoEF & CC/CPCB has issued directions to TPPs under Section 5 of the Environment (Protection) Act, 1986 regarding compliance of new environment norms."

6.18 On being further probed by the Committee about the compliance of the emission norms fixed in this regard, the Ministry have submitted as under:

"Steps taken to facilitate implementation of new norms:

i. Government has revised its Notification on 28.06.2018 for Chimney height, for better control of pollutants and compliance to new environment norms.
ii. MoEF & CC has agreed to revise 300 mg/Nm3 for TPPs installed between 01.01.2004 to 31.12.2016 to 450 mg/Nm3. However, for 100 mg/Nm^3 for TPPs installed after 01.01.2017, amendment will be

considered by them after NTPC pilot study reports are submitted to them.

iii. Ministry of Power (R&R division) vide letter dated 30.05.2018, 07.12.2018 and 30.07.2019 has requested CERC to allow pass through for additional cost incurred for installation/retrofitting of pollution control equipment to comply with new environment norms, in the tariff and this shall not be taken account in the Merit Order Dispatch till December 2022. Further, State Governments are also requested to consider issuance of similar Directions to respective SERCs under Section 108 of the Electricity Act to facilitate the smooth implementation of revised emission norms in the larger public interest.

iv. CEA has specified technology for FGD installation for TPPs to choose among the same based on their feasibility and also made indicative cost estimation for FGD installation, discovered through open competitive bidding for the projects where FGD is already awarded. The same is uploaded on their website.

Forum of Regulators have also been requested vide MoP letter dated 21.01.2020 to consider grant of provisional tariff to TPPs, till the appropriate commission approves the change in tariff on account of FGD/ pollution control equipment based on the CEA's benchmarking costing assessed for specific technology for FGD installation. This is expected to facilitate assurance for lenders on their lending to IPPs."

Performance of Power Sector Public Undertakings

NEEPCO

6.19 Incorporated in 1976 to plan, investigate, design, construct, generate, operate & maintain power stations in the North Eastern Region of India under the Ministry of Power,

Government of India, NEEPCO is conferred with the Schedule A- Miniratna Category-I CPSE status and operates 7 hydro, 3 thermal and 1 solar power stations with a combined installed capacity of 1,457 MW.

6.20 When the Committee asked for the capacity addition performance of NEEPCO the following details have been furnished:

> "NEEPCO has been continuously adding generation capacity during the last five years. The Projects which have been commissioned in the last five years are as below:
>
> - NEEPCO commissioned its maiden Solar Power Project at Monarchak, Tripura with an installed capacity of 5 MW in February 2015.
> - Commissioning of 51 MW AGTCCEP, Agartala, Tripura:
>   - The 2 x 25.5 MW Agartala Gas Turbine Combined Cycle Extension Project (AGTPCCEP) which is an extension of the existing 4 x 21 MW Agartala Gas Turbine Plant (AGTP) was commissioned on 1st September 2015.
> - Commissioning of 101 MW TGBPP, Monarchak, Tripura:
>   - The Gas Turbine unit (65 MW) of the 101 MW Tripura Gas Based Power Project (TGBPP) was declared for commercial operation w.e.f. 24th Dec' 2015 and the Steam Turbine Unit (36 MW) declared on commercial operation on 31st March 2017.
> - In August/November 2017, NEEPCO commissioned the 2 x 30 MW Tuirial HE Project in Mizoram.
> - In May 2018, NEEPCO commissioned 2 x 55 MW Pare Hydro Power Project in the state of Arunachal Pradesh.
> - Unit-II (150 MW) of Kameng HEP in Arunachal Pradesh was synchronized on 12.01.2020 and Unit-I (150 MW) was synchronized on 26.01.2020**."**

6.21 In regard to delays in development of projects, it was stated as under:

> "Although there were delays in commissioning most of the Hydro Projects of NEEPCO due to various reasons such as unfavorable geology, difficult terrain, natural calamities, transportation hurdles and law and order issues etc., the thermal projects were more or less commissioned as per schedule. However, in

the case of 101 MW Tripura Gas Based Power Project, there was a delay in commissioning of the project mainly on account of the delay in supply of requisite quantity of gas required for the project by ONGC."

6.22 When the Committee desired to know about the factors that are hindering in achievement of objectives by NEEPCO, in their written reply they submitted as under:

"The hindering factors come across by NEEPCO in development of power projects are highlighted as under:

- Withdrawal and transfer of allotted projects by State Govt.
- Opposition from local populace
- Poor infrastructure and communication in the remote project locations
- Delay in accord of clearances
- Land acquisition problems
- Resettlement & Rehabilitation problems
- Environment and forest issues
- Shorter working season in the NER
- Natural calamities
- Geological surprises
- Law & order problems
- Inconsistent and less than contracted quantum of gas supply to gas based projects"

6.23 On being asked by the Committee whether limiting NEEPCO only to a specific region of the Country has affected its performance, they have replied as under:

"On establishment NEEPCO was responsible for development of power projects in the North Eastern Region only which is very hard area in terms of remoteness, lack of infrastructure, shorter working season, law & order problems etc. Amidst the multifarious problems specific to the Region, NEEPCO could achieve the present installed capacity of 1457 MW with another 600 MW scheduled for commissioning in June 2020 (300 MW already synchronized in January 2020).

The Article of Association was amended in 2013 to expand NEEPCO's jurisdiction for development of projects all over India and abroad. Accordingly,

the Corporation has been putting efforts to acquire projects also outside the NE Region."

Damodar Valley Corporation

6.24 Damodar Valley Corporation, the first major Multipurpose integrated River Valley Project of the country, conceived in line with Tennesse Valley Authority(TVA), came into existence on 7th July, 1948 by an Act of Central Legislature keeping in view the integrated development of Damodar Valley region in the States of Bihar (presently Jharkhand) and West Bengal. Thermal Power Generation Capacity of DVC is at present is 7090 MW and Hydel Power Generation Capacity is 147.2 MW.

6.25 The Plant Load Factor of DVC during April-19 to Dec-19 and for the Financial Year 2019-20 was 59.76(provisional) and 62.62%(provisional) respectively. During the same period it has incurred losses from Power Generation to the tune of 1,166 crore and 1,235 crore respectively.

6.26 Details of installed capacity of DVC (year-wise) vis-à-vis the contracted agreements for supply during 2013-14 to 2017-18 were as given in table below:

(Figures in MW)

Year	Capacity of new units added	Old units de-commissioned (Capacity)	Total installed capacity as on last day of the year	Bilateral tie-ups	Contract demand (firm sale)	Total sale of power	Surplus power
2013-14	500	0	5710	1670	2841	4511	1199
2014-15	500	0	6210	1670	2982	4652	1558
2015-16	1200	140	7270	2220	3384	5604	1666
2016-17	500	130	7640	2870	3467	6337	1303
2017-18	0	550	7090	2870	3384	6254	836

6.27 The Committee during their on the spot study visit to Bhubaneswar in January, 2020 found that there were not many buyers for DVC power despite that they have chosen to invest in development of new project i.e. Raghunathour Thermal Power having total capacity of 1200 MW.

6.28 While explaining the poor performance of DVC, the Chairman, DVC has deposed before the Committed as under:

> " कई सालों के बाद हम यह कोशिश कर रहे हैं कि अब की बार इस साल में यदि प्रॉफिट में नहीं आए तो कम से कम वह स्टेंडअलोन रह जाए। यह कम से कम पाँच-छ: साल के बाद होगा। हमने बहुत सारे निर्णय लिए हैं, बहुत सारे स्टेप्स उठाए हैं और उसमें एक यह भी कमी रही, ...शायद कुछ साल पहले जो भी निर्णय लिए गए होंगे, वह उस समय के हालत से ठीक थे। लेकिन बाद में ज्यों ही हालात बदलते चले गए, अगर हम उसके परिप्रेक्ष्य में देखें तो वे आज के दिन शायद ठीक डिसिजन नहीं लग रहे हैं। इसके बारे में मैं यह बताना चाहूँगा कि जैसे हम एनटीपीसी में कोई भी प्रोजेक्ट करते हैं तो उसके लिए जब तक आपके पास पानी नहीं है, कोयला नहीं है, खरीदारी नहीं है, पीपीए नहीं है, ट्रांसमिशन लाइन नहीं है, तब तक हम उसका इन्वेस्टमेंट एप्रूवल नहीं देते हैं। डीवीसी में क्या हुआ कि जिस तरह से कुछ प्राइवेट क्षेत्र वाले लोगों ने भी, जैसे यह मानकर चलें कि वर्ष 2008-09 में जो मर्चेंट टैरिफ था, वह शायद 8-9 रुपये था, यह मानकर चले कि डीवीसी भी प्लांट लगा लेगी और पावर तो बिक ही जाएगी। अगर आप उसको दोबारा से देखें तो शायद वह ठीक निर्णय नहीं होगा। यह अच्छी बात है कि आज के दिन वह बहुत ज्यादा ओवरहंग नहीं है।

6.29 When the Committee desired to know as to how DVC can overcome those issues, the Chairman, DVC deposed before the Committee as under:

> "हमने उस समस्या का अभी काफी निवारण ढूंढ लिया है। उसकी एक समस्या अभी भी बहुत बड़ी है, वह यह है कि झारखंड और वेस्ट बंगाल पर डीवीसी डिपेन्डेंट है, क्योंकि उसका कमांड एरिया वहीं है। किस तरह से हम ज्यादा पावर बेच पाएं, इसके लिए मैंने भी खुद इंडस्ट्रीज को बुला-बुलाकर मीटिंग्स की हैं और हमने काफी काम किया है। हमने 300

मेगावाट से ज्यादा का कनेक्शन रिलीज किया है। बिजली की खपत कैसे बढ़ाई जाए, एक सबसे बड़ी वही चीज उसके अंदर है, remaining things, we will follow. कोयले की जो उपलब्धता थी, उसमें हम मिनिस्ट्री से भी बात कर रहे हैं और कुछ जो नए प्लांट थे, उसका पीपीए नहीं था, जैसे कि माननीय सदस्य ने पहले बताया था कि उनको भी दो माइन दे दिए गए थे, जो कि खागरा जयदेव और ट्यूबेड थे। माननीय सदस्य ने सवाल पूछा था कि वह क्यों कम है, वह भी इसीलिए कम है कि उसके लैंड एक्विजिशन का पैसा देना है और वेस्ट बंगाल में वह लैंड एक्विजिशन नहीं हो पा रही है।....आज के दिन जो समस्या है, उसका हम निवारण कर रहे हैं और मुझे पूरा विश्वास है कि अगले एक-डेढ साल के अंदर हम उसको ठीक कर लेंगे। जो भी सरप्लस कैपेसिटी है, कोई न कोई रास्ता निकालकर उसको बेच लेंगे।...the only request, which I had been making is that Jharkhand need to really pay on time. That is one of the requirements. Today, there is a lot of arrear with the Jharkhand State, which is causing a lot of strain on this. I already had a discussion with the hon. CM there, and hopefully, we should be able to find a solution also.

VII. STRENGTHENING OF POWER SYSTEM

7.1 The following schemes are being implemented by Ministry of Power for improvement of transmission system:

i. North-Eastern Region Power System Improvement Project (NERPSIP)
ii. Comprehensive Scheme of Transmission & Distribution System in Arunachal Pradesh & Sikkim
iii. 220kV Transmission System from Alusteng (Srinagar) to Leh (via Drass, Kargil, Khalsti and Leh Sub-station) in Jammu & Kashmir (J&K)
iv. Renewable Energy Management Centre

7.2 The Scheme wise BE, RE and actual utilization during the last five year as furnished by the Ministry which is attached as **Annexure-IV**.

7.3 The Ministry have stated that implementation of this project (as central Sector Scheme, with funding on 50:50 basis by GoI& World Bank) would strengthen the Intra-State transmission & Distribution infrastructure of six states of North Eastern Region (Assam, Meghalaya, Manipur, Mizoram, Nagaland and Tripura); improve its connectivity to the upcoming load centers, and thus would extend the benefits of the grid-connected power to all the consumers. The project would also provide the required grid connectivity to such villages and towns of the States, where development of distribution system at the downstream level has been taking place under GoI sponsored RGGVY/ APDRP/ R-APDRP schemes. NERPSIP covers many transmission & distribution lines & sub-stations at 33kV, 66kV, 132kV and 220kV voltage levels.

