RAJYA SABHA STARRED QUESTION NO.155

ANSWERED ON 03.08.2021

GRID-SCALE BATTERY ENERGY STORAGE SYSTEM

155. SHRI PRABHAKAR REDDY VEMIREDDY:

Will the Minister of **POWER** be pleased to state:

- (a) the details of Grid-scale battery energy storage system;
- (b) whether it is a fact that National Thermal Power Corporation (NTPC) is planning to setup 1,000 MW Grid-scale battery energy storage system in the country;
- (c) if so, the details of places where NTPC is planning to set up the same;
- (d) the manner in which Grid-scale battery energy storage will help in renewable energy integration; and
- (e) the details of barriers that Government is facing in implementing battery energy storage system?

ANSWER

THE MINISTER OF POWER AND NEW & RENEWABLE ENERGY

(SHRI R.K. SINGH)

(a) to (e): A Statement is laid on the Table of the House.

STATEMENT REFERRED TO IN REPLY TO PARTS (a) TO (e) OF STARRED QUESTION NO.155 ANSWERED IN THE RAJYA SABHA ON 03.08.2021 REGARDING GRID-SCALE BATTERY ENERGY STORAGE SYSTEM

- (a): Battery storage is a technology that enables power system operators and utilities to store energy for later use. A battery energy storage system (BESS) is an electrochemical device that charges (or collects energy) from the grid or a power plant and then discharges that energy at a later time to provide electricity or other grid services when needed.
- **(b) & (c)**: NTPC has floated a global Expression of Interest (EOI) on 26.06.2021 to set up 1000 MWh of Grid Scale Battery Energy Storage System (BESS) at single or multiple NTPC power plant locations to ascertain the following:
 - i. Identification of various technologies, financial viability and best possible option of BESS system for commercial returns and/or,
 - ii. Formulation of specifications for various system/stages required for execution of demonstration/commercial projects.
- (d): Renewable Energy (RE) sources are variable by nature. Grid scale Battery energy storage helps in smoothening renewable generation output thereby improving power quality and helping grid stability. This also results in reduction of the need for grid regulation services, and making better use of network infrastructure. At grid scale, RE applications of battery energy storage system include ramp support, energy time shift and capacity firming.
- (e): Battery Energy Storage systems are poised to become critical for integrating increasing RE capacities in the country. At present, barriers in implementing BESS are as follows:
 - i. High Battery storage price levels which make economic viability for many storage applications difficult with respect to market expectations.
 - ii. Limited manufacturing capacity for battery energy storage in the country.
 - iii. Limited domestic availability of battery storage material like lithium-ion etc.
 - iv. Lack of market for system services.

RAJYA SABHA STARRED QUESTION NO.160 ANSWERED ON 03.08.2021

REVIEWING OF POWER PURCHASE AGREEMENT BY ANDHRA PRADESH GOVERNMENT

160. SHRI KANAKAMEDALA RAVINDRA KUMAR:

Will the Minister of **POWER** be pleased to state:

- (a) whether after May, 2019 Union Government has written to the State Government of Andhra Pradesh on two occasions to desist from reviewing the then existing power purchase agreement that was prevalent in Andhra Pradesh;
- (b) if so, the details thereof;
- (c) whether Government is aware of the steps taken by the incumbent State Government of Andhra Pradesh to review the power purchase agreement entered into by the previous Government; and
- (d) if so, the details of steps taken by Union Government to desist the State Government from doing such acts?

ANSWER

THE MINISTER OF POWER AND NEW & RENEWABLE ENERGY

(SHRI R.K. SINGH)

(a) to (d): A Statement is laid on the Table of the House.

STATEMENT REFERRED TO IN REPLY TO PARTS (a) TO (d) OF STARRED QUESTION NO. 160 ANSWERED IN THE RAJYA SABHA ON 03.08.2021 REGARDING REVIEWING OF POWER PURCHASE AGREEMENT BY ANDHRA PRADESH GOVERNMENT

(a) to (d): Union Government has taken note of the fact that the State Government of Andhra Pradesh has considered renegotiating Power Purchase Agreements (PPAs) with renewable energy project developers. The Union Government vide letter dated 6th June 2019 and 9th July 2019 had advised Government of Andhra Pradesh that the contractual agreements are sacrosanct and should not be revisited unless there is a specific provision to do so in the agreement.

The renewable energy project developers had approached Hon'ble High Court of Andhra Pradesh in this matter, which had passed an order on 24.9.2019 to set aside the relevant orders of Government of Andhra Pradesh and Distribution Company of Andhra Pradesh and to pay the wind and solar power developers at interim rate of Rs. 2.44/unit for solar power and Rs. 2.43/unit for wind power, until the dispute of price is resolved by Andhra Pradesh Electricity Regulatory Commission. The developers have filed an appeal against the order before the Division Bench. The Union Government has also submitted its response in the matter to the Hon'ble High Court.

RAJYA SABHA UNSTARRED QUESTION NO.1743 ANSWERED ON 03.08.2021

LED DISTRIBUTION UNDER UJALA YOJANA

1743 # SHRI AJAY PRATAP SINGH:

Will the Minister of **POWER** be pleased to state:

- (a) the number of LED bulbs and fans distributed so far under Unnat Jyoti by Affordable LED for All (UJALA) Yojana for energy conservation and saving of electricity; and
- (b) the details of LED bulbs and fans distributed in development block of Sidhi and Singrauli districts in Madhya Pradesh, village-wise?

ANSWER

THE MINISTER OF POWER AND NEW & RENEWABLE ENERGY

(SHRI R.K. SINGH)

- (a): Energy Efficiency Services Limited (EESL) has distributed 36.74 crore LED Bulbs and 23.44 lakh Energy Efficient Fans so far under Unnat Jyoti by Affordable LEDs for All (UJALA) Yojana for energy conservation and saving of electricity.
- **(b):** The details of LED bulbs and energy efficient fans distributed in Sidhi and Singrauli districts in Madhya Pradesh are given below:-

Sl. No.	District Name	Number of Bulbs distributed	Number of Fans distributed	
1	Sidhi	1,02,328	1,054	
2	Singrauli	82,642	6,117	

(Programme details are captured only till district level under the UJALA scheme)

RAJYA SABHA UNSTARRED QUESTION NO.1744

ANSWERED ON 03.08.2021

STRESSED ASSET RESOLUTION IN POWER SECTOR

1744. SHRI PRASHANTA NANDA:

Will the Minister of **POWER** be pleased to state:

- (a) whether Government is aware that progress on stressed thermal power asset resolution remained slow as only a small per cent of affected generation capacity has witnessed resolution;
- (b) if so, the details of the challenges faced during stressed asset resolution in the power sector;
- (c) whether Government has taken any steps in this regard; and
- (d) if so, the details thereof?

ANSWER

THE MINISTER OF POWER AND NEW & RENEWABLE ENERGY

(SHRI R.K. SINGH)

- (a): Department of Financial Services (DFS) on 22.03.2017 had provided a list of 34 coal based Thermal Power Projects, mostly private, totaling to 40,130 MW which were considered 'Stressed'. Status of these 34 thermal power projects under stress is as follows:
 - i. 16 projects with a total capacity of 19,090 MW (~48%) have been resolved.
 - ii. 10 projects with a total capacity of 12,430 MW (~31%) are at various stages of resolution.
- iii. 8 projects with a total capacity of 8,610 MW (~21%) are at very initial stage of construction and are totally stalled. Such projects have either been ordered to be liquidated or heading towards liquidation.
- **(b):** The major challenges faced during the resolution of the stressed thermal projects are COVID related slowdown; lack of Power Purchase Agreements (PPA); lack of investor interest; large haircuts for lenders; poor financial health of the Promoters etc.
- (c) & (d): The following steps have been taken by the Government to resolve the stress in thermal power sector:
 - i. Government of India constituted a High Level Empowered Committee (HLEC) under the Chairmanship of Cabinet Secretary to address the issues of stressed thermal power projects. The Government thereafter constituted a Group of Ministers (GoM) to examine the specific recommendations of HLEC. The Government approved the recommendations of Group of Ministers (GoM). Subsequently, Ministry of Power on 08.03.2019 notified the approval of the Government on the following decisions:
 - 1. Coal for short term sale of power in Day Ahead Market (DAM) or Discovery of Efficient Electricity Price (DEEP) portal.

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- 2. Coal linkage for short term sale of power in case of termination of PPAs due to payment default by DISCOMs.
- 3. Central and State generating companies can act as an aggregator of power and offer that power to the DISCOM against their existing PPAs to such DISCOMS.
- 4. Mechanism evolved to ensure that net surplus generated by the developers, shall be entirely used for servicing debt in the first place.
- 5. Projects with long term PPA and who could not participate in first round of linkage auctions under B(ii) of SHAKTI to be allowed to participate in subsequent rounds.
- 6. Projects which participated in first round of linkage auctions under B(ii) of SHAKTI but could not secure linkage for full ACQ quantum to be allowed to obtain linkage for balance quantity under subsequent rounds.
- 7. Auctions under SHAKTI B(iii) to be held at regular intervals.
- 8. 50 percent of the total coal meant for e-auction for power has been earmarked for Special forward e-auction.
- 9. Short supplies of coal will not lapse upto 3 months.
- 10. Annual Contracted Quantity (ACQ) to be determined based on efficiency.
- 11. Mandated the payment of Late Payment Surcharge (LPS) in case of delay in payment by DISCOMs as per the provisions of PPA.
- 12. Power Purchase Agreement (PPA)/Fuel Supply Agreement (FSA)/Transmission connectivity/Environment Clearance (EC)/Forest Clearance (FC)/Water etc. not to be cancelled if project is referred to National Company Law Tribunal (NCLT) or is acquired by another entity.
- 13. PPA not to be cancelled in case of delay in commissioning of project for reasons not attributable to the generator.
- 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.
 - 1st Round (2500 MW): Letter of Award (LOA) was issued to all the successful bidders (1900 MW) PPA signed for 1900 MW.
 - 2nd Round (2500 MW): Bid Security from 21 bidders for a total capacity of 6000 MW was received. 12 bidders were successful with a total capacity of 2500 MW.

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- iii. **Payment Security Mechanism:** National & Regional Load Despatch Centres (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 facilitated timely payments by Discoms to the generators.
- iv. **Liquidity infusion under Aatma Nirbhar Bharat Abhiyan**: In order to alleviate the liquidity problems of DISCOMs, Government of India decided to grant a one-time permission to Power Finance Corporation (PFC) and Rural Electrification Corporation (REC) for extending loans to DISCOMs in favour of CPSE Gencos and Transcos, Independent Power Producers (IPPs), and Renewable Energy (RE) generators.

RAJYA SABHA UNSTARRED QUESTION NO.1745

ANSWERED ON 03.08.2021

PURCHASE OF ELECTRICAL METERS FOR INSTALLATION IN ASSAM

1745. SHRI AJIT KUMAR BHUYAN:

Will the Minister of **POWER** be pleased to state:

- (a) whether it is a fact that Ministry of Power is purchasing electrical meters for installation in households for measuring of electricity consumption;
- (b) if so, the details thereof;
- (c) whether it is also a fact that in last ten years meter purchased has crossed more than double the number of consumers;
- (d) if so, the details thereof and details of energy meter purchased by State Power Utilities under various schemes for consumers of Assam including make, capacity, rate, quantity etc.; and
- (e) number of energy meters owned by consumers themselves at their cost and fitted in their premises in Assam?

ANSWER

THE MINISTER OF POWER AND NEW & RENEWABLE ENERGY

(SHRI R.K. SINGH)

(a) & (b): Electricity is a concurrent subject and supply/distribution of electricity & management of associated functions including procurement and installation of consumers meters is under the purview of concerned Distribution utility. Government of India is assisting the States /DISCOMs from time to time under schemes such as Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGJY) launched in 2014, Integrated Power Development Scheme (IPDS) launched in 2014, Pradhan Mantri Sahaj Bijli Har Ghar Yojana-Saubhagya launched in 2017, National Smart Grid Mission (NSGM) launched in 2015. Under these Schemes, funds have been provided to the States/Distribution companies as per their requirement including for meters. Under these Schemes, the DISCOMs have reported to have installed 5.25 crore meters by June, 2021. The details of electrical meters installed/being installed by the States/DISCOMs by utilising the funds provided under various schemes of Government of India are as follows:

Sl. No.	Scheme	No. of meters Sanctioned (in crores)	No. of meters installed (in crores)
1	IPDS	1.071	0.897
2	DDUGJY	1.517	1.543
3	Saubhagya	2.817	2.817
4	NSGM	0.072	0.018
	Total	5.477	5.275

(c): As per the information made available by Central Electricity Authority (CEA), Domestic Consumer base of India has increased from about 18.36 crores as on March, 2011 to about 25.23 crores as on March, 2021.

With successful implementation of various electrification projects there has been manifold increase in the number of new consumers added to the system.

- (d): As reported by State Government of Assam, a total of 12,25,211 energy meters have been purchased by the DISCOM under various schemes of Central and State Government for consumers of Assam over a period of 8 years till 2019-20. The details are furnished at **Annexure**.
- (e): As reported by State Government of Assam, a total of 56,69,394 energy meters are owned by consumers themselves at their cost and fitted in their premises in Assam.

ANNEXURE REFERRED TO IN REPLY TO PART (d) OF UNSTARRED QUESTION NO. 1745 ANSWERED IN THE RAJYA SABHA ON 03.08.2021

Details of meters procured by the DISCOMs under various schemes of Centre and State for consumers of Assam

Scheme	Make	Capacity	Quantity	
	M/s Linkwell Telesystem Pvt. Ltd.	1 Ph 5-30A	30000	
	M/s Genus Power Infrastucture Ltd	1 Ph 5-30A	13000	
	M/s Secure Meters Ltd	1 Ph 5-30A	13000	
	M/s L&T Meters	1 Ph 5-30A	13000	
Annual Plan 2014- 2015	M/s Genus Power Infrastructure Ltd	3 Ph 5-30A	1500	
	M/s Linkwell Telesystem Pvt. Ltd.	3 Ph 5-30A	500	
	M/s Secure Meters Ltd	3 Ph 5-30A	500	
	M/s L&T Meters	3 Ph 5-30A	500	
	M/s Linkwell Telesystem Pvt. Ltd.	3 Ph 10-60A	300	
	M/s Genus Power Infrastucture Ltd.	3 Ph 10-60A	300	
	M/s Secure Meters Ltd	3 Ph 10-60A	300	
	M/s L&T Meters	3 Ph 10-60A	900	
	M/s Genus Power Infrastucture Ltd.	1 Ph 5-30A	10000	
TGLQ 2016-17	M/s Secure Meters Ltd.	1 Ph 5-30A	10000	
	M/s L&T Meters	1 Ph 5-30A	10000	
	M/s Landys+ Gyr	1 Ph 5-30A	136900	
CALIDILACIZADO	M/s Secure Meters Ltd.	1 Ph 5-30A	147500	
SAUBHAGYA201	M/s L&T Meters	1 Ph S-30A	147100	
7-18 & GSA 2016- 19	M/s Genus Power Infrastructure Ltd.	1 Ph 5-30A	148500	
19	M/s Capital Power System	1 Ph 5-30A	10000	
	M/s Indotech Switchgear & Control Pvt Ltd.	1 Ph 5-30A	30000	
	M/s Linkwell Telesystem Pvt. Ltd.	1 Ph 5-30A	35700	
	M/s Genus Power infrastructure Ltd.	1 Ph 5-30A	58600	
	M/s Secure Meters Ltd.	1 Ph 5-30A	35700	
	M/s L&T Meters	1 Ph 5-30A	35000	
SOPD 19-20	M/s Landys+ Gyr	1 Ph 5-30A	15000	
	M/s L&T Meters	3 Ph DLMS CAT	1050	
	IVI/S L& I Wieters	C-/5A, TVM HT	1030	
	M/s L&T Meters	3Ph DLMS CAT	3000	
	IVI/S L&T IVICTORS	C-/5A, TVM LTCT	3000	
		(5-30) Amps (10-	100281	
	M/S Genus	60) Amps		
	Power Infrastructure Ltd.	(5-30) Amps	4212	
		(10-60) Amps	1000	
		(5-30) Amps (10-	74919	
		60) Amps	74717	
RAPDRP		(5-30) Amps (10-	36656 5624	
		60) Amps		
	M/s Secure Meter Ltd.	(25,63,100,160,250,		
		315.500)		
		KVA		
		(5-30) Amps	17000	
		(10-60) Amps	2000	

		300-200/5A	245	
	M/s Larsen & Tourbo Ltd.	110V, -/Amp, 50 Hz	371	
		0.5 Accuracy-/5A	4321	
		(10-60) Amp	367	
	!	(5-30) Amp	1118	
		300-200/5 Amp	77	
		-/110V, /5 Amp,	201	
		50 Hz	201	
	M/s Larsen & Tourbo Ltd.	63 KVA, 100 KVA,		
		250 KVA, 315 KVA,	582	
		500 KVA		
		0.5 Accuracy -/J Amp	110	
		(10-60) Amp	2388	
Integrated		(5-30) Amp	44763	
Power Development	M/s Secure Meter Ltd.	(10-60) Amp	203	
Scheme		(5-30) Amp	865	
(IPDS)		300-200/5 Amp	46	
		-/110V, /5 Amp,	68	
		50 Hz	00	
		100 KVA,		
		25 KVA, 250 KVA,		
		63 KVA,	423	
		160 KVA, 315 KVA,		
		500 KVA		
		0.5 Accuracy/5Amp	27	
		(10-60) Amp	873	
		(5-30) Amp	18621	
Total				

RAJYA SABHA UNSTARRED QUESTION NO.1746 ANSWERED ON 03.08.2021

REDUCED POWER PLANT FUNCTIONING DUE TO COAL SHORTAGE

1746. SHRI RIPUN BORA:

Will the Minister of **POWER** be pleased to state:

- (a) whether it is a fact that few units of various thermal power station in the country were forced to stop functioning and some had reduced production due to shortage of coal supply during the last two years; and
- (b) if so, the details thereof and action taken thereon by the Ministry of Power with the Ministry of Coal, State-wise and the outcome result therein?

ANSWER

THE MINISTER OF POWER AND NEW & RENEWABLE ENERGY

(SHRI R.K. SINGH)

- (a): No, Sir.
- (b): In order to address the day-to-day issues of coal supplies to power sector, an Inter-Ministerial Sub Group comprising of representatives from Ministry of Power, Ministry of Coal, Ministry of Railways, Ministry of Shipping, Central Electricity Authority (CEA), NTPC Ltd., Coal India Limited (CIL)/Singareni Collieries Company Limited (SCCL) meet regularly to take various operational decisions for meeting any contingent situations relating to Power Sector including critical coal stock position in power plants.

Further, the Government has taken the following steps to help the plants to meet their coal requirement:

- i. Government in May, 2016 allowed flexibility in utilization of domestic coal by State/Central Gencos amongst their generating stations to reduce the cost of power generation by using coal in most efficient plants as well as by saving in transportation cost. The States may also transfer their linkage coal to IPPs selected through bidding process and take equivalent power.
- ii. Rationalization of linkage sources of State/Central Gencos and IPPs with a view to optimize transportation cost has been allowed.
- iii. Government has introduced a scheme SHAKTI (Scheme for Harnessing and Allocating Koyala (Coal) Transparently in India)-2017, to provide coal linkages to the power plants which do not have linkage.

RAJYA SABHA UNSTARRED QUESTION NO.1747 ANSWERED ON 03.08.2021

LOSS INCURRED BY POWER DISCOMS

1747 # DR. KIRODI LAL MEENA:

Will the Minister of **POWER** be pleased to state:

- (a) whether power distribution companies are incurring heavy losses and, if so, State/Union Territory-wise details thereof during the last three years;
- (b) whether Government has formulated any plan or strategy to lessen the loss of power distribution companies and if so, the details thereof;
- (c) whether Government has conducted any study on the losses incurred by power distribution companies; and
- (d) if so, the details thereof and the action taken by Government in this regard?

ANSWER

THE MINISTER OF POWER AND NEW & RENEWABLE ENERGY

(SHRI R.K. SINGH)

- (a): As per information made available by Power Finance Corporation (PFC) Ltd, the financial losses of Power Distribution Utilities have reduced from Rs.54,558 Crore in the year 2014-15 to Rs.32,898 Crore in 2019-20. Further, Aggregate Technical & Commercial (AT&C) losses have reduced from 25.72% in the year 2014-15 to 21.83% in 2019-20. The State/Union Territory-wise details of profit and loss of Power Distribution Utilities for the years 2014-15 to 2019-20 are annexed.
- **(b) to (d):** PFC conducts a study of the financial condition of Power Utilities every year and publishes a "Report of Performance of State Power Utilities", which includes the evaluation of the losses incurred by power Distribution Companies.

The Government has undertaken several initiatives to lessen the loss of Power Distribution Companies (DISCOMs) like:

(i) The Central Government has approved a "Revamped Distribution Sector Scheme - A Reforms based and Results linked Scheme" with the objective of improving the quality and reliability of power supply to consumers through a financially sustainable and operationally efficient distribution Sector. The Scheme aims to reduce the AT&C losses to

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pan-India levels of 12-15% and Average Cost of Supply (ACS) - Average Revenue Realised (ARR) gap to zero by 2024-25. The Scheme has an outlay of Rs.3,03,758 crore. Under the scheme, eligible DISCOMs would be provided financial support for upgradation of the Distribution Infrastructure and Smart Metering Systems for the network as well as prepaid smart metering systems for consumers. The funding against the works other than prepaid Smart Metering and System Metering would be contingent upon DISCOMs meeting the pre-qualifying criteria and achieving at least 60% marks on the result evaluation matrix formulated on the basis of action plans for loss reduction and work plans of DISCOMs agreed upon by the Government of India. A DISCOM which is making losses will not be able to access funds under this Scheme unless it draws up a plan to reduce the losses, lists out the steps it will take to reduce such losses and the timelines thereof and get their State Government's approval on it, and file the same with the Central Government.

- losses and ACS ARR gap: Under the Scheme State Governments are required to give undertaking to liquidate the payments due to DISCOMs on account of electricity dues of Government departments/attached offices, and also to install smart prepaid or prepaid meters in Government departments/attached offices etc. The State Governments are also required to give undertaking to clear the dues of subsidies and to put in place a system such that the bills for subsidies are raised by DISCOMs and paid upfront every quarter, notify subsidy of State Government per unit of consumption for each consumer category.
- (iii) Government of India has provided additional borrowing permissions to the extent of 0.05% of the State GSDP each linked to reduction of AT&C losses and ACS-ARR gap for the year FY 2020-21.
- (iv) Based on the recommendations of Fifteenth Finance Commission, Govt. of India has also decided to provide performance based additional borrowing space of 0.50% of Gross State Domestic Product (GSDP) to States on certain performance criteria in the power sector viz. AT&C loss and ACS-ARR Gap reduction against targets, Reduction in cross subsidies, Payment of Electricity bills by Government Departments/Offices/Local Bodies, Government Offices on prepaid meters, Innovation and Innovative technologies viz. Smart Grids including Smart prepaid metering, Enterprise Resource Planning (ERP), Automatic Metering Infrastructure (AMI) and such other parameters.
- (v) In addition, Corporate Governance Guidelines have also been communicated recently to States with an advice that future release of funds by PFC and REC against loans or Government schemes would be made considering the rating of DISCOMs against these guidelines.

ANNEXURE REFERRED TO IN REPLY TO PART (a) OF UNSTARRED QUESTION NO.

Profit/(Loss) on accrual basis

Figures in Rs. Crores

	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Andhra Pradesh	(2,397)	(3,899)	(2,282)	(2)	(11,934)	(151)
APEPDCL	(722)	(472)	(394)	3	(4,253)	(152)
APSPDCL	(1,675)	(3,427)	(1,888)	(4)	(7,681)	1
Arunachal Pradesh	(257)	(40)	(324)	(429)	(428)	(413)
Arunachal PD	(257)	(40)	(324)	(429)	(428)	(413)
Assam	(578)	(104)	(34)	165	21	203
APDCL	(578)	(104)	(34)	165	21	203
Bihar	(1,044)	(1,073)	(1,257)	(2,650)	(2,409)	(2,948)
NBPDCL	(297)	(339)	(295)	(362)	(596)	(1,283)
SBPDCL	(748)	(734)	(962)	(2,287)	(1,813)	(1,665)
Chhattisgarh	(1,554)	24	(422)	(279)	(42)	(973)
CSPDCL	(1,554)	24	(422)	(279)	(42)	(973)
Delhi	418	222	404	491	799	942
BRPL	63	40	108	145	291	310
BYPL	19	7	34	40	172	218
TPDDL	336	175	262	306	336	414
Goa	(17)	(286)	(283)	26	(172)	(271)
Goa PD	(17)	(286)	(283)	26	(172)	(271)
Gujarat	108	155	275	426	184	538
DGVCL	51	57	93	94	39	130
MGVCL	29	43	79	93	33	65
PGVCL	11	(17)	37	137	75	227
UGVCL	17	72	67	101	37	117
Haryana	(2,117)	(808)	(193)	412	281	331
DHBVNL	(636)	(472)	12	134	95	114
UHBVNL	(1,481)	(336)	(205)	278	186	218
Himachal Pradesh	(114)	(11)	(111)	4	4	11
HPSEBL	(114)	(11)	(111)	4	4	11
Jammu & Kashmir	(4,114)	(4,278)	(4,063)	(2,999)	(2,902)	(3,160)
JKPDD	(4,114)	(4,278)	(4,063)	(2,999)	(2,902)	(3,160)
Jharkhand	(474)	(1,151)	(1,741)	(212)	(751)	(1,132)
JBVNL	(474)	(1,151)	(1,741)	(212)	(751)	(1,132)
Karnataka	88	(385)	(1,119)	(522)	970	(1,850)
BESCOM	113	100	57	60	85	146
CHESCOM	40	8	21	(0)	(209)	(366)
GESCOM	(110)	(131)	(267)	(472)	348	(992)
HESCOM	30	(373)	(943)	(140)	690	(682)
MESCOM	14	11	13	31	56	44
Kerala	(1,273)	(697)	(1,495)	(784)	(290)	(270)
KSEBL	(1,273)	(697)	(1,495)	(784)	(290)	(270)
Madhya Pradesh	(4,950)	(5,586)	(1,470)	(5,284)	(7,159)	(1,744)
MPMaKVVCL	(2,728)	(2,585)	(1,235)	(2,717)	(3,838)	(1,275)
MPPaKVVCL	(1,061)	(1,153)	553	(370)	(424)	1,103
MPPoKVVCL	(1,162)	(1,848)	(788)	(2,197)	(2,897)	(1,571)

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Maharashtra	(366)	(3,383)	785	492	1,097	307
MSEDCL	(366)	(3,383)	785	492	1,097	307
Manipur	(30)	(20)	(15)	(8)	(19)	(9)
MSPDCL	(30)	(20)	(15)	(8)	(19)	(9)
Meghalaya	(198)	(192)	(343)	(287)	(203)	(428)
MePDCL	(198)	(192)	(343)	(287)	(203)	(428)
Mizoram	(192)	(122)	(147)	87	(83)	(109)
Mizoram PD	(192)	(122)	(147)	87	(83)	(109)
Nagaland	(315)	(15)	(62)	(62)	(325)	(488)
Nagaland PD	(315)	(15)	(62)	(62)	(325)	(488)
Odisha	(882)	(931)	(913)	(792)	(1,539)	(842)
CESU	(123)	(507)	(425)	(503)	(429)	(336)
NESCO Utility	(379)	(176)	(48)	(81)	(2)	(141)
SOUTHCO Utility	(224)	(98)	(228)	(187)	(211)	(336)
WESCO Utility	(155)	(150)	(211)	(22)	(897)	(29)
Puducherry	105	9	(8)	6	(36)	(301)
Puducherry PD	105	9	(8)	6	(36)	(301)
Punjab	166	(1,645)	(2,836)	(907)	(38)	(1,158)
PSPCL	166	(1,645)	(2,836)	(907)	(38)	(1,158)
Rajasthan	(12,474)	(11,241)	(1,981)	2,173	2,607	2,986
AVVNL	(3,593)	(3,504)	(337)	1,199	467	788
JdVVNL	(4,146)	(3,274)	(1,029)	30	1,234	10
JVVNL	(4,735)	(4,463)	(616)	943	906	2,188
Sikkim	(35)	(182)	(115)	(29)	(3)	(57)
Sikkim PD	(35)	(182)	(115)	(29)	(3)	(57)
Tamil Nadu	(12,757)	(5,787)	(4,349)	(7,761)	(12,623)	(11,965)
TANGEDCO	(12,757)	(5,787)	(4,349)	(7,761)	(12,623)	(11,965)
Telangana	(2,513)	(3,380)	(6,202)	(5,485)	(8,019)	(6,057)
TSNPDCL	(1,343)	(1,010)	(1,502)	(1,561)	(3,051)	(1,116)
TSSPDCL	(1,171)	(2,369)	(4,700)	(3,925)	(4,967)	(4,940)
Tripura	(80)	(100)	40	28	21	(91)
TSECL	(80)	(100)	40	28	21	(91)
Uttar Pradesh	(6,474)	(2,522)	(3,322)	(5,002)	(6,032)	(3,792)
DVVNL	(2,036)	(1,493)	(1,578)	(2,258)	(2,567)	(629)
KESCO	(317)	24	319	64	(450)	(231)
MVVNL	(965)	(317)	(727)	(458)	(746)	(660)
PaVVNL	(1,837)	(578)	(468)	(1,517)	(1,290)	(1,068)
PuVVNL	(1,318)	(158)	(867)	(833)	(978)	(1,204)
Uttarakhand	(260)	(95)	(289)	(229)	(553)	(577)
UPCL	(260)	(95)	(289)	(229)	(553)	(577)
West Bengal	20	(5)	(25)	(40)	(45)	567
WBSEDCL	20	(5)	(25)	(40)	(45)	567
Grand Total	(54,558)	(47,526)	(33,894)	(29,452)	(49,623)	(32,898)

Note: Figures in parenthesis indicate losses.