

19

STANDING COMMITTEE ON ENERGY

(2020-21)

SEVENTEENTH LOK SABHA

MINISTRY OF POWER

**DELAY IN EXECUTION/COMPLETION OF POWER
PROJECTS BY POWER SECTOR COMPANIES**

NINETEENTH REPORT



**LOK SABHA SECRETARIAT
NEW DELHI**

August, 2021, Sravana 1943 (Saka)

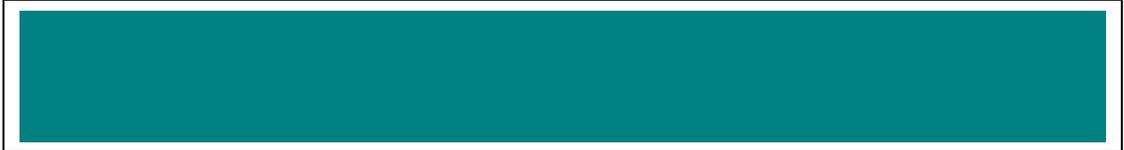
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STANDING COMMITTEE ON ENERGY
(2020-21)
(SEVENTEENTH LOK SABHA)

MINISTRY OF POWER

**Delay in execution/completion of Power Projects
by Power Sector Companies**

Presented to the Lok Sabha on 5th August, 2021

Laid in the Rajya Sabha on 5th August, 2021



LOK SABHA SECRETARIAT
NEW DELHI

August, 2021/Sravana, 1943 (Saka)

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COMPOSITION OF THE STANDING COMMITTEE ON ENERGY (2019-20)

Shri Rajiv Ranjan Singh *alias* Lalan Singh -Chairperson

Members

LOK SABHA

- 2 Smt. Sajda Ahmed
- 3 Shri Gurjeet Singh Aujla
- 4 Shri Chandra Sekhar Bellana
- 5 Shri Thomas Chazhikadan
- 6 Dr. A. Chellakumar
- 7 Shri Harish Dwivedi
- 8 Shri S. Gnanathiraviam
- 9 Shri Sanjay Haribhau Jadhav
- 10 Shri Kishan Kapoor
- 11 Km. Shobha Karandlaje
- 12 Shri Ramesh Chander Kaushik
- 13 Shri Ashok Mahadeorao Nete
- 14 Shri Praveen Kumar Nishad
- 15 Shri Parbatbhai Savabhai Patel
- 16 Smt. Anupriya Patel
- 17 Shri Jai Prakash
- 18 Shri N. Uttam Kumar Reddy
- 19 Shri Naba Kumar Sarania
- 20 Shri Shivkumar Chanabasappa Udasi
- 21 Shri Akhilesh Yadav

RAJYA SABHA

- 22 Shri T. K. S. Elangovan
- 23 Shri Javed Ali Khan
- 24 Shri Surendra Singh Nagar ^

- 25 Dr. C.P. Thakur
26 Shri Ajit Kumar Bhuyan*
27 Shri Muzibulla Khan*
28 Shri Jugalsinh Mathurji Lokhandwala*
29 Shri Nabam Rebia*
30 Dr. Sudhanshu Trivedi*
31 Shri K.T.S. Tulsi*

^ Nominated to the Committee w.e.f. 04.02.2020 vice Shri Vijay Goel, resigned from membership of the Committee w.e.f. 21.11.2019.

** Nominated to the Committee w.e.f. 22.07.2020 against the existing two vacant posts since constitution of the Committee and vacancies arisen due to retirement from Rajya Sabha in respect of Shri S. Muthukaruppan on 02.04.2020, Smt. Viplove Thakur on 09.04.2020 and Shri B.K. Hariprasad and Dr. Prabhakar Kore on 25.06.2020.*

**COMPOSITION OF THE STANDING COMMITTEE ON ENERGY
(2020-21)**

LOK SABHA

Shri Rajiv Ranjan Singh *alias* Lalan Singh - Chairperson

2. Smt. Sajda Ahmed
3. Shri Gurjeet Singh Aujla
4. Shri Chandra Sekhar Bellana
5. Dr. A. Chellakumar
6. Shri Harish Dwivedi
7. Shri S. Gnanathiraviam
8. Shri Sanjay Haribhau Jadhav
9. Shri Kishan Kapoor
10. Shri Ramesh Chander Kaushik
11. Shri Ashok Mahadeorao Nete
12. Shri Praveen Kumar Nishad
13. Shri Parbatbhai Savabhai Patel
14. Shri Jai Prakash
15. Shri Dipsinh Shankarsinh Rathod ^
16. Shri N. Uttam Kumar Reddy
17. Shri Shivkumar Chanabasappa Udasi
18. Shri P. Velusamy
19. Shri Akhilesh Yadav
20. Vacant@
21. Vacant@

RAJYA SABHA

22. Shri Ajit Kumar Bhuyan
23. Shri T. K. S. Elangovan
24. Shri Muzibulla Khan
25. Shri Maharaja Sanajaoba Leishemba

26. Shri Jugalsinh Mathurji Lokhandwala
27. Shri Surendra Singh Nagar
28. Dr. Sudhanshu Trivedi
29. Shri K.T.S. Tulsi
30. Vacant *
31. Vacant #

SECRETARIAT

- | | | |
|----|---------------------------|---------------------|
| 1. | Shri R.C. Tiwari | Joint Secretary |
| 2. | Shri R.K. Suryanarayanan | Director |
| 3. | Shri Kulmohan Singh Arora | Additional Director |
| 4. | Smt. L.N. Haokip | Deputy Secretary |
| 5. | Shri Manish Kumar | Committee Officer |

^ Nominated as Member of the Committee w.e.f. 28.12.2020

@ Vacant vice Km. Shobha Karandlaje and Smt Anupriya Patel inducted in Union Council of Ministers w.e.f. 07.07.2021

** Vacant vice Shri Javed Ali Khan retired from Rajya Sabha on 25.11.2020*

Vacant since constitution of the Committee.

List of Abbreviations

ACQ	Annual Contracted Quantity
AMC	Annual Maintenance Contract
APGENCO	Andhra Pradesh Power Generation Corporation Limited
BBMB	Bhakra Beas Management Board
BHEL	Bharat Heavy Electrical Limited
BOP	Balance Of Plant
BSPGCL	Bihar State Power Generation Company Limited
BTG	Boiler, Turbine, Generator
BVPCL	Beas Valley Power Corporation Limited
CAPEX	Capital Expenditure
CCEA	Cabinet Committee on Economic Affairs
CEA	Central Electricity Authority
COD	Commercial Operation Date
CPSU	Central Public Sector Undertaking
CPSE	Central Public Sector Enterprises
CRA	Credit rating agencies
CSMRS	Central Soil and Materials Research Station
CVPPL	Chenab Valley Power Projects Limited
CWC	Central Water Commission
DISCOM	Distribution Company
DRB	Dispute Resolution Board
DVC	Damodar Valley Corporation
EC	Environment Clearance
EPC	Engineering, procurement, and construction
ERSS-XX	Eastern Region Strengthening Scheme-XX
FC	Fuel Cell
FSA	Fuel Supply Agreement
GCPT	Global Coal Plant Tracker
GOM	Group of Ministers
GSI	Geological Survey of India
HCC	Hindustan Construction Company
HEP	Hydro Electric Project
HPPCL	Himachal Pradesh Power Corporation Limited
HRT	Head Race Tunnel
HVDC	High-voltage Direct Current
ICE	Independent Credit Evaluation
IDC	Interest During Construction

IPMCS	Ionic Polymer Metal Composites
J&K	Jammu & Kashmir
JKSPDC	Jammu & Kashmir State Power Development Corporation
JV	Joint Venture
KPCL	Karnataka Power Corporation Limited
KSEB	Kerala State Electricity Board
LA	Land Act
LPS	Late Payment Surcharge
LTHPL	LancoTeesta Hydro Power Ltd
L&T	Larsen & Toubro
MAHAGENCO	Maharashtra State Power Generation Company
MEIL	Mega Engg. Infrastructure Limited
MoEF	Ministry of Environment & Forest
MoP	Ministry of Power
MOSP(IC)	Minister of State, Power (Independent Charge)
MOU	Memorandum of Understanding
MUW	make Up water
MWp	Megawatt Power
MW	Megawatt
NBFC	non-banking finance companies
NCLT	National Company Law Tribunal
NEEPCO	North Eastern Electric Power Corporation Limited
NERSS	North Eastern Region Strengthening Scheme
NGT	National Green Tribunal
NHPC	National Thermal Power Corporation
NLCL	Neyveli Lignite Corp. Ltd
NPA	Non-Performing Asset
NPC	National Power Corporation
NRSS	Northern Region Strengthening Scheme
NSPCL	NTPC-SAIL Power Company Limited
NTPC	National Thermal Power Corporation
OEM	Original Equipment Manufacturer
PFCL	Power Finance Corporation Limited
PIB	Public Investment Board
PLF	Plant Load Factor
PMG	Project Monitoring Group
PMO	Prime Minister Office
PPA	Power Purchase Agreement
PSPCL	Punjab State Power Corporation Limited
PTC	Power Trading Corporation

RBI	Reserve Bank of India
RE	Renewable Energy
RFCTLARR	Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement
RHPPL	Rajpur Hydro Power Private Limited
ROW	Right of Way
RP	resolution plan
R&R	Resettlement & Rehabilitation
RRVUNL	Rajasthan Rajya Vidyut Utpadan Nigam Limited
SAIL	Steel Authority of India Limited
SBI	State Bank of India
SCED	Security Constraint Economic Despatch
SCTPP	Suratgarh Super Thermal Power Plant
TANGEDCO	Tamil Nadu Generation and Distribution Corporation Limited
TBCB	Tariff-Based Competitive Bidding
TBM	Tunnel Boring Machine
TEC	Thermo Electric Cooler
TG	Turbine Generator
TPS	Thermal Power Station
TPP	Thermal Power Plant
TSGENCO	Telangana State Power Generation Corporation
REC	Rural Electrification Corporation
SG	Schedule Generation
SJVNL	Satluj Jal Vidyut Nigam Limited
STPP	Singareni Thermal Power Plant
THDCL	Tehri Hydro Development Corporation Limited
UJVNL	Uttarakhand Jal Vidyut Nigam Limited
UPRVUNL	Uttar Pradesh Rajya Vidyut Utpadan Nigam Limited
URTDSM	Unified Real Time Dynamic State Measurement
UT	Union Territory
WPDCL	West Bengal Power Development Corporation Limited

INTRODUCTION

I, the Chairperson, Standing Committee on Energy having been authorized by the Committee to present the Report on their behalf, present this 19th Report on „Delay in execution / completion of Power Projects by Power Sector Companies“.

2. The Committee had a briefing on the subject by the representatives of the Ministry of Power on 13th November, 2019. The Committee, with a view to examine the subject in detail, took evidence of the representatives of the Ministry of Power on 25th November, 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 4th August, 2021.

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
4 August , 2021
Sravana 13, 1943 (Saka)

Rajiv Ranjan Singh alias Lalan Singh
Chairperson,
Standing Committee on Energy

REPORT
PART I
NARRATION ANALYSIS
CHAPTER I
INTRODUCTORY

The power sector in the country has come a long way from the era of acute shortages to the level of generating surplus power. The task of universal access to electricity in the country has been accomplished. Now the aim is to provide 24x7 affordable and reliable power to all. Some other challenges in the power sector also remain to be addressed effectively to have sustained power supply throughout the country like, the delay in execution and completion of the power projects. The cost and time overrun in execution of any project may lead to additional financial burden and sometimes abnormal delay may lead to these projects becoming Non-Performing Assets. Considering the gravity and seriousness of the issue and to discuss the actions that may be taken to alleviate this situation, the Committee have taken up this subject for detailed examination.

1.2. The setting up of power plant is a complex process and is dependent on the performance of several players. Power project developer awards work for setting up of Power projects to different agencies either on EPC basis or separate package to multiple agencies. The said developer is expected to provide several inputs starting from making available encumbrance free land, construction/ startup power, raw water, coal etc. Several other Balance of Plant (BOP) vendors have to supply equipment like coal and ash handling systems, water systems, cooling towers, chimney etc. As informed by the Ministry of Power, there are nine power sector companies under their purview, i.e. (i) National Thermal Power Corporation (NTPC), (ii) National Hydro Power Corporation (NHPC), (iii) Power Grid Corporation of India (POWER GRID), (iv) Tehri Hydro Development Corporation Ltd. (THDCL), (v) Satluj Jal Vidyut Nigam (SJVN), (vi) North Eastern Electric Power Corporation (NEEPCO), (vii) Rural Electrification Corporation (REC), (viii) Power Finance Corporation (PFC) (ix) Power System Operation Corporation Ltd. (POSOCO) [and Chenab Valley Power Projects Limited (CVPPL, a Joint Venture between NHPC and Govt. of J&K and PTC)]. Besides, there are two statutory organizations namely Bhakra Beas Management Board (BBMB) and

Damodar Valley Corporation (DVC) which are also involved in implementation of power projects.

1.3 The aforementioned CPSUs under the Ministry of Power are implementing the Thermal, Hydro, Transmission and Renewable Power projects. According to the Ministry, there are 38 Hydro Electric Projects (above 25 MW) as on 25.11.2020, which are under construction, having total Installed Capacity of 12973.5 MW. Out of these 38 under-construction Hydro Electric Projects (HEPs), 13 HEPs with aggregate installed capacity of 6074 MW is being developed in Central Sector by CPSUs under the Ministry. 13 number of Thermal Power Plants are being implemented by organizations under the Ministry of Power and, presently POWERGRID is implementing total 28 projects in Transmission sector each having cost of more than Rs. 150 crore. The POWERGRID is also implementing additional 14 projects which include projects requiring through Tariff Based Competitive Bidding (TBCB) route.

1.4. As per data provided by the Ministry of Power, two hydro electric projects were commissioned without time and cost over-run in last 20 years. 15 thermal power projects were completed within original schedule, 120 power transmission projects and 5 renewable energy projects were completed without time and cost over-run. Further analysis reveal that a large number of thermal, hydro and transmission projects got delayed for various reasons and suffered a massive time and cost over-run. The reasons cited for delay execution of power projects include problems in acquisition of required land, forest and environment clearance issues, rehabilitation and resettlement issues, law and order/local issues, geological uncertainties, natural calamities, funds constraint, contractual issues, technical issues, inter-state issues, Court/NGT/NCLT cases and also right of way issues, etc. The details regarding Delayed Power Projects, Factors/ Issues affecting the execution of Power Projects, Monitoring mechanism and Remedial measures, etc in each of the sector, viz., Thermal, Hydro and Transmission are dealt with in the succeeding Chapters.

CHAPTER II

DELAYED POWER PROJECTS

2.1 The Central Public Sector Undertakings (CPSUs) under the aegis of the Ministry of Power are implementing the Thermal, Hydro, Transmission power projects and few projects of New and Renewable energy. Details regarding total power projects and delayed power projects along with cost and time over-run, sector-wise as furnished by the Ministry of Power in a written reply, is as under:

Sector	Implementing PSU	Total Projects	Delayed projects	Total cost overruns (In Rs Crore)	Total Time overruns (In months)
Hydro	NHPC, NTPC, SJVN, THDC, NEEPCO, CVPP Ltd.	13	12	31,530.03	1205
Thermal	NTPC, NLC, THDC SJVN, APGENCO RRVUNL, TSGENCO TANGEDCO, UPRVUNL KPCL, MAHAGENCO WPDCL	34	30	41,100.2	1,776
Transmission	Transmission (POWERGRID)	42	18	Nil	2-7
Renewable Energy	DVC, NHPC, NTPC, THDC	26	1	-	11.1

2.2 When asked about the power projects completed without time and cost over-run since inception of power projects in the country, the Ministry in a written reply have furnished as under:

Hydro : As per information available with this Ministry, there were 2 nos. of Hydro Electric Projects namely Baglihar-II HEP (450MW) in UT of J&K and Chamara-II HEP (300 MW) in Himachal Pradesh, were commissioned without time and cost over-run in last 20 years.

Transmission: POWERGRID (erstwhile NPTC), was incorporated in 1989 after amalgamation of transmission assets of a number of Central / State sector agencies like NTPC, NHPC, BBMB, SJVN, NEEPCO, NPC, NLC, THDC etc. Therefore, compilation of required information since inception is not feasible. However, projects completed without time and cost over-run from April'14 to Dec'20 based on approved revised schedule and approved revised cost estimate is 120.