7.4 They have also furnished the following details regarding this project:

Date of Govt. approval	Nov, 2014
Implementing Agency	PGCIL
Sanctioned Cost (Rs. crs)	5111.33 (at Feb, 2014 price level) [Project cost (Rs 5022.33 Crs including consultancy fee @12% of the executed cost GoI: Rs 2511.165 Crs, World Bank: Rs 2511.165 Crs., Capacity Building: Rs 89 Crs]

Funding	50:50 (Govt. of India: World Bank)
Completion schedule	December 2018 (48 months from date of release of 1st installment)

7.5 State wise Infrastructure to be created in Transmission/Sub-transmission and Distribution for NERPSIP is tabulated below:

Transmission/ Sub-transmission (132 kV & above)				**Distribution (Not below 33kV)**		
Name of State	**Line (Kms.)**	**New S/s (Nos)**	**Total MVA (New & Augmentation)**	**Line (Kms.)**	**New S/s (Nos)**	**Total MVA (New & Augmentation)**
Assam	235	11	1668	479	16	240
Manipur	254	2	112.5	131	13	274.85
Meghalaya	225	4	940	263	11	150
Mizoram	144	3	108.32	5	1	6.3
Nagaland	285	5	245	76.5	10	190
Tripura	261	9	1307	1077	34	450.5
Total	1404	34	4380.82	2031.50	85	1311.65

7.6 Financial status of NERPSIP as on 31st December, 2019 is as under:

Sl. No.	**Particulars**	**Total (in Crs.)**
1	Amount received	₹ 2610.33
2	Amount spent	₹ 1886.31

7.7 In regard to fund utilization, the Ministry have stated that the fund allocated has not been fully utilized because the elements covered under the scheme are under implementation and expected to be completed progressively by December, 2020.

Smart Grid

7.8 Smart Grid is an Electrical Grid with Automation, Communication and IT systems that can monitor power flows from points of generation to points of consumption (even down to appliances level) and control the power flow or curtail the load to match

generation in real time or near real time. Smart Grids can be achieved by implementing efficient transmission & distribution systems, system operations, consumer integration and renewable integration. Smart grid solutions helps to monitor, measure and control power flows in real time that can contribute to identification of losses and thereby appropriate technical and managerial actions can be taken to arrest the losses.

7.9 On being asked by the Committee about the details of the works to be done under Smart Grid Mission, the Ministry have stated as under:

> "The following works have been envisaged under National Smart Grid Mission for supporting Smart Grid implementation:
>
> - Assistance in formulation of projects including pre-feasibility studies, technology selection, cost-benefit analysis, financing models etc.
> - Funding of these projects (up to 30%), together with State Discoms and other financing agencies.
> - Training and capacity building for SLPMUs & project implementation teams
> - Facilitate consumer awareness initiatives
> - Project appraisal post implementation

7.10 The details of Financial Targets and Achievements are as under:

(Rs. in crore)

Financial Year	Allocation	Utilization
2017-18	69	3,05
2018-19	147	7,13
2019-20	96	4.63 (till Dec.19)

7.11 When the Committee asked about the physical targets and achievements, the Ministry have furnished the following details:

Targets:

- Deployment of Smart Meters and AMI.
- Substation renovation and Modernization with deployment of GIS wherever economically feasible.
- Development of medium sized Micro Grids.
- Development of Distributed Generation in form of Roof Top PVs.
- Real-time monitoring and control of Distribution Transformers.
- Provision of Harmonic Filters and other power quality improvement measures.
- Creation of EV Charging Infrastructure for supporting proliferation of EVs.

Achievements:

- Five (5) Smart Grid projects worth ₹ 683.16 Crores sanctioned for 8.1 lakh consumers including Smart Meters. One project under implementation. Remaining under various stages of pre-award activities
- Smart Grid training module developed. MoU executed with Smart Grid Knowledge Centre and IIT Kanpur. Around 300 utility professionals have been provided training in smart grid
- All Smart Grid pilot projects declared go-live and commercially operated. Impact assessment concluded.

7.12 In regard to slow progress of the Scheme, the Ministry have stated that the the progress envisaged has not been achieved primarily due to funding arrangement by implementing utilities (for balance 70%) and other factors like lack of skilled professionals, utility management reluctance etc. Most of the projects have been delayed and four sanctioned projects were cancelled due to Discoms inability to take up the project at their end.

7.13 In regard to importance of Smart Grid in integration and optimization of renewable power, the Ministry have stated that Smart Grid facilitates two way flow of power and envisages self-healing grid and would enable integration of multiple systems for sophisticated monitoring and efficient operations. The systems will be enabled with modern technologies to make grid more flexible and integration of renewables and storage systems. This shall help in maximizing the conventional sources for power generation and enabling micro/mini grids for sustainable operations. Smart Grids shall also help in optimizing the renewable usage through local grids, EV charging, battery storage systems, etc. thereby reducing the stress on main grid.

Smart Meters

7.14 A smart meter is an electronic device capable of recording electricity consumption, operating via 2-way communication and having an internal load switch. It records various types of meter data such as load profile, daily billing profile, monthly billing profile,

instantaneous profile, events etc. and is capable of remote configuration change and remote firmware upgrade. Smart Meters conforming to IS 16444 can be configured to work as prepaid meters.

7.15 The followings are advantages of smart meters over the conventional meters:

- Reduction in meter reading cost due to remote reading of monthly consumption
- Reduction in cost of electricity supply connection and disconnection at consumer end due to remote operation of the load switch
- Enhancement of billing efficiency
- Possible identification of electricity theft
- Possibility of revenue increase (for DISCOMs) due to identification of demand violation by end-consumers
- Timely and accurate billing thereby reducing due-date deviation
- Reduction in peak load due to time of use tariffs and better forecasting of loads
- Faster detection of outages and defective meters
- Ability for end-consumer to remotely monitor and manage electricity consumption providing an option to save money
- Reduction in carbon foot-print via reduced patrolling for meter reading, connection / disconnection, outage detection etc.

7.16 When the Committee asked about the difference in cost of a smart meter a conventional meter, the Ministry have stated that The cost of Smart Meters is higher as compared to average cost of conventional meters viz Single phase smart meter in nearly three times than the conventional static meter. Smart meters can communicate the real time consumption data including an interruption events like outage, tampers etc. to the utility control center in real time. They allows bi-directional flow of information i.e. utility to meter and meter to utility. Conventional meters just records the consumption data and requires human intervention for billing whereas Smart meters eliminates manual efforts and streamlines automatic billing and collection.

7.17 When the Committee desired to know the time period in which the higher cost of a smart meter is recovered, the Ministry have stated as under:

> "The cost of smart meters is primarily borne by DISCOM via the revenue gains due to enhanced operational efficiency. The duration for recovery of Smart

Meter cost is dependent on the business model opted for implementation and the service level agreements for guaranteed performance. This duration of recovery of costs depends upon the benchmark AT&C losses in the base year, financing costs, project cycle time, and mode of operation (opex or capex mode)
EESL has intimated that in general as per it's experience, a 6.5 year time frame would be sufficient to recover the cost of smart meters and associated infrastructure."

7.18 The Ministry have informed that the existing manufacturing capability of static meters in India is around 30 million meters per annum (as per CEA). IEEMA has claimed a manufacturing capacity of 700 million meters at some for a. EESL has advised that the capacity is expected to be switched to manufacturing smart meters without taking much time. At present 18 Nos. Smart meter (IS 16444 certified) manufacturers in the country are available as per BIS:

(i) Certified for 1-ph Smart Meter: 11

(ii) Certified for both 1-ph and 3-ph Smart Meters: 7

7.19 When the Committee enquired whether the present base is capable of supplying adequate number of Smart Meter to install all over the country, the Ministry have submitted as under:

"The existing manufacturing capacity of meters can be switched over to Smart meters once adequate bids are floated in the market by DISCOMs. While availability of demand in the market may also signal a requirement of increase in capacity by the Indian Indian industry, the market of smart meters seems to be demand driven as on date, and is likely to lag the creation of demand. Financial prudence also mandates that the demand and availability of Indian Smart meters is also seen in perspective of the price points in view of economies as well as dis-economies of scale."

7.20 In reply to a specific query of the Committee as to how the present demand of Smart Meters are being met, the Ministry have stated that the demand for Smart meters is on need basis and supplied by domestic manufacturers. As and when the utility interested to deploy smart meters awards the contract, the meter manufacturer start production as per the contract requirement.

7.21 On being desirous of know whether there is any State(s) which intend to totally switch over to Smart Meters, the Committee was informed that the Government of India had mandated to replace all existing meters with Smart (Prepaid) meters in the coming 3 years time span. However, no state has submitted a plan for complete switchover to smart meters except UT of Chandigarh. Further, currently, EESL is deploying smart meters in Uttar Pradesh, Haryana, Delhi (NDMC), Rajasthan, Bihar and Andaman, which is expected to scale up in near future.

7.22 In regard to difficulties in adoption of Smart Meters by the Discoms, the Ministry have informed that the financial health of the Discoms is major bottle neck for procuring Smart meters on CAPEX model. An OPEX model route with Service-Level Agreement (SLA) led performance linked payments is a viable way forward. However, there is lack of interested players in undertaking OPEX based roll out.

7.23 When the Committee asked whether there is any provision to install Smart Meters under DDUGJY/Saubhagya, the Ministry have replied as under:

> "DDUGJY was launched in Dec2014 with focus on energy access and system strengthening. Similarly, Saubhagya was launched for electrification of remaining households in the country. Advisories have already been issued to States for adoption and implementation of Smart Meters in the States. Govt of India is working on a scheme for speedy implementation of Smart Meters in India. Scheme is still at design stage. Necessary funds will be sought from Ministry of Finance."

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Part – II

Observations/ Recommendations of the Committee

Introductory

2.1 The Committee note that the electricity sector is passing through a turbulent phase and witnessing the changes of unprecedented nature. We have more than adequate generation capacity, one unified synchronous grid and a huge consumer base. However, the issues like quality and affordable electricity to common-men, low per capita electricity consumption and distressed Discoms are also haunting the sector. Despite various initiatives taken by the Government, the conundrum of sluggishness is all pervasive. Demands broadly remains stagnant, AT&C losses defying all efforts to contain them, assured fuel supply to generating units still illusive and long-term PPAs under severe strain can be summed-up as salient features of the electricity sector. Electricity policy *inter alia* laid down that supply of reliable and quality power of specified standard in an efficient manner and at reasonable rates, increase in per capita availability of electricity by 1000 units and financial turn-around/ commercial viability of the electricity sector as its goals. These objectives were envisaged way back in the year 2005. However, we have been able to achieve a little on all these fronts. The Committee, therefore, desire that instead of *ad hoc* and eye-wash measure, a long-term, thoughtful and efficacious planning is the

need of the hour to make the sector healthy, competitive, sustainable and vibrant.

(Recommendation Sl. No. 1, Para 2.1)

Annual Plan Outlay

2.2 The Committee note that Gross Budgetary Support (GBS) of the Ministry of Power for the year 2020-21 is Rs. 15,874.82 crore. However, the Ministry of Power had made a proposal for Rs. 33,366.75 crore. Similarly, for the year 2019-20 the Ministry was allocated Rs. 15,874.82 crore only against the demand of Rs. 32,001.11 crore. The Committee further note that for the year 2018-19 an allocation of Rs. 15,046.92 crore was made against the demand of Rs. 36,843.32 crore. The Committee also note that the Ministry have been able to fully utilize the allocated fund.

The Committee are appreciative of the good performance of the Ministry as far as utilization of fund is concerned. The Committee have observed that there is visible change in functioning of the Ministry in the recent years and full utilization of fund is its testimony. The Committee also note that the Government have achieved various goal for which they have been aspiring for long and in some case even before their targeted timeline. In view of the Committee this was made possible not only by sincere efforts of the Ministry but also due to the fact that they were allocated more funds. The Committee do understand that the resources of the Country are limited and are to be utilized

in the best possible manner taking a holistic picture of various sectors. Nonetheless, there is need to give priority to some programmes/sectors which are not only necessary for socio-economic upliftment of the people of the country but also play important role in the economic growth of the country. The Power Sector and their some of the flagship programmes doubtlessly fall under this category. DDUGJY/Saubhagya are not only schemes to provide electricity access to each and every households in the country but also an instrument to increase the demand of electricity. Similarly, IPDS scheme would immensely help in making the Distribution Sector economically viable and ensuring uninterrupted and quality power supply. Besides that, it will also enable to reduce high AT&C losses which monetary value runs in tens of thousands crores.

Considering the financial performance of the Ministry in the recent years, the Committee are surprised that this year also the Ministry of Finance resorted to a budgetary cut of more than 50%. Even the projection of the Ministry of Power for raising Extra Budgetary Resources (EBR) for DDUGJY, has also been curtailed. Against the demanded EBR of Rs. 10,491 crore only Rs. 5,500 crore is approved by the Ministry of Finance. Likewise, a budgetary allocation of only Rs. 5,300 crore has been approved against the projection of Rs. 7,000 crore for DDUGJY.

