

केंद्रीय विद्युत प्राधिकरण

(जल विद्युत स्कंध)



निर्माणाधीन जल विद्युत परियोजनाओं की प्रगति

(विद्युत अधिनियम, 2003 के तहत के.वि.प्रा. के दायित्व की पूर्ति में)

त्रैमासिक समीक्षा संख्या. 111

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जल विद्युत् परियोजना प्रबोधन प्रभाग

नई दिल्ली

फरवरी-2023

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PREFACE

Present Review

This quarterly review which is **111th** in the series covers the period from **October ~ December, 2022**. The objective of this review is to provide up to date information in respect of Hydro Electric (HE) Projects above 25 MW, which are under construction/ implementation in the country.

This quarterly review has been brought out by CEA on the basis of data received from various project authorities, visit made to different HE projects and discussions held with the executing agencies, contractors, suppliers of equipment and other stakeholders from time to time.

Milestone Achieved During July ~ September, 2022

Details of HE Units/Projects synchronised/ Rolled/Commissioned and other major milestones achieved during the Quarter is indicated in Chapter-1.

Plan / Year wise Hydro Capacity Addition / Under Execution

Hydro Capacity Addition – Financial Year Wise Lists are placed in Chapter 2.2(a) to 2.2 (K). Summary of Hydro Capacity Addition is in Ch. 2.3 (2020-27), Hydro Electric Projects Under Execution – Year wise Lists are placed in Chapter 2.3(a) to 2.3(e).

Growth of Installed Capacity, Hydro Capacity Addition

A Graphical representation of Trends & Growth of Installed Capacity, Hydro Capacity Addition of Hydro-Thermal-Nuclear HEPs during Plans/Years is placed in Chapter 3 & 4.

Sanctioned Hydro Electric Projects

A Sector wise list of Sanctioned H.E. project Under Execution is placed in Chapter 5.

Status of Sanctioned Hydro Electric Projects

Broad present status of HE projects commissioned during the financial year & Under Execution is given in Chapter 6.

Financial Status of Hydro Electric Projects

Financial status of HE projects supplied by project authorities (unaudited) is given in Chapter 7.

Status of Environment & Forest Clearances of H.E. Projects.

The status of Environmental & Forest clearance of HE projects is given in Chapters 8.

Dates of Award of First Civil Package

The date of award of First Civil Package for HE projects under execution is indicated in Chapter 9.

Ordering Status of TG set.

Details of Ordering status of TG Set for HE projects under construction is given in Chapters 9.1 and 9.2.

**Status of Financial
closure of Private
Sector Hydro Electric
Projects**

Details of financial closure of Private Sector HE projects is given in Chapter-10.

**Time & Cost Over-run
of Ongoing Hydro
Projects**

The Status of Time & Cost Over-run of HE projects under execution is given in Chapter 11.

Exclusions

The review does not cover HE projects categorised as renewable, each with a total installed capacity of 25 MW and below, as these schemes come under the purview of Ministry of New & Renewable Energy (MNRE).

Any suggestions/feedback for further improvement in the quarterly review shall be appreciated.

The report is in fulfilment of CEA's obligation under Electricity Act, 2003.

Executive Summary

ALL INDIA POWER SECTOR INSTALLED CAPACITY (AS ON 31.12 .2022)

Installed Capacity (IC)	MW	Percentage of total IC
Thermal (Coal, Lignite, Gas & Diesel)	235808.91	(57.46%)
Renewable		
a) Large hydro (above 25MW)	46850.17	(11.41 %)
b) Other Renewables (solar, wind, biomass small hydro etc.)	120900.15	(29.46%)
Nuclear	6780.00	(1.65 %)
TOTAL (IC)	410339.23	

Sector wise Hydro Capacity under Execution: A hydro capacity (from hydro projects >25 MW) of **14153.5 MW** is under execution. Sector wise summary is given as under: -

Sector	Under Active construction		Presently stalled		Under Execution (MW)	
	Nos	MW	Nos	MW	Nos	MW
Central	15	8854	1	171	16	9025
State	9	2473.5	2	128	11	2601.5
Private	3	1590	6	937	9	2527
Total:	27	12917.5	9	1236	36	14153.5

Monitorable Targets for Hydro Capacity Addition for the year 2022-23:

Monitorable Targets for hydro capacity addition for the year 2022-23 is **1080 MW** (810 MW in the Central Sector, 220 MW in State Sector and 50 MW in Private Sector). Details are as under: -

Sl. No.	Particular	Unit Nos.	Capacity (MW)		Capacity Addition		Remarks/Critical Issues
			Target	Actual	As Programmed	Actual(A)/ Anticipated	
A	Central Sector						
1	Naitwar mori 2X30=60MW	Unit #1 Unit # 2	30 30		Dec'22 Jan'23	Mar'23 Mar'23	-
2	Subansiri Lower 8x250= 2000 MW	Unit #1 Unit #2	250 250		Jan'23 Feb'23	Slipping to 2023-24	Extended Monsoon & damage to protection wall of power house / collapse of DT-2
3	Tehri PSS 4x250= 1000 MW	Unit #1	250		Mar'23	Slipping to 2023-24	Geological constraints
	Sub total (A)		810 MW				
B	State Sector						
1	Pallivasal KSEB, Kerala 2x30=60 MW	Unit #1 Unit # 2	30 30		Mar'23 Mar'23	Slipping to 2023-24	-Extended Monsoon -Slow progress of works
2	Thottiyar KSEB, Kerala 1x30+1x10=40 MW	Unit #1 Unit # 2	10 30		Feb'23 Mar'23	Slipping to 2023-24	-Extended Monsoon -Slow progress of works
3	Vyasi 2x60=120 MW	Unit #1 Unit # 2	60 60	60 60	Apr'22 May'22	May'22 (A) April'22(A)	U#1 Commissioned on 24.05.2022 U# 2 Commissioned on 22.04.2022
	Sub- total (B):		220 MW	120 MW			
C.	Private Sector						
1	Tidong-I 2x50= 100 MW	Unit #1	50		Mar'23	Slipping to 2023-24	-Delay in clearance of transmission line -Pressure shaft misalignment issues
	Sub- total (C):		50MW				
	Total (A+B +C)		1080MW	120MW			

120 MW out of 1080 MW commissioned till 31.12.2022.

CHAPTER- 1

Milestones achieved during the Quarter October ~ December, 2022

- 1) 3 no. of cases have been allotted to CCIE during the quarter Oct-Dec'22.
- 2) The 1st LAHAR conclave was organized by M/s SJVN Ltd during Dec'22, Chief Engineer (HPM), CEA gave a presentation on "Delays in Hydro Project Execution – Reasons & Remedial Measures".
- 3) Training to State & Private Sector Developers on data entry in the "IT Portal" for monitoring of hydro projects was conducted during Nov'22.