Thermal: following project of NTPC were completed within original schedule:

1. Singrauli-I (2X200 MW)
2. Korba-II (3X500 MW)
3. Singrauli-II (2X500 MW)

4. Ramagundam-I (3X200 MW)
5. Ramagundam-II (3X500 MW)
6. Ramagundam-III (1X500 MW)
7. Simhadri-I (2X500 MW)
8. Vindhyachal-II (2X500 MW)
9. Vindhyachal-III (2X500 MW)
10. Rihand-II (2X500 MW)
11. Talcher-II (4X500 MW)
12. Unchahar-II (2X210 MW)
13. Unchahar-III (1X210 MW)
14. Dadri-II (2X490 MW)
15. Vindhyachal-V (1X500 MW)

NTPC RE Projects completed in time, without time and cost over-run

SN	Project	Capacity (MWp)	State	Remarks
1	Ananthapuramu Solar	250	Andhra Pradesh	
2	Bhadla Solar	260	Rajasthan	
3	Auraiya Solar	20	Uttar Pradesh	15MW Commissioned; 5 MW expected before 20.02.2021
4	Bilhaur Solar	140	Uttar Pradesh	

DVC :Unit# 4 (210 MW) at Durgapur TPS was completed in time without time and cost over-run.”

A. Delayed Thermal Power Projects

2.3 As furnished by the Ministry in its written reply, there are 17 delayed thermal power projects under Central sector in 8 States having a total capacity of 17000MW. State-wise details of these projects (showing cost and cost over-run, targeted time and time over-run) are given below:

Sl. No	Project Name / Impl. Agency/ EPC or BTG	Unit No	Cap. (MW)	Org. Comm Sched.	Ant. Trial Run Schedule/ COD	Original Cost	Latest Cost (cr)	Cost Over-run*	Time over-run (months)**
i) BIHAR									
1	Barh STPP-I /NTPC/Others	U-1	660	Aug-09	Dec-20	8693	21312.1	145.16%	136.00
		U-2	660	Jun-10	Sep-21				135.00
		U-3	660	Apr-11	Jun-22				134.00
2	Nabi Nagar TPP / JV of NTPC & Rlys/BHEL	U-4	250	Nov-13	Feb-21	5352.51	9996.59	86.76%	87.00
3	New Nabi Nagar TPP /JV of NTPC & BSPGCL TG-Alstom & Bharat Forge, SG-BHEL	U-2	660	Jul-17	Jan-21	13624.02	17304.3	27.01%	42.00
		U-3	660	Jan-18	Aug-21				43.00
4	Buxar TPP	U-1	660	Jul-23	Jul-23	10439.09	10439.09	0.00%	0.00

		U-2	660	Jan-24	Jan-24				0.00
ii) JHARKHAND									
5	North Karanpura STPP/ NTPC / BHEL	U-1	660	Feb-18	Oct-21	14367	15164.05	5.55%	44.00
		U-2	660	Aug-18	Apr-22				44.00
		U-3	660	Feb-19	Oct-22				44.00
6	Patratu STPP / JV of NTPC & Jharkhand BidyutVitrans Nigam Ltd.	U-1	800	Jan-22	Mar-22	17112	17113	0.01%	2.00
iii) MADHYA PRADESH									
7	Gadarwara STPP/ NTPC /BTG-BHEL	U-2	800	Sep-17	Dec-20	11638.55	15105.22	29.79%	39.00
iv) ODISHA									
8	Darlipalli STPP/ NTPC / SG- BHEL TG-JSW & Toshiba	U-2	800	Jun-18	Feb-21	12532.44	13740.53	9.64%	32.00
9	Rourkela PP-II Expansion/NTPC-Sail Power Co Ltd (NSPCL)(JV of NTPC & Steel Authority of India (SAIL))/BHEL	U-1	250	Dec-18	Apr-21	1885.13	1885.13	0.00%	28.00
v) RAJASTHAN									
10	Barsingar TPP ext/NLC/Reliance Infra	U-1	250	May-20	Hold	2112.59	2112.59	0.00%	-
11	Bitnkok TPP /NLC/Reliance Infra	U-1	250	May-20	Hold	2196.3	2196.3	0.00%	-
vi) TAMIL NADU									
12	Neyveli New TPP/ NLC/BHEL	U-2	500	Mar-18	Mar-21	5907.11	7980.79	35.10%	36.00
vii) TELANGANA									
13	Telangana STPP St- I / NTPC/SG- BHEL TG- Alstom & Bharatforge	U-1	800	Jan-20	Oct-21	10599	11811	11.44%	21.00
		U-2	800	Jul-20	Apr-22				21.00
viii) UTTAR PRADESH									
14	Meja STPP/ JV of NTPC & UPRVUNL / SG-BGR TG-Toshiba	U-2	660	Dec-16	Mar-21	10821	12176.28	12.52%	51.00
15	Tanda TPP St II/ NTPC/ SG: L&T/ TG: Alstom	U-6	660	Feb-20	Mar-21	9188.98	10016.1	9.00%	13.00
16	Ghatampur TPP/ JV of NLC & UPRVUNL/ MHPS Boiler Pvt. Ltd.	U-1	660	Apr-20	Apr-21	17237.8	17237.8	0.00%	12.00
		U-2	660	Oct-20	Oct-21				12.00
		U-3	660	Oct-20	Mar-22				17.00
17	Khurja SCTPP	U-1	660	Mar-23	Apr-23	11089.42	11089.42	0.00%	1.00
		U-2	660	Sep-23	Sep-23				0.00

*Unit wise Balace amount to be expended in the next four years (cr) is Calculated (per unit wise) depending upon number of remaining months for Trial Run/COD.

**Time overrun is calculated w.r.t. orginal commissioning schedule and Anticipated Commissioning schedule

2.4 During the evidence held on 25.11.2020, when the Committee asked the representative of the Ministry, how many Shelved projects are there till date as per the

Global Coal Plant Tracker (GCPT) Report and how many have been cancelled thereon, the Ministry in a written reply stated as under:

“As per Global Coal Plant Tracker, July 2020 (Global Energy Monitor) in context of India, 35,205 MW Construction capacity and 40,709MW Shelved capacity has been mentioned.

As per CEA 60,200 MW thermal generation capacity is under construction in the country, out of which 32 thermal power projects comprising of 35,835 MW capacity are likely to be commissioned in next five years. Further, 28 thermal power projects comprising of 24,365 MW are also in various stages of construction which are held-up due to various reasons such as financial issues, lack of PA or FSA etc and the commissioning of these projects is uncertain. Further, 34 coal based Thermal Power Projects, mostly private, totaling to 40,130 MW are considered 'Stressed'.

As per National Electricity Plan, 2018, in the base case scenario, a coal based capacity of 22,716 MW (5,927 MW + 16,789 MW) is considered for retirement during 2017-22. Out of which during the period April 2017 to 15th December, 2020 thermal capacity of 7802 MW has since been retired.

As per Optimal Generation Mix by 2030 report by CEA, in order to meet the project demand in 2029-30, further retirement of old coal based units totaling to 25,252 MW has been considered for the period 2022-30.

2.5 The under construction thermal power projects likely to be added in to capacity addition during next five years in central sector, as furnished by the Ministry is given below:

S.No.	Project Name / Impl. Agency/ EPC or BTG	Unit No	Cap. (MW)
1	Barh STPP-I /NTPC/Others	U-1	660
		U-2	660
		U-3	660
2	Nabi Nagar TPP / JV of NTPC & Rlys/BHEL	U-4	250
3	New Nabi Nagar TPP /JV of NTPC & BSPGCL TG-Alstom &BharatForge, SG-BHEL	U-2	660
		U-3	660
4	North Karanpura STPP/ NTPC / BHEL	U-1	660
		U-2	660
		U-3	660
5	Gadarwara STPP/ NTPC /BTG-BHEL	U-2	800
6	Darlipalli STPP/ NTPC / SG- BHEL TG-JSW & Toshiba	U-2	800
7	Neyveli New TPP/ NLC/BHEL	U-2	500
8	Telangana STPP St- I / NTPC/SG- BHEL TG- Alstom &Bharatforge	U-1	800
		U-2	800
9	Meja STPP/ JV of NTPC & UPRVUNL/ SG-BGR TG-Toshiba	U-2	660

10	Tanda TPP StII/NTPC/ Alstom	SG: L&T/ TG:	U-6	660
11	Ghatampur TPP/ JV of NLC & UPRVUNL/ MHPS Boiler Pvt. Ltd.		U-1	660
			U-2	660
			U-3	660
12	Patratu STPP / JV of NTPC & Jharkhand Bidyut Vitran Nigam Ltd.		U-1	800
			U-2	800
			U-3	800
13	Rourkela PP-II Expansion/NTPC-Sail Power Co Ltd (NSPCL)(JV of NTPC & Steel Authority of India (SAIL))/BHEL		U-1	250
14	Khurja SCTPP		U-1	660
			U-2	660
15	Buxar TPP		U-1	660
			U-2	660
				17820

2.6 On being inquired by the Committee about the thermal power projects under stress, the Ministry in a written note furnished as under:

“Department of Financial Services had provided a list of 34 coal based Thermal Power Projects, mostly private, totaling to 40,130 MW which were considered 'Stressed' by Ministry of Power on March 22, 2017. Out of which 20,440 MW capacity comprising of seventeen (17) projects which are mostly commissioned and have been resolved/ likely to be resolved and/ or serving their debt and/or are not in NCLT. Eleven (11) Projects are only partially commissioned and have been referred to or admitted under NCLT waiting for resolution with a capacity of 13,330 MW. Six (6) projects are at very initial stage of construction are totally stalled, and have either been ordered to be liquidated or are heading towards liquidation.”

2.7 Status of stressed thermal power projects as furnished by the Ministry is as under:

(i) Project Resolved/likely to be resolved

Sl.N o.	Name of the Project	State	Cap (MW)	Comm
1	DVC Raghunathpur	West Bengal	1200	1200
2	Kanti Bijli Utpadan Nigam Limited – NTPC	Bihar	390	390
3	Adani Power Maharashtra Ltd	Maharashtra	3300	3300
4	Adhunik Power Limited	Jharkhand	540	540
5	GMR Kamalanga Limited	Odisha	1050	1050
6	GMR Warora Energy Limited	Maharashtra	600	600

7	DB Power Limited	Chhattisgarh	1200	1200
8	Korba West Power Company Ltd	Chhattisgarh	600	600
9	Lanco Anpara	UP	1200	1200
10	GMR Chhattisgarh	Chhattisgarh	1370	1370
11	SKS Power Ltd.	Chhattisgarh	1200	600
12	Jaypee Bina MP	MP	500	500
13	Prayagraj Power Gen. Corp. Ltd.	UP	1980	1980
14	Jaypee Nigrie	MP	1320	1320
15	Rattan India Power Limited - Nashik	Maharashtra	1350	1350
16	Essar Power Mahan Limited	MP	1200	1200
17	RKM Powergen Limited	Chhattisgarh	1440	1440
	Total		20440	19840

(ii) Viable Projects

Sl.No.	Name of the Project	State	Cap (MW)	Comm
1	Avantha Jhabua Power	MP	600	600
2	Ind Barath Utkal Limited	Odisha	700	350
3	Lanco Vidarbha Power Limited	Maharashtra	1320	0
4	Lanco Amarkantak Power Ltd.	Chhattisgarh	1320	0
5	Athena Chhattisgarh Power Ltd	Chhattisgarh	1200	0
6	KVK Nilanchal Power Limited	Odisha	1050	0
7	GVK Goindwal Sahib Power Plant	Punjab	540	540
8	Jindal India Thermal Power Ltd.	Odisha	1200	1200
9	KSK Mahanadi Power Co. Ltd.	Chhattisgarh	3600	1800
10	Coastal Energen Pvt. Ltd.	Tamil Nadu	1200	1200
11	Simhapuri Energy Limited	AP	600	600
	Total		13330	6290

(iii) Un-viable Projects

Sl.No.	Name of the Project	State	Cap (MW)	Comm
1	Vandana Vidyut Limited	Chhattisgarh	270	135
2	Lanco Babandh	Odisha	1320	0
3	East Coast Energy Pvt. Ltd. (Athena)	AP	1320	0
4	Essar Power Jharkhand Limited	Jharkhand	1200	0
5	Monnet Power Co. Ltd.	Odisha	1050	0
6	Visa Power Limited	Chhattisgarh	1200	0

2.8 When asked about the Stressed thermal power projects pending with National Company Law Tribunal (NCLT) for resolution/ revival / insolvency, the Ministry in a written reply furnished as under:

Sl. No.	Name of the Project	State	Location	Capacity	Commissioned	PPA Tied	Fuel Tied	O/s Debt*
i) Projects likely to be resolved/ can be resolved (under NLCT or outside)								
1	Essar Power Mahan Ltd.\$	M.P.	Bandhaura	1200	1200	200	0	5984
2	Athena Chattisgarh Power Limited@	Chhattisgarh	Singhitarai	1200	0	0	600	7086
3	Coasta Energen Pvt. Ltd.\$	Tamil Nadu	Mutiara	1200	1200	558	1200	6483
4	GVK Goindwal Sahib Power Plants\$	Punjab	Goindwal Sahib	540	540	540	335	4346
5	IndBarathUtkal Ltd@	Odisha	Sahajbahal	700	339	584	616	4893
6	Jindal India Thermal Power Ltd \$	Odisha	Derang	1200	1200	903	600	5507
7	Jhabua Power Ltd (Avantha) @	M.P.	Barela	600	600	425	600	4920
8	KSK Mahanadi Power Co. Ltd @	Chhattisgarh	Akaltara	3600	1800	2274	1800	20825
9	LancoAmarkantak Power Ltd@	Chhattisgarh	Pathadi	1320	0	0	1320	9003
10	Lanco Vidarbha Ltd*@	Maharashtra	Mandwa	1320	0	0	1097	4885
11	Simhapuri Energy Ltd@	A.P.	Thammina p-atnam	600	600	0	600	2608
	Total			13480	7479	5484	8768	76540
ii) Project unlikely to be resolved (Stalled/ no resolution possible)								
1	East Coast Energy Pvt. Ltd. (Athena)*@	A.P.	Bhavanapadu	1320	0	0	0	4906
2	Essar Power Jharkhand Ltd*@	Jharkhand	Chandwa	1200	0	283	0	3650
3	Monnet Power Co. Ltd*@	Odisha	Malibrahmani	1050	0	262	0	5874
4	Lanco Babandh*@	Odisha	Kharagprasad	1320	0	0	660	8217
5	Vandana Vidyut Ltd@	Chhattisgarh	Salora	270	135	0	0	2678
6	Visa Power Ltd*@	Chhattisgarh	Deori	1200	0	0	0	1481

7	KVK Nilanchal Power Ltd* @	Odisha	Kanderai	1050	0	88	311	1062
	Total			7410	135	633	971	27868
	Grand Total			20890	7614	6117	9739	104408

*Outstanding debt as compiled by lead banks and SBICAPs in INR Crore and collected at inception of this report during September 2019

@- in NCLT; \$- Referred to NCLT

N.B. the above data is prepared from various sources and hence tentative/ subject to verification

B. Delayed Hydro Power Projects

2.9 According to the written reply furnished by the Ministry of Power, there are 24 under construction hydro-electric projects (above 25 MW) having either time or cost over-run in 11 States/UT, having aggregate capacity of 11342 MW (as on 25.11.2020). State/UT-wise details as furnished by the Ministry are given below:

Andhra Pradesh

Sl. No	Project Name/(I.C.)/ Executing Agency	Unit No.	Cap. (MW)	Org. Comm. Sched.	Ant. Comm. Sched.	Time over run (months)	Org. Cost (Rs. in Crores) (Price Level)	Latest/ Ant. Cost (Rs. in Crores) (Price Level)	Cost over run (Rs. in Crores) (%)	Reasons for time and cost over run
1	2	3	4	5	6	7	8	9	10	11
1	Polavaram (12x80 = 960 MW) APGENCO / Irr. Deptt., A.P.	1 2 3 4 5 6 7 8 9 10 11 12	80 80 80 80 80 80 80 80 80 80 80 80	2016-17 2016-17 2016-17 2016-17 2016-17 2016-17 2017-18 2017-18 2017-18 2017-18 2017-18 2017-18	2023-24 2023-24 2023-24 2023-24 2023-24 2023-24 2024-25 2024-25 2024-25 2024-25 2024-25 2024-25	84 84	3013.68 (2010-11 PL) (Power Component)	5338.95 (2016-17 PL) (Power Component)	2325.27 (77.15)	> Funds constraints > Works stalled since August, 2019 as Contract has been terminated by APGENCO on 14.08.2019. M/s. NECL, the contractor challenged the termination order in Hon'ble High Court of A.P. on 19.08.2019. Hon'ble High Court granted interim stay on 22.08.2019. In the meanwhile, on retendering, LOI was issued to M/s Megha Engg. Infrastructure Limited. (MEIL) on 01.11.2019. Since stay order is in force. No further action could be initiated.

Arunachal Pradesh

Sl. No	Project Name/(I.C.)/ Executing Agency	Unit No.	Cap. (MW)	Org. Comm. Sched.	Ant. Comm. Sched.	Time over run (months)	Org. Cost (Rs. in Crores) (Price Level)	Latest/ Ant. Cost (Rs. in Crores) (Price Level)	Cost over run (Rs. in Crores) (%)	Reasons for time and cost over run
1	2	3	4	5	6	7	8	9	10	11
1	Kameng (4x150 = 600 MW)	1 2 3	150	Comm. in 2009-	Feb., 20		2496.90 (03/04)	6179.96 (03/15)	3683.06 (147.50)	> Change in Dam parameters. > Slow progress in dam & HRT due to bad geology, heavy

	NEEPCO 2 units taken in operation	4	150	10 2009- 10 (Dec'09)	2020-21 2020-21 (Mar'21)	} 135					seepage, inadequate machinery. ➤ Flash flood in Oct. 08 and Sept. 2012. ➤ Delay in clearance for quarry from State Govt. ➤ Leakage from penstocks & rectification of defects. ➤ Cash flow issues with civil contractor
2	Subansiri Lower (8x250 2000 MW) NHPC	1 2 3 4 5 6 7 8	250 250 250 250 250 250 250 250	2009-11 2009-11 2009-11 2009-11 2009-11 2009-11 2009-11 2009-11 (Sep'10)	2023-24 2023-24 2023-24 2023-24 2023-24 2023-24 2023-24 2023-24 (Aug'23)	} 156	6285.33 (12/02)	19496.34 (04/17)	13211.01 (210.18)		➤ Delay in transfer of forest land. ➤ Disruption of works by locals in Ar. Pradesh side. ➤ Slope failure in Power House in Jan, 2008. ➤ All works except safety works were stalled from December, 2011 to October, 2019 due to agitation launched by Anti Dam activists in Assam against construction of Project. Work restarted w.e.f. 15.10.2019.

Himachal Pradesh

Sl. No	Project Name/(I.C.)/ Executing Agency	Unit No.	Cap. (MW)	Org. Comm. Sched.	Ant. Comm. Sched.	Time over run (months)	Org. Cost (Rs. in Crores) (Price Level)	Latest/ Ant. Cost (Rs. in Crores) (Price Level)	Cost over run (Rs. in Crores) (%)	Reasons for time and cost over r
1	2	3	4	5	6	7	8	9	10	11
1	Parbati - II (4x200 = 800 MW) NHPC	1 2 3 4	200 200 200 200	2009- 10 2009- 10 2009- 10 2009- 10 (Sept'0 9)	2021-22 2021-22 2021-22 2021-22 (Mar,22)	} 150	3919.59 (12/01)	9394.80 (04/18)	5475.21 (139.68)	➤ Delay in revised forest clearance. ➤ TBM suffered extensive damage due to heavy ingress of water and slush in TBM face in Nov, 2006. Due to poor geology. ➤ Flash flood in 2004,2005,2010 and 2011. ➤ Contractual issues. ➤ Cash flow issues with civil contractors.
2.	Uhi-III (3x33.33 100 MW) BVPCL	1 2 3	33.33 33.33 33.33	2006-07 2006-07 2006-07 (Mar'07)	2022-23 2022-23 2022-23 (Dec,22)	189 189 189	431.56 (09/02)	1281.52 (12/12)	849.96 (196.95)	➤ Delay in transfer of forest land. ➤ Delay in acquisition of private land ➤ Delay in transfer of quarry sites. ➤ Contract for construction of HRT rescinded twice i.e. during April, 2008 & July, 2010 due to slow progress and non-performance by the contractor. ➤ Poor geology in HRT. ➤ Leakage in Penstock in July,2018 and Rupture in May,2020
3	Sawra Kuddu (3x37 =111MW) HPPCL	1 2 3	37 37 37	2011-12 2011-12 2011-12 (Jan'12)	2020-21 2020-21 2020-21 (Mar,21)	} 112	558.53 (03/03)	1181.90 (06/09)	623.37 (111.60)	➤ Delay in MOEF clearance. ➤ Slow progress due to Poor geology in HRT. ➤ Contract for HRT package terminated on 9.1.14. Re- awarded in Nov,2014 to M/s. HCC.

4	ShongtomKarcham (3x150 = 450 MW) HPPCL	1	150	2016-17	2024-25	92	2807.83 (06/11)	2807.83 (06/11)	Nil	➤ Shifting of Army Ammunition Depot. ➤ Disruption of works by local people.	
		2	150	2016-17	2024-25						94
		3	150	2016-17 (Mar'17)	2024-25 (Mar,25)						

Jammu and Kashmir

Sl. No	Project Name/(I.C.)/ Executing Agency	Unit No.	Cap. (MW)	Org. Comm. Sched.	Ant. Comm. Sched.	Time over run (months)	Org. Cost (Rs. in Crores) (Price Level)	Latest/Actual Cost (Rs. in Crores) (Price Level)	Cost over run (Rs. in Crores) (%)	Reasons for time and cost over r
1	2	3	4	5	6	7	8	9	10	11
1	PakalDul (4x250= 1000 MW) CVPPPL	1	250	2020-	2025-26	63	8112.12 (03/13)	8112.12 (03/13)	Nil	➤ Delay in award of works due to higher bids.
		2	250	21	2025-26					
		3	250	2020-	2025-26					
		4	250	21	2025-26 (July'25)					
2	Parnai 3x12.5= 37.5 MW JKSPDC	1	12.5	2017-18	2022-23	62	640.86 (Completion cost)	640.86 (Completion cost)	Nil	Delay in Land acquisition.
		2	12.5	2017-18	2022-23					
		3	12.5	2017-18 (Jan'18)	2022-23 (Mar,23)					
3	Lower Kalnai 2x24= 48 MW JKSPDC	1	24	2017-18	2025-26	102	576.87 (12/12) (Completion cost)	576.87 (12/12) (Completion cost)	Nil	➤ Inadequate mobilization of man & machinery by Contractor. ➤ Delay in finalization of R&R Plan. ➤ Funds constraints with contractor. Contractor under Corporate Debt Restructuring and project stalled since January, 2018. ➤ Contract terminated and process of re-tendering is under progress.
		2	24	2017-18 (Sep'17)	2025-26 (subject to re-start of works (4 years))					
4	Kiru (4x156=624 MW) CVPPPL	1	156	2023-24	2024-25	12	4287.59 (07/18)	4287.59 (07/18)	Nil	➤ Slow mobilization due to Covid-19 lockdown
		2	156	2023-24	2024-25					
		3	156	2023-24	2024-25					
		4	156	2023-24 (Aug,23)	2024-25 (Aug,24)					
5	Ratle (4x205+1x30) = 850 MW RHPPL / NHPC	1	205	2017-18	2025-26	96	5517.02 (03/12)	6275.00 (09/13)	757.98 (13.73)	➤ Works suspended since 11.7.14 due to frequent local disturbance. ➤ Developer wanted to surrender the Project to State Govt. Govt. of J&K, terminated PPA on 09.02.2017 and directed JKSPDC to take over the project. ➤ JV of JKSPDC & NHPC to be formed for implementation of project. PIB approval received. CCEA note is under circulation.
		2	205	2017-18	2025-26					
		3	205	2017-18	2025-26					
		4	205	2017-18	2025-26					
		5	30	2017-18	2025-26 (subject to re-start of works(5 years))					

Kerala

Sl. No	Project Name/(I.C.)/ Executing Agency	Unit No.	Cap. (MW)	Org. Comm. Sched.	Ant. Comm. Sched.	Time over run (months)	Org. Cost (Rs. in Crores)	Latest/Actual Cost (Rs. in Crores)	Cost over run (Rs. in Crores)	Reasons for time and cost over r
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							(Price Level)	Crores (Price Level)	Crores (%)	
1	2	3	4	5	6	7	8	9	10	11
1	Pallivasal 2x30 = 60 MW KSEB	1 2	30 30	2010-11 2010-11 (Mar'11)	2022-23 2022-23 (Dec,22)	141	222.00 (2004)	550.00 (2018)	328.00 (147.74%)	<ul style="list-style-type: none"> ➤ Delay in land acquisition. ➤ Poor geology strata in HRT. ➤ Works stopped by contractor since 28.1.15 to 11.04.2017 due to contractual issues. Contract terminated on 13.09.2018 and re-awarded in August, 2019.
2	Thottiyar (1x30+1x10)= 40MW KSEB	1 2	30 10	2012-13 2012-13 (Apr'12)	2021-22 2021-22 (Mar'22)	119	136.79 (2007)	280 (2018)	143.21 (104.69%)	<ul style="list-style-type: none"> ➤ Land acquisition issue. ➤ The works of weir and approach channel stopped from 2010 to 2012 by local people. ➤ The work stopped by Court from 12.12.2012 to April-2013. ➤ Financial crunch with contractor leading to foreclosure of contract in April,2017 and balance works re-awarded in January, 2018.

Maharashtra

Sl. No	Project Name/(I.C.)/ Executing Agency	Unit No.	Cap. (MW)	Org. Comm. Sched.	Ant. Comm. Sched.	Time over run (months)	Org. Cost (Rs. in Crores) (Price Level)	Latest/Ant. Cost (Rs. in Crores) (Price Level)	Cost over run (Rs. in Crores) (%)	Reasons for time and cost over r
1	2	3	4	5	6	7	8	9	10	11
1	Koyna Left Bank PSS 2x40 = 80 MW WRD, Maha	1 2	40 40	2014-15 2014-15 (Oct'14)	2025-26 (subject to re-start of works (4 years))	137	245.02 (1999)	1403.77 (2014)	1158.75 (472.92%)	Fund constraints due to increase in project cost. Approval of State Govt. to increased cost awaited.

Punjab

Sl. No	Project Name/(I.C.)/ Executing Agency	Unit No.	Cap. (MW)	Org. Comm. Sched.	Ant. Comm. Sched.	Time over run (months)	Org. Cost (Rs. in Crores) (Price Level)	Latest/Ant. Cost (Rs. in Crores) (Price Level)	Cost over run (Rs. in Crores) (%)	Reasons for time and cost over r
1	2	3	4	5	6	7	8	9	10	11
1	Shahpurkandi 3x33+3x33+1x8 =206 MW, Irrigation Deptt. &PSPCL	1 2 3 4 5 6 7	33 33 33 33 33 33 8	2015-16 2015-16 2015-16 2015-16 2015-16 2015-16 2015-16	2023-24 2023-24 242023-24 2023-24 242023-24 2023-24 (Dec, 23)	93 93	1835.50 (04/08) (Power Component)	1938.74 (02/18) (Power Component)	103.24 (5.62%)	Works of Dam stopped since 29.08.2014 due to inter-state dispute between states of J&K & Punjab on sharing of waters of river Ravi and Tariff.

Sikkim

Sl. No	Project Name/(I.C.)/ Executing Agency	Unit No.	Cap. (MW)	Org. Comm. Sched.	Ant. Comm. Sched.	Time over run (months)	Org. Cost (Rs. in Crores) (Price Level)	Latest/Ant. Cost (Rs. in Crores) (Price Level)	Cost over run (Rs. in Crores) (%)	Reasons for time and cost over r
1	2	3	4	5	6	7	8	9	10	11

1	Teesta Stage VI (4x125 = 500 MW) LancoTeesta Hydro Power Ltd. (LTHPL) (Project taken over by NHPC w.e.f. 08.03.2019)	1	125	2012-13	2023-24	72	3283.08 (2008)	5748.04 (07/2018)	2464.96 (75.08)	<ul style="list-style-type: none"> ➤ Poor geology. ➤ Land acquisition. ➤ Contractual issues ➤ Funds constraints with developer (Private) and stalled from April, 2014 to October, 2019 ➤ M/s. LTHPL came under Corporate Insolvency Resolution Process. NHPC Ltd. emerged as H1 bidder. CCEA approval was accorded to NHPC on 08.03.2019. NCLT on 26.07.2019 approved resolution plan of NHPC for acquisition of LTHPL. ➤ Taking over along with all assets and documents as „Going concern“ completed on 09.10.2019.
		2	125	2012-13	2023-24					
		3	125	2012-13	2023-24					
		4	125	2012-13 (Jul'12)	2023-24 (Mar,24)					

Tamil Nadu

Sl. No	Project Name/(I.C.)/ Executing Agency	Unit No.	Cap. (MW)	Org. Comm. Sched.	Ant. Comm. Sched.	Time over run (months)	Org. Cost (Rs. in Crores) (Price Level)	Latest/Ant. Cost (Rs. in Crores) (Price Level)	Cost over run (Rs. in Crores) (%)	Reasons for time and cost over r
1	2	3	4	5	6	7	8	9	10	11
1	Kundah PSP (Phase-I, Phase-II & Phase-III) (4x125=500 MW) TANGEDCO	1 2 3 4	125 125 125 125	2021-22 2021-22 2021-22 2021-22	2023-24 2023-24 2023-24 2023-24	21	1216.59 (2007-08)	1831.29 (2014-15)	614..7 (50.52)	Civil & HM works have been taken up from 05/2018 only

Uttarakhand

Sl. No	Project Name/(I.C.)/ Executing Agency	Unit No.	Cap. (MW)	Org. Comm. Sched.	Ant. Comm. Sched.	Time over run (months)	Org. Cost (Rs. in Crores) (Price Level)	Latest/Ant. Cost (Rs. in Crores) (Price Level)	Cost over run (Rs. in Crores) (%)	Reasons for time and cost over r
1	2	3	4	5	6	7	8	9	10	11
1	Lata Tapovan (3x57 = 171 MW) NTPC	1 2 3	57 57 57	2017-18 2017-18 2017-18 (Aug'17)	2025-26 2025-26 2025-26 (subject to re-start of works(4 years))	103	1527.00 (07/12)	would be calculated when works re-start.	NA	<ul style="list-style-type: none"> ➤ Flash flood during June, 2013 inUttarakhand. ➤ Local issues leading to non-start of works in Barrage area ➤ Hon'ble Supreme court ban on construction works since May, 2014.
2	Tapovan Vishnughad (4x130 = 520 MW) NTPC	1 2 3 4	130 130 130 130	2012-13 2012-13 2012-13 2012-13 (Mar'13)	2021-22 2021-22 2021-22 2021-22 (Dec'21)	105	2978.48 (11/06)	5867.38 (04/19)	2888.90 (96.99)	<ul style="list-style-type: none"> ➤ Heavy water ingress due to bad geology in HRT and rock fall on TBM. TBM stuck up thrice. ➤ Flash flood in Aug'12 & June, 2013 damaging coffer dam. ➤ Termination of civil contracts for Barrage and HRT. ➤ Cash flow issues with civil contractors..
3	Tehri PSS (4x250 = 1000 MW) THDC	1 2 3 4	250 250 250 250	2010-11 2010-11 2010-11 2010-11 (July'10)	2022-23 2022-23 2022-23 2022-23 (Dec'22)	143 145 147 149	1657.60 (Dec-05)	5024.35 (02/19)	3366.75 (203.10)	<ul style="list-style-type: none"> ➤ Poor geology. ➤ Local agitation at Asena Quarry / muck disposal area. ➤ Revision of Lay out of machine hall due to poor geology. ➤ Funds constraints with contractor.
4	Vishnughad	1	111	2013-14	2023-24		2491.58	3860.35	1368.77	➤ CCEA approval in Aug-2008

	Pipalkoti (4x111 = 444 MW) THDC	2 3 4	111 111 111	2013-14 2013-14 2013-14 (Jun'13)	2023-24 2023-24 2023-24 (Dec'23)	126	(03/08)	(02/19)	(54.93)	but works could not be awarded due to Forest clearance/diversion of forest land. Forest land was acquired in January-14 and subsequently works awarded in January-2014. ➤ Disruption of works by local people. ➤ Cash flow problem with contractor.
5	Vyasi 2x60=120 MW, UJVNL	1 2	60 60	2014-15 2014-15 (Dec'14)	2022-23 2022-23 (Apr,22)	88	936.23 (02/10)	1581.01 (11/19)	644.78 (68.86)	➤ Delay in award of works. ➤ Agitation by Local people.

West Bengal

Sl. No	Project Name/(I.C.)/ Executing Agency	Unit No.	Cap. (MW)	Org. Comm. Sched.	Ant. Comm. Sched.	Time over run (months)	Org. Cost (Rs. in Crores) (Price Level)	Latest/Actual Cost (Rs. in Crores) (Price Level)	Cost over run (Rs. in Crores) (%)	Reasons for time and cost over r
1	2	3	4	5	6	7	8	9	10	11
1	Rammam-III (3x40= 120 MW)	1 2 3	40 40 40	2019-20 2019-20 2019-20 (Sep'19)	2022-23 2022-23 2022-23 (Nov,22)	38	1381.84 (10/14)	1381.84 (10/14)	Nil	➤ Delay in getting permission for tree felling from Govt. of West Bengal for Access road from Adit-1 to Adit-2. ➤ Cash flow issues with civil contractors. ➤ Strike / bandh during Gorkhaland agitation in 2017.

2.10 When asked to provide details of hydro electric projects being developed in the Central sector by the CPSUs under the Ministry of Power, the Ministry in a written reply furnished as under:

“There are 13 hydro-electric projects being developed in the central sector by the CPSUs under the Ministry of Power. Out of these 11 nos. of HEPs are under active construction. The construction of 2 nos. of HEPs is held up. Out of these two projects, investment approval for one project viz. Rattle HE project, has been accorded by Cabinet on 20.01.2021 and thus, the works would be awarded very shortly.”

2.11 Details of the under construction hydro electric projects (above 25 MW) under the central sector furnished by the Ministry are given below:

Sl. No	Name of project/ State	Capacity (MW)	Benefits (MW)	Commissioning Schedule	Present status
NHPC					
1	Parbati -II HEP, H.P.	4x200	800	March 2022	All major work completed except Head Race Tunnel (HRT).
2	Subansiri Lower HEP, Arunachal Pradesh/ Assam	8x250	2000	August 2023	Physical Progress-50 %
3	Teesta St. VI HEP, Sikkim	4x125	500	March 2024	Physical Progress-50 %
NTPC					

4	Tapovan Vishnugad HEP, Uttarakhand	4x130	520	December 2022	Physical Progress-74.65%
5	Ramam-III HEP, West Bengal	3x40	120	November 2022	Physical Progress-31.48%
THDC					
6	Vishnugad Pipalkoti HEP, Uttarakhand	4x111	444	December'2023	Physical Progress-26%
7	Tehri PSP, Uttarkhand	4x250	1000	December'2022	Physical Progress-65%
NEEPCO					
8	Kameng HEP, Arunachal Pradesh	4x150	300	March'2021	Unit#1 & 2 taken as Capacity addition on 10.02.2020 & 03.02.2020 respectively. Unit#3 trial run done successfully on 21 Jan 2021 Unit-IV is scheduled to be commissioned in Feb/ March, 2021.
CVPPL					
9	Pakal Dul HEP, J&K	4x250	1000	July'2025	Physical Progress-15%
10	Kiru HEP, J&K	4x156	624	August'2024	Physical Progress-5%
SJVNL					
11	Naitwar Mori, Uttarakhand	2x30	60	December'2021	Physical Progress-85%
Total			7368.00		

2.12 Details of the under construction Hydro Electric Projects (above 25 MW) for which construction is held up (Central Sector):

Sl. No.	Name of project/ State	Capacity (MW)	Benefits (MW)	Commissioning Schedule	Reason for held up
NHPC					
1	Ratle HEP, J&K	4x205+1x30	850	2025-26*	Earlier, the project was under execution in private sector and some works have already been done. There is no progress in work since 11th July, 2014. Recently, it has been taken over by NHPC. JV of Union Territory of J&K and NHPC has been formed. Investment approval has been accorded by Cabinet on 20th Jan, 2021. Award of works, is to be done

NTPC					
2	Lata Tapovan HEP, Uttarakhand	3x57	171	2025-26*	Construction work stopped vide Hon'ble Supreme Court order dated 7.5.14. The matter is sub-judice
Total			1021.00		

2.13 When asked as to whether any hydro power projects are declared NPAs, the Ministry in a written reply has stated that at present no hydro-electric project (above 25 MW) has been declared NPA.

2.14 On a query regarding hydro power projects pending with National Company Law Tribunal (NCLT) for resolution/ revival/ insolvency, the Ministry in a written reply has stated that at present there are two hydro-electric projects (above 25 MW), which were earlier under construction that are pending with NCLT. The details of these projects are as under:

Sl.No.	Name of projects / Installed Capacity	Implementing Agency State/District	Likely Commissioning*	Reason /Present status
1	Rangit-11 2x33= 65 MW	Hydro Power Ltd. Sikkim/ West Sikkim/Sikkim	2024-25	Works stalled since December, 2017 due to funds constraints with developer. Project is in NCLT since 30.07.2020.
2	Phata Byung 2x38= 76 MW	M/s Lanco Uttarakhand/ Rudra prayag	2024-25	Works stalled since July, 2017 due to Financial crunch with the contractor/ developer. Project is in NCLT since June 2020.

*Subject to re-start of works

2.15 When asked Region-wise hydro power capacities in the Country, the Ministry in a written reply furnished as under:

Region	Identified Capacity as per Reassessment Study (1978-87)	Capacity In Operation		Capacity Under Construction		Capacity yet to be taken up for development
	(MW)	(MW)	%	(MW)	(%)	(MW)
Northern	52263	19023.3	36.40	6380.5	12.21	26859.2
Western	8131	5552.0	68.28	400.0	4.92	2179.0
Southern	15890	9688.9	60.97	1060.0	6.67	5141.1
Eastern	10680	4922.5	46.09	1253.0	11.73	4504.6

North eastern	58356	1727.0	2.96	2300.0	3.94	54329.0
ALL INDIA	145320	40913.6	28.15	11393.5	7.84	93012.9

2.16 Regarding the potential and development of hydro power, the Ministry in a written reply has stated:

"As per reassessment studies of hydroelectric power potential carried out by CEA during the period 1978-1987, the assessed Hydroelectric Power Potential from large schemes (i.e. schemes having capacity above 25 MW) in the country is 1,45,320 MW. Out of this capacity, 40913.6 MW (28.15%) is in operation, 11393.5 MW (7.84%) under construction and 93012.9 MW (64.01%) capacity is yet to be taken up for development.

2.17 When the Committee desired to know the reason for not reassessing the hydroelectric power potential after 1987, which is now more than 30 years old and whether the Ministry has any plan to re-assess the hydroelectric power potential, the Ministry in a written reply stated:

“ Reassessment studies of Hydroelectric Potential are being done periodically:

- The first systematic Hydroelectric Potential Survey of India was undertaken by erstwhile Central Water & Power Commission during 1953-59.
- Next Reassessment studies of Hydroelectric Potential carried out by the Central Electricity Authority during 1978-87.
- The work for Basin wise Reassessment of earlier assessed Hydro Electric Potential has been taken up by CEA during March, 2017. The Reassessment study is being carried out, taking into consideration the actual site constraint in terms of site geology, submergence and other aspects including impact of these projects on the Environment and Forest. The study is likely to be completed by March, 2021.”

C. Delayed Power Transmission Projects

2.18 The Ministry in its written reply has stated that POWERGRID is implementing 42 transmission projects, out of which 18 projects are delayed (as on 25.11.2020). Details of these delayed projects are given below:

Sl. No.	Project	Project Approval Date	Completion Schedule	Anticipated Completion	Original Schedule	Approved Cost (₹ in crore)	Cumulative expenditure incurred till date (Oct'20) (₹ in crore)	Cost Over-run	Time overrun (considering 5 months grace as per MoP order)
1	HVDC Bipole link between Western Region (Raigarh, Chattisgarh) and Southern Region (Pugalur, Tamil Nadu)'North Trichur (Kerala)' Scheme1: Raigarh ' Pugalur 6000 MW HVDC System	May'16	Oct'20	Feb'21	Nov-19	14,733	13,178	-	4 months

2	HVDC Bipole link between Western Region (Raigarh, Chhattisgarh) and Southern Region (Pugalur, Tamil Nadu) ' North Trichur (Kerala)' Scheme#3: PugalurTrichur 2000 MW VSC based HVDC System	Feb'17	Sep'20	Dec'20-Feb'21	Apr-20	5,070	4,713	-	3-5 months
3	HVDC Bipole link between Western Region (Raigarh'Chhattisgarh) and Southern Region (Pugalur, Tamil Nadu) ' North Trichur (Kerala) ' Scheme#2: AC System Strengthening at Pugalur end	Aug'17	Feb'21	Nov'20-Apr'21	Feb-20	1,931	1,795	-	0-2 months
4	POWERGRID Medinipur Jeerat Transmission Limited	Mar'17	Dec'20	Nov'20-Apr'21	Jul-20	3,500	3,170	-	0-4 months
5	System Strengthening Scheme at Tuticorin'II (etstwhile Tirunelveli GIS) and Bhuj PS	Nov'18	Nov'20	Nov'20-Mar'21	Jun-20	496	312	-	0-4 months
6	Transmission System for Ultra Mega Solar Power Park at Tumkur (Pavagada), Karnataka'Phase'II (Part'B)	May'17	Oct'20	Nov'20	Feb-19	446	486	-	1 month
7	System Strengthening Scheme in Northern Region-XXXVII (NRSS-XXXVII)	Mar'17	Nov'20	Dec'20	Dec-19	380	276	-	1 month
8	Transmission System Strengthening in Indian System for Transfer of power from Mangdechhu Hydroelectric Project in Bhutan	Mar'16	Oct'20	Mar'21	Jan-18	809	781	-	5 months
9	POWERGRID works associated with North Eastern Region Strengthening Scheme-VI	May'18	Oct'20	Nov'20	May-20	216	154	-	1 month
10	Eastern Region Strengthening Scheme-XX (ERSS-XX)	Nov'17	Oct'20	Nov'20-Apr'21	May-20	359	289	-	1-6 months
11	Eastern Region Strengthening Scheme - XV (ERSS-XV)	Apr'16	Sep'20	Nov'20	Apr-18	454	358	-	2 months
12	Creation of 400/220kV Substations in NCT of Delhi during 12th Plan Period (Part-A)	Mar'15	Dec'20	Apr'21	May-17	1,395	704	-	4 months
13	Eastern Region Strengthening Scheme-XVII - Part-B [ERSS-XVII (Part-B)]	Feb'17	Feb'21	Dec'20-Apr'21	Jun-19	236	154	-	0-2 months
14	Establishment of 220/66kV, 2X160MVA GIS at UT Chandigarh along with 220kV D/c line from 220kV Chandigarh GIS Substation to 400/220kV Panchkula (PG) Substation	Feb'17	Sep'20	Apr'21	Feb-19	322	267	-	7 months
15	Transmission system for evacuation of power from 2x500 MW Neyveli Lignite Corp. Ltd. TS-I (Replacement) (NNTPS) in Neyveli, Tamil Nadu	May'17	Nov'20	Dec'20	Jul-19	220	178	-	1 month
16	Transmission System Associated with Mundra Ultra Mega Power Project	Oct'08	Nov'20	Jan'21	Sep-12	5,072	4,726	-	2 months
17	Eastern Region Strengthening Scheme - XII (ERSS-XII)	May'14	Nov'20	Dec'20	Nov-16	546	528	-	1 month
18	Phase-I Unified Real Time Dynamic State Measurement (URTDSM) Project	Jan'14	Dec'17	Mar'21	Apr-16	375	294	-	39 months

2.19 When asked as to whether delay in power transmission projects leads to further delay in projects commissioning, the Ministry of Power in a written reply stated:

“Power transmission projects are implemented as per long term access commitments of the power projects and efforts are made to complete the

transmission project as per the schedule agreed with the power generation project. In case the transmission project is delayed beyond the power generation project due to unforeseen conditions, alternative arrangement to evacuate the power is made by transmission implementing agency. Efforts are made to ensure that there is no bottling up of power generated due to lack of transmission network.”

2.20 During the evidence held on 25.11.2020, when the Committee desired to know the reason why the delay with hydro and thermal project is much longer *vis-a-vis* transmission projects, the representative of the Ministry stated before the Committee as under:

“Power Grid Corporation is an excellent organisation, and they have to get right of way. That is only a small portion where the towers to stand whereas the hydro projects are huge. They are deep inside the mountains. Often, they are inaccessible. The roads have to be built; and Himalayans are young mountains. So, with the best geological studies, when they go into and start digging into the mountain to make the tunnel and make the barrage of the dams etc., those stones turn out to be very different from what they have anticipated. So, the geological surprise is one of the main reasons for the delay in hydro projects. What happens with the geological surprise is that there is a dispute often starts between the contractor and the corporation? The contractor says that this was not anticipated, and the corporation takes a rather strong stand saying that „this is within the contract“. The problem is that these contractual disputes have escalated. The funds flow gets somewhat choked.”

2.21 On a query as to how the delay in the execution/completion of power projects is affecting or have affected the power sector in general and its main beneficiary i.e. consumers in particular, the Ministry in its written reply stated:

“The delay in execution/completion of hydro-electric projects increases Interest During Construction (IDC) thereby increasing overall project cost. This results in increase in tariff. Signing of Power Purchase Agreement with Distribution Companies due to high tariff has become difficult for Hydro Power Projects.

The present Thermal Based (excluding Gas based) installed capacity is 206364.21 MW and Gas based installed capacity is 24956.51MW as on 30-09-2020 and Plant Load Factor (PLF) for above capacity are 49.63% & 26.27% respectively for the period April-20 to Sep-20.

Thus it may be seen that the total present thermal based installed capacity is not getting fully scheduled for generation and the delay in completion of thermal power projects are unlikely to affect the power sector at present.

Delay in transmission projects is having minimal effect on power sector due to robust power transmission network in the country operating as „One India Grid“, delay in some of the planned generation projects and electricity demand being lower than the projected demand. Therefore, there is no effect on the main beneficiary in particular.”

CHAPTER III

FACTORS/ ISSUES AFFECTING THE EXECUTION OF POWER PROJECTS

3.1 There are various factors and issues which affect the execution/completion of power projects. The issue varies from sector to sector. Factors/issues responsible for delay execution of power projects (sector-wise) are given in the succeeding paragraphs.

A. Thermal Power Projects

3.2 Regarding the factors/issues affecting execution and completion of thermal power projects, besides the impact of Covid-19, the Ministry has furnished the following in its written reply:

- i. Issues in land acquisition (Procedural delays, Unavailability/Mismatch of land record, Court cases, unreasonable demands by land owners, Change in LA Act etc.
- ii. Issues arising due to Change of Law/regulation/norms. Delays in Right of Use and Right of way of land for makeup water pipes and transmission lines for make Up water (MUW) pump house in many projects. Difference in R&R policies from state to state is also a cause of protest by the owners of land. Poor Law and Order situation, especially at projects located in eastern region.
- iii. Delays in works of Railway funded projects and deposit works of railways. Further, there were delays in approval required from Railways for railway siding works.
- iv. Shortage of good erection agencies/ BOP Vendors. So, some agencies are taking work beyond their capacity and not able to supply / mobilize to meet the Project target.
- v. Poor performance by agencies due to deterioration in their financial condition during course of execution of project.
- vi. Delay in supplies of equipment and subsequent commissioning by some agencies.
- vii. Procedural delays in termination and re-award of contracts in PSUs.
- viii. Shortage of labour, particularly skilled labour force.
- ix. Availability of water & Coal.
- x. Readiness of Power evacuation system.
- xi. Readiness of equipment civil foundations.
- xii. Availability of approach roads suitable for movement of large & heavy trailers up to project site.
- xiii. Availability of storage facilities at site.
- xiv. Geological surprises led to change in design /additional works.
- xv. Adverse weather condition like floods, Heavy Rains, Cyclones etc.

3.3 Issue-wise delayed thermal projects as furnished by the Ministry are given below:

a) Land Acquisition						
Sl. No.	State	Project Name / Impl. Agency/ EPC or BTG	Unit No	Capacity (MW)	Original Commissioning Schedule	Ant. TR. Sched./COD
1	Bihar	Nabi Nagar TPP / JV of NTPC & Rlys/BHEL	U-4	250	Nov-13	Feb-21
2		New Nabi Nagar TPP /JV of NTPC & BSPGCL TG-Alstom & Bharat Forge, SG-BHEL	U-2	660	Jul-17	Jan-21
			U-3	660	Jan-18	Aug-21
3	Jharkhand	North Karanpura STPP/ NTPC / BHEL	U-1	660	Feb-18	Oct-21
			U-2	660	Aug-18	Apr-22
			U-3	660	Feb-19	Oct-22
4	Odisha	Darlipalli STPP/ NTPC / SG-BHEL TG-JSW & Toshiba	U-2	800	Jun-18	Feb-21
5		Malibrahmani TPP / MPCL/ BTG-BHEL	U-1	525	Dec-12	Uncertain
			U-2	525	Feb-13	Uncertain
6	Uttar Pradesh	Meja STPP/ JV of NTPC & UPRVUNL/ SG-BGR TG-Toshiba	U-2	660	Dec-16	Mar-21
7		Tanda TPP St II/ NTPC/ SG: L&T/ TG: Alstom	U-6	660	Feb-20	Mar-21
8	Rajasthan	Barsingar TPP ext/NLC/Reliance Infra	U-1	250	May-20	Hold
9		Bithnok TPP /NLC/Reliance Infra	U-1	250	May-20	Hold
10	Tamil Nadu	Ennore SCTPP / TANGEDCO/ BHEL	U-1	660	Jan-18	Apr-22
			U-2	660	Mar-18	Oct-22
			U-2	525	Feb-13	Uncertain

b) Land, Forest and environment clearance						
Sl. No.	State	Project Name / Impl. Agency/ EPC or BTG	Unit No	Capacity (MW)	Original Commissioning Schedule	Ant. TR. Sched./COD
1	Bihar	Nabi Nagar TPP / JV of NTPC & Rlys/BHEL	U-4	250	Nov-13	Feb-21
2		New Nabi Nagar TPP /JV of	U-2	660	Jul-17	Jan-21

		NTPC & BSPGCL TG-Alstom & Bharat Forge, SG-BHEL	U-3	660	Jan-18	Aug-21
3	Telangana	Bhadradri TPP / TSGENCO/BHEL	U-2	270	May-17	Dec-20
			U-3	270	Jul-17	Mar-21
			U-4	270	Sep-17	Oct-21
4	TN	North Chennai TPP St-III TANGEDCO / BHEL	U-1	800	Mar-19	Mar-21
5	UP	Harduaganj TPS Exp-II / UPRVUNL/Toshiba JSW	U-1	660	Jun-19	Apr-21

c) Rehabilitation and Resettlement.

No Project authority has reported any issue relating Rehabilitation and Resettlement

d) Inadequate infrastructure facilities.

Sl. No.	State	Project Name / Impl. Agency/ EPC or BTG	Unit No	Capacity (MW)	Original Commissioning Schedule	Ant. TR. Sched./COD
1	Bihar	Barh STPP-I /NTPC/Others	U-1	660	Aug-09	Dec-20
			U-2	660	Jun-10	Sep-21
			U-3	660	Apr-11	Jun-22

e) Law and order/local issues.

Sl. No.	State	Project Name / Impl. Agency/ EPC or BTG	Unit No	Capacity (MW)	Original Commissioning Schedule	Ant. TR. Sched./COD
1	Bihar	Nabi Nagar TPP / JV of NTPC & Rlys/BHEL	U-4	250	Nov-13	Feb-21
2	Madhya Pradesh	Gadarwara STPP/ NTPC /BTG-BHEL	U-2	800	Sep-17	Dec-20

f) Geological surprises

No Project authority has reported any issue relating Geological surprises

g) Natural calamities

Sl. No.	State	Project Name / Impl. Agency/ EPC or BTG	Unit No	Capacity (MW)	Original Commissioning Schedule	Ant. TR. Sched./COD
1	Bihar	Barh STPP-I /NTPC/Others	U-1	660	Aug-09	Dec-20
			U-2	660	Jun-10	Sep-21

			U-3	660	Apr-11	Jun-22
2		Nabi Nagar TPP / JV of NTPC & Riys/BHEL	U-4	250	Nov-13	Feb-21
3		New Nabi Nagar TPP /JV of NTPC & BSPGCLTG-Alstom & Bharat Forge, SG-BHEL	U-2	660	Jul-17	Jan-21
			U-3	660	Jan-18	Aug-21

h) Inter -State issues

No Project authority has reported any issue relating Inter -State issues

j) Contractual issues

Sl. No.	State	Project Name / Impl. Agency/ EPC or BTG	Unit No	Capacity (MW)	Original Commissioning Schedule	Ant. TR. Sched./COD
1	Bihar	Barh STPP-I /NTPC/Others	U-1	660	Aug-09	Dec-20
			U-2	660	Jun-10	Sep-21
			U-3	660	Apr-11	Jun-22
2		Nabi Nagar TPP / JV of NTPC & Riys/BHEL	U-4	250	Nov-13	Feb-21
3		New Nabi Nagar TPP /JV of NTPC & BSPGCL TG-Alstom & Bharat Forge, SG-BHEL	U-2	660	Jul-17	Jan-21
			U-3	660	Jan-18	Aug-21
4	Jharkhand	North Karanpura STPP/ NTPC / BHEL	U-1	660	Feb-18	Oct-21
			U-2	660	Aug-18	Apr-22
			U-3	660	Feb-19	Oct-22
5		Patratu STPP / JV of NTPC & Jharkhand BidyutVitran Nigam Ltd.	U-1	800	Jan-22	Mar-22
			U-2	800	Sep-22	Sep-22
			U-3	800	Dec-22	Mar-23
6	Madhya Pradesh	Gadarwara STPP/ NTPC /BTG-BHEL	U-2	800	Sep-17	Dec-20
7	Odisha	Darlipalli STPP/ NTPC / SG-BHEL TG-JSW & Toshiba	U-2	800	Jun-18	Feb-21
8		Rourkela PP-II Expansion/NTPC-Sail Power Co Ltd (NSPCL)(JV of NTPC & Steel Authority of India (SAIL))/BHEL	U-1	250	Dec-18	Apr-21
9	Tamil Nadu	Neyveli New TPP/ NLC/BHEL	U-2	500	Mar-18	Mar-21
10		North Chennai TPP St-III TANGEDCO / BHEL	U-1	800	Mar-19	Mar-21

11		Udangudi STPP Stage I / TANGEDCO, EPC- BHEL	U-1	660	Feb-21	Mar-23	
			U-2	660	Feb-21	Sep-23	
12	Telangana	Telangana STPP St- I / NTPC/SG- BHEL TG- Alstom & Bharatforge	U-1	800	Jan-20	Oct-21	
			U-2	800	Jul-20	Apr-22	
13	Uttar Pradesh	Meja STPP/ JV of NTPC & UPRVUNL/ SG-BGR TG- Toshiba	U-2	660	Dec-16	Mar-21	
14			Tanda TPP St II/ NTPC/ SG: L&T/ TG: Alstom	U-6	660	Feb-20	Mar-21
				U-2	800	Sep-22	Sep-22
			U-3	800	Dec-22	Mar-23	
15	Andhra Pradesh	Dr.Narla Tata Rao TPS St-V / APGENCO / BTG- BHEL	U-1	800	Jun-19	Mar-21	
16			Sri Damodaran Sanjeevaiah TPP St-II / APGENCO /BTG- BHEL	U-1	800	Mar-19	Dec-20
17	Rajasthan	Suratgarh SCTPP/ RRVUNL / BHEL	U-8	660	Dec-16	Dec-20	
18			Ennore exp. SCTPP (Lanco/TANGEDCO BTG- LANCO	U-1	660	Jan-18	Dec-23
19	Karnataka	Yelahanka CCPP BY KPCL	GT+ST	370	Mar-18	Jan-21	

3.4 Number of thermal projects facing similar issues derived from the above table is as under:

Issues >>	Contractual issues	Land acquisition	Land, forest and environment clearance	Natural calamities	Law and order/ Local issues	Inadequate infrastructure
No. of projects >>	19	10	5	3	2	1

3.5 Regarding problems/ issues in thermal power sector, the representative of the Ministry, during the evidence held on 25.11.2020, deposed before the Committee as under:

“As far as thermal power plants are concerned, there are two or three important problems that happen. One is land acquisition. Then, there is coal linkage. Third is to get the railway line. That, with the interaction with the Railway Board, we have been able to resolve substantially. Again, post- COVID, we have this problem of the financial position of the contractors because of the delays and the

demobilization that has happened. The delays in thermal power plants have happened again on account of land acquisition, contract disputes, etc. We are able to resolve contract disputes. We would be able to resolve many of our projects from getting delayed as much as they get delayed today. But land acquisition is an issue that requires complete support of the State Government and district administration and sometimes that does not happen very quickly. That is beyond our control. We keep following it up. There are examples galore in which land acquisition has been delayed. The farmers have asked for almost a crore an acre compensation which makes the project unviable.”

3.6 When the Committee desire to know as to how many projects are delayed due to contractual issue, the representative of the Ministry of Power during the evidence stated:

“Almost every project has a contractual dispute. It is because the finances then do not reach the contractors and, sometimes, even the contractor’s financial status gets compromised. So, that is what we have tried to resolve. We are trying to bring in independent engineers who can immediately certify that this is not on account of the contractor and, therefore, payments have to be made. That orders being brought out. We have made committees at different levels to be able to resolve disputes. Today, almost every dispute goes for arbitration. We are trying, now, to resolve the disputes immediately and that is why, there are independent engineers so that they are able to certify.”

3.7 Elaborating the issues with coal-based plants, the representative of the Ministry during the evidence stated:

“The major issues, as far as the coal-based plants are concerned, are with the green field projects. If it is an expansion project, invariably you will see that this comes on time. In the green field project, there are two elements which are responsible for delay. One is the railway connectivity for bringing the coal and another is the water pipeline which brings water from the nearest source whether it is a river or any other source. There is an additional point, which has happened with the thermal projects, is that the contractors were very limited in case of balance of plant. There is a turbine, boiler and generator. This is the core of the plant where the contractors like Bharat Heavy Electricals Limited (BHEL), Larsen & Toubro (L&T), Mitsubishi are the big ones. In addition to that, when it is going to the coal handling plant or the water treatment plant, there are very limited number of contractors. In fact, there were number of projects which were taken up in 2007-08 onwards. The agencies were less and most of these agencies became dysfunctional. They had taken up the work at that point of time but over a period of time, they had become dysfunctional and that is one of the reasons that these projects got delayed.”

3.8 The major reasons for stress of thermal power projects as furnished by the Ministry in a written reply are as under:

- a. Issues related to Coal Supply: After the cancellation of 204 coal mines by the Hon'ble Supreme Court in 2014, many of the power projects became stranded without arrangements of adequate fuel supply. In addition, many projects were setup without firm coal linkages leading to high cost of

generation.

- b. Slow Growth in Power Demand: Lower than anticipated growth in power demand coupled with a scenario of surplus supply has resulted in under-utilization of thermal power capacity. In addition to this, large quantum of untied PPAs, termination/ non-operationalization of PPAs, low off-take/ difficulties in selling costlier power are also causing stress in thermal power projects.
- c. Delay Payments by Discoms: Delay in realization of receivables from Discoms impairs the ability of project developers to service debt in a timely manner and leads to exhaustion of working capital. In some cases, the Discom's have pressed for renegotiating terms of PPA. This, coupled with non-payment of penalties / Late Payment Surcharges (LPS) is causing financial stress for such projects. Further, some Discoms are resorting to cut-backs in payable bill amounts to project developers.
- d. Inability of the Promoter to infuse Equity & Working Capital: Many projects got delayed for a variety of reasons leading to project cost overruns. The promoters were often unable to infuse additional equity in the project. Moreover, many completed projects are unable to operate due to not securing working capital and furnishing of bank guarantee.
- e. Regulatory and Contractual Disputes: In certain cases, due to the delay in approval of tariff petitions and approval of additional tariff under 'Change in Law' provision in PPA, projects are unable to recover cost of generation which adversely impacted financial viability.
- f. Aggressive tariffs quoted by bidders in competitive bidding process.
- g. Legal issues related to auctioned coalmines

Other financial issues like non-compliance of Joint Lender Forum (JLF) decisions, RBI restrictions on funding of cost over-run, etc.

B. Hydro Power Projects

3.9 The main issues involved in execution / completion of the hydro electric projects, as furnished by the Ministry are as under:

i) Land Acquisition Issues: Land acquisition is a persistent issue involved in the implementation of hydro projects. Acquisition of land for various locations of the project such as Dam, Head Race Tunnel (HRT), Power House, Switchyard etc. delay the commencement / progress of works.

ii) Environment and Forest issues: Due to the considerable time taken in the process of Environment and Forest Clearances, commencement of construction works of Hydro projects often gets delayed.

iii) Rehabilitation & Resettlement Issues: Dislocation of the people from their houses / workplaces etc. and their resettlement is a sensitive issue and involves a lot of time and money. Many times this issue leads to court cases resulting in delay in project execution/completion.

iv) Inadequate Infrastructural facilities: Hydro projects are normally located in difficult terrain having poor accessibility. As such, substantial time is lost due to lack of adequate Infrastructural facilities at the project site allotted to a developer by the State Govt.

v) Law & Order / Local issues: Protests by the local people against the construction activities like blasting, muck disposal etc. and demands for employment, extra compensation etc. often create law and order problems which delays the commencement and affects progress of the works.

vi) Geological Surprises: A large number of hydro electric projects has been delayed due to geological surprises.

vii) Natural Calamities: Natural calamities like unprecedented rain / flash floods, cloud burst, earthquake etc delay the completion of project.

viii) Inter-state Issues: Sometimes Hydroelectric projects get delayed due to inter-state disputes between the states.

3.10 The Ministry has further stated that in addition to the above, the Nation-wide lockdown, imposed during March 2020, in order to contain Covid-19 pandemic made a huge impact on commissioning activities at site in terms of exodus of labour from major project sites, difficulty in manpower augmentation due to travel restrictions and quarantine requirement, restrictions on movement of supplies, goods, consumable, cement & aggregates etc. As a result, the commissioning of under-construction hydro-electric projects got delayed.

3.11 The issues faced by each of the delayed hydro electric projects as furnished by the Ministry are given below:

SI.No.	Projects	Issues/factors responsible for delay
1	Polavaram (12x80 = 960 MW) APGENCO / Irr. Deptt., A.P.	Funds Constraints
2	Kameng (4x150 = 600 MW) NEEPCO 2 units taken in operation	1. Geological uncertainties 2. Natural calamities 3. Fund constraints 4. Technical issues
3	Subansiri Lower (8x250 = 2000 MW) NHPC	1. Land acquisition 2. Law & order/local issues 3. Technical issues 4. Court cases/NCLT

4	Parbati - II (4x200 = 800 MW) NHPC	1. Geological uncertainties 2. Natural calamities 3. Fund constraints 4. Contractual issues
5	Uhl-III (3x33.33 = 100 MW) BVPCL	1. Land acquisition 2. Geological uncertainties 3. Contractual issues 4. Technical issues
6	Sawra Kuddu (3x37 = 111 MW) HPPCL	1. Geological uncertainties 2. Contractual issues
7	Shongtom Karcham (3x150 = 450 MW) HPPCL	1. Land acquisition 2. Law & order/local issues
8	Bajoli Holi 3x60 = 180 MW M/s GMR Bajoli Holi	<i>No issues reported</i>
9	Sorang (2x50 = 100 MW), HSPPL	1. Geological uncertainties 2. Fund constraints
10	Tangnu Romai-I (2x22 = 44 MW) TRPGPL	Fund constraints
11	Tidong-I 2x50 = 100 MW NSL Tidong (w.e.f. 04.09.2018 Statkraft India Pvt. Ltd. Has acquired the 100% equity in the project)	1. Land acquisition 2. Law & order/local issues 3. Fund constraints
12	Kutehr 3x80 = 240 MW JSW Energy (Kutehr) Ltd	<i>No issues reported</i>
13	Pakal Dul (4x250 = 1000 MW) CVPPL	<i>No issues reported</i>
14	Parnai 3x12.5 = 37.5 MW JKSPDC	Land acquisition
15	Lower Kalnai 2x24 = 48 MW JKSPDC	1. R&R issues 2. Fund constraints 3. Contractual issues
16	Kiru (4x156 = 624 MW) CVPPL	No issue reported
17	Ratle (4x205 + 1x30) = 850 MW RHPPL / NHPC	1. Law & order/local issues 2. Contractual issues
18	Pallivasal 2x30 = 60 MW KSEB	1. Land acquisition 2. Geological uncertainties 3. Contractual issues
19	Thottiyar (1x30 + 1x10) = 40 MW KSEB	1. Land acquisition 2. Law & order/local issues 3. Fund constraints
20	Maheshwar (10x40 = 400 MW) SMHPCL	1. R&R issues 2. Fund constraints
21	Koyna Left Bank PSS 2x40 = 80 MW WRD, Maha	Fund constraints

22	Shahpurkandi 3x33+3x33+1x8 =206 MW, Irrigation Deptt. &PSPCL	<i>No issue reported</i>
23	Teesta Stage VI (4x125 = 500 MW) Lanco Teesta Hydro Power Ltd. (LTHPL) (Project taken over by NHPC w.e.f. 08.03.2019)	1. Land acquisition 2. Geological uncertainties 3. Fund constraints 4. Contractual issues
24	Bhasmey (2x25.5 =51 MW) Gati Infrastructure	Fund constraints
25	Rangit-IV HE Project (3X40 = 120 MW) JPCL	1. Geological uncertainties 2. Natural calamities 3. Fund constraints
26	Rangit-II 2x33= 66 MW Sikkim Hydro Power Ltd.	Fund constraints
27	Rongnichu (2x48 =96 MW) Madhya Bharat Pvt. Ltd.	1. Land acquisition 2. Geological uncertainties
28	Panan 4x75= 300 MW Himagiri Hydro Energy Pvt. Ltd.	Natural calamities
29	Kundah PSP (Phase-I, Phase-II & Phase-III) (4x125=500 MW) TANGEDCO	No issue reported
30	Lata Tapovan (3x57 = 171 MW) NTPC	1. Law & Order/Local issues 2. Natural calamities
31	Tapovan Vishnughad (4x130 = 520 MW) NTPC	1. Geological uncertainties 2. Natural calamities 3. Fund constraints 4. Contractual issues
32	Tehri PSS (4x250 = 1000 MW) THDC	1.Law & Order/Local issues 2.Geological uncertainties 3.Fund constraints 4.Technical issues
33	Vishnugad Pipalkoti (4x111 = 444 MW) THDC	1.Law & Order/Local issues 2..Fund constraints
34	Vyasi 2x60=120 MW, UJVNL	Law & Order/Local issues
35	Phata Byung (2x38 = 76 MW), LANCO	1. Geological uncertainties 2. Natural calamities 3. Fund constraints
36	Singoli Bhatwari (3x33 = 99 MW) L&T	1.Law & Order/Local issues 2.Geological uncertainties 3.Natural calamities
37	Rammam-III (3x40= 120 MW)	1.Law & Order/Local issues 2..Fund constraints

3.12 Number of projects facing similar issues derived from the above table is as given below:

Issues >>	Funds Constraints	Geological Uncertainties	Law & Order / Local Issues	Land acquisition	Contractual Issues	Natural Calamities	Technical issues	R&R Issues
No. of projects >>	19	13	11	9	8	8	5	2

C. Transmission Power Projects

3.13 The various issues face by the power transmission sector, projects-wise, as furnished by the Ministry is given below:

Sl. No	Project	Issues	Steps taken to mitigate the issues
1	HVDC Bipole link between Western Region (Raigarh, Chattisgarh) and Southern Region (Pugalur, Tamil Nadu)'North Trichur (Kerala)' Scheme1: Raigarh ' Pugalur 6000 MW HVDC System	--Severe RoW issues faced in Kerala and Tamil Nadu; --Delay in Forest clearance; --Progress also affected due to COVID-19 pandemic.	After intervention of MoP, support of Govt. of TN & Kerala and assistance by local administration, Pole-1 (Bipole-I) of main ± 800 kV HVDC line and 2 out of 5, 400 kV AC line commissioned in Sept'20. Pole-2 testing completed. Balance 3 lines work is being done with the support of District Administration.
2	HVDC Bipole link between Western Region (Raigarh, Chhattisgarh) and Southern Region (Pugalur, Tamil Nadu) ' North Trichur (Kerala)' Scheme#3: Pugalur'Trichur 2000 MW VSC based HVDC System		
3	HVDC Bipole link between Western Region (Raigarh'Chhattisgarh) and Southern Region (Pugalur, Tamil Nadu) ' North Trichur (Kerala) ' Scheme#2: AC System Strengthening at Pugalur end		
4	POWERGRID Medinipur Jeerat Transmission Limited	--Severe RoW issue & rainfall.	Being resolved with the help of local administration. Medinipur Substation work is under progress,likely completion by Dec'20
5	System Strengthening Scheme at Tuticorin'II (etstwhile Tirunelveli GIS) and Bhuj PS	-- Progress affected due to delay in supply of GIBs and Bushings from China during COVID-19 pandemic.	Supply is being expedited.
6	Transmission System for Ultra Mega Solar Power Park at Tumkur (Pavagada), Karnataka'Phase'II (Part'B)	--RoW issues in Karnataka --Progress also affected due to COVID-19	RoW issues and expedition of revenue survey work are being resolved with the help of

		pandemic.	district administration.
7	System Strengthening Scheme in Northern Region-XXXVII (NRSS-XXXVII)	--Progress affected due to transportation & weather issue; --Progress also affected due to COVID-19 pandemic.	On completion of damaged road/road widening by NHAI, all transformers & reactors (kept at temporary stores at Chalthi) have been transported at Jauljivi site.
8	Transmission System Strengthening in Indian System for Transfer of power from Mangdechhu Hydroelectric Project in Bhutan	--RoW issues in West Bengal; --Progress affected due to heavy rain and COVID-19 pandemic; --Contractual issues: executing agency has undergone NCLT	RoW issues are being resolved with the help of District Administration in Cooch Behar Dist. One JV partner has gone to NCLT. Other JV partner took over whole balance work. Additional agency deployed to augment resources.
9	POWERGRID works associated with North Eastern Region Strengthening Scheme-VI	--Progress also affected due to heavy rain and COVID-19 pandemic.	Work is being expedited
10	Eastern Region Strengthening Scheme-XX (ERSS-XX)	--Shutdown issue. --Progress also affected due to COVID-19 pandemic.	Shutdown received. Reconductoring work of 400 kV Rangpo-Sligudi line is under progress. Expected completion by Feb'21
11	Eastern Region Strengthening Scheme - XV (ERSS-XV)	--Corridor constraint at Jeerat S/s for bays. -- Progress also affected due to COVID-19 pandemic.	Bay work almost completed. For final connectivity of Bus duct and line, shutdown planned. Likely completion by Dec'20
12	Creation of 400/220kV Substations in NCT of Delhi during 12th Plan Period (Part-A)	--Delay in Forest clearance; --Progress also affected due to COVID-19 pandemic.	Forest clearance being expedited. Matter is also taken up at Ministry level and raised in PMG portal.
13	Eastern Region Strengthening Scheme-XVII - Part-B [ERSS-XVII (Part-B)]	--Shutdown & delayed supply issue; -- Progress also affected due to COVID-19 pandemic.	Shutdown approved from 25.11.20 for reconductoring work of 400 kV Maithon-Maithon line. Likely completion-Feb'21
14	Establishment of 220/66kV, 2X160MVA GIS at UT Chandigarh along with 220kV D/c line from 220kV Chandigarh GIS Substation to 400/220kV Panchkula (PG) Substation	--RoW issues.	Matter taken up with district administration and raised in PMG portal. Meeting held with Chief Secretary and additional Chief secretary for resolution of RoW issues.

15	Transmission system for evacuation of power from 2x500 MW Neyveli Lignite Corp. Ltd. TS-I (Replacement) (NNTPS) in Neyveli, Tamil Nadu	--Progress affected due to COVID-19 pandemic.	Work is being expedited.
16	Transmission System Associated with Mundra Ultra Mega Power Project	--RoW issues in Maharashtra; --Progress also affected due to COVID-19 pandemic.	RoW issues is being resolved with the help of local administration and police.
17	Eastern Region Strengthening Scheme - XII (ERSS-XII)	--Transportation issue --Progress affected due to COVID-19 pandemic.	ICT supply expected in Dec'20 at Farakka.
18	Phase-I Unified Real Time Dynamic State Measurement (URTDSM) Project	--Space constraint from ERLDC (POSOCO) for commissioning of backup NLDC. --Progress affected due to COVID-19 pandemic.	Work is being expedited.

3.14 When asked as to what extent the issues are affecting the execution of power transmission projects, the Ministry in a written reply furnished:

"Transmission projects are linear in nature covering large distances across different geographies and terrain, facing socio-economical-environmental challenges. In implementation of transmission projects, POWERGRID encounters delays generally due to problems of non-availability of Right-of- Way and formalities related to forest clearance, delay in land acquisition for substations, litigations, financial stressed contractors, etc.

Presently, as such no power is bottled up for want of transmission system. Regular coordination is done by CTU with CEA, MoP, generation developers, state utilities to closely monitor progress of all elements in supply chain be it generation or downstream system to implement the inter-state transmission system matching with requirement.

There are challenges of various types in implementing the transmission system across the country. "

3.15 On Right of Way (RoW) issues, the Ministry have stated as under:

"As per Section 164 of the Electricity Act, 2003, read with Section 10 to 19 of Indian Telegraph Act, 1885, transmission licensee is conferred with authority to place and maintain transmission lines. As per the Act, compensation is paid towards damages sustained during execution of the project. Land for tower and right of way is not acquired and the agricultural activities are allowed to continue. Government of India during October, 2015 has issued guidelines for compensation of the farmers and other land owners towards diminution of land due to construction of transmission lines, besides the compensation towards normal crop and tree damages. As per the guidelines, compensation at 85

percent of land value as determined by the District Magistrate or appropriate authority for the tower base area and compensation to a maximum of 15 percent of land value will be paid towards its diminution in the width of RoW corridor due to laying of a transmission line and with certain restrictions on usage of land underneath the conductor.

These guidelines were framed based on the suggestions of the States' Energy department and report submitted by a Committee headed by the Special Secretary of the Union Power Ministry. Based on these guidelines, 16 number of State Governments have issued notification so far, for payment of Compensation towards diminution of land.

Despite provisions in the law as per above, the ROW constraints are still being faced which make the project suffer delays in resolving the ROW constraints which more often needed intervention from the State Govt. and the District Administration. This is so because the demand for upward valuation of the land property in the rural, semi-urban and urban areas has become substantially high making the land price often skewed.

However, Government of India has set up a number of institutional mechanisms to expedite infrastructure project, like E-Samiksha, PMG portal of PRAGATI (Pro-Active Governance and Timely Implementation), etc. As a result of the regular reviews, a number of long pending projects, which were stuck up due to right-of-way (RoW) issues, have been completed in last 2-3 years through persistent efforts, intervention from State and District Authorities and also using Hon'ble PM's institutional project monitoring platform - PRAGATI and through constant support from Ministry of Power, MoSPI, MoEF & CEA..."

3.16 Regarding the forest clearance issues in connection with power transmission projects, the Ministry furnished:

"Forest clearances are delayed on account of encountering forest/wildlife stretches during detailed survey, identification of land for compensatory afforestation, tree cutting permissions etc.

Compensatory afforestation is one of the most important conditions stipulated in the rules for all purposes for de-reservation or diversion of forest land for non-forest purposes and is aimed for compensating for the actual loss of vegetation incurred due to diversion of forest area.

As per MoEF guidelines, the Compensatory Afforestation is to be undertaken on the degraded forest land, twice in extent of forest area to be diverted, for all levels of transmission lines applicable to all without any distinction between private and government projects.

However, the process for identification of land for Compensatory Afforestation is at times delayed resulting in delay in forest clearance.

POWERGRID in order to complete the projects suitably raises the issues at appropriate levels and make efforts to resolve the same with the help of State/ Central Government for timely implementation of the projects."

3.17 Regarding on contractual and shutdown issues the Ministry stated:

i) Contractual issues: Sometimes, agencies after award of packages are being referred to National Company Law Tribunal (NCLT) due to their financial distress later during implementation affecting the progress of work.

ii) Shutdown issues: Sometimes, modifications in existing transmission system are made so as to optimize the Right-of-way already utilized and/or to control over-loading in certain sections due to changed generation scenario. To implement such projects, shutdown of existing system is required. However, sometimes there is delay in shutdown due to operational constraints, thus delaying the implementation of the scheme. Delay in receipt of shutdown is affecting the timely completion of following projects:

CHAPTER IV

MONITORING MECHANISM

4.1 When asked to provide about the monitoring mechanism in place to ensure timely completion of power projects by the power project developers, the Ministry of Power in a written reply has stated that in order to ensure timely completion of power projects, the following monitoring mechanism is in place in the Government:

i) Central Electricity Authority (CEA) monitors the progress of under construction hydro power projects (above 25 MW) through frequent site visits and interaction with the developers & other stake holders. CEA holds review meetings periodically with the developers and other stakeholders to identify and resolve issues critical for commissioning of Projects.

ii) Regular reviews are also undertaken in Ministry of Power to identify the constraints areas and facilitate faster resolution of inter-ministerial and other outstanding issues.

iii) In case of Central Power Sector Undertakings (CPSU"s) projects, the project Implementation parameters / milestones are incorporated in the annual MoU signed between respective CPSU"s and MoP and the same are monitored during the Quarterly Performance Review (QPR) meetings of CPSU"s and other meetings held in MoP/ CEA.

iv) The issues related to erection and supply of Electro-Mechanical equipment are discussed & resolved in various meetings held in CEA / MoP and other local issues affecting the progress of works are taken up with respective State Governments by the Concerned CPSU / MoP.

v) As and when required issues are also reviewed in PRAGATI Portal of PMO for proactive governance and timely completion.

vi) The Project Monitoring Group (PMG) also reviews the issues relating to pending projects. The developers of the projects can raise the project specific issues on PMG Portal for their resolution with the concerned agencies/departments.

4.2 Regarding project management in NTPC, the Ministry in a written note furnished:

"NTPC has adopted an integrated system for the planning, scheduling, monitoring and control of approved projects under implementation. To coordinate and synchronise all the support functions of project management, the NTPC relies on a three-tiered project management system known as the Integrated Project Management Control System (IPMCS), which integrates its engineering management, contract management and construction management control centres. The IPMCS addresses all stages of project implementation, from concept to commissioning.

NTPC has established a state-of-the-art IT-enabled Project Monitoring Centre (PMC) for the facilitation of fast-track project implementation and the monitoring of key project milestones. It also acts as a decision support system for the NTPC's management. PMC is integrated across the NTPC's network as a web based collaborative system, used to facilitate the consolidation of project-related issues and their resolution.

In addition to above, in order to make monitoring of projects more effective, NTPC is now adopting Integrated Software monitoring tool for integrating progress of Engineering, Supplies and Erection at one place, and capturing progress online. Features like mobile app based updation of progress and role based access make the tool more user-friendly which will result into regular updation of progress. It will help in taking timely remedial actions. This tool has been included in the bid documents of EPC packages of upcoming projects of NTPC."

4.3 When asked about the Coordination Mechanism in place to resolve the issues in the power transmission sector, the Ministry in a written reply stated:

"The physical progress and constraints / bottlenecks in execution of power transmission projects (transmission lines & substations) under Central/State/Private sector (of 220 kV and above voltage levels) in the country are being monitored on monthly basis by Power System Project Monitoring Division (PSPM) of CEA through National Power Portal. The issues relating to ROW, forest clearance, clearance from Railway Authority, NHAI and any other statutory clearance are discussed with concerned Authority/Department through letter or review meeting. If required, officers are deputed to site to assess actual progress of transmission project & severity of issues and take up the matter with respective state/district authority / Ministry of Power / Concerned Ministry for its early resolution. The review meetings are being held in CEA / MoP on regular basis, exclusively for critical projects (involving serious problems relating to ROW & compensation, contractual issues, clearances from railways, forest/wildlife, civil aviation/ mining authority, matching with the commissioning schedule of generation projects) to monitor the progress, address critical issues and resolve the bottlenecks in progress & execution of transmission projects. The unresolved issues are also addressed in multi-tier monitoring mechanism covering PMG Portal/ NITI Ayog / E-Samiksha/ PRAGATI Portal."

4.4 To a query how the responsibility, in case of delay of a power project, is fixed, the Ministry in a written note replied:

"As per section 7 of Electricity Act 2003," any generating company may establish, operate and maintain a generating station without obtaining a license under this act if it complies with the technical standards relating to connectivity with the grid". Therefore, any corporate body or individual can invest in Thermal Power Generation without seeking permission from the Government.

In case of the projects, whose tariff is determined by the Regulatory Commissions, the responsibility for delay is fixed by the Regulator and accordingly the impact on tariff due to delay of the projects is decided. For the

hydro projects, the Revised Cost Committee constituted by Ministry of Power analyses the cost & time overrun of these projects and fixes the responsibility in case of delay.”

4.5 When asked how effective is the present mechanism to coordinate between various stakeholders with a view to expedite the power projects and avoid time and cost overrun, the Ministry has stated that the present mechanism has been able to resolve various issues so as to ensure reduction in delay in commissioning of the hydro-electric projects. As furnished by the Ministry, issues have been resolved in the following hydro-electric projects:

- **Teesta–III HEP (1200MW)** was stalled from September, 2014 to October, 2015 due to funds constraints with the developer. Hon^{ble} MoSP (Independent Charge) convened a meeting in November, 2014 to resolve the pending issues. Works re-started in October, 2015 and the project was commissioned in February, 2017.
- **Subansiri Lower HEP (2000 MW)** was stalled from December, 2011 to July, 2019 due to agitation launched by various activists against construction of Subansiri Lower HE Project and as per directions of NGT. Works restarted in August, 2019 after clearance from NGT.
- **Tehri PSS (1000 MW)** was stalled from April, 2018 to November, 2018 due to financial constraints with the contractor. Works restarted in December, 2018 after financial support by THDC.
- **Shahpurkandi HEP (208 MW)** was stalled since 29.08.2014 to October, 2018 due to inter-state dispute between states of J&K & Punjab on sharing of waters of river Ravi & tariff. An agreement was signed on 8.9.2018 between Chief Secretary, Govt. of Jammu & Kashmir and Chief Secretary, Govt. of Punjab. The works re-started w.e.f. November, 2018.
- **Teesta VI HEP (500 MW)** was stalled since April, 2014 due to financial crunch with the developer. NHPC Ltd. emerged as H1 bidder during bidding process by NCLT. Government of India approval received on 8.3.19. Project taken over by NHPC on 09.10.2019 and works restarted.
- **Ratle HEP (850 MW)** was stalled since 11.07.2014. The State Govt. has decided to develop the project through JKSPDC on JV mode. Formulation of JV of State Govt. & NHPC is in progress. PIB approval received. CCEA clearance is in progress.
- **Rangit IV HEP (120 MW)** is stalled since October, 2013 due to funds constraints with the developer. The project is under NCLT process since 9th April, 2019. NHPC submitted EOI on 08.07.2019 and was shortlisted under final list of Prospective Resolution Applicants on dated 23.08.2019. The Resolution Plan submitted by NHPC on 04.12.2019. The Resolution Plan Approval Application was listed for hearing on 17.02.2020 before NCLT, Hyderabad (“Tribunal”). Final hearing was held on 31.07.2020. Order has been reserved.

4.6 During the evidence held on 25.11.2020, when the Committee desired to know what exactly have the Ministry done to address the issues in order to expedite the delay, the representative of the Ministry deposed before the Committee:

"In order to address the delays, we have a system of monitoring the projects. These projects are monitored at the highest level through the national importance of pipeline. The Cabinet Secretary also monitors. The PMO is also monitoring. The Secretary, Power monitors with the Steering Committee, Inter-Ministerial Committee. Some projects are also taken up in the PRAGATI Meeting where the hon. PM discusses the issues with the State Governments concerned and the other agencies where clearances are required. In case of transmission projects, regular coordination between the CTU, CEA, MoP and Generation Developers is maintained for synchronisation of the generation and transmission projects.

The Ministry has also issued guidelines for addressing the issues being faced by hydro projects. In CPSEs also, there is an in-house monitoring of the projects at GM level and corporate level. The issues, which pertain to various States are also taken up by the Ministry as well as the CPSEs with the concerned State Governments. Further, through PMG, the Project Monitoring Group also, these are being taken up with the concerned State Governments."

4.7 When asked as to how the stakeholders are involved by the Ministry in the implementation of different power projects in the country, the Ministry replied:

"In case of Central Power Sector Undertakings projects, the project Implementation parameters/milestones are incorporated in the annual MoU signed between respective CPSU's and MoP and the same are being monitored during the quarterly performance review meeting of CPSU's and other meetings held in MoP/CEA.

From inception to implementation, a Hydro-Electric Project (HEP) in Central Sector has to undergo many stages and has to obtain many clearances from various organizations / agencies.

At inception stage, the Detailed Project Report (DPR) of an HEP is appraised by CEA in consultation with various expert agencies viz. Central Water Commission(CWC), Geological Survey of India (GSI), CSMRS etc. for accord of Techno-Economic Clearance, if the estimated project cost is above Rs. 1000 crore. On the other hand, HEPs having estimated project cost below Rs. 1000 crore are accorded Techno-Economic Clearance from the appraising agencies of the concerned State Government. In addition, Environment and Forest Clearance is obtained from Ministry of Environment Forest & Climate Change. If the project site is in vicinity of a Defence Establishment, it is mandatory to obtain Defence Clearance from Ministry of Defence.

After obtaining necessary statutory clearances, the investment proposal of the project is appraised by Public Investment Board under aegis of Department of Expenditure, Ministry of Finance. After obtaining the recommendations of PIB, the investment approval is sought from the competent authority."

4.8 On a query about the coordination mechanism between stakeholders in implementing power sector projects, the Ministry furnished:

“Adequate coordination mechanism between stakeholders is available for implementation of projects. Central Electricity Authority (CEA) coordinates with various expert agencies viz. CWC, CSMRS, GSI etc. for consideration of a project for accord of TEC. Moreover, CEA monitors the progress of under construction hydro power projects (above 25 MW) through frequent site visits and interaction with the developers & other stake holders. CEA holds review meetings periodically with the developers and other stakeholders to identify and resolve issues critical for commissioning of Projects. In addition, Regular reviews are also undertaken in Ministry of Power (MoP) to identify the constraints areas and facilitate faster resolution of inter-ministerial and other outstanding issues.

Apart from the above, in case of Central Power Sector Undertakings (CPSU’s) projects, the project Implementation parameters / milestones are incorporated in the annual MoU signed between respective CPSU’s and MoP and the same are monitored during the Quarterly Performance Review (QPR) meetings of CPSU’s and other meetings held in MoP/CEA. Moreover, the progress of the key project is also monitored by PMO through PRAGATI and E-Samiksha portals.”

4.9 Regarding availability of Coordination Mechanism between State-Central Government to resolve the issues responsible for delay execution of power projects, the Ministry in a written reply stated:

“Regular reviews are undertaken in Ministry of Power (MoP) to identify the constraint areas and facilitate faster resolution of Inter-Ministerial / State Governments related issues.

Central Electricity Authority also monitors the progress of under construction hydro power projects (above 25 MW) through frequent site visits and interaction with the developers & representatives of State Govt. CEA holds review meetings periodically with the developers and other stakeholders to identify and resolve issues critical for commissioning of Projects.”

CHAPTER V

REMEDIAL MEASURES

5.1 When asked the remedial action/steps taken to address the issues responsible for execution of power projects, the Ministry in a written reply stated:

“Recently, Ministry has issued detailed guidelines to reduce time and cost overruns in Hydro Power projects by adopting various measures like preparation of realistic project schedule based on past experience of projects in vicinity, use of latest Software tools like Primavera, MS-Project etc. for monitoring of projects on regular basis, seeking prior approval of competent authority if the project is not likely to be commissioned within the prescribed time limit.”

5.2 Regarding remedial measures with thermal power projects, the Ministry in a written reply has informed that the following remedial action/steps has been taken to ensure timely completion of the thermal power projects:

(i) Ministry of Power (MoP) / Central Electricity Authority (CEA) monitors the progress of under construction power projects through frequent site visits and interaction with the developers and equipment suppliers. CEA holds review meetings periodically with the developers and other stakeholders and identify issues critical for commissioning of projects and help in resolving them.

(ii) In case of Central Power Sector Undertakings (CPSUs) projects, the project Implementation parameters/ milestones are incorporated in the annual MoU signed between respective CPSU's and MoP and the same are being monitored during the quarterly performance review meeting of CPSU's and other meetings held in MoP/CEA.

(iii) Various matters related with project implementation are being taken up with State Government/District Administration for facilitating the support in resolving the issues to the project implementing agencies

5.3 To reduce incidences of time and cost overrun for hydro projects, the Ministry in a written reply stated that it has issued the following measures in the guidelines:

(i) Time bound resolution of disputes and timely payment mechanism to be ensured.

(ii) Review of delegation of power at project level.

(iii) Adoption of international best practice for implementation of projects.

(iv) Ensure availability of resources namely equipment and manpower.

(v) Maintenance and AMC of the equipment to OEM.

(vi) Purchase of new equipment as per the needs of the projects.

(vii) Keeping record/reports in electronic form.

- (viii) Timelines to raise claims by the contractors and their settlement by the Engineer in-Charge.
- (ix) Timely decision by Dispute Resolution Board (DRB).
- (x) Maintenance of e-diary system to keep record of all events in respect of under construction projects.
- (xi) Timely decision by the Management to resolve the stalled work for any reason other than natural calamity.
- (xii) Defining risk sharing mechanism in contract document.
- (xiii) Device mechanism of incentivizing labour on achieving project milestones in time.

5.4 It has been stated that poor performance and delay in the construction of power projects by agencies is due to deterioration in their financial condition during course of execution of project. When asked the remedial steps taken by the Ministry to enhance the financial condition of the agencies and how the agencies are financially assisted under such condition, the Ministry in a written reply stated:

“So far as Hydro CPSUs are concerned, financial assistance is provided to some CPSUs in the form of Grants-in-aid on case to case basis. Moreover, if a central sector project suffers time and cost overrun, the same is considered and approved by the Government in the form of Revised Cost Estimate.

Financial assistance through advances against Bank guarantee (gap funding) is being provided to those agencies whose financial condition deteriorated during execution of contract. NTPC being Maharatna Company follows the DIPAM guidelines to raise the funds from the market.

Further, it may be mentioned here that the funds for meeting the investment requirement in the power sector in Central Sector are mobilized by the concerned CPSUs by utilizing their internal resources as well as borrowings from the market based on the strength of their respective balance sheets. The budgetary support is provided to the concerned CPSU only in case of a few projects. Keeping in view the strength of the balance sheet of the CPSUs, none of the PSUs under MoP have reported difficulty in mobilizing the funds for their CAPEX requirements.”

5.5 When the Committee desired to know as to whether the Government gives any kind of priority or facilitates the power projects which have potential to provide electricity at low cost, the Ministry stated:

"Generation of electricity is relicensed activity as per provisions of Electricity Act 2003 and hence the decision to set up the power plant at any location is of the developer. As per Tariff policy 2016, the distribution companies have to procure power through competitive route from the lowest bidder and accordingly there is an inbuilt incentive to the power projects to be of lower cost. Government has been facilitating the power projects which have potential for cost reduction by taking following measures:

- i. Rationalization of coal: Coal was reallocated from the nearer sources to the extent possible.
- ii. Flexibility of utilization of coal by the States so as to utilize the coal in the power plant which can supply power at a lesser cost.
- iii. Security Constraint Economic Despatch (SCED) of power. Under this mechanism, the cheapest station is being scheduled to its full capacity and other stations are being optimized at national level. National level merit order despatch for interstate generating stations through SCED was introduced from 01.04.2019. Due to this the savings is around Rs. 3 crore per day i.e. around Rs 1100 Crore per year. This has led to reduction in power purchase cost by the Distribution companies.

5.6 Regarding resolution of issues relating to Railways, the representative of the Ministry during the evidence held on 25.11.2020 stated before the Committee:

"Many issues relating to Railways have been resolved through meetings between the Power Minister and the Railway Minister. Further, in some cases, projects are delayed due to financial stress of the contractors. In that case also, the project developers give them financial assistance so that the projects keep on going.

Dispute Resolution Mechanism has also been strengthened through consultation and the Expert Committee Settlements. Some of the contracts, which were not working properly, were terminated.

5.7 On the follow up action taken relating to forest clearance issues, the representative of the Ministry during the evidence stated:

"There are issues of forest clearances etc., and now we have been following up with the Ministry of Environment and Forest, and also other Ministries. They have now brought out a portal PARIVESH, in which one can file online; and there used to be about 30 days" delay by the time it would reach the State Governments and the Districts. Now, it is done instantly; and their process is set. So, the environment and forest clearance part is also going to expedited."

5.8. Regarding action taken by the Government for bringing projects out of stress, the Ministry in a written reply furnished the following:

A) Implementation of GoM Recommendations:

A High Level Empowered Committee (HLEC) was constituted by Government of India in July 2018 to address the issues of stressed thermal power projects. Based on the recommendations of Group of Ministers (GoM), Government has taken following decisions to relieve stress of these power projects:

- Amendments in SHAKTI Policy for allowing the coal linkage to power plants which either do not have PPAs or if PPA had been terminated in case of

default in payment by the DISCOM.

- Approval for increase in quantity of coal for e-Auction for power sector.
- Non-lapsing of short supply of coal for maximum period of 3 months if power plants fulfill its certain predefined obligations.
- ACQ based on efficiency (Normative Station Heat Rate) irrespective of age or technical parameters of power plants.
- Regulators to ensure mandatory payment of Late Payment Surcharge(LPS).
- Continuation of PPA/FSA/Transmission connectivity/EC/FC/Water etc. even if project is referred to NCLT or in case of change of promoter.
- Advisory to DISCOMs not to cancel the PPAs for certain period for non-compliance of COD for reasons not attributable to generators.

B) Resolution schemes proposed by SBI, PFC, REC and other lenders:

The affected lenders had come up with various resolution schemes, within the RBI framework of 180 days, like SAMADHAN, PARIWARTAN, SHAKTI etc. covering many stressed projects in addition to these 34 projects where the promoters have defaulted. Resolution of few assets have taken place or are in final stage of settlement under some of the schemes.

C) RBI framework for resolution of stressed assets:

The RBI circular dated 12th Feb 2018 has been declared as ultra-vires by Hon“ble Supreme Court in April 2019. RBI has published the revised circular (Prudential Framework for resolution of stressed Assets) on 7th June 2019. The Salient Points of which are:

- The central bank has made it voluntary for lenders to take defaulters to the bankruptcy court;
- The framework now applies to a larger universe of lenders, which includes small banks and non-banking finance companies(NBFCs);
- On default, a review period of 30 day starts.
- Post the review period, there is a 180-day timeline to implement a resolution plan (RP)
- Credit rating agencies (CRAs) to undertake independent credit evaluation(ICE)
- Delay in implementation of the resolution plan entails the penal provisions

5.9 In reply to the ***Unstarred Question No.2021***, as to whether the Government is aware of the delay in completion of several power projects due to the Covid-19 lockdown and also the steps taken by the Government to expedite the completion of pending power projects, the Minister of State for Power answered on 22.09.2020 as under:

“Almost all construction activities have been affected at project sites due to Covid-19 lockdown, which has resulted in delay in completion schedule of Power Projects. Government have advised the State authorities to ensure that no

restrictions are imposed on construction activities in power plants and to ensure smooth operation and functioning of interstate and intra-state transmission network in the country. It has also advised for allowing intrastate and inter-state movement of construction material, equipment, spares, consumables, etc. for power projects.”

5.10 Further in reply to another **Unstarred Question No.1648** on **11.02.2021** about the policy laid down by the Government to grant compensation to the affected people for the land acquired for various Power Projects including Government and Private Power Projects and whether any compensation has been paid to the affected people for the land acquired for various power projects in various States during each of the last three years and the current year, the Government in a written reply informed as under:

“Land acquisition is undertaken by the Central and State Governments under various Central and State Acts including the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (RFCTLARR Act 2013). The provisions of the RFCTLARR Act, 2013 including compensation as detailed in Schedule I of the Act; are implemented by 'appropriate Government' as defined under Section 3(e) of the said Act. As regards private power projects, the compensation is paid by the private company as per the policy of the respective States.”

5.11 Further, regarding payment of compensation, it was informed that compensation has been paid to the affected people for the land acquired for various Power Projects in various States. The details of compensation paid to the affected people (State/UT wise) for the year 2017-18, 2018-19, 2019-20 and 2020-21 as furnished by the Minister is given below :

Sr. No.	Utility	Name of State / UT	Amount of compensation paid to the affected people (in Rs. Crore)				
			2017-18	2018-19	2019-20	2020-21	Total
1.	NHPC Ltd.	Arunachal Pradesh	NIL	24.6658	NIL	NIL	24.6658
2.	NHPC Ltd.	Jammu & Kashmir	0.6679	0.2575	NIL	NIL	0.9254
3.	NHPC Ltd.	West Bengal	1.249	0.1937	NIL	NIL	1.4427
4.	NHPC Ltd.	Sikkim	NIL	6.7978	NIL	NIL	6.7978
5.	NHPC Ltd.	Himachal Pradesh	1.1198	0.2847	3.7602	0.08	5.2447
6.	NTPC Ltd.	Bihar	0.54	21.04	0.44	NIL	22.02
7.	NTPC Ltd.	Chhattisgarh	0.46	1.77	14.30	1.28	17.81
8.	NTPC Ltd.	Maharashtra	66.76	NIL	NIL	NIL	66.76
9.	NTPC Ltd.	Madhya Pradesh	NIL	5.13	NIL	NIL	5.13

10.	NTPC Ltd.	Odisha	NIL	60.81	NIL	1.82	62.63
11	SJVN Ltd.	Bihar	0.19	27.53	46.62	NIL	74.34
12.	SJVN Ltd.	Himachal Pradesh	NIL	NIL	3.30	NIL	3.30
13.	DVC	Jharkhand	20.36	1.74	39.99	NIL	62.09
14.	DVC	West Bengal	0.14	NIL	NIL	NIL	0.14
15.	PGCIL	Andhra Pradesh	NIL	1.8255	NIL	NIL	1.8255
16.	THDCIL	Uttarakhand	0.12	NIL	NIL	NIL	0.12
17.	THDCIL	Uttar Pradesh	NIL	19.12	NIL	NIL	19.12
18.	BBMB	Himachal Pradesh	0.0232	0.0499	0.1388	0.01	0.2220
19.	BBMB	Punjab	NIL	NIL	0.6983	0.2345	0.9328

PART II

OBSERVATIONS/ RECOMMENDATIONS

1. The Committee's analysis of the information submitted to them indicate that a large number of power projects have not been completed as per the schedule which resulted in huge time and cost overrun. Sector-wise analysis reveal that 12 out of 13 hydro projects, 30 out of 34 thermal projects, 18 out of 42 Transmission projects and 01 out of 26 Renewable projects were delayed in their execution. Astonishingly, 12 delayed hydro projects with cumulative time overrun of almost 1205 month have resulted in huge cost overrun of Rs.31,530.03 crore so far. The Committee note that out of total 34 thermal power projects in the country (both Central and State sector projects), 30 projects are delayed having total cost overrun of Rs.41100.20 crore and time overrun of 1776 months. As regards issues affecting the execution/completion of thermal power projects, besides law and order/ local issues, natural calamities, inadequate infrastructure facilities, shortage of skilled man-power, forest & environment clearance etc., the Committee note that contractual and land acquisition are the main impediments faced by the implementing agencies. The Committee find that contractual issues/disputes arise due to poor cost estimation of projects, poor cost management, Contractor's poor site supervision and inadequate funds or budget allocation. The Committee thus feel that a lot of contract related disputes could be easily prevented with proper planning and diligence during the preliminary stage itself. The Committee therefore, recommend that:

- i) Due diligence and careful negotiation on contract terms and conditions between project developer and contractor be ensured during the contract formation stage;

- ii) Full presentation of all facts and information during tendering process;
- iii) Incorporate suitable measures and defining strict norms and penalties for completing each level of activities in the contract document;
- iv) Creation of sub-sectoral limit for lending to thermal power projects on priority basis by banks to overcome funds constraint.

2. The Committee observe from the deposition of the Ministry of Power that land acquisition, coal linkage and inability to get railway access are three important problems with thermal power projects. The Committee are however, happy to note that the Ministry have been able to resolve substantially the issue regarding availability of railway line and that many other issues relating to Railways have been resolved through meetings of the highest level. The Committee note that the issues related to Coal Supply is one of the major reason for stress in thermal power projects and that after the cancellation of 204 coal mines by the Hon'ble Supreme Court in 2014, many of the power projects became stranded without arrangements of adequate fuel supply. In addition, many projects were setup without firm coal linkages leading to high cost of generation. The Committee note that a High Level Empowered Committee (HLEC) was constituted by Government of India in July 2018 to address the issues of stressed thermal power projects. Based on the recommendations of Group of Ministers (GoM), the Government has *inter-alia* decided amendment in Scheme to Harness and Allocate Koyla (Coal) Transparently in India (SHAKTI) Policy for allowing coal linkage to power plants which either do not have PPAs or where PPAs had been terminated due to default in payment by the DISCOMs. The Committee are optimistic that the proposed amendment would be a bridge linkage to specified end-use plants both in Power as well as Non-Power sector which have been allotted coal mines/ blocks. The Committee, therefore recommend that the recommendations of the Group of Ministers (GoM) to address the issues

of stressed thermal power plants may be implemented forthwith in letter and spirit and the proposed changes in SHAKTI policy may be executed at the earliest for the benefit of the end-users.

3. The Committee note that there are 24 under construction hydro-electric projects (above 25 MW) having aggregate capacity of 11342 MW having either time or cost over-run in 11 States/UT. The time overrun in these delayed hydro projects ranges from 12 months to 189 months and cost overrun upto 472.92%. The Committee further observe that there are 13 hydroelectric projects being developed in the Central Sector by CPSUs and most of these projects have been badly delayed. Although, the works have started in 11 projects, construction of 02 projects is still held up. The Committee note that the main issues involved in execution/completion of hydro-electric projects are bottlenecks in land acquisition, environment and forest issues, rehabilitation & resettlement issues, inadequate infrastructural facilities, law & order / local issues, geological surprises, natural calamities, funds constraints, contractual issues, inter-state issues, etc. Among these issues, fund constraints followed by geological uncertainties and law & order/local issues are more dominant. The Committee are of the view that the aforesaid issues are common and generally occur in large construction projects, which can be addressed and managed by having firm contractual guidelines in place prior to the start of the projects and with adequate policy and regulatory support. As all the hydro power projects, regardless of the capacity, have as per recommendation of this Committee, now been included in the “Renewable Energy” segment, the Committee are hopeful that this will give further impetus to the Hydro Sector and facilitate commissioning of Hydro Power Projects as per stipulated timeline. The Committee therefore, recommend that :

- i) Due to long construction period of hydro power projects, interest on loan plays a very critical role in the operation period

and higher interest on outstanding loan leads to higher yearly tariff. A review of the financing policies for hydro power projects are thus required with a view to provide longer tenure debt with softer interest rates.

- ii) Inadequate infrastructure like roads, bridges etc particularly in Arunachal Pradesh and North-Eastern States result in longer construction period thereby increasing the project cost. Agencies, like BRO, State PWD, etc., implementing the road sector projects need to be provided adequate support to complete the projects expeditiously. National Clean Energy Fund (NCEF) could be used for development of roads, bridges and infrastructure common for hydro power projects.
- iii) Considering the long gestation period and large investment involved, a single window clearance mechanism becomes necessary to reduce the cost and time overrun by a considerable margin. This will encourage Developers to undertake projects and make large investment in hydro power sector.

4. The Committee note that the Power Grid Corporation of India Ltd. is implementing 42 power transmission projects, out of which 18 projects are delayed. The reasons attributed to delays are issues in land acquisition, Right of Way (RoW), difficult terrain, natural obstacles, geological surprises, contractual disputes, environmental and forest issues, financially stressed contractors, limited availability of skilled manpower and material, etc. The Committee however, are not satisfied with the reply of the Ministry that delay in transmission project is having only minimal effect on power sector due to robust power transmission network in the country and electricity demand being lower than the projected demand. The Committee observe that although India is a power surplus country but electricity does not equitably reach all regions due to network constraints in some States. Transmission within the States remains a major issue leading to intermittent power cuts and shortages of power in localized area. Further, the Committee believe that cost and time overrun in transmission projects will inevitably have its implications on the cost of power. The Committee, therefore, desire that the Ministry should not remain

complacent and must expedite the completion of delayed transmission projects by utilizing the existing institutional mechanism, while ensuring that alternative arrangements are made to evacuate the power by transmission implementing agency so that no bottling-up of power generated occurs due to lack of transmission network.

5. The Committee would also recommend that issues arising out of the transmission line corridor passing through natural obstacles, adverse terrain, Government land, forest land, private land etc. should be foreseen and taken care of by methodical route planning, proactive measures, coordination with State administration and perpetual follow-up by the project management team.

6. The Committee are informed that Central Electricity Authority (CEA) monitors the progress of under-construction hydro power projects (above 25 MW) through frequent site visits and interaction with the developers and other stake holders and also holds review meetings periodically with them to identify and resolve issues critical for commissioning of Projects. They are also informed that Ministry of Power undertakes regular reviews to identify the constraint areas and facilitate faster resolution of inter-ministerial and other outstanding issues. The Committee are also informed that in case of Central Power Sector Undertakings (CPSU's) projects, the project Implementation parameters / milestones are incorporated in the annual MoU signed between respective CPSU's and the Ministry of Power and the same are monitored during the Quarterly Performance Review meetings of CPSU's. The Committee further note that to coordinate and synchronise all the support functions of project management, the NTPC relies on a three-tiered project management system known as the Integrated Project Management Control System (IPMCS), which integrates its engineering management, contract management and construction management control centres. Notwithstanding the monitoring mechanism

in place, the Committee are confronted with the fact that a large number of projects are delayed, causing huge time and cost over-run. As timely completion of power projects is very crucial to the growth of other sectors of the economy, the Committee recommend that apart from regular review meetings, an IT based project management, monitoring and follow-up system may be introduced at all the project sites with online connectivity with all stake holders, i.e. suppliers, project developers, contractors, CEA, etc. with clear cut fixation/ demarcation of responsibilities at every level. The need of the hour is to pin down the onus of action on the concerned agency/group/individual so that project management becomes more focused, vigorous and meaningful.

**New Delhi
4 August , 2021
13 Sravana, 1943 (Saka)**

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

**MINUTES OF FIFTH SITTING OF THE STANDING COMMITTEE ON ENERGY
(2019-20) HELD ON 13th NOVEMBER, 2019, IN COMMITTEE ROOM „3',
PARLIAMENT HOUSE ANNEXE EXTENSION, NEW DELHI**

The Committee met from 1100 hrs to 1315 hrs

LOK SABHA

Shri Rajiv Ranjan Singh alias Lalan Singh - Chairperson

2. Shri Chandra Shekhar Bellana
3. Shri Thomas Chazhikadan
4. Shri Kishan Kapoor
5. Shri Ramesh Chander Kaushik
6. Shri Praveen Kumar Nishad
7. Shri Jai Prakash
8. Shri Shivkumar Chanabasappa Udasi

RAJYA SABHA

9. Shri T.K.S. Elangovan
10. Shri Vijay Goel
11. Shri B.K. Hariprasad
12. Shri Javed Ali Khan
13. Dr. C.P. Thakur

SECRETARIAT

1. Shri N.K. Pandey - Director

WITNESSES

MINISTRY OF POWER

1.	Shri Sanjiv Nandan Sahai	Secretary
2.	Shri S.K.G. Rahate	Additional Secretary
3.	Shri Aniruddha Kumar	Joint Secretary
4.	Shri M.K. Narayan	Joint Secretary
5.	Shri V.K. Dewangan	Joint Secretary
6.	Shri Ghanshyam Prasad	Chief Engineer
7.	Shri Prakash Mhaske	Chairperson, CEA
8.	Shri P.D. Siwal	Member (Thermal), CEA
9.	Shri Dinesh Chandra	Member (Hydro), CEA
10.	Shri Sanoj Kumar Jha	Secretary, CERC
11.	Er. D.K. Sharma	Chairperson, BBMB
12.	Shri D.V. Singh	CMD, THDC
13.	Shri Gurdeep Singh	CMD, NTPC
14.	Shri Balraj Joshi	CMD, NHPC
15.	Shri Vinod Kumar	CMD, NEEPCO
16.	Shri K. Sreekant	CMD, PGCIL
17.	Shri Rajeev Sharma	CMD, PFC
18.	Shri Ajeet Agarwal	CMD, REC
19.	Shri S.P. Bansal	Director, SJVNL

2. At the outset, the Hon^{ble} Chairperson welcomed the Members of the Committee and the representatives of the Ministry of Power to the sitting and informed that the sitting had been called to have a discussion on the subject "Delay in Execution/Completion of Power Projects by Power Sector Companies". The Chairperson also apprised them about the provisions of Directions 55(1) and 58 of the Directions by the Speaker.

3. During the discussion, a power-point presentation was made on the subject "Delay in Execution/Completion of Power Projects by Power Sector Companies" which, *inter-alia*, covered Institutional Framework of Indian Power Sector, Installed Generation Capacity as on 31.10.2019, Fuel-wise Installed Capacity in India, Electricity Generation from Renewable Resources, Transmission Lines, Transformation Capacity, Energy Deficit, Peak Shortages,

Operation of National Grid, Transmission Projects Affected due to Various Reasons, Delayed Hydro Projects, Major Reasons for Delay of Hydro Projects, Measures to Reduce Delay of Hydro Projects, Revival of Stalled Hydro Projects, Issue Matrix of NTPC Ongoing Projects, Monitoring Mechanism for Mitigating Delays, Remedial Action Being Taken, etc.

4. The Committee, *inter-alia*, deliberated upon following points with representatives of the Ministry of New and Renewable Energy:

- (i) The details of all the projects of the electricity sector which are showing considerable cost/time over-run along with the quantum of finances at stake;
- (ii) The causes that are leading to such delays;
- (iii) The details of efforts made and planned to address this issue;
- (iv) Need to resolve the issues of rehabilitation and resettlement;
- (v) Types of Contractual issues affecting the Projects and steps taken to solve them;
- (vi) Need to complete the Power Projects within the stipulated time frame so as to reduce burden on exchequer;
- (vii) Need for periodic review of the Projects by the implementing agencies;
- (viii) Need for clarity in Policies and Regulations;
- (ix) Various other issues relating to delay in completion of Projects in Hydro, Thermal and Transmission Sector.

5. The Members also sought clarifications on various other issues relating to the subject and the representatives of the Ministry responded to the same. The Committee directed the representatives of Ministry of Power to furnish within 10 days, the written replies to those queries which could not be readily responded to by them.

The Committee then adjourned.

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

MINUTES OF THE SECOND SITTING OF THE STANDING COMMITTEE ON ENERGY (2020-21) HELD ON 25th NOVEMBER, 2020, IN COMMITTEE ROOM „D', PARLIAMENT HOUSE ANNEXE, NEW DELHI

The Committee sat from 1100 hrs. to 1230. hrs.

PRESENT

LOK SABHA

Smt. Anupriya Patel – in the Chair

- 2 Smt. Sajda Ahmed
- 3 Dr. A. Chellakumar
- 4 Km. Shobha Karandlaje
- 5 Shri Ramesh Chander Kaushik
- 6 Shri Shivkumar Chanabasappa Udasi
- 7 Shri P. Velusamy

RAJYA SABHA

- 8 Shri Ajit Kumar Bhuyan
- 9 Shri Javed Ali Khan
- 10 Dr. Sudhanshu Trivedi

SECRETARIAT

- 1 Shri R.C. Tiwari Joint Secretary
- 2 Shri Sundar Prasad Das Director
- 3 Smt. L.Nemjalhing Haokip Deputy Secretary

WITNESS

Ministry of Power, CEA and PSUs

1.	Shri Sanjeev Nanandan Sahai	Secretary
2.	Shri S.K.G. Rahate	Additional Secretary
3.	Shri V.K. Dewangan	Additional Secretary
4.	Shri Raj Pal	Sr. Advisor
5.	Shri M.K. Narayan	Joint Secretary
6.	Shri Tanmay Kumar	Joint Secretary
7.	Shri Prakash Mhaske	Chairperson, CEA
8.	Shri Gurdeep Singh	CMD, NTPC/CMD DVC
9.	Shri Abhay Kumar Singh	CMD, NHPC
10.	Shri R.N. Singh	General Manager, THDC
11.	Shri Vinod Kumar Singh	CMD, NEEPCO
12.	Shri N.L. Sharma	CMD, SJVNL
13.	Shri K. Sreekant	CMD, PGCIL

2. The Chairperson of the Committee could not attend the sitting and therefore, Smt. Anupriya Patel, a Member of the Committee chaired the sitting as per provision of Rule 258(3) of the Rules and Procedure and Conduct of Business in Lok Sabha. The acting Chairperson, thereafter, welcomed the Members of the Committee and the representatives of the Ministry of Power, officers of the Central Electricity Authority, National Thermal Power Corporation, National Hydroelectric Power Corporation, Power Grid Corporation of India Limited, North-eastern Electric Power Corporation, Tehri Hydro Development Corporation Limited and Sutlej Jal Vidyut Nigam Limited. to the sitting and informed that the sitting has been convened to take evidence of the representatives of the Ministry of Power and a few power generating Central Public Sector Undertakings on the subject 'Delay in execution/completion of

Power Projects by Power Sector Companies'. The acting Chairperson also apprised them about the provisions of Directions 55(1) of the Directions by the Speaker.

3. During the discussion, a power-point presentation was made on the subject by the Ministry of Power which, *inter-alia*, covered Installed Generation Capacity as on 31.10.2020, Electricity Generation and Installed Capacity from Renewable Energy Sources in India, Export and Import with Neighbouring Countries, Transformation Capacity, Transmission Projects Affected due to Various Issues, Delayed Hydro Projects, Issue Matrix of NTPC Ongoing Projects, Monitoring Mechanism, Remedial Action Taken, etc.

4. The Committee, *inter-alia*, deliberated upon following points with representatives of the Ministry and the power generating Central Public Sector Undertakings:

- (i) Main issues that causes considerable delay in the construction of power projects.
- (ii) Steps taken to address the issues and also how far they have succeeded in addressing the challenges.
- (iii) Geological surprises and Contractual issues affecting the Projects and steps taken to solve them.
- (iv) Cost and time overrun leading to additional financial burden and projects becoming non-performing assets.
- (v) National Infrastructure Pipeline.
- (vi) Viability of thermal power sector vis-a-vis renewable energy and its financial aspect.
- (vii) Need to strengthen the monitoring mechanism
- (viii) Various other issues relating to delay in completion of Projects in Hydro, Thermal and Transmission Sector.

5. The Members also sought clarifications on various other issues relating to the subject and the representatives of the Ministry and CPSUs responded to the same. The Committee directed the representatives of Ministry of Power to furnish

the written replies within 10 days to those queries which could not be readily responded.

The Committee then adjourned.

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

**MINUTES OF THE TWELFTH SITTING OF THE STANDING COMMITTEE ON
ENERGY (2020-21) HELD ON 4th AUGUST, 2021 IN ROOM No. „111‘,
PARLIAMENT HOUSE ANNEXE EXTENSION, NEW DELHI**

The Committee met from 1500 hrs. to 1545 hrs.

LOK SABHA

Shri Rajiv Ranjan Singh alias Lalan Singh - Chairperson

2. Shri Gurjeet Singh Aujla
3. Shri Chandra Sekhar Bellana
4. Shri Harish Dwivedi
5. Shri S. Gnanathiraviam
6. Shri Sanjay Haribhau Jadhav
7. Shri Kishan Kapoor
8. Shri Ramesh Chander Kaushik
9. Shri Parbatbhai Savabhai Patel
10. Shri Dipsinh Shankarsinh Rathod
11. Shri N. Uttam Kumar Reddy
12. Shri Shivkumar Chanabasappa Udasi
13. Shri P. Velusamy

RAJYA SABHA

14. Shri Muzibulla Khan
15. Shri Maharaja Sanajaoba Leishemba
16. Shri Jugalsinh Lokhandwala
17. Dr. Sudhanshu Trivedi
18. Shri K.T.S. Tulsi

SECRETARIAT

1. Shri R.C. Tiwari - Joint Secretary
2. Shri R.K. Suryanarayanan - Director
3. Shri Kumohan Singh Arora - Additional Director

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. Development of Coal Blocks allocated to Power Sector Companies.
- ii. Delay in execution/completion of Power Projects by power sector companies.
- iii. Tidal Power Development in India.

3. After discussing the contents of the Reports, the Committee adopted the aforementioned draft Reports without any amendment/modification. 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 Monsoon Session.

The Committee then adjourned.