Considering the importance of various flagship programmes of the Ministry of Power and their financial performance in the recent years, the

Committee are disappointed by the budgetary cut made by the Ministry of Finance as it may adversely affect the progress of these programmes. The Committee, therefore, strongly recommend that adequate fund should be provided to the Ministry of Power at the stage of Revised Estimate so that timely implementation of important programmes can be ensured. The Committee also expect that the Ministry of Power will not slow down their pace of work in view of the budgetary cut. The Committee recommend the Ministry of Power to utilize whatever fund they have been allocated as Budgetary Estimate so that they can post demands for more funds at the time of Revised Estimate.

(Recommendation Sl. No. 2, Para 2.2)

Deen Dayal Upadhaya Gram Jyoti Yojana (DDUGJY)

2.3 The Committee note that apart from Rural Electrification, there are two other components under DDUGJY *viz*. separation of agriculture and non-agriculture feeders to facilitate Discoms in the judicious rostering of supply to agricultural and uninterrupted quality power supply to non-agricultural consumers and strengthening and augmentation of Sub-Transmission & Distribution infrastructure in rural areas, including metering of distribution transformers/feeders/consumers.

In regard to achievement under separation of agriculture and non-agriculture feeders, strengthening and augmentation of sub-transmission &

distribution infrastructure components, it has been submitted that they have generally been satisfactory considering a large focus towards expeditious completion of village and household electrification. It has further been informed that States have reported that feeder separation involving 1,00,901 ckm of 11 KV line has been completed. Under system strengthening component States have reported that 3190 new Sub-Stations have been established/augmented; 4,97,268 DT installed; 3,55,708 km LT and 1,76,045 km HT (11KV and 33/66 KV) line erected.

The reason for slow progress in some of the States, has been attributed to delay in award of the contract, delay in getting forest & railway clearances, land acquisition for sub-stations, Right of Way (RoW) issues, law & order issues and difficult terrain etc. However, it has also been stated that though DDUGJY scheme is available till 2021-22, the Government of India is impressing upon States for completion of all the component of DDUGJY before the schedule time.

The Committee have consistently been emphasizing the importance of DDUGJY and its earliest possible implementation. The remaining components of DDUGJY are equally important and supplementary to rural electrification, therefore, every effort should be made to ensure their timely completion. The Committee recommend the Ministry to closely monitor the progress of the scheme and provide guidance and assistance to the States where the pace of implementation of this programme is not satisfactory.

(Recommendation Sl. No. 3, Para 2.3)

2.4 The Committee note that there is an elaborated monitoring mechanism under DDUGJY to ensure its proper implementation. In regard to specification of material it has been submitted that the nodal agency has specified broad technical specifications of major material/equipment for the scheme as part of Standard Bidding Documents. As per the Quality Assurance Mechanism established under the scheme, at first level; State Power Utilities carryout necessary quality checks including pre-dispatch inspection of materials as well as quality of erection works in the field. At second level, the Nodal agency, REC Limited has also been entrusted with the responsibility to carryout pre-dispatch quality inspection of materials and erection works in villages on random sample basis through third party agencies designated as REC Quality Monitoring Agencies (RQMs). The defects notified by quality monitoring agencies are forwarded to Project Implementing Agencies for rectification & corrective measures. Despite all these mechanism in place, the Committee have been receiving feedback through Members of Parliament about the poor quality of work being done at the ground level. The Ministry have also agreed that the defects generally found are relating to erection of poles (tilted pole, improper grouting), earthing (inadequate or loose), proper use of hardware (loose Nuts & Bolts, lugs not crimped, PG Clamps not used), oil leakage in transformers, stay wire and guard wire) etc.

The Committee, therefore, recommend the Ministry to ensure the quality of materials being used under the Scheme as well as the work being done at the ground level. The Committee desire that in quest of meeting deadlines, there should not be any compromise in quality of work as it leaves a bad impression on the minds of people. The Committee also expect the Ministry to take prompt and sincere action on the feedback/complaints of the Members of Parliaments regarding implementation of this Scheme.

(Recommendation Sl. No. 4, Para 2.4)

2.5 The Committee also observe that despite multi-level of monitoring, the problem of sub-standard materials and poor quality of work continues unabated. This also reflect that either we are not serious in our approach for quality improvements or there is gross systemic malaise. It cannot be allowed to continue indefinitely. Some abiding solution will have o worked out. The routine and usual mechanism has failed to deliver. Some unconventional methodology need to be explored. It would be in the fitness of things if the current system of monitoring is dispensed with altogether. A new set of system, which is independent of prevailing processes and persons, should be entrusted with the responsibility of quality monitoring. Random checking or sampling of only 10% of the material be done away with. It should be cent-percent quality checking and made mandatory. Ways and means of implementing it can be worked out.

(Recommendation Sl. No. 5, Para 2.5)

2.6 The Committee note that feeder separation and strengthening of sub-transmission and distribution system in rural areas including metering are the basic features of the DDUGJY. For the metering purpose, a data-hub is also created. It has been informed that the Discom will prioritize strengthening of rural infrastructure works considering specific network requirement and will formulate detailed project reports of the projects for coverage under the scheme. These DPRs through procedural compliance will be submitted to Monitoring Committee for approval. The scheme (DDUGJY) has been in operation in some or the other form since more than one and a half decade, but the pattern of its implementation has not been evolved. The Committee are aware that we are in a federal system, wherein, working is streamlined in a particular manner, but that should not be an alibi for our slumber, lack of application of innovations and treading over the beaten tracks. If data-hub on rural electrification has been created, then further DPR should be considered only in the light of these datas for the purpose of priority. A representative body consisting of all the concerned should also examine it instead of the usual and routine administrative set-up that has been associated with the process.

(Recommendation Sl. No. 6, Para 2.6)

2.7 The Committee is also inclined to infer that village electrification repeat village electrification have become an unending process despite the claim of all

the villages having been electrified much before the target date. The focus on village and household electrification have impacted the desired results in the other components of the scheme. The Committee, therefore, recommend that the critical areas of the DDUGJY scheme in the form of its various components should be given due attention so that it fortifies the electrification network in the rural areas. Simultaneously, household electrification can go parallel as the work involved therein is not very enormous.

(Recommendation Sl. No. 7, Para 2.7)

Saubhagya Scheme

2.8 The Committee note that all the States have declared electrification of all households on 31st March 2019, except 18,734 households in Left Wing Extremist (LWE) affected areas of Chhattisgarh. The Ministry have stated that subsequently seven States namely Assam, Chhattisgarh, Jharkhand, Karnataka, Manipur, Rajasthan, and Uttar Pradesh reported that there are 19.09 lakh un-electrified households which were earlier un-willing, and now willing to get electricity connection, identified before 31st March, 2019. The Ministry had informed that States were asked to electrify these household under Saubhagya by 31st December, 2019. However, out of 19.09 lakh only 10.71 lakh households have been electrified upto 31.01.2020. Most of the remaining households (6.5 lakh) are in the State of Uttar Pradesh.

The Committee are appreciative of the good work done under the Saubhagya Scheme by which a large number of household were provided electricity connection in a time bound manner. The Committee also expect that the remaining households need to be provided connection at the earliest. Since most of the left out households are in the State of Uttar Pradesh, the Committee recommend the Ministry to coordinate and provide necessary assistance to the State if so required.

(Recommendation Sl. No. 8, Para 2.8)

Integrated Power Development Scheme (IPDS)

2.9 In regard to progress of implementation of IPDS scheme, the Committee note that the scheme has been sanctioned in 546 circles across the country and till date 403 circles have been completed. The Committee further note that some of the States have done exceedingly well in completion of the Scheme, whereas, some States particularly Bihar, Jammu & Kashmir and the States of North-Eastern Region are lagging behind. The Committee, therefore, recommend that all out efforts be made to expedite the execution of work under the scheme specially in the aforementioned States. Since this schemes has technical complexities and it also requires trained manpower in adequate numbers, the Committee expect the Ministry of Power to do hand-holding of those States which are facing difficulties in implementation of this scheme.

Also, there should be a regular exchange of best practices and lesson learned in implementation of this scheme among the States at an appropriate forum.

(Recommendation Sl. No. 9, Para 2.9)

2.10 The Committee note that the IPDS envisages to bring down AT&C losses to the level of 15% by establishment of IT enabled energy accounting/auditing, improvement in billed energy based on metered consumption and improvement in collection efficiency. However, when the Committee asked about the reduction of AT&C losses in the town where it has already been implemented, it has been submitted by the Ministry that the scheme does not specify monitoring of AT&C losses at circle level, but at Discom level. It has been further submitted that as per IPDS Guidelines the Discoms-wise AT&C losses are determined by PFC in its 'Report on performance of State Power Utilities' which shall be source of examining compliance of the above condition. Works in 403 Circles have been completed in FY-2018-19 & FY-2019-20, but 'Report on Performance of State Power Utilities' is yet to be released for said Financial Year. In view of the submission made by the Ministry, the Committee infer that it is yet to be seen that how far the work done under the scheme has helped in reduction of AT&C losses. The Committee expect that the Report of PFC will be released soon to assess the situation accurately. However, the Committee expected that the Ministry should have put in place some mechanism that can indicate the effectiveness of the scheme

so that any loopholes left in the scheme could be plugged. The Committee, therefore, recommend that efforts should be made to assess the effectiveness of IPDS in reduction of AT&C losses, wherein, it has already been implemented with a view to further improve this scheme.

(Recommendation Sl. No. 10, Para 2.10)

2.11 The Committee note that there is provision of underground cabling under IPDS Scheme. Underground cabling are not only beneficial from an aesthetic standpoint but also a great help in checking pilferage of electricity. The Ministry have submitted that underground cabling cost 8 to 10 times more than the overhead wiring, nevertheless, as per experience its higher cost have been recovered within three years of their lying in the areas prone to pilferage. The Committee understand that higher cost of underground cabling is a deterrent, even then, they support it as it would be cost effective in the long run. The Committee, therefore, recommend that the Ministry should endevour to lay underground cabling on priority basis in the areas which are highly prone to power theft.

(Recommendation Sl. No. 11, Para 2.11)

Bureau of Energy Efficiency (BEE)

2.12 The Committee note that that 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 Committee also find that the benefits derived from Energy Efficiency programme in the country have been astonishing. The Committee note that there has been a saving of 109.54 BUs i.e. 7% of total electricity consumption of the the country which has resulted in cost saving worth Rs. 54,770 crores. Whereas, there has been a saving of 18.82 Million Tonnes of oil Equivalent i.e. 2% of total primary energy supply of the country. Also, a reduction in CO_2 emission of around 125.18 Million Tonnes has been reported.

Considering the benefits already derived and the mammoth potential which is yet to be realized, the Committee believe that the budgetary allocation of the organization involved in energy efficiency and conservation has been insufficient. There has been Budgetary Allocation of Rs. 48 crore, 63 crore and 49 crore for the year 2015-16, 2016-17 and 2017-18. However, this allocation has been increase to Rs. 100 crore since the year 2018-19. Still, the Committee are of the view that there is a need to further enhance the budgetary provisions for BEE with a view to intensify various energy efficiency programmes in the country.

(Recommendation Sl. No. 12, Para 2.12)

2.13 The Committee note that the implementation and enforcement of the provisions of the Energy Conservation Act in the States is to be carried out by State Designated Agencies (SDAs). The Ministry have submitted that as on date, the SDAs have been set up in 36 states/UTs by designating one of the existing organizations as required under section 15(d) of the EC Act. These agencies differ from State to State with the Renewable Energy Development Agency (44%), Electrical Inspectorate (19%), Distribution Companies (19%), Power Department (11%) and others (6%).

The Committee have been emphasizing that Energy Efficiency Programmes are not only beneficial from environmental perspective but also a profitable business as it leads to reduction in energy cost. It has already been mentioned in the preceding para as to how tens of thousands crores have been saved due to energy efficiency programmes with paltry budgetary provisions. Though remarkable achievements have been made under these programmes, the Committee are of the belief that there is still great potential in the field of energy efficiency. The potential of energy efficiency can be understood by the fact that the MSME (micro, small and medium enterprises) sector accounts for about 33% of the India's manufacturing output and around 28% contribution in the GDP. There are about 8 million MSMEs in India – and majority of them have not been exposed to energy efficiency/ technology up-gradation measures since they continue to depend on obsolete, low efficiency technologies that

result in wasteful energy consumption, thereby reducing their profitability and competitiveness in the sector.

The Committee, therefore, recommend that institutional capacities of State Designated Agencies should be strengthened to make them capable of enforcing various provisions of EC Act in their respective States. The Committee expect the Ministry to provide all necessary financial assistance to these Agencies.

(Recommendation Sl. No. 13, Para 2.13)

Central Power Research Institute (CPRI)

2.14 The Committee note that the core activities of the Central Power Research Institute (CPRI) are 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. Since CPRI is the leading research institute in the field of Power, the Committee believe that they have to play a vital role in transformation and modernization of Power Sector. However, the Committee note that their financial performance has not been up to the mark. During the last five years they have never been able to fully utilize the allocated fund. Their actual utilization against the Budgetary Estimate for the year 2014-15, 2015-16, 2016-17, 2017-18 and 2018-19 have only been 27%, 30%, 53%, 34% and

63% respectively. The Committee, during the examination of previous year's Demands for Grants had highlighted the need to augment the budgetary provisions for Research and Development purpose in the country. But the Committee are not satisfied with performance of CPRI in utilization of funds that have been allocated to them during the last five years. However, the Committee note with satisfaction that they have already utilized Rs.178 crore (as on 31.01.2020) of the Budgetary Estimate of Rs. 200 crore for the year 2019-20 which is 89% of the BE. The Committee believe that they will be able to fully utilize the allocated fund this time. The Committee recommend that in future also it must be ensured that whatever fund is allocated to CPRI is fully utilized. Simultaneously, the Committee also desire to review the budgetary provisions for CPRI with a view to enhance it.

(Recommendation Sl. No. 14, Para 2.14)

2.15 The Committee note that CPRI has strength of around 545 personnel of which over 200 are well qualified and experienced Scientists/Engineers. CPRI is the only testing Laboratory in the world having all the test facilities for power equipment under one roof. The Institute has completed over more than 400 R&D projects and has been awarded 25 patents over the years and 72 patents are in process for the award. To its credit, the Institute has published over 3700 technical and research papers in national & international forums. The Institute has also brought out over 450 technical reports which are widely

referred to by both the utilities and industry. The senior scientists & engineers represent CPRI in various Electro-Technical Committees of BIS. CPRI officers are also represented in International Standards Committees like IEC, IEEE, and CIGRE etc. The Committee appreciate the good work being done by the CPRI and congratulate them for achieving various feats. However, the Committee at the same time feel that there is a need to further intensify the Research and Development projects specially related to Power Sector. The Committee have time and again been emphasizing the need to bring efficiency and cost effectiveness in Power Sector which can be made possible by technological interventions and up-gradation of infrastructure. The Committee have also been stressing on the need to focus our Research and Development activities on the areas which are necessary to cater the needs of electrical industry of the country for development of products indigenously. The Committee also believe that it is high time to take the quality of R&D to the next level to become globally competitive. The Committee, therefore, recommend the Ministry to:

(i) provide assistance to CPRI in making its test certificates globally acceptable.

(ii) provide adequate Grant in Aid for approved capital projects to augment test facilities of CPRI, and

(iii) provide assistance in allotting land for establishment of new units for expansion of Research and Test facilities.

(Recommendation Sl. No. 15, Para 2.15)

National Power Training Institute (NPTI)

2.16 The Committee note that National Power Training Institute (NPTI) is a National Apex body for fulfilling the training requirements of the power sector in the Country. Also, NPTI has been appointed as the Certifying Authority for SYSTEM OPERATOR of NLDC, RLDCs, SLDCs. NPTI also functions as an Apex Cadre Training Institute for Engineer/Officer of Central Power Engineering Service (Ministry of Power, Govt. of. India). The Committee further note that the performance of NPTI in terms of utilization of allocated fund has been good during the last three years as there have been no shortfalls. For the year 2019-20, NPTI was allocated a fund of Rs. 69 crore at BE which was revised to Rs. 50 crore at RE. As on 05.02.2020, they have utilized only Rs.28.90 crore. Since the budgetary allocation has direct correlation with the work to be done at the ground, the Committee are a bit surprised as to why the budgetary allocation which was Rs. 100.5 crore in the year 2018-19 was brought down to Rs. 69 crore only in the year 2019-20.

Considering the number of trained personnel required for implementation of various programmes pertaining to Power Sector and to adapt according to rapid technological changes being effected in the system, the Committee are of the view that there is a need to augment and further strengthen the training facilities. The Committee also recommend the Ministry to provide the required financial support to NPTI for the approved training infrastructure and to meet the upcoming requirements. The Committee also expect the Ministry to provide

assistance to NPTI in allotment of land for establishment of new units for expansion of training facility.

(Recommendation Sl. No. 16, Para 2.16)

Ujwal DISCOM Assurance Yojana (UDAY)

2.17 The Committee note that UDAY (Ujwal DISCOM Assurance Yojana), a scheme for financial and operational turnaround of Power Distribution Companies (DISCOMs) was formulated and launched by the Government on 20th November, 2015 in consultation with the various stakeholders to ensure a sustainable permanent solution to the problem of legacy of debts and address potential future losses.

The Committee also note that there have been reduction in ACS-ARR Gap as it has came down to Rs.0.27 per kWh in FY-2019 from Rs. 0.60 per kWh in FY-2016. It has also been submitted that UDAY states have showcased an improvement in annual book losses from Rs. 51,562 crore in FY-2016 to Rs. 27.250 crore in FY-2019. AT&C losses have also came down slightly from 20.81% in FY-2016 to 18.19% in FY-2019. The Committee feel that UDAY scheme has been successful in improving the situation to some extent, however, it has not been able to fully address the problem as the losses of Discoms, after showing dip in the initial years, have once again started rising. The Committee were given to understand that the Ministry is working on a new

scheme and its details would be shared as and when it is finalized. However, so far there is no announcement in this regard. The Committee being well aware of the importance of Distribution Sector's economic viability, desire that the Government would make all out effort to improve the financial health of Discoms on sustainable basis. They also expect that the new Scheme in this regard would soon be formulated and announced.

(Recommendation Sl. No. 17, Para 2.17)

Development of Power Sector

2.18 The Committee note that at present there is 3,67,280 MW of total installed generation capacity in the Country. The Committee further note that as per the National Electricity Plan for Generation, it is estimated that there would be Generation capacity to the tune of 6,19,066 MW by the end of 2026-27. Whereas, as per 19th Electric Power Survey there would be Peak Demand of only 2,98,800 MW in the year 2026-27.

The Committee also note that the Central Electricity Authority (CEA), as a statutory organization, is responsible for overall power sector planning, coordination, according concurrence to hydro-electric schemes, promoting and assisting the timely completion of projects, specifying technical standards and safety requirements, Grid Standards etc,. The Committee feel that despite the fact that generation is a de-licenced activity, it is an obligation on part of the Ministry/ CEA to ensure that the power sector is developed in a balanced

manner. Though we have been able to create enough generation capacities in the recent years, it has also created several issues. There are issues of stressed assets, low PLF of thermal power plants, falling share of hydro power in energy mix, difficulty in accommodation of intermittent renewable energy, etc. The Committee believe that all these issues cropped up due to inaccurate projections, faulty execution and inability to change as per the new situation. The Committee, therefore, desire that while making plans to meet future power generation requirements, it should invariably be taken into account that the demand has to be met by an optimum energy mix comprising hydro, nuclear, thermal and the renewable in right proportion. There should also be planning as to how those generation resources would be utilized optimally.

(Recommendation Sl. No. 18, Para 2.18)

2.19 The Committee note that there was a gap of 7.1 Billion Units in Energy Requirement and the Energy Supplies in the year 2018-19. There was also a gap of 1,494 MW in Peak Demand and Peak Met. The Committee also note that we have generation capacity to the tune of 3,67,280 MW while the Peak Demand was only 1,77,022. Despite that we were not able to fully meet the demand. The Ministry have submitted that it is due to constraints in sub-transmission and distribution network, commercial reasons, financial constraints of State utilities, etc. The Committee, therefore, recommend the

Ministry to remove all the constraints in fully meeting the demand of power in the country. The Committee expect that the Ministry would provide a detailed road map these constraints in this regard at the time of furnishing Action Taken Notes.

(Recommendation Sl. No. 19, Para 2.19)

Stress Assets in Power Sector

2.20 The Committee note that there were 34 Power Plant having capacity of 40,130 MW were stressed. In regard to their present status, the Ministry have stated that 14 projects with a total capacity of 16,450 MW have been resolved. 14 projects with a total capacity of 17,320 MW are at various stages of resolution, whereas, 6 projects with a total capacity of 6,360 MW are at very initial stage of construction and are totally stalled. Such projects have either been ordered to be liquidated or heading toward liquidation. The Ministry have enumerated various steps to take the remaining projects out of stress. The Committee, however, recommend the followings:

(i) The Ministry should make sincere effort while resolving the issue of stress in power sector with a view to bring out maximum possible power plants from the stress category especially those which have suffered because of the faults of others. The Committee have also found that in most of the cases, lack of coal supply is the prime reason for their stress.

(ii) The Committee are surprised that despite having more than enough coal reserves we are not able to supply adequate coal to our power plants. The Committee, therefore, recommend that efforts should also be made to ensure adequate supply of coal to the power plants by raising this issue at the appropriate level.

(iii) The Committee also recommend an impartial and independent investigation into the entire episode of Stress/NPA in Power Sector and process of its resolution so as to identify the malpractices and willful defaults in making these assets non-performing including the aspect of gold-plating/siphoning of funds which is perceived to have been done in some cases.

(Recommendation Sl. No. 20, Para 2.20)

Power Purchase Agreements(PPAs)

2.21 The Committee observe that the issue of long term Power Purchase Agreement (PPA) has become a conundrum. Since the advent of Solar Power, its tariff is on a constant decline. In the recent years, Solar Power tariff has aggressively been quoted making the Discoms reluctant to enter any long term PPA. This situation is causing disruption as long term PPA is a pre-requisite for financing of any new power project. In absence of long term PPAs it may be difficult to attract investment in Power Sector. On one hand, there are Power Generators who insist on honoring of long term PPAs at any cost as they have made huge investment in their projects. On the other hand, there are Discoms who do not want to purchase power at higher rate through long term PPAs as it

is available at much cheaper rate in short term market. The Committee have been apprised that the Ministry is looking for a possible solution to this problem and will come out with a Policy Paper in this regard. The Committee expect that the Ministry would expeditiously finalize the Policy Paper. The Committee, however, would like to recommend the Ministry to make a provision for review of such PPAs, wherein, tariff has been increased owing to cost overrun due to delay in development of a Power Project.

(Recommendation Sl. No. 21, Para 2.21)

Hydro-Power

2.22 The Committee note that India is blessed with immense amount of hydro-electric potential and ranks 5th in terms of exploitable hydro-potential on global scenario. As per assessment made by CEA, India is endowed with economically exploitable hydro-power potential to the tune of 1,48,700 MW of installed capacity. Against this capacity the present hydro power installed capacity in the country is 45,399 MW. The Committee have constantly been raising the issue of slow development of hydro power in the country and recommending the Government to take various steps to promote and expedite development of hydro power sector. The Committee note with satisfaction that the Government of India has brought out an Office Memorandum on 08.03.2019, wherein, apart from declaring all hydro power projects as renewable energy irrespective of capacity, they has also stipulated for budgetary support for the

infrastructure (roads & bridges) as well as flood moderation, Hydro Purchase Obligation, tariff rationalization etc. The Committee expect that the Government would further be making efforts to enable this sector grow at the desired speed. The Committee, therefore would like to recommend some of the steps that are yet to be taken. The issue of water cess imposed by the State of Jammu & Kashmir is one of them which need to be removed permanently as it is making hydro power projects unviable. Apart from the Central Government, it is equally important that State Government should also facilitate the development of hydro power to reap its benefits in long term. Himachal Pradesh have taken various measures that promote development of hydro-power. Other States endowed with hydro power potential may also be persuaded to take such measures.

(Recommendation Sl. No. 22, Para 2.22)

New Emission Norms of Power Plants

2.23 The Committee note that the Ministry of Environment, Forest and Climate Change (MoEF & CC) have notified new Emission Norms on 07.12.2015, which was to be complied by all coal based Thermal Power Plants (TPPs) by December, 2017. The Committee have been apprised that after extensive consultations held between stakeholders, an year wise implementation plan (Flue Gas Desulphurization installation in 1,61,552 MW (415 units) and Electrostatic Precipitator Up gradation in 65,925 MW (231 unit)), starting from

2018 till December 2022 has been prepared, keeping in mind the techno-economic feasibility and ensure availability of power to all at affordable cost, without affecting the electricity requirement of the country. The same has been forwarded to MoEF & CC on 13.10.2017. It has further been stated that based on the phasing plan submitted by Ministry of Power, MoEF & CC/CPCB has issued directions to TPPs under Section 5 of the Environment (Protection) Act, 1986 regarding compliance of new environment norms. The Ministry of Power have enumerated various steps being taken to facilitate implementation of new norms. The Committee recommend the Ministry to ensure strict and time bound compliance of these norms as it is not only beneficial from environmental perspective but also helpful in phasing out old and inefficient power plants.

(Recommendation Sl. No. 23, Para 2.23)

Performance of Power Sector PSUs

North Eastern Electric Power Corporation Limited (NEEPCO)

2.24 The Committee note that NEEPCO was incorporated in 1976 to plan, investigate, design, construct, generate, operate & maintain power stations in the North Eastern Region of India. The Committee further note that NEEPCO operates 7 hydro, 3 thermal and 1 solar power stations with a combined installed capacity of 1,457 MW. Considering the fact that NEEPCO is a specialized organization of North-Eastern Region where most of the hydro power potential lies, their performance in terms of their present installed

capacity leaves much to be desired. The Committee, therefore, are of the opinion that NEEPCO's performance should be reviewed with a view to make it proactive in obtaining and developing of more hydro power projects.

(Recommendation Sl. No. 24, Para 2.24)

Damodar Valley Corporation

2.25 The Committee note that Damodar Valley Corporation, the first major Multipurpose integrated River Valley Project of the country, conceived in line with Tennesse Valley Authority (TVA), came into existence on 7th July, 1948 by an Act of Central Legislature for the integrated development of Damodar Valley region in the States of Bihar (presently Jharkhand) and West Bengal. At present, Thermal Power Generation Capacity of DVC is 7,090 MW and Hydel Power Generation Capacity is 147.2 MW. The Committee further note that DVC during April-2019 to Dec-2019 and FY-2019-20 has incurred losses from Power Generation to the tune of 1,166 crore and 1,235 crore respectively. The scrutiny of the Committee has revealed that there has been mismanagement in marketing of electricity by DVC. It is found that there was surplus power ranging from 836 MW to 1,666 MW during the period 2013-14 to 2017-18. Their decision to invest in a new power projects i.e. Raghunathpur Thermal Power having total capacity of 1200 MW, seems imprudent as they were already finding it difficult to sell electricity of their existing power plants due to lack of buyers. The Committee, therefore, recommend the Ministry of Power to review the functioning of DVC with a view to improve its financial health and

submit a detailed report in this regard at the time of furnishing Action Taken Note. Also, the Ministry should provide assistance to DVC in recovery of due from the State Government of Jharkhand.

(Recommendation Sl. No. 25, Para 2.25)

Strengthening of Power System

2.26 The Committee note that the Ministry of Power, for improvement of transmission system in the North-Eastern Region, is implementing North-Eastern Region Power System Improvement Project (NERPSIP). It has been submitted that a total of Rs. 2,610.33 crore has been received while amount of Rs. 1,886.31 crore has been spent. In regard to fund utilization, the Ministry have stated that the fund allocated has not been fully utilized because the elements covered under the scheme are under implementation and expected to be completed progressively by December, 2020.

The Committee do appreciate this initiative of the Government as implementation of this project would strengthen the Intra-State transmission & Distribution infrastructure of six states of North Eastern Region (Assam, Meghalaya, Manipur, Mizoram, Nagaland and Tripura); improve its connectivity to the upcoming load centers, and thus would extend the benefits of the grid-connected power to all the consumers. The project would also provide the required grid connectivity to such villages and towns of the States, where development of distribution system at the downstream level has been taking place under Government of India sponsored RGGVY/ APDRP/ R-APDRP

schemes. The Committee, therefore, desire that the project should be properly implemented within the stipulated timeline. Needless to say that paucity of fund should not get in the way of timely and proper implementation of this project.

(Recommendation Sl. No. 26, Para 2.26)

Smart Grid

2.27 The Committee note that Smart Grid is an Electrical Grid with Automation, Communication and IT systems that can monitor power flows from points of generation to points of consumption (even down to appliances level) and control the power flow or curtail the load to match generation in real time or near real time. Smart Grids can be achieved by implementing efficient transmission & distribution systems, system operations, consumer integration and renewable integration. Smart grid solutions helps to monitor, measure and control power flows in real time that can contribute to identification of losses and thereby appropriate technical and managerial actions can be taken to arrest the losses. The Committee further note that for Smart Grid Mission there has been allocation of Rs. 69 crore, 147 crore and 96 crore for the year 2017-18, 2018-19 and 2019-20, however their actual utilization has been only Rs. 3.05 crore, 7.13 crore and 4.63 crore (till Dec.2019) respectively.

In regard to slow progress of the Scheme, the Ministry have stated that the the progress envisaged has not been achieved primarily due to funding arrangement by implementing utilities (for balance 70%) and other factors like

lack of skilled professionals, utility management reluctance, etc. Most of the projects have been delayed and four sanctioned projects were cancelled due to Discoms inability to take up the project at their end.

The Committee considering the importance of Smart Grid in integration and optimization of renewable power, maximizing the conventional sources for power generation etc. are disappointed with the delay in its implementation. The Committee, therefore, recommend that the work related to Smart Grid should be expedited and implemented in a time bound manner.

(Recommendation Sl. No. 27, Para 2.27)

Smart Meters

2.28 The Committee note that Smart Meter is an electronic device capable of recording electricity consumption, operating via 2-way communication and having an internal load switch. It records various types of meter data such as load profile, daily billing profile, monthly billing profile, instantaneous profile, events, etc. and is capable of remote configuration change and remote firmware upgrade. Smart Meters conforming to IS 16444 can be configured to work as prepaid meters. The Committee also note the numerous advantages of Smart Meters over conventional meters. Though the cost of Smart Meter is nearly three times than the conventional static meter, the Committee also note that as per experience its higher cost would be recovered in a 6.5 year of time frame. The Committee have been informed that the Government of India had

mandated to replace all existing meters with Smart (Prepaid) Meters in the coming 3 years time span. However, no state has submitted a plan for complete switchover to smart meters except UT of Chandigarh. Further, currently, EESL is deploying smart meters in Uttar Pradesh, Haryana, Delhi (NDMC), Rajasthan, Bihar and Andaman, which is expected to scale up in near future.

The Committee, therefore, recommend that followings:

(i) as there is a need to augment the manufacturing base of the Smart Meters to ensure supply of adequate number of meters to be installed all over the country, it should be ensured that there are multiple players in the field to rule out monopoly or any constraints in supply of Smart Meters in future.

(ii) The Ministry should encourage States to submit their plans for their complete switchover to Smart Meters as done by UT of Chandigarh.

(iii) The Ministry should also ensure that henceforth only Smart Meters are installed under Saubhagya Scheme to avoid duplicity of work.

(Recommendation Sl. No. 28, Para 2.28)

New Delhi;
6th March, 2020
16 Phalguna, 1941 (Saka)

Rajiv Ranjan Singh *alias* Lalan Singh
Chairman,
Standing Committee on Energy

MINISTRY OF POWER

DEMAND NO. 77

Ministry of Power

(In ₹ crores)

	Actual 2018-2019			Budget 2019-2020			Revised 2019-2020			Budget 2020-2021		
	Revenue	Capital	Total	Revenue	Capital	Total	Revenue	Capital	Total	Revenue	Capital	Total
Gross	16889.68	2960.43	19850.11	18956.36	3365.92	22322.28	19073.82	2787.92	21861.74	19833.20	2048.08	21881.28
Recoveries	*-3357.05*	*-917.22*	*-4274.27*	*-5481.66*	*-965.80*	*-6447.46*	*-5021.12*	*-965.80*	*-5986.92*	*-5040.66*	*-965.80*	*-6006.46*
Receipts	...	...	...	...	...	...	...	...	...	...	...	...
Net	**13532.63**	**2043.21**	**15575.84**	**13474.70**	**2400.12**	**15874.82**	**14052.70**	**1822.12**	**15874.82**	**14792.54**	**1082.28**	**15874.82**
A. The Budget allocations, net of recoveries, are given below:												
CENTRE'S EXPENDITURE												
Establishment Expenditure of the Centre												
1. Secretariat	43.58	...	43.58	48.39	...	48.39	47.40	...	47.40	51.57	...	51.57
	-0.02	...	-0.02	...	...	...	...	...	...	...	...	...
Net	*43.56*	...	*43.56*	*48.39*	...	*48.39*	*47.40*	...	*47.40*	*51.57*	...	*51.57*
2. Statutory Authorities												
2.01 Central Electricity Authority	115.81	...	115.81	122.15	...	122.15	125.57	...	125.57	130.66	...	130.66
2.02 Setting up of Joint Electricity Regulatory Commission (JERC) for UTs and Goa	7.30	...	7.30	9.35	...	9.35	9.35	...	9.35	9.65	...	9.65
2.03 Appellate Tribunal for Electricity	11.75	...	11.75	17.14	...	17.14	17.14	...	17.14	17.40	...	17.40
2.04 Central Electricity Regulatory Commission (CERC) Fund	...	...	...	66.50	...	66.50	66.50	...	66.50	66.50	...	66.50
2.05 Less- Amount met from CERC Fund	...	...	...	-66.50	...	-66.50	-66.50	...	-66.50	-66.50	...	-66.50
Net	*134.86*	...	*134.86*	*148.64*	...	*148.64*	*152.06*	...	*152.06*	*157.71*	...	*157.71*
Total-Establishment Expenditure of the Centre	**178.42**	**...**	**178.42**	**197.03**	**...**	**197.03**	**199.46**	**...**	**199.46**	**209.28**	**...**	**209.28**
Central Sector Schemes/Projects												
Conservation and Energy Efficiency												
3. Energy Conservation Schemes												
3.01 Energy Conservation	26.50	...	26.50	110.00	...	110.00	110.00	...	110.00	109.99	...	109.99
Deen Dayal Upadhyaya Gram Jyoti Yojna												
4. Deen Dayal Upadhyaya Gram Jyoti Yojna	3799.80	...	3799.80	4066.00	...	4066.00	4066.00	...	4066.00	4500.00	...	4500.00
5. Sahaj Bijli Har Ghar Yojana (Rural)- Saubhagya	2750.00	...	2750.00	...	...	...	...	...	...	...	...	...
Total-Deen Dayal Upadhyaya Gram Jyoti Yojna	**6549.80**	**...**	**6549.80**	**4066.00**	**...**	**4066.00**	**4066.00**	**...**	**4066.00**	**4500.00**	**...**	**4500.00**
Integrated Power Development Scheme												

(In ₹ crores)

	Actual 2018-2019			Budget 2019-2020			Revised 2019-2020			Budget 2020-2021		
	Revenue	Capital	Total	Revenue	Capital	Total	Revenue	Capital	Total	Revenue	Capital	Total
6. Integrated Power Development Scheme												
6.01 Transfer to Central Road and Infrastructure Fund (CRIF)	2812.59	...	2812.59	4380.45	900.00	5280.45	4380.45	900.00	5280.45	4400.00	900.00	5300.00
6.02 IPDS-Grant	2812.59	...	2812.59	4380.45	...	4380.45	4762.72	...	4762.72	4400.00	...	4400.00
6.03 IPDS-Loans	...	1734.43	1734.43	...	900.00	900.00	...	900.00	900.00	...	900.00	900.00
6.04 Sahaj Bijli Har Ghar Yojana (Urban)-Saubhagya	216.90	...	216.90	...	...	...	...	...	...	...	...	...
6.05 Less- Amount Met from Central Road and Infrastructure Fund (CRIF)	-2812.59	-867.22	-3679.81	-4380.45	-900.00	-5280.45	-4380.45	-900.00	-5280.45	-4400.00	-900.00	-5300.00
6.06 Scheme for Smart Metering	...	...	...	0.01	...	0.01	0.01	...	0.01	...	...	...
Total- Integrated Power Development Scheme	*3029.49*	*867.21*	*3896.70*	*4380.46*	*900.00*	*5280.46*	*4762.73*	*900.00*	*5662.73*	*4400.00*	*900.00*	*5300.00*
Strengthening of Power Systems												
7. Strengthening of Power Systems												
7.01 Smart Grids	7.13	...	7.13	62.15	...	62.15	39.55	...	39.55	40.00	...	40.00
7.02 Green Energy Corridors	...	105.00	105.00	...	15.00	15.00	...	15.00	15.00	...	33.00	33.00
7.03 Interest Subsidy to National Electricity Fund	108.00	...	108.00	75.00	...	75.00	75.00	...	75.00	200.00	...	200.00
7.04 220 kV Transmission line from Srinagar to Leh via Kargil	...	500.00	500.00	...	160.47	160.47	...	160.47	160.47	...	...	...
7.05 Power System Improvement in North Eastern States excluding Arunachal Pradesh and Sikkim (Program Component)	582.50	...	582.50	313.50	...	313.50	430.00	...	430.00	430.00	...	430.00
7.06 Power System Improvement in North Eastern States excluding Arunachal Pradesh and Sikkim (EAP Component)	700.00	...	700.00	256.50	...	256.50	340.00	...	340.00	340.00	...	340.00
7.07 Strengthening of Transmission System in the States of Arunachal Pradesh and Sikkim	800.00	...	800.00	595.42	...	595.42	800.00	...	800.00	800.00	...	800.00
7.08 Actual recovery	-0.44	...	-0.44	...	...	...	...	...	...	...	...	...
Net	*2197.19*	*605.00*	*2802.19*	*1302.57*	*175.47*	*1478.04*	*1684.55*	*175.47*	*1860.02*	*1810.00*	*33.00*	*1843.00*
Power System Development Fund												
8. Power System Development Fund												
8.01 Transfer to Power System Development Fund (PSDF)	544.00	...	544.00	1034.71	...	1034.71	574.17	...	574.17	574.16	...	574.16
8.02 Scheme for Power System Development	544.00	...	544.00	582.08	...	582.08	121.48	...	121.48	121.48	...	121.48
8.03 Utilisation of Gas based Generation Capacity	...	...	...	0.01	...	0.01	0.01	...	0.01	...	...	...
8.04 Payment of interest for loan	...	...	...	452.62	...	452.62	452.68	...	452.68	452.68	...	452.68
8.05 Less-Amount met from Power System Development Fund	-544.00	...	-544.00	-1034.71	...	-1034.71	-574.17	...	-574.17	-574.16	...	-574.16
Net	*544.00*	*...*	*544.00*	*1034.71*	*...*	*1034.71*	*574.17*	*...*	*574.17*	*574.16*	*...*	*574.16*
9. Reform Linked Distribution Scheme	...	...	...	...	...	...	...	...	...	0.01	...	0.01
Total-Central Sector Schemes/Projects	**12346.98**	**1472.21**	**13819.19**	**10893.74**	**1075.47**	**11969.21**	**11197.45**	**1075.47**	**12272.92**	**11394.16**	**933.00**	**12327.16**
Other Central Sector Expenditure												
Autonomous Bodies												

(In ₹ crores)

	Actual 2018-2019			Budget 2019-2020			Revised 2019-2020			Budget 2020-2021		
	Revenue	Capital	Total	Revenue	Capital	Total	Revenue	Capital	Total	Revenue	Capital	Total
10. Training and Research												
10.01 Central Power Research Institute	94.34	...	94.34	200.00	...	200.00	200.00	...	200.00	200.00	...	200.00
10.02 National Power Training Institute	100.55	...	100.55	69.00	...	69.00	50.00	...	50.00	82.34	...	82.34
Total- Training and Research	*194.89*	*...*	*194.89*	*269.00*	*...*	*269.00*	*250.00*	*...*	*250.00*	*282.34*	*...*	*282.34*
11. Conservation and Energy Efficiency												
11.01 Bureau of Energy Efficiency (Program Component)	10.49	...	10.49	100.16	...	100.16	100.16	...	100.16	100.16	...	100.16
11.02 Bureau of Energy Efficiency (EAP Component)	3.21	...	3.21	3.21	...	3.21	3.21	...	3.21	3.21	...	3.21
Total- Conservation and Energy Efficiency	*13.70*	*...*	*13.70*	*103.37*	*...*	*103.37*	*103.37*	*...*	*103.37*	*103.37*	*...*	*103.37*
Total-Autonomous Bodies	**208.59**	**...**	**208.59**	**372.37**	**...**	**372.37**	**353.37**	**...**	**353.37**	**385.71**	**...**	**385.71**
Public Sector Undertakings												
12. Assistance to CPSUs												
12.01 National Hydro Electric Power Corporation Ltd	...	482.00	482.00	...	554.64	554.64	...	554.64	554.64	...	84.27	84.27
12.02 Tehri Development Corporation (THDC)	...	28.00	28.00	...	21.00	21.00	...	21.00	21.00	...	...	...
12.03 North Eastern Electric Power Corporation (NEEPCO)	...	61.00	61.00	...	684.00	684.00	...	171.00	171.00	...	...	...
12.04 Central Assistance for Pakul Dul HEP under J and K PMDP 2015 as grant to Chenab Valley Power Projects Private Limited (CVPPPL)	100.00	...	100.00	351.78	...	351.78	322.85	...	322.85	373.65	...	373.65
12.05 GoI fully serviced bond issue expenditure and interest (PFC bonds)	376.40	...	376.40	376.40	...	376.40	376.40	...	376.40	376.40	...	376.40
12.06 GoI fully serviced bond issue expenditure and interest (REC Bonds)	322.24	...	322.24	1185.03	...	1185.03	1504.82	...	1504.82	1920.92	...	1920.92
12.07 Reimbursement of Claim for any expenditure already incurred by NTPC on Lohari Nagpala Hydro Power	...	...	...	0.01	...	0.01	0.01	...	0.01	104.40	...	104.40
Total- Assistance to CPSUs	*798.64*	*571.00*	*1369.64*	*1913.22*	*1259.64*	*3172.86*	*2204.08*	*746.64*	*2950.72*	*2775.37*	*84.27*	*2859.64*
13. Acquistion of Coal bearing areas for NTPC												
13.01 Acquisition of coal bearing areas	...	50.00	50.00	...	65.80	65.80	...	65.80	65.80	...	65.80	65.80
13.02 Less Recoveries	...	-50.00	-50.00	...	-65.80	-65.80	...	-65.80	-65.80	...	-65.80	-65.80
Net	...	...	...	...	...	...	...	...	...	...	...	...
Total-Public Sector Undertakings	**798.64**	**571.00**	**1369.64**	**1913.22**	**1259.64**	**3172.86**	**2204.08**	**746.64**	**2950.72**	**2775.37**	**84.27**	**2859.64**
Others												
14. Advance Ultra Super Critical plant in Sipat, Chattisgarh	...	...	...	0.01	...	0.01	0.01	...	0.01	0.01	...	0.01
15. Payment to Law firm P and A Law associates in KOWEPO case	...	...	...	0.50	...	0.50	0.50	...	0.50	28.00	...	28.00
16. Payment to SDMC- Badarpur Thermal Power Station	...	...	...	97.83	...	97.83	97.83	...	97.83	...	...	...
17. Support for cost of enabling infrastructure i.e Roads/ Bridge etc	...	...	...	...	65.00	65.00	...	...	...	...	65.00	65.00
18. Support for flood moderation storage- Hydro electric projects	...	...	...	...	0.01	0.01	...	0.01	0.01	...	0.01	0.01

(In ₹ crores)

	Actual 2018-2019			Budget 2019-2020			Revised 2019-2020			Budget 2020-2021		
	Revenue	Capital	Total	Revenue	Capital	Total	Revenue	Capital	Total	Revenue	Capital	Total
19. Dispute Resolution Authority	...	...	...	...	...	...	...	...	...	0.01	...	0.01
Total-Others	**...**	**...**	**...**	**98.34**	**65.01**	**163.35**	**98.34**	**0.01**	**98.35**	**28.02**	**65.01**	**93.03**
Total-Other Central Sector Expenditure	**1007.23**	**571.00**	**1578.23**	**2383.93**	**1324.65**	**3708.58**	**2655.79**	**746.65**	**3402.44**	**3189.10**	**149.28**	**3338.38**
Grand Total	***13532.63***	***2043.21***	***15575.84***	***13474.70***	***2400.12***	***15874.82***	***14052.70***	***1822.12***	***15874.82***	***14792.54***	***1082.28***	***15874.82***
B. Developmental Heads												
Economic Services												
1. Power	13489.07	...	13489.07	11853.39	...	11853.39	11757.50	...	11757.50	12763.47	...	12763.47
2. Secretariat-Economic Services	43.56	...	43.56	48.39	...	48.39	47.40	...	47.40	51.57	...	51.57
3. Capital Outlay on Power Projects	...	694.00	694.00	...	261.48	261.48	...	196.48	196.48	...	98.01	98.01
4. Loans for Power Projects	...	1349.21	1349.21	...	1364.64	1364.64	...	1364.64	1364.64	...	894.27	894.27
Total-Economic Services	**13532.63**	**2043.21**	**15575.84**	**11901.78**	**1626.12**	**13527.90**	**11804.90**	**1561.12**	**13366.02**	**12815.04**	**992.28**	**13807.32**
Others												
5. North Eastern Areas	...	...	...	1572.92	...	1572.92	2247.80	...	2247.80	1977.50	...	1977.50
6. Capital Outlay on North Eastern Areas	...	...	...	...	684.00	684.00	...	171.00	171.00	...	...	...
7. Loans for North Eastern Areas	...	...	...	...	90.00	90.00	...	90.00	90.00	...	90.00	90.00
Total-Others	**...**	**...**	**...**	**1572.92**	**774.00**	**2346.92**	**2247.80**	**261.00**	**2508.80**	**1977.50**	**90.00**	**2067.50**
Grand Total	**13532.63**	**2043.21**	**15575.84**	**13474.70**	**2400.12**	**15874.82**	**14052.70**	**1822.12**	**15874.82**	**14792.54**	**1082.28**	**15874.82**

	Budget Support	IEBR	Total	Budget Support	IEBR	Total	Budget Support	IEBR	Total	Budget Support	IEBR	Total
C. Investment in Public Enterprises												
1. National Thermal Power Corporation Limited	...	27363.24	27363.24	...	20000.00	20000.00	...	20000.00	20000.00	...	21000.00	21000.00
2. National Hydro Electric Power Corporation Limited	482.00	3748.41	4230.41	554.64	3251.36	3806.00	554.64	4644.65	5199.29	84.27	5317.02	5401.29
3. Damodar Valley Corporation Limited	...	764.85	764.85	...	1835.26	1835.26	...	1410.41	1410.41	...	2342.00	2342.00
4. North Eastern Electric Power Corporation Limited	61.00	691.99	752.99	684.00	241.79	925.79	171.00	773.64	944.64	...	564.36	564.36
5. Satluj Jal Vidyut Nigam Limited	...	854.04	854.04	...	1200.00	1200.00	...	1200.00	1200.00	...	2880.00	2880.00
6. Tehri Hydro Development Corporation Limited	28.00	957.03	985.03	21.00	879.00	900.00	21.00	918.00	939.00	...	1781.00	1781.00
7. Power Grid Corporation of India Limited	...	25807.00	25807.00	...	15000.00	15000.00	...	15000.00	15000.00	...	10500.00	10500.00

	Budget Support	IEBR	Total	Budget Support	IEBR	Total	Budget Support	IEBR	Total	Budget Support	IEBR	Total
8. Rural Electrification Corporation	...	13827.00	13827.00	...	...	...	...	8500.00	8500.00	...	5500.00	5500.00
9. Power Finance Corporation	...	...	...	...	...	...	...	...	...	...	...	...
Total	**571.00**	**74013.56**	**74584.56**	**1259.64**	**42407.41**	**43667.05**	**746.64**	**52446.70**	**53193.34**	**84.27**	**49884.38**	**49968.65**

Annexure-II
XXXXXXXXXXXX

Projected Budget Estimates 2020-21 and sanctioned amount by M/o Finance

(Rs in crore)

Sr No	Description	Total	Projected BE 2020-21	BE 2020-21	Remarks
1	1	2	3	4	5
	I. Establishment expenditure				
1	MoP (Secretariat)	Salary	38.80	35.19	
		Non-Salary	16.38	16.38	
		Total	**55.18**	**51.57**	
2	Central Electricity Authority (CEA)	Salary	114.56	101.19	
		Non-Salary	40.10	29.47	
		Total	**154.66**	**130.66**	
3	Appellate Tribunal for Electricity	Salary	4.95	4.57	
		Non-Salary	179.37	12.83	
		Total	**184.32**	**17.40**	
4	CERC	Total	0.01	66.50	
	Amount met from CERC	Total	-0.01	-66.50	
	Net		**0.00**	**0.00**	
5	Setting up of Joint Electricity Regulatory Commission (JERC) for UTs and Goa	Salary	2.72	2.65	
		Non-Salary	7.56	7.00	
		Total	**10.28**	**9.65**	
	Total: Salary		**161.03**	**143.60**	
	Total: Non Salary		**243.41**	**65.68**	
	Total (Establishment Expenditure)		**404.44**	**209.28**	
	II. Central Sector Schemes/Projects				
6	Energy Conservation		110.00	109.99	
7	*Deen Dayal Upadhyaya Gram Jyoti Yojna*				
	NER		350.05	267.50	EBR of Rs 5500 cr is approved by Ministry of Finance against the projected EBR of 10,491 crore.
	Non NER, Non SCSP, Non TSP		8309.11	3098.50	
	SCSP		883.25	747.00	
	TSP		457.59	387.00	
	Total: Deen Dayal Upadhyaya Gram Jyoti Yojna	**Total**	**10000.00**	**4500.00**	
	Saubhagaya- Rural		**500.00**	0.00	
8	***Integrated Power Development Scheme (IPDS)***				
	NER		630.00	140.00	
	Non NER, Non SCSP, Non TSP		4270.00	3110.00	
	SCSP		600.00	750.00	
	TSP		300.00	400.00	
	Total IPDS (Grants)		**5800.00**	**4400.00**	
	NER- Loan		150.00	90.00	
	Non NER, Non SCSP, Non TSP (Loan)		750.00	600.00	
	SCSP (Loan)		200.00	140.00	
	TSP (Loan)		100.00	70.00	
	Total: IPDS (Loans)		**1200.00**	**900.00**	
	Total-IPDS	**Total**	**7000.00**	**5300.00**	
	Saubhagaya- Urban		**0.00**		
	Amount met from CRIF			**-5300.00**	
	Transfer to CRIF			**5300.00**	
9	***Reform Linked Distribution Scheme***		**7500.00**	**0.01**	
	Strengthening of Power Systems				
10	Smart Grid		62.15	40.00	
11	Green Energy Corridor		33.00	33.00	
12	Interest Subsidy to National Electricity Fund		290.00	200.00	
13	220 KV Transmission Line from Srinagar to Leh via Kargil		0.00	0.00	

Projected Budget Estimates 2020-21 and sanctioned amount by M/o Finance

(Rs in crore)

Sr No	Description	Total	Projected BE 2020-21	BE 2020-21	Remarks
1	1	2	3	4	5
14	Power System Improvement in North Eastern States excluding Arunachal Pradesh and Sikkim				
	Programme Component		430.00	430.00	
	EAP Component		340.00	340.00	
	Total-Power System Improvement in North Eastern States excluding Arunachal Pradesh and Sikkim	Total	**770.00**	**770.00**	
15	Strengthening of Transmission System in the States of Arunachal Pradesh and Sikkim		1150.00	800.00	
16	***Power System Development Fund (PSDF)***				
	Transfer to Power System Development Fund (PSDF)		574.12	574.16	
	Scheme for Power System Development		121.49	121.48	
	Utilisation of Gas based Generation Capacity		0.01	0.00	
	Payment of Interest on EBR		452.62	452.68	
	Less-Amount met from Power System Development Fund		-574.12	-574.16	
	Total-Power System Development Fund (PSDF)		**574.12**	**574.16**	
	Total - Central Sector Schemes	Total	**27989.27**	**12327.16**	
	III Other Central Expenditure				
	Assistance to CPSUs				
17	Payment to SDMC- Badarpur thermal Power Station		0.00	0.00	
18	Payment to Law firm (P&A Law Associates) in KOWEPO case)		0.50	28.00	
19	Advance ultra super critical plant in sipat, chattisgarh		0.01	0.01	
20	Support for Flood moderation storage Hydro Electric Projects		0.01	0.01	
21	Support for Cost of Enabling Infrastructure i.e., roads/ bridge		65.00	65.00	
22	Reimbursement of Claim for any expenditure already incurred by NTPC on Lohari Nagpala Hydro Power Projects		400.00	104.40	
23	Central assistance for Pakul Dul HEP under J&K PMDP 2015 as grant to Chenab Valley power projects pvt limited (CVPPPL)		996.17	373.65	
24	Loan to NHPC		84.27	84.27	
25	Tehri Hydro Development Corporation (THDC)		39.00	0.00	
26	NEEPCO		276.53	0.00	
27	GoI fully service bond- issue expenditure and interest (PFC Bonds)		376.40	376.40	
28	GoI fully service bond- issue expenditure and interest (REC Bonds)		2300.00	1920.92	
29	Acquisition of Coal Bearing Areas for NTPC		65.80	65.80	
	Less- Acquisition of Coal Bearing Areas for NTPC		-65.80	-65.80	
	Total		0.00	0.00	
	Sub Total: Other Central Expenditure except Grants to Autonomous Bodies		**4537.89**	**2952.66**	
	Grants to Autonomous Body				
30	Central Power Research Institute, Bengaluru		200.00	200.00	
31	National Power Training Institute (NPTI)		121.49	82.34	
32	Bureau of Energy Efficiency				
	Programme Component		100.16	100.16	
	EAP Component		13.50	3.21	
	Total:BEE		113.66	103.37	
	Total: Grants to Autonomous Body		435.15	385.71	
33	Dispute Resolution Authority		0.00	0.01	
	Total-Other Central Expenditure		**4973.04**	**3338.38**	
	Grand Total (SBE)		**33366.75**	**15874.82**	

Annexure-III

~~Annexure-XXX~~

Year-wise details of budgetary allocation on schemes of Transmission Sector of the MoP and actual expenditure during the last five years

Rs. In Cr

Scheme	2014-15			2015-16			2016-17		
	BE	**RE**	**Actual Expenditure**	**BE**	**RE**	**Actual Expenditure**	**BE**	**RE**	**Actual Expenditure**
Comprehensive Scheme for strengthening of Transmission & Distribution in Arunachal Pradesh and Sikkim	175	100	22.34	150	150	26.4	273	214.24	207.8
North Eastern Region Power System Improvement Project (NERPSIP)	200	150	6.6	250	247	24	234	78	192.98
SLTS (Sri Nagar Leh Transmission System)	268	268	49	250	250	226	250	250	648.08
Renewable Energy Management Centre (REMC)	NA	NA	NA	NA	NA	NA	0.1	0.1	-

Scheme	2017-18			2018-19		
	BE	**RE**	**Actual Expenditure**	**BE**	**RE**	**Actual Expenditure**
Comprehensive Scheme	193	300	382	300	800	532
NERPSIP	179	282.5	376	282	1282	683
SLTS	250	500	492	500	500	316
REMC	75	0.1	0	10	105	33

	List of thermal projects (Coal,Lignite,Gas) having life more than 25 Years (as on 31-03-2020)								
Region	State	Sector	Name of Project	Unit No	Age of the plant (years)	Coal (MW)	Lignite (MW)	Gas (MW)	Grand Total
NR	Delhi	State	I.P.CCPP	1	33.90			30	30
				2	33.87			30	30
				3	33.79			30	30
				4	33.69			30	30
				5	33.61			30	30
				6	33.40			30	30
				7	25.02			30	30
	Delhi Total							210	210
	Haryana	State	PANIPAT TPS	5	31.03	210			210
	Haryana Total					210			210
	Jammu & Ka	State	PAMPORE GPS (Liq	1	31.02			25	25
				2	30.72			25	25
				3	30.32			25	25
				4	26.25			25	25
				5	26.16			25	25
				6	26.01			25	25
				7	25.02			25	25
	Jammu & Kashmir Total							175	175
	Punjab	State	ROPAR TPS	3	32.02	210			210
				4	31.19	210			210
				5	28.02	210			210
				6	27.02	210			210
	Punjab Total					840			840
	Rajasthan	State	KOTA TPS	1	37.23	110			110
				2	36.74	110			110
				3	31.53	210			210
				4	30.94	210			210
				5	26.03	210			210
			RAMGARH CCPP	1	25.39			3	3
		Central	ANTA CCPP	1	31.21			88.71	88.71
				2	31.09			88.71	88.71
				3	30.93			88.71	88.71
				4	31.09			153.2	153.2
	Rajasthan Total					850		422.33	1272.33
	Uttar Prades	State	ANPARA TPS	1	34.04	210			210
				2	33.11	210			210
				3	32.07	210			210
				4	26.72	500			500
				5	25.76	500			500
			HARDUAGANJ TPS	7	42.03	105			105
			OBRA TPS	7	45.33	94			94
				9	40.21	200			200
				10	41.24	200			200
				11	42.28	200			200
				12	39.04	200			200
				13	37.72	200			200

Region	State	Sector	Name of Project	Unit No	Age of the plant (years)	Coal (MW)	Lignite (MW)	Gas (MW)	Grand Total
			PARICHHA TPS	1	36.02	110			110
				2	35.12	110			110
		Central	AURAIYA CCPP	1	31.03			111.19	111.19
				2	30.72			111.19	111.19
				3	30.66			111.19	111.19
				4	30.52			111.19	111.19
				5	30.27			109.3	109.3
				6	29.82			109.3	109.3
			DADRI (NCTPP)	1	28.30	210			210
				2	27.30	210			210
				3	27.04	210			210
				4	26.04	210			210
			DADRI CCPP	1	28.13			130.19	130.19
				2	28.03			130.19	130.19
				3	27.81			130.19	130.19
				4	27.48			130.19	130.19
				5	26.11			154.51	154.51
				6	26.03			154.51	154.51
			RIHAND STPS	1	32.02	500			500
				2	30.76	500			500
			SINGRAULI STPS	1	38.15	200			200
				2	37.37	200			200
				3	37.04	200			200
				4	36.44	200			200
				5	36.12	200			200
				6	33.29	500			500
				7	32.37	500			500
			TANDA TPS	1	32.05	110			110
				2	31.08	110			110
				3	30.03	110			110
			UNCHAHAR TPS	1	31.38	210			210
				2	31.05	210			210
	Uttar Pradesh Total					7639		1493.1	9132.14
NR Total						9539		2300.5	11839.47
WR	Chhattisgarh	State	KORBA-III	1	44.05	120			120
				2	39.01	120			120
			KORBA-WEST TPS	1	36.03	210			210
				2	36.80	210			210
				3	35.04	210			210
				4	34.07	210			210
		Central	KORBA STPS	1	37.11	200			200
				2	36.44	200			200
				3	36.06	200			200
				4	32.86	500			500
				5	32.04	500			500
				6	31.11	500			500
	Chhattisgarh Total					3180			3180
	Gujarat	State	GANDHI NAGAR TP	3	30.05	210			210

Region	State	Sector	Name of Project	Unit No	Age of the plant (years)	Coal (MW)	Lignite (MW)	Gas (MW)	Grand Total
				4	28.72	210			210
			KUTCH LIG. TPS	1	30.03		70		70
				2	29.04		70		70
			UKAI TPS	3	41.22	200			200
				4	41.04	200			200
				5	35.19	210			210
			WANAKBORI TPS	1	38.05	210			210
				2	37.23	210			210
				3	36.07	210			210
				4	34.08	210			210
				5	33.54	210			210
				6	32.39	210			210
		Central	GANDHAR CCPP	1	26.06			144.3	144.3
				2	26.02			144.3	144.3
				3	25.88			144.3	144.3
				4	25.02			224.49	224.49
			KAWAS CCPP	1	28.04			106	106
				2	27.87			106	106
				3	27.77			106	106
				4	27.61			106	106
				5	27.12			116.1	116.1
				6	27.05			116.1	116.1
		Private	SABARMATI (D-F ST	1	41.50	120			120
				2	35.27	121			121
				3	31.53	121			121
	Gujarat Total					2652	140	1313.6	4105.59
	Madhya Pra	State	SANJAY GANDHI TP	1	27.03	210			210
				2	26.03	210			210
			SATPURA TPS	6	40.79	200			200
				7	39.55	210			210
				8	37.21	210			210
				9	36.12	210			210
		Central	VINDHYACHAL STPS	1	32.50	210			210
				2	31.71	210			210
				3	31.18	210			210
				4	30.28	210			210
				5	30.02	210			210
				6	29.18	210			210
	Madhya Pradesh Total					2510			2510
	Maharashtra	State	BHUSAWAL TPS	3	37.56	210			210
			CHANDRAPUR(MAH	3	34.93	210			210
				4	34.09	210			210
				5	29.05	500			500
				6	28.07	500			500
			KHAPARKHEDA TPS	1	31.04	210			210
				2	30.25	210			210
			KORADI TPS	6	38.03	210			210
				7	37.24	210			210

Region	State	Sector	Name of Project	Unit No	Age of the plant (years)	Coal (MW)	Lignite (MW)	Gas (MW)	Grand Total
			NASIK TPS	3	40.96	210			210
				4	39.75	210			210
				5	39.19	210			210
			URAN CCPP	5	34.68			108	108
				6	34.68			108	108
				7	34.81			108	108
				8	34.81			108	108
				9	26.07			120	120
				10	25.44			120	120
		Private	DAHANU TPS	1	25.25	250			250
				2	25.02	250			250
			TROMBAY CCPP	1	26.69			120	120
				2	25.33			60	60
			TROMBAY TPS	5	36.21	500			500
	Maharashtra Total					4100		852	4952
WR Total						12442	140	2165.6	14747.59
SR	Andhra Prad	State	Dr. N.TATA RAO TP	1	40.44	210			210
				2	39.50	210			210
				3	30.51	210			210
				4	29.62	210			210
				5	26.02	210			210
				6	25.12	210			210
			RAYALASEEMA TPS	1	26.02	210			210
				2	25.11	210			210
	Andhra Pradesh Total					1680			1680
	Karnataka	State	RAICHUR TPS	1	35.03	210			210
				2	34.10	210			210
				3	29.02	210			210
				4	25.52	210			210
	Karnataka Total					840			840
	Tamil Nadu	State	METTUR TPS	1	33.26	210			210
				2	32.35	210			210
				3	31.05	210			210
				4	30.03	210			210
			NARIMANAM GPS	1	28.23			5	5
				2	28.22			5	5
			NORTH CHENNAI TI	1	25.45	210			210
				2	25.03	210			210
			TUTICORIN TPS	1	40.76	210			210
				2	39.31	210			210
				3	37.98	210			210
				4	28.15	210			210
				5	29.02	210			210
		Central	NEYVELI TPS- I	1	57.90		50		50
				2	57.22		50		50
				3	56.84		50		50
				4	56.47		50		50
				5	55.96		50		50

Region	State	Sector	Name of Project	Unit No	Age of the plant (years)	Coal (MW)	Lignite (MW)	Gas (MW)	Grand Total
				6	54.64		50		50
				8	51.16		100		100
				9	50.14		100		100
			NEYVELI TPS-II	1	32.22		210		210
				2	33.17		210		210
				3	33.03		210		210
				4	29.02		210		210
				5	28.27		210		210
				6	27.44		210		210
				7	26.80		210		210
	Tamil Nadu Total					2310	1970	10	4290
	Telangana	State	KOTHAGUDEM TPS	1	53.78	60			60
				2	53.38	60			60
				4	52.77	60			60
				5	45.66	120			120
				7	42.25	120			120
			RAMAGUNDEM - B	2	48.49	62.5			62.5
		Central	RAMAGUNDEM STI	1	36.45	200			200
				2	35.86	200			200
				3	35.32	200			200
				4	31.78	500			500
				5	31.04	500			500
				6	30.48	500			500
	Telangana Total					2582.5			2582.5
SR Total						7412.5	1970	10	9392.5
ER	Bihar	Central	BARAUNI TPS	6	36.94	105			105
				7	35.02	105			105
			KAHALGAON TPS	1	28.02	210			210
				2	26.06	210			210
				3	25.04	210			210
			MUZAFFARPUR TPS	1	35.02	110			110
				2	34.06	110			110
	Bihar Total					1060			1060
	Jharkhand	State	TENUGHAT TPS	1	25.98	210			210
		Central	BOKARO `B` TPS	3	26.68	210			210
			CHANDRAPURA(DV	3	51.78	130			130
	Jharkhand Total					550			550
	Odisha	State	IB VALLEY TPS	1	25.85	210			210
		Central	TALCHER (OLD) TPS	1	52.32	60			60
				2	52.04	60			60
				3	51.76	60			60
				4	51.01	60			60
				5	38.05	110			110
				6	37.05	110			110
			TALCHER STPS	1	25.13	500			500
	Odisha Total					1170			1170
	West Bengal	State	BANDEL TPS	1	54.62	60			60
				2	54.53	60			60

Region	State	Sector	Name of Project	Unit No	Age of the plant (years)	Coal (MW)	Lignite (MW)	Gas (MW)	Grand Total
				5	37.50	210			210
			HALDIA GT (Liq.)	1	40.33			20	20
				2	40.52			20	20
			KASBA GT (Liq.)	1	40.57			20	20
				2	40.76			20	20
			KOLAGHAT TPS	1	27.22	210			210
				2	29.65	210			210
				3	34.31	210			210
				4	36.21	210			210
				5	26.27	210			210
				6	29.06	210			210
			SILIGURI GPS	1	40.21			20	20
		Central	DURGAPUR TPS	4	37.61	210			210
			FARAKKA STPS	1	34.27	200			200
				2	33.29	200			200
				3	32.67	200			200
				4	27.53	500			500
				5	26.14	500			500
		Private	SOUTHERN REPL. T	1	28.99	67.5			67.5
				2	29.65	67.5			67.5
			TITAGARH TPS	1	35.06	60			60
				2	37.33	60			60
				3	36.96	60			60
				4	36.23	60			60
	West Bengal Total					3775		100	3875
ER Total						6555		100	6655
NER	Assam	State	LAKWA GT	5	26.26			20	20
				6	25.70			20	20
				7	25.02			20	20
			NAMRUP CCPP	2	54.95			21	21
				3	54.95			21	21
				4	44.53			11	11
				5	43.95			24	24
				6	35.04			22	22
		Central	KATHALGURI CCPP	1	25.05			33.5	33.5
				2	25.03			33.5	33.5
	Assam Total							226	226
	Tripura	State	ROKHIA GT	1	30.05			8	8
				2	29.36			8	8
	Tripura Total							16	16
NER Total								242	242
Grand Total						35949	2110	4818.1	42876.56

Annexure-V

MINUTES OF THE 11th SITTING OF THE STANDING COMMITTEE ON ENERGY (2019-20) HELD ON 18th FEBRUARY, 2020 IN COMMITTEE ROOM No. 'G-074', PARLIAMENT LIBRARY BUILDING, NEW DELHI

The Committee met from 1100 hrs. to 1300 hrs.

PRESENT

LOK SABHA

Shri Rajiv Ranjan Singh *alias* Lalan Singh- Chairperson

2. Smt. Sajda Ahmed
3. Shri Gurjeet Singh Aujla
4. Shri Chandra Shekhar Bellana
5. Shri Thomas Chazhikadan
6. Dr. A. Chellakumar
7. Shri Harish Dwivedi
8. Shri Kishan Kapoor
9. Km. Shobha Karandlaje
10. Shri Ramesh Chander Kaushik
11. Shri Praveen Kumar Nishad
12. Smt. Anupriya Patel
13. Shri Jai Prakash
14. Shri N. Uttam Kumar Reddy
15. Shri Naba Kumar Sarania
16. Shri Shivkumar Chanabasappa Udasi

RAJYA SABHA

17. Shri T.K.S. Elangovan
18. Shri B.K. Hariprasad
19. Shri Javed Ali Khan
20. Dr. Prabhakar Kore
21. Dr. C.P. Thakur

SECRETARIAT

1. Shri R.C. Tiwari - Joint Secretary
2. Shri N.K. Pandey - Director
3. Dr. Vatsala Joshi - Director
4. Smt. L. N. Haokip - Deputy Secretary

List of Witnesses

Sl. No	Name	Designation

.		
Ministry of Power		
1	Shri Sanjiv Nandan Sahai	Secretary
2	Shri Ashish Upadhyaya	Additional Secretary & Financial Adviser
3	Shri Sanjay Malhotra	Additional Secretary
4	Shri S.K.G. Rahate	Additional Secretary
5	Shri Pradeep Kumar Berwah	Chief Controller of Accounts
6	Shri Aniruddha Kumar	Joint Secretay
7	Shri Vivek Kumar Dewangan	Joint Secretary
8	Shri Mritunjay Kr. Narayan	Joint Secretary
9	Shri Tanmay Kumar	Joint Secretary
10	Shri Raj Pal	Economic Adviser
Cea, CPUS, Statutory Bodies, Autonomous Bodies, etc.		
11	Shri Prakash S. Mhaske	Chairperson, CEA
12	Shri Gurdeep Singh	CMD, NTPC & Chairman, DVC
13	Shri Ratish Kumar	CMD, NHPC
14	Shri K. Sreekant	CMD, PGCIL
15	Shri D.V. Singh	CMD, THDC
16	Shri Rajeev Sharma	CMD, PFC
17	Shri Ajeet Agarwal	CMD, REC
18	Shri Nand Lal Sharma	CMD, SJVNL
19	Shri KVS Baba	CMD, POSOCO
20	Shri Vinod Kumar Singh	CMD, NEEPCO
21	Dr. Rajendra Kumar Pandey	Director General, NPTI
22	Shri Devendra Kumar Sharma	Chairman, BBMB
23	Shri S.K. Jha	Secretary, CERC
24	Shri M.K. Goel	Chairman, JERC (For Goa & UT)
25	Shri Abhay Bakre	DG, BEE
26	Dr. Ashu Sanjeev Tinjan	Registstrar, APTEL
27	Shri Saurabh Kumar	Managing Director, EESL
28	Shri V.S. Nandakumar	Director General, CPRI

CEA	-Central Electricity Authority
NTPC	-National Thermal Power Corporation
DVC	-Damodar Valley Corporation
NHPC	-National Hydroelectric Power Corporation
PGCIL	-power Grid Corporation of India
THDC	-Tehri Hydro Development Corporation
PFC	-Power Finance Corporation
REC	-Rural Electrification Corporation
SJVNL	-Satluj Jal Vidut Nigam Ltd.
POSOCO	-Power System Ooperation Corporation
NEEPCO	-North Eastern Electric Power Corporation Ltd.
NPTI	-National Power Training Institute
BBMB	-Bhakra Beas Management Board
CERC	-Central Electricity Regulatory Commision
JERC	-Joint Electricity Regulatory Commission
BEE	-Bureau of Energy Efficiency
APTEL	-Appellate Tribunal of Electricity
EESL	-Energy Efficiency Services Ltd.
CPRI	-Central Power Research Institute

2. At the outset, the Chairman 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 2020-21 and focus area 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. The Secretary, Ministry of Power, also briefly apprised the Committee of the main points of the Demands for Grants of the Ministry of Power for the year 2020-21.

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

i) Budgetary allocation – allocation and utilization of funds during the previous years, financial provisions for the year 2020-21, Gross Budgetary Support (GBS), Extra Budgetary Resources(EBR), Internal and Extra Budgetary Resources (IEBR).

ii) Demand and Supply of Power – total installed capacity in the country, peak demand and peak shortage, generated energy and energy shortage, Plants Load Factors(PLF), reasons for falling PLF.

iii) Stress/NPA in Power Sector – present status, measures being taken to make them standard assets, supply of coal to power sector, delay/non-payment of dues by the Discoms to Generators, issues related to Power Purchase Agreements.

iv) Implementation of DDUGJY & SAUBHAGYA Scheme – remaining works under these schemes, need for expeditious execution of other components of the DDUGJY, issues relating to quantity and quality of infrastructure provided under the scheme, need to review monitoring and quality control mechanism.

v) Indian Power Development Scheme – fund provided under the scheme, need to expedite the scheme, reasons for high AT&C losses even in the town where the scheme has already been

implemented.

vi) UDAY scheme – progress made so far under the scheme, reasons for not getting the intended results under the scheme, need for changes in the scheme, need to make some changes in UDAY.

vii) Research and Development and Training – fund allocation and utilization, need to augment the budgetary provisions for these sector.

viii) Energy Efficiency and Conservation – budgetary allocation and its utilization, need for expansion/intensification of these programmes.

ix) Need to Review performances of Power Sector Undertakings.

x) Strengthening of Power System – Smart Grid and Smart Meters.

5. The Members sought clarifications on various issues relating to the subject 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 by them.

6. The verbatim proceedings of the sitting of the Committee were kept on record.

The Committee then adjourned.

Annexure-VI

MINUTES OF THE THIRTEENTH SITTING OF THE STANDING COMMITTEE ON ENERGY (2019-20) HELD ON 27TH FEBRUARY, 2020 IN COMMITTEE ROOM '3', PARLIAMENT HOUSE ANNEXE EXTENTION, BLOCK-A, NEW DELHI

The Committee met from 1500 hrs. to 1400 hrs.

PRESENT

LOK SABHA

Shri Rajiv Ranjan Singh *alias* Lalan Singh- Chairperson

2. Shri Thomas Chazhikadan
3. Dr. A. Chellakumar
4. Shri Ramesh Chander Kaushik
5. Shri Ashok Mahadeorao Nete
6. Shri Praveen Kumar Nishad
7. Shri Jai Prakash
8. Shri N. Uttam Kumar Reddy

RAJYA SABHA

9. Shri B.K. Hariprasad
10. Shri Javed Ali Khan

SECRETARIAT

1. Shri R.C. Tiwari - Joint Secretary
2. Shri N.K. Pandey - Director
3. Smt. L. Nemjalhing Haokip - Deputy Secretary

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

i.) Draft Report on Demands for Grants of the Ministry of Power for the year 2020-21.

ii.) Draft Report on Demands for Grants of the Ministry of New and Renewable Energy for the year 2020-21.

iii.) Action Taken Report on the recommendations contained in the Thirty-Ninth Report of the Committee on Demands for Grants(2018-19) of the Ministry of New and Renewable Energy.

3. After discussing the contents of the Reports, the Committee adopted the aforementioned draft Reports with minor amendments. The Committee also authorized the Chairperson to finalize the above-mentioned Reports and present the same to both the Houses of Parliament in the current Budget Session.

The Committee then adjourned.