CHAPTER - 2			
Plan wise Hydro capacity Target Vs Achievement since 4th Plan			
Plan /	Target (MW)	Capacity	% Achieved
Year	(Original)	Addition (MW)	
4th Plan	3518.00	1058.39	30.08
(1969-74)			
5th Plan	4654.00	3867.77	83.11
(1974-79)			
Annual Plan	548.00	550.9	100.53
(1979-80)			
6th Plan	4768.00	3076.05	64.51
(1980-85)			
7th Plan	5541.25	3828.41	69.09
(1985-90)			
Annual Plan	1006.50	445.5	44.26
(1990-91)			
Annual Plan	754.30	436	57.8
(1991-92)			
8th Plan	9282.15	2427.65	26.15
(1992-97)			
9th Plan	9817.70	4538.25	46.23
(1997-02)			
10th Plan	14393.20	7886	54.79
(2002-07)			
11th Plan	15627.00	5544	35.48
(2007-12)			
12 th Plan	10897.00	5479	50.28
(2012-17)			
2017-18	1305.00	795	60.92
2018-19	840.00	140	16.67
2019-20	1190.00	300	25.21
2020-21	606.00	510	84.16
2021-22	493.00	393	79.72
2022-23	1080	120	11.11

CHAPTER - 2.1

Year/Plan wise Hydro Capacity Addition in the Country

S.No.	Year	Target (Original)	Capacity Addition (MW)	% Achieved	Remarks
1st Five Year Plan (1.1.51 to 31.12.55)					
1	1951		15.89		
2	1952		140.00		
3	1953		16.00		
4	1954		62.17		
5	1955		146.13		
	Total :		<u>380.19</u>		
2nd Five Year Plan (1.1.56 to 31.03.61)					
6	1956		121.96		
7	1957-58		152.48		
8	1958-59		147.52		
9	1959-60		168.71		
10	1960-61		386.51		
	Total :		<u>977.18</u>		
3rd Five Year Plan (1.4.61 to 31.03.66)					
11	1961-62		502.44		
12	1962-63		517.25		
13	1963-64		230.67		
14	1964-65		221.71		
15	1965-66		735.01		
	Total :		<u>2207.08</u>		
Annual Plans (1966-67, 67-68, 68-69)					
16	1966-67		633.48		
17	1967-68		729.70		
18	1968-69		419.99		
4th Five Year Plan (1.4.69 to 31.03.74)					
19	1969-70		227.79		
20	1970-71		248.53		
21	1971-72		228.38		
22	1972-73		173.80		
23	1973-74		179.89		
	Total :	3518	<u>1058.39</u>	30.08	
5th Five Year Plan (1.4.74 to 31.03.79)					
24	1974-75		563.94		
25	1975-76		934.36		
26	1976-77		561.30		
27	1977-78		995.32		
28	1978-79		812.85		
	Total :	4654	<u>3867.77</u>	81.11	
Annual Plan (1979-80)					
29	1979-80	548	550.90	100.18	
6th Five Year Plan (1.4.80 to 31.03.85)					
30	1980-81		407.25		
31	1981-82		381.59		
32	1982-83		883.05		
33	1983-84		799.70		
34	1984-85		604.46		
	Total :	4768	<u>3076.05</u>	64.51	

S.No.	Year	Target (Original)	Capacity Addition (MW)	% Achieved	Remarks
7th Five Year Plan (1.4.85 to 31.03.90)					
35	1985-86		1012.00		
36	1986-87		704.525		
37	1987-88		1069.285		
38	1988-89		532.70		
39	1989-90		<u>509.90</u>		
	Total :	5541.25	<u>3828.41</u>	69.09	
Annual Plans (1990-91, 91-92)					
40	1990-91	1006.5	445.50	44.26	
41	1991-92	754.3	436.00	57.8	
8th Five Year Plan (1.4.92 to 31.03.97)					
42	1992-93	372.95	372.95		
43	1993-94	957.65	797.15		
44	1994-95	1192.55	450.00		
45	1995-96	1846	147.05		
46	1996-97	4913	<u>660.50</u>		
	Total :	9282.15	<u>2427.65</u>	26.15	
9th Five Year Plan (1.4.97 to 31.03.2002)					
47	1997-98	233	233.00		
48	1998-99	312	542.50		
49	1999-2000	1543	1371.50		
50	2000-01	2223	1285.00		
51	2001-02	5506.7	<u>1106.25</u>		
	Total :	9817.7	<u>4538.25</u>	46.22	
10th Five Year Plan (1.4.02 to 31.03.07)					
52	2002-03	585	635.00		
53	2003-04	3740	2590.00		Highest till date.
54	2004-05	2401	1015.00		
55	2005-06	2010	1340.00		
56	2006-07	5657	2306.00		3rd Highest
	Total :	14393	7886.00	54.79	
11th Five Year Plan (1.4.07 to 31.03.12)					
57	2007-08	2423	2423		2nd Highest.
58	2008-09	1097	969		
59	2009-10	1805	39		
60	2010-11	1741	690		
61	2011-12	8561	1423		
	Total :	15627	5544.00	35.48	
12th Five Year Plan (1.4.12 to 31.03.17)					
62	2012-13	802 ★	510		
63	2013-14	1198 ★	1058		
64	2014-15	842 ★	736		
65	2015-16	1691 ★	1516		
66	2016-17	1714 ★	1659		4th Highest
	Total :	10897	5479	50.23	
67	2017-18	1305 ★	795	60.92	
68	2018-19	840 ★	140	16.67	
69	2019-20	1190 ★	300	25.21	
70	2020-21	606 ★	510	84.16	
71	2021-22	493 ★	393	79.72	
72	2022-23	1080 ★	120	11.11	

★ Targets set at the beginning of the year.

Chapter- 2.1b

Hydro Capacity Addition during the Year 2013-14

Sl. No.	Particular	Unit Nos.	Capacity (MW)		Commissioning		Remarks/Critical Issue
			Target	Actual	As Programmed	Actual (A)/ Anticipated	
A. Central Sector							
1	Teesta Low Dam-III NHPC, WB. 4x33= 132 MW	Unit # 4	33	33	April-13	01.04.2013(A)	Commissioned
2	Uri-II NHPC, J&K 4x60= 240 MW	Unit # 1 Unit # 2 Unit # 3 Unit # 4	60 60 60 60	60 60 60 60	May-13 June- 13 July- 13 July- 13	25.09.2013 (A) 16.11.2013 (A) 27.09.2013 (A) 02.02.2014 (A)	Commissioned
3	Parbati-III NHPC, HP 4x130= 520 MW	Unit # 1 Unit # 2 Unit # 3	130 130 130	130 130 130	June-13 July -13 Feb- 14	18.02.2014 (A) 27.02.2014 (A) 15.03.2014 (A)	Commissioned
4	Nimoo Bazgo NHPC, J&K 3x15 =45 MW	Unit # 1 Unit # 2 Unit # 3	15 15 15	15 15 15	Dec- 13 Nov -13 Nov-13	02.11.2013 (A) 31.10.2013 (A) 30.10.2013 (A)	Commissioned
5	Rampur SJVN Limited, HP. 6x68.67 = 412 MW	Unit # 1 Unit # 2 Unit # 5	68.67 68.67 68.67	68.67 68.67 68.67	Jan- 14 Feb- 14 Mar- 14	23.03.2014 (A) 21.03.2014 (A) 29.03.2014 (A)	Commissioned
	Sub- total (A):		914	914			
B. State Sector							
6.	Lower Jurala APGENCO, A.P. (6x40=240 MW)	Unit # 1	40	-	Dec-13	Slipped	-Unit was synchronized at part load on 29.12.13, but full load commissioning could not be achieved due to non-availability of sufficient water.
7	Bhawani Kattalai -II TANGEDCO, T.N Tamil Nadu, 2x15 = 30 MW	Unit # 1 Unit # 2	15 15	15 15	July -13 Aug- 13	27.08.2013 (A) 06.09.2013 (A)	Commissioned
8	Bhawani Kattalai -III TANGEDCO, T.N Tamil Nadu, 2x15 = 30 MW	Unit # 2	15	15	June -13	25.09.2013 (A)	Commissioned
	Sub- total (B):		85	45			
C. Private Sector							
9	Sorang Himachal Sorang Power Pvt. Ltd, H P. 2x50=100 MW	Unit # 1 Unit # 2	50 50	- -	Nov-11 Dec-11	Slipped	- Commissioning delayed, cracks developed in penstock during filling of water conductor system in 1 st week of Nov-2013.
10	Chuzachen Gati Infra. Limited, Sikkim 2x49.5= 99 MW	Unit # 1 Unit # 2	49.5 49.5	49.5 49.5	June -13 July -13	21.04.2013(A) 20.04.2013(A)	Commissioned
	Sub- total (C):		199	99			
	Total (A+B+C)		1198	1058			

Out side RFD achievements: Unit # 2 (40 MW) of Lower Jurala HEP was synchronized at part load on 10.01.2014, but full load commissioning could not be achieved due to non-availability of sufficient water.

Chapter- 2.1c

Hydro Capacity Addition during the Year 2014-15

Sl. No.	Particular	Unit Nos.	Capacity (MW)		Commissioning		Remarks/Critical Issue
			Target	Actual	As Programmed	Actual (A)/ Anticipated	
A. Central Sector							
1	Parbati-III NHPC, HP 4x130= 520 MW	Unit # 4	130	130	Aug- 14	22.05.2014 (A)	Commissioned
2	Rampur SJVN Limited, HP. 6x68.67 = 412 MW	Unit # 3 Unit # 4 Unit # 6	68.67 68.67 68.67	68.67 68.67 68.67	Jun 14 May 14 Apr 14	31.07.2014(A) 12.06.2014(A) 04.12.2014(A)	Commissioned
Out side the Programme							
3	Koldam NTPC, H.P. 4x200 = 800 MW	Unit # 1 Unit # 2	200 200	200 200	Mar-15 Mar-15	31.03.2015 (A) 30.03.2015 (A)	Commissioned
	Sub- total (A):		736	736			
B. State Sector							
4	Lower Jurala TSGENCO, Telangana 6x40= 240 MW	Unit # 1 Unit # 2 Unit # 3 Unit # 4	40 40 40 40	0 0 0 0	Jul.-14 Jul.-14 Oct.-14 Mar.-15	Slipped	- Slipped due to flooding of Power House on 30.07.2014 during synchronization process for Unit # 1 to Unit# 3.
5	Nagarjuna Sagar APGENCO, A.P. 2x25= 50 MW	Unit # 1 Unit # 2	25 25	0 0	Sep-14 Dec-14	Slipped	- Commissioning delayed due to non-availability of water.
	Sub- total (B):		210	0			
C. Private Sector							
6	Jorethang Loop DANS Pvt. Ltd., Sikkim 2x48= 96 MW	Unit # 1 Unit # 2	48 48	0 0	Feb-15 Mar-15	Slipped	- Slipped due to non-completion of HRT.
7	Teesta-III Teesta Urja, Sikkim 6x200= 1200 MW	Unit # 6	200	0	Mar-15	Slipped	- Slipped due to Financial crunch with the Developer.
	Sub- total (C):		296	0			
	Total (A+B+C)		842	736			

Out side RFD achievements:

Unit #1 & # 2 (400 MW) of Kol Dam HEP commissioned during March, 2015.

Chapter- 2.1d

Hydro Capacity Addition during the Year 2015-16

Sl. No.	Particular	Unit Nos.	Capacity (MW)		Commissioning		Remarks/Critical Issue
			Target	Actual	As Programmed	Actual (A)/ Anticipated	
A.	Central Sector						
1	Koldam NTPC, HP 4x200= 800 MW	Unit # 3 Unit # 4	200 200	200 200	4/15 5/15	10.04.2015(A) 12.06.2015(A)	Commissioned
2	Teesta Low Dam–IV NHPC, W.B 4x40 = 160 MW	Unit # 1 Unit # 2	40 40	40 40	2/16 3/16	14.02.2016 16.03.2016	Commissioned
3	Pare NEEPCO, Ar. Pradesh 2x55=110 MW	Unit # 1 Unit # 2	55 55		8/12 8/12	Slipped Slipped	Slipped due to inundation of dam area with flood water after overtopping of Coffey Dam in June'15 and many times thereafter. Slow progress of works in Dam concreting.
	Sub- total (A):		590	480			Achieved:-480 MW
B.	State Sector						
4	Baglihar - II JKPDC, J&K 3x150= 450 MW	Unit # 1 Unit # 2 Unit # 3	150 150 150	150 150 150	9/15 9/15 2016-17	05.09.2015(A) 29.09.2015(A) 26.10.2015(A)	Commissioned
5	Kashang – I HPPCL, H.P. 1x65=65 MW	Unit # 1	65		3/16	Slipped	Slow progress of E&M works.
6	Lower Jurala TSGENCO, Telangana 6x40= 240 MW	Unit # 1 Unit # 2 Unit # 3 Unit # 4	40 40 40 40	40 40 40 40	7/15 8/15 9/15 10/15	14.10.2015(A) 30.09.2015(A) 04.01.2016(A) 05.03.2016(A)	Commissioned
7	Nagarjuna Sagar TR APGENCO, AP 2x25=50 MW	Unit # 1 Unit # 2	25 25		7/15 7/15	Slipped Slipped	Unit 1 & 2 could not be commissioned due to non-availability of rated discharge.
	Sub- total (B):		575	610			Achieved:-610 MW
C.	Private Sector						
8	Sorang HSPCL, H.P. 2x50 = 100 MW	Unit # 1 Unit # 2	50 50		11/11 12/11	Slipped Slipped	Unit # 1 synchronized , but could not be commissioned due to non-availability of rated discharge. Penstock ruptured on 18.11.2015.
9	Srinagar AHPCL, Uttarakhand 4x82.5=330	Unit # 1 Unit # 2 Unit # 3 Unit # 4	82.5 82.5 82.5 82.5	82.5 82.5 82.5 82.5	4/15 4/15 5/15 6/15	10.04.2015(A) 08.06.2015(A) 20.04.2015(A) 03.06.2015(A)	Commissioned
10	Jorethang Loop DANS Pvt. Ltd., Sikkim 2x48= 96 MW	Unit # 1 Unit # 2	48 48	48 48	9/15 10/15	22.09.2015(A) 23.09.2015(A)	Commissioned
	Sub- total (C):		526	426			Achieved:-426 MW
	Total (A+B+C)		1691	1516			Achieved:-1516 MW
	Note: 1516 MW out of 1691 MW is Commissioned during 2015-16.						

Out side RFD achievements:

Unit #3 (150 MW) of Baglihar-II HEP commissioned ahead of Programme during Oct-2015.

Chapter- 2.1e

Hydro Capacity Addition during the Year 2016-17

Sl. No.	Particular	Unit Nos.	Capacity (MW)		Commissioning		Remarks/ Critical Issue
			Target	Actual	As Programmed	Actual(A)/ Anticipated	
A.	Central Sector						
1	Teesta Low Dam IV NHPC, West Bengal 4x40 = 160 MW	Unit # 3 Unit # 4	40 40	40 40	Jun.16 Sep.16	03.07.2016(A) 11.08.2016(A)	Commissioned
2	Pare NEEPCO, Ar. Pradesh 2x55=110 MW	Unit # 1 Unit # 2	55 55	- -	Aug.12 Aug.12	Slipped Slipped	Slow progress in Dam concreting and erection of spillway gates.
3	Kameng NEEPCO, Ar. Pradesh 4x150= 600 MW	Unit # 1 Unit # 2	150 150	- -	Dec.'09 Dec.'09	Slipped Slipped	Slow progress in Dam & HM works.
	Sub- total (C.S.):		490	80			
B.	State Sector						
1	Sainj HPPCL, H.P 2x50= 100 MW.	Unit # 1 Unit # 2	50 50	- -	Dec.16 Jan.17	Slipped Slipped	Slow progress of concreting barrage, pressure shaft & power house.
2	Kashang – I HPPCL, H.P. 1x65=65 MW	Unit # 1	65	65	May 16	10.10.2016(A)	Commissioned
3	Lower Jurala TSGENCO, Telangana 6x40= 240 MW	Unit # 5 Unit # 6	40 40	40 40	Sept.16 Nov.16	20.08.2016(A) 29.09.2016(A)	Commissioned
4	Pulichintala TSGENCO,Telangana 4x30=120 MW	Unit # 1 Unit # 2	30 30	30 -	Aug.16 Dec16	25.09.2016(A) Slipped	Commissioned Due to non-availability of water in the Dam.
5	New Umtru MePGCL,Meghalaya 2x20=40 MW	Unit # 1 Unit # 2	20 20	- -	Nov.16 Dec.16	Slipped Slipped	Slow progress of works.
6	Teesta-III Teesta Urja Ltd. Sikkim 6x200= 1200 MW	Unit #1 Unit # 2 Unit # 3	200 200 200	200 200 200	Dec.16 Jan.17 Feb.17	15.01.2017(A) 27.01.2017(A) 14.01.2017(A)	Commissioned
7	Nagarjuna Sagar TR APGENCO, Telangana 2x25= 50 MW	Unit #1 Unit #2	25 25	25 25	Aug.16 Aug.16	05.01.2017(A) 28.01.2017(A)	Commissioned
	Sub- total (B):		995	825			
C.	Private Sector						
1	Chanju-I IA Energy ; H.P. 3x12= 36 MW	Unit # 1 Unit # 2 Unit # 3	12 12 12	12 12 -	July 16 Sept.16 Dec.16	17.02.2017(A) 01.02.2017(A) Slipped	Commissioned Commissioned Slow progress of E&M works.
2	Dikchu Sneha Kinetic Power Projects (P).Ltd., Sikkim 2x48= 96 MW	Unit # 1 Unit # 2	48 48	- -	July.16 Sept.16	Slipped Slipped	Slow progress of HM & EM works.
3	Tashiding Shiga Energy Pvt. Ltd. Sikkim 2x48.5= 97 MW	Unit # 1 Unit # 2	48.5 48.5	- -	Jan.17 Feb.17	Slipped Slipped	Non completion of power evacuation system.
	Sub- total (P.S.):		229	24			

Chapter- 2.1e

	Total C.S.+S.S.+P.S.)		1714	929			
		Out Side Programme					
1	Kashang-II & III HPPCL , HP 1x65+1x65= 130MW	Unit # 1 Unit # 2	65 65	65 65	NA NA	02.01.2017(A) 22.08.2016(A)	Commissioned
2.	Teesta-III Teesta Urja Ltd. Sikkim 6x200=1200 MW.	Unit #4 Unit # 5 Unit # 6	200 200 200	200 200 200	Outside Programme	16.02.2017(A) 24.01.2017(A) 28.01.2017(A)	Commissioned
		Total Outside Programme :		730			
		Grand Total (31.03.2017)		1659			

Chapter- 2.1f

Hydro Capacity Addition during the Year 2017-18

Sl. No.	Particular	Unit Nos.	Capacity (MW)		Commissioning		Remarks / Critical Issues
			Actual	Target	As Programmed	Actual (A)/ Anticipated	
A.	Central Sector						
1	Tuirial NEEPCO, Mizoram 2x30 = 60 MW	Unit # 1 Unit # 2	30 30	30 30	Jun '17 Sep '17	25.08.2017(A) 28.11.2017(A)	Commissioned
2	Kishanganga NHPC, J&K 3x110 = 330 MW	Unit #1 Unit # 2 Unit # 3	110 110 110	110 110 110	Jan '18 Feb '18 Mar '18	13.03.2018(A) 21.03.2018(A) 30.03.2018(A)	Commissioned
3	Pare NEEPCO, Arunachal Pradesh 2x55=110 MW	Unit # 1 Unit # 2	55 55	55 55	May'18 May'18	Slipped Slipped	Seepage from diversion tunnel during impounding of reservoir.
4	Kameng NEEPCO, Arunachal Pradesh 4x150=600 MW	Unit # 1 Unit # 2	150 150	-	Mar. '18 Mar. '18	Slipped Slipped	Leaking observed in Penstock during water filling
	Sub- total (A):		800	390	Total Commissioned in Central Sector : 390 MW		
B.	State Sector						
1	Sainj HPPCL, H.P. 2x50= 100 MW	Unit # 1 Unit # 2	50 50	50 50	May.17 Jun.17	04.09.2017(A) 04.09.2017(A)	Commissioned
2	Uhl - III BVPCL, H.P. 3x33.33=100 MW	Unit #1 Unit # 2 Unit # 3	33.33 33.33 33.33	-	Jan.'18 Feb.'18 Mar.'18	Slipped Slipped Slipped	Delay in completion of HRT lining due to heavy ingress of water in HRT.
3	Pulichintala TSGENCO,Telangana 4x30=120 MW	Unit # 2 Unit # 3	30 30	30 30	Aug.17 Oct.17	26.10.2017(A) 01.11.2017(A)	Commissioned
4	New Umtru MePGCL, Meghalaya 2x20=40 MW	Unit # 1 Unit # 2	20 20	20 20	Apr.17 Jul.17	22.04.2017 (A) 30.06.2017 (A)	Commissioned
	Sub- total (B):		300	200	Total Commissioned in State Sector :200 MW		
C.	Private Sector						
1	Chanju-I IA Energy, H.P. 3x12 = 36 MW	Unit # 3	12	12	May.17	26.07.2017 (A)	Commissioned
2	Dikchu Sneha Kinetic Power Projects Pvt. Ltd., Sikkim, 2x48MW= 96	Unit # 1 Unit # 2	48 48	48 48	Apr.17 May.17	11.04.2017 (A) 12.04.2017 (A)	Commissioned
3	Tashiding Shiga Energy Pvt. Ltd. Sikkim 2x48.5= 97 MW	Unit # 1 Unit # 2	48.5 48.5	48.5 48.5	Jul.17 Aug.17	06.11.2017 (A) 06.11.2017(A)	Commissioned
	Sub- total (C):		205	205	Total Commissioned in Private Sector : 205 MW		
	Total (A+B+C)		1305	795	Total Commissioned during 2017-18 : 795 MW.		

Chapter- 2.1g

Hydro Capacity Addition during the Year 2018-19

Sl. No.	Particular	Unit Nos.	Capacity (MW)		Commissioning		Remarks / Critical Issues
			Target	Actual	As Programmed	Actual (A)/ Anticipated	
A.	Central Sector						
1	Pare NEEPCO, Arunachal Pradesh 2x55=110 MW	Unit # 1 Unit # 2	55 55	55 55	May'18 May'18	28.05.2018 21.05.2018	Commissioned
2	Kameng NEEPCO, Arunachal Pradesh 4x150=600 MW	Unit # 1 Unit # 2 Unit # 3 Unit # 4	150 150 150 150		March'19 March'19 March'19 March'19	Slipped to 2019-20	Non-completion of Rectification works of leakage observed in penstock1&2 during water filling..
	Sub- total (A):		710	110	Total Commissioned in Central Sector :110 MW		
B.	State Sector						
3	Uhl - III BVPCL, H.P. 3x33.33=100 MW	Unit #1 Unit # 2 Unit # 3	33.33 33.33 33.33		Aug. 18 Aug.18 Sep.18	Slipped to 2019-20	During HST, some leakage in Penstock is observed which is being rectified.
4	Pulichintala TSGENCO, Telangana 4x30=120 MW	Unit # 4	30	30	Sep.18	08.09.2018(A)	Commissioned
	Sub- total (B):		130		30		
	Total (A+B)		840		140	Total Comm. 140 MW	

Chapter-2.1h

Hydro Capacity Addition during the Year 2019-20

Sl. No.	Particular	Unit Nos.	Capacity (MW)		Commissioning		Remarks / Critical Issues
			Target	Actual	As Programmed	Actual (A)/ Anticipated	
A.	Central Sector						
1	Kameng NEEPCO, Arunachal Pradesh 4x150=600 MW	Unit # 1 Unit # 2 Unit # 3 Unit # 4	150 150 150 150	150 150	Aug'19 Aug'19 Aug'19 Aug'19	Feb,20 Feb,20 Slipped Slipped Slipping to (March-21)	-Seepage of water during welding affecting progress of works and causing delays. -Difficult approach and working condition. -Ventilation constrains Works effected due to heavy rains this monsoon.
	Sub- total (A):		600	300			
B.	State Sector						
2.	Uhl - III BVPCL, H.P. 3x33.33=100	Unit #1 Unit # 2 Unit # 3	33.33 33.33 33.33		Oct,19 Nov,19 Dec,19	Slipping to (Dec,22)	-Difficult approach -Delay in welding of liner in bend. - Rupture in Penstock in May,2020
3	Sawra Kuddu HPPCL, H.P. 3x37=111 MW	Unit #1 Unit # 2 Unit # 3	37 37 37		Sep,19 Oct,19 Nov,19	Slipping to (March,21)	- Delay in completion of HRT works & associated transmission line. - During filling of water conductor system in May,20, leakage is observed in adit to HRT
	Sub- total (B):		211				
C.	Private Sector						
4.	Bajoli Holi GMR,H.P. 3x60=180 MW	Unit #1 Unit # 2 Unit # 3	60 60 60		Jan.,20 Feb.,20 Mar.,20	Slipping to (Dec,21)	-Works affected due to heavy rainfall in August,19 and inclement weather from early Dec,19. to end of Jan,20 -Poor financial health of civil contractor.
5.	Singoli Bhatwari L&T, Uttarakhand 2x33=99 MW	Unit #1 Unit # 2 Unit # 3	33 33 33		Mar.,20 Mar.,20 Mar.,20	Slipping to (Dec,20)	-Commissioned
6.	Sorang HSPCL Uttarakhand 2x50=100 MW	Unit #1 Unit # 2	50 50		Nov,19 Dec.,19	Slipping to Dec,21	- Poor planning of re-erection of penstock works - Weather constraints.
	Sub- total (C):		379				
	Total (A+B+C)		1190	300			

Hydro Capacity Addition during the Year 2020-21

Sl. No.	Particular	Unit Nos.	Capacity (MW)		Commissioning		Remarks / Critical Issues
			Target	Actual	As Programmed	Actual (A)/ Anticipated	
A.	Central Sector						
1	Kameng NEEPCO, Arunachal Pradesh 4x150=600 MW	Unit # 3 Unit # 4	150 150	300	March,21 March,21	21.01.2021 11.02.2021	Commissioned Commissioned
	Sub- total (A):		300	300			
B.	State Sector						
2	Sawra Kuddu HPPCL, H.P. 3x37=111 MW	Unit #1 Unit # 2 Unit # 3	37 37 37	111	(March,21) (March,21) (March,21)	12.11.2020 05.12.2020 16.12.2020	Commissioned Commissioned Commissioned
	Sub- total (B):		111	111			
C.	Private Sector						
3.	Singoli Bhatwari L&T, Uttarakhand 2x33=99 MW	Unit #1 Unit # 2 Unit # 3	33 33 33	99	March.,20 March.,20 March.,20	19.11.2020 18.12.2020 25.12.2020	Commissioned Commissioned Commissioned
4.	Rongnichu 2x48= 96 MW* Madhya Bharat Power Corpn., Sikkim	Unit #1 Unit # 2	48 48	--	March,21 March,21	*To be commissioned in FY 2021-22 with 17 MW enhanced capacity	
	Sub- total (C):		195				
	Total (A+B+C)		606	510			

Note: 510 MW capacity addition has been achieved in FY 2020-21 out of programmed capacity of total 606 MW

Chapter -2.1 j

Hydro Capacity addition Programme for 2021-22

Sl. No.	Particular	Unit Nos.	Capacity (MW)		Capacity Addition		Remarks/Critical Issues
			Target	Actual	As Programmed	Actual/ Anticipated	
A.	State Sector						
1	Pallivasal KSEB, Kerala 2x30=60 MW	Unit #1 Unit # 2	30 30		December'21 December'21	2022-23 2022-23	Slipped to 2022-23
2	Thottiyar KSEB, Kerala 1x30+1x10=40MW	Unit #1 Unit # 2	10 30		December'21 December'21	2022-23 2022-23	Slipped to 2022-23
	Sub- total (A):		100 MW				
B.	Private Sector						
3	Sorang HSPCL, H.P. 2x50=100 MW	Unit #1 Unit # 2	50 50	100	June'21 June'21	23.09.2021 21.09.2021	Commissioned Commissioned
4	Bajoli Holi GMRBHHPL, H.P. 3x60=180 MW	Unit #1 Unit # 2 Unit # 3	60 60 60	60 60 60	June'21 June'21 June'21	25.03.2022 27.03.2022 28.03.2022	Commissioned Commissioned Commissioned
5	Rongnichu MBPCL, Sikkim 2x56.5=113 MW	Unit #1 Unit # 2	56.5 56.5	113	May'21 May'21	25.06.2021 30.06.2021	Commissioned Commissioned
	Sub- total (B):		393 MW	393 MW			
	Total (A+B)		493 MW				

Chapter -2.1 K

Hydro Capacity addition Programme for 2022-23

Sl. No.	Particular	Unit Nos.	Capacity (MW)		Capacity Addition		Remarks/Critical Issues
			Target	Actual	As Programmed	Actual(A)/ Anticipated	
A	Central Sector						
1	Naitwar mori 2X30=60MW	Unit #1 Unit # 2	30 30		Dec'22 Jan'23	Mar'23 Mar'23	-
2	Subansiri Lower 8x250= 2000 MW	Unit #1 Unit #2	250 250		Jan'23 Feb'23	Slipping to 2023-24	Extended Monsoon & damage to protection wall of power house / collapse of DT-2
3	Tehri PSS 4x250= 1000 MW	Unit #1	250		Mar'23	Slipping to 2023-24	Geological constraints
	Sub total (A)		810 MW				
B	State Sector						
1	Pallivasal KSEB, Kerala 2x30=60 MW	Unit #1 Unit # 2	30 30		Mar'23 Mar'23	Slipping to 2023-24	-Extended Monsoon -Slow progress of works
2	Thottiyar KSEB, Kerala 1x30+1x10=40 MW	Unit #1 Unit # 2	10 30		Feb'23 Mar'23	Slipping to 2023-24	-Extended Monsoon -Slow progress of works
3	Vyasi 2x60=120 MW	Unit #1 Unit # 2	60 60	60 60	Apr'22 May'22	May'22 (A) April'22(A)	U#1 Commissioned on 24.05.2022 U# 2 Commissioned on 22.04.2022
	Sub- total (B):		220 MW	120 MW			
C.	Private Sector						
1	Tidong-I 2x50= 100 MW	Unit #1	50		Mar'23	Slipping to 2023-24	-Delay in clearance of transmission line -Pressure shaft misalignment issues
	Sub- total (C):		50MW				
	Total (A+B +C)		1080MW	120MW			

SUMMARY

Hydro Capacity Addition during the Period 2022-29 (As on 30.09.2022)

Sector	2022-23		2023-24		2024-25		2025-26		2026-27		2027-28		2028-29		Total	
	MW	Nos.	MW	Nos.	MW	Nos.	MW	Nos.	MW	Nos.	MW	Nos.	MW	Nos.	MW	Nos.
Central Sector	60	1	3800	3	1084	3	3370	7	540	1	0	0	171	1	9025	16
State Sector	10	1#	90	2#	1283.5	6#	640	1#	498	2	80	1	0	0	2601.5	11
Private Sector	0	0	150	1	1200	1	316	2	0	0	561	4	300	1	2527	9
Total	70	2	4040	6#	3567.5	10#	4326	10#	1038	3	641	5	471	2	14153.5	36

Note:- As on 30.09.2022, there are 36 no. of Hydro Electric Projects (above 25 MW) totaling to 14153.50 MW. Central Sector – 16 nos. (9025 MW), State Sector – 11 nos. (2601.50 MW), Private Sector – 9 nos. (2527 MW). Out of these, 27 nos. of Hydro Power Project totalling to 12917.5 MW are under active construction and 9 nos. of Hydro Power Project totaling to 1236 MW for which construction is held-up.

Thottiyar & Polavaram Hydroelectric Projects are bifurcated for benefits during more than one year.

Vyasi HEP (120 MW) has been commissioned during the month of April and May 2022

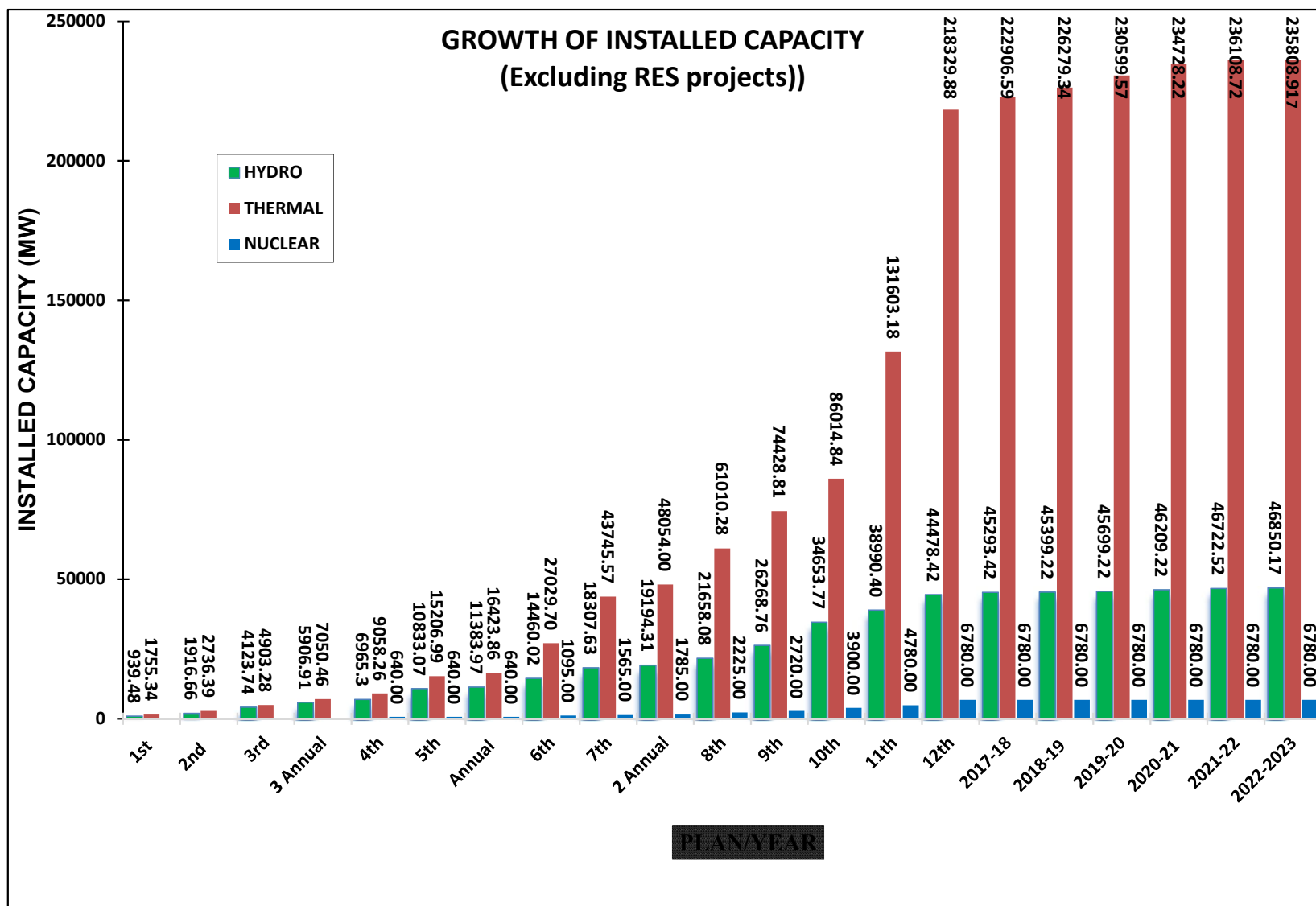
Chapter -2.2 (a)					
List of under construction Hydro projects (above 25 MW & excluding Projects under Ministry of New & Energy)					
FY: 2022-23					
Sl. No.	Name of Project	Unit No.	State/ Implem. Agency	Capacity (MW)	Remarks
	Central Sector				
1	Naitwar Mori 2x30=60 MW	U-1 to U-2	Uttarakhand/SJVNL	60	
			Sub- total (Central):	60	
	State Sector				
2	Vyasi 2x60=120 MW	U-1 to U-2	Uttarakhand/UJVNL	120	Commissioned during April & May 2022
3	Thottiyar 1x30+1x10=40 MW	U-2	Kerala/ KSEB Ltd.	10	
			Sub- total (State):	130	
Total (CS+SS)				190	

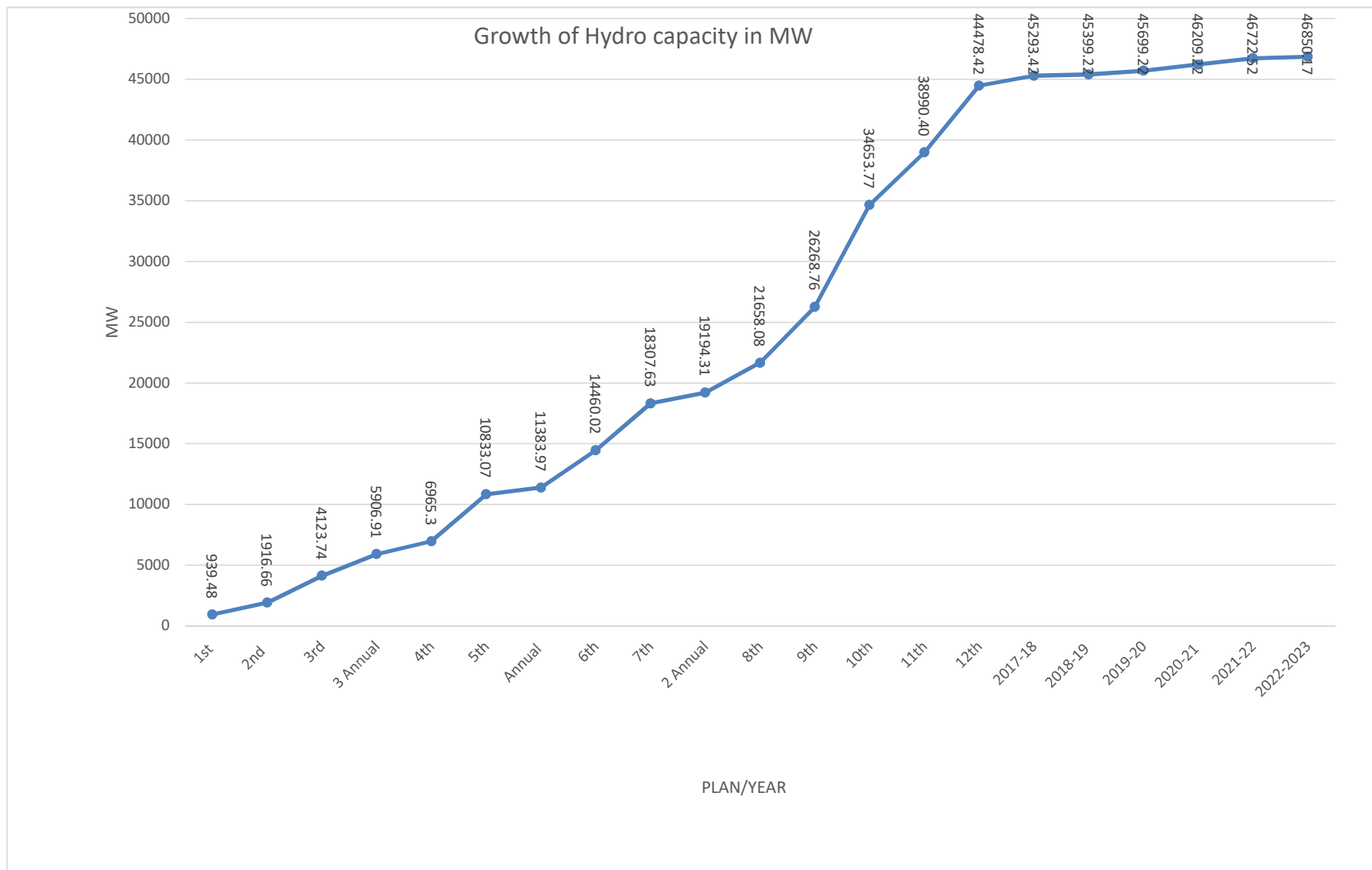
Chapter -2.2 (b)					
List of under construction Hydro projects (above 25 MW & excluding Projects under Ministry of New & Energy)					
FY: 2023-24					
Sl. No.	Name of Project	Unit No.	State/ Implem. Agency	Capacity (MW)	Remarks
	Central Sector				
1	Subansiri Lower 8x250= 2000 MW	U-1 to U-8	Arunachal Pradesh/NHPC	2000	
2	Tehri PSS 4x250= 1000 MW	U-1 to U-4	Uttarakhand/THDC	1000	
3	Parbati-II 4x200=800 MW	U-1 to U-4	Himachal Pradesh/ NHPC	800	
			Sub- total (Central):	3800	
	State Sector				
4	Pallivasal 2x30= 60 MW	U-1 to U-2	Kerala/ KSEB Ltd.	60	
5	Thottiyar 1x30+1x10= 40 MW	U-1	Kerala/ KSEB Ltd.	30	
			Sub- total (State):	90	
	Private Sector				
6	Tidong-I 3x50= 150 MW	U-1 to U-3	Himachal Pradesh/M/s Statkraft India Pvt. Ltd.	150	
			Sub- total (Private):	150	
Total (CS+SS+PS)				4040	

Chapter -2.2 (c)					
List of under construction Hydro projects (above 25 MW & excluding Projects under Ministry of New & Energy)					
FY: 2024-25					
Sl. No.	Name of Project	Unit No.	State/ Implem. Agency	Capacity (MW)	Remarks
	Central Sector				
1	Vishnugad Pipalkoti 4x111= 444 MW	U-1 to U-4	Uttarakhand/THDC	444	
2	Rangit-IV 3x40= 120 MW	U-1 to U-3	Sikkim/NHPC Ltd.	120	
3	Tapovan Vishnugad 4x130=520 MW	U-1 to U-4	Uttarakhand /NTPC	520	
			Sub- total (Central):	1084	
	State Sector				
4	Kundah Pumped Storage (Phase-I, Phase-II & Phase-III) 4x125=500 MW	U-1 to U-4	Tamil Nadu/TANGEDCO	500	
5	Polavaram 12x80= 960 MW	U-1 to U-4	Andhra Pradesh/ Polavaram Project Authority	320	
6	Lower Kopili 2x55+2x2.5+1x5=120 MW	U-1 to U-5	Assam/APGCL	120	
7	Shahpurkandi 3x33+3x33+1x8= 206 MW	U-1 to U-7	Punjab/Irr. Deptt. & PSPCL	206	
8	Parnai 3x12.5= 37.5 MW	U-1 to U-3	Jammu & Kashmir/JKSPDC	37.5	
9	Uhl-III 3x33.33=100 MW	U-1 to U-3	Himachal Pradesh/ BVPCL	100	
			Sub- total (State):	1283.5	
	Private Sector				
10	Pinapuram 4x240+2x120	U-1 to U-6	Andhra Pradesh/Greenko	1200	
			Sub- total (Private):	1200	
Total (CS+SS+PS)				3567.5	

Chapter -2.2 (d)					
List of under construction Hydro projects (above 25 MW & excluding Projects under Ministry of New & Energy)					
FY: 2025-26					
Sl. No.	Name of Project	Unit No.	State/ Implem. Agency	Capacity (MW)	Remarks
	Central Sector				
1	Kiru 4x156=624 MW	U-1 to U-4	Jammu & Kashmir/CVPPL	624	
2	Rammam - III 3x40=120 MW	U-1 to U-3	West Bengal/ NTPC Ltd.	120	
3	Luhri-I 2x80+2x25= 210MW	U-1 to U-4	Himachal Pradesh/SJVN	210	
4	Dhulasidh 2x33=66 MW	U-1 to U-2	Himachal Pradesh/SJVN	66	
5	Ratle 4x205+1x30= 850 MW	U-1 to U-5	Jammu & Kashmir/ NHPC	850	
6	Pakal Dul 4x250= 1000 MW	U-1 to U-4	Jammu & Kashmir/CVPPL	1000	
7	Teesta- VI 4x125= 500 MW	U-1 to U-4	Sikkim/NHPC	500	
			Sub- total (Central):	3370	
	State Sector				
8	Polavaram 12x80= 960 MW	U-5 to U-12	Andhra Pradesh/ Polavaram Project Authority	640	
			Sub- total (State):	640	
	Private Sector				
9	Kutehr 3x80=240 MW	U-1 to U-3	Himachal Pradesh/JSW Energy	240	
			Sub- total (Private):	240	
Total (CS+SS+PS)				4250	

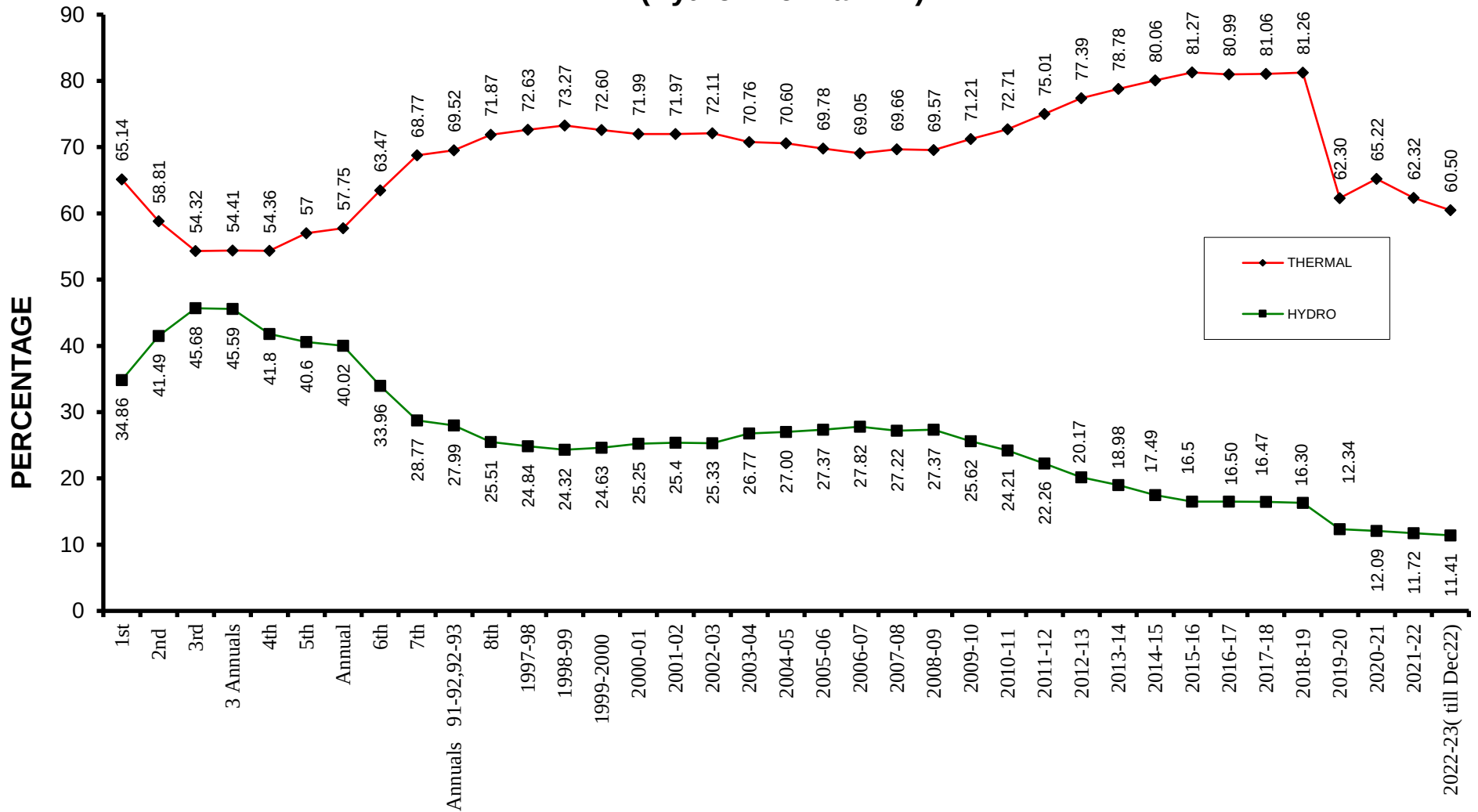
Chapter -2.2 (e)					
List of under construction Hydro projects (above 25 MW & excluding Projects under Ministry of New & Energy)					
FY: 2026-27					
Sl. No.	Name of Project	Unit No.	State/ Implem. Agency	Capacity (MW)	Remarks
	Central Sector				
2	Kwar 4x135=540 MW	U-1 to U-4	Jammu & Kashmir/CVPPL	540	
	State Sector				
2	Shongtong Karcham 3x150= 450 MW	U-1 to U-3	Himachal Pradesh/HPPCL	450	
			Sub- total (State):	450	
Total (CS+SS)				990	





CHAPTER - 4

TREND OF CAPACITY ADDITION AS % OF TOTAL (Hydro Thermal mix)



Note: Till 2018-19 the percentage of Hydro and Thermal had been calculated based on total installed capacity excluding RES and since 2019-20 the percentage Hydro /Thermal has been calculated on total installed capacity including RES

Chapter 5
Sanctioned Hydro Electric Projects for Construction
(Excluding projects under Ministry of New & Renewable Energy)

Sl. No.	Name of Scheme	State	I.C. (No. x MW)	Benefits (MW)	Date of Approval	Scheduled Commissioning
Central Sector						
1	Pakal Dul (CVPPL)	J&K	4x250	1000.00	28.10.14	2025-26
2	Parbati St. II (NHPC)	H.P.	4x200	800.00	11.09.02	2023-24
3	Tapovan Vishnugad (NTPC)	Uttarakhand	4x130	520.00	11/2006	2024-25
4	Subansiri Lower (NHPC)	Ar. Pr./Assam	8x250	2000.00	09.09.03	2023-24
5	Tehri PSS (THDC)	Uttarakhand	4x250	1000.00	18.07.06	2023-24
6	Lata Tapovan (NTPC)	Uttarakhand	3x57	171.00	17.07.12	2028-29*
7	Vishnugad Pipalkoti (THDC)	Uttarakhand	4x111	444.00	21.08.08	2024-25
8	Naitwar Mori (SJVN)	Uttarakhand	2x30	60.00	16.10.17	2022-23
9	Ramam-III (NTPC)	West Bengal	3x40	120.00	10.09.14	2025-26
10	Teesta St. VI (NHPC)	Sikkim	4x125	500.00	08.03.19	2025-26
11	Ratle (Ratle Hydro) (NHPC)	J&K	4x205+1x30	850.00	11.02.21	2025-26
12	Kiru (CVPPL)	J&K	4x156	624.00	08.03.19	2025-26
13	Rangit-IV (NHPC)	Sikkim	3x40	120.00	30.03.21	2024-25
14	Luhri -I (SJVN)	H.P.	2x80+2x25	210.00	20.11.20	2025-26
15	Dhaulasidh (SJVN)	H.P.	2x33	66.00	01.10.20	2025-26
16	Kwar (CVPPL)	J&K	4x135	540.00	11.05.22	2026-27
Sub- total (Central Sector) :				9025.00		
State Sector						
17	Parnai (JKSPDC)	J&K	3x12.5	37.50	25.10.13	2024-25
18	Lower Kalnai (JKSPDC)	J&K	2x24	48.00	16.08.13	2026-27*
19	Uhl-III (BVPCL)	H.P.	3x33.33	100.00	26.09.03	2024-25
20	Shongtom Karcham (HPPCL)	H.P.	3x150	450.00	16.08.12	2026-27
21	Shahpurkandi (PSPCL)	Punjab	3x33+3x33+1x8	206.00	04.05.11	2024-25
22	Koyna Left Bank (WRDMah)	Maharashtra	2x40	80.00	20.02.04	2027-28*
23	Indrasagar Polavaram (PPA)	Andhra Pradesh	12x80	960.00	25.02.09	2024-26
24	Pallivasal (KSEB)	Kerala	2x30	60.00	31.01.07	2023-24
25	Thottiyar (KSEB)	Kerala	1x30+1x10	40.00	05.06.08	2022-24
26	Kundah Pumped Storage-I (TANGENDCO)	Tamil Nadu	4x125	500.00	03.12.08	2024-25
27	Lower Kopli (APGCL)	Assam	2x55+2x2.5+1x5	120.00	Nov.2020	2024-25
Sub- total (State Sector) :				2601.50		
Private Sector						
28	Tidong-I (Statkraft India Pvt. Ltd.)	H.P.	3x50	150.00	23.07.07	2023-24
29	Tangnu Romai- I (Tangnu Romai Power Generatio	H.P.	2x22	44.00	30.11.07	2027-28*
30	Phata Byung (LANCO)	Uttarakhand	2x38	76.00	30.11.07	2025-26*
31	Maheshwar (SMHPCL) #	M.P.	10x40	400.00	29.09.06	2027-28*
32	Bhasmey (GATI Infrastructure)	Sikkim	2x25.5	51.00	Dec-08	2027-28*
33	Rangit-II (Sikkim Hydro Power)	Sikkim	2x33	66.00	10.02.10	2027-28*
34	Panan (Himagiri Hydro Energy)	Sikkim	4x75	300.00	07.03.11	2028-29*
35	Kutehr (JSW Energy (Kutehr)Ltd.	H.P.	3x80	240.00	31.03.10	2025-26
36	Pinnapuram (Greenko AP01 IREP Private Ltd)	A.P.	4x240+2x120	1200.00	20.04.22	2024-25
Sub- total (Private Sector) :				2527.00		
Total - Under execution (as on 31.12.2022)				14153.50		

PFC as lead lender have acquired majority equity i.e. 51% in the SMHPCL w.e.f. 1st June, 2016. Matter Sub-judice.

*Stalled Projects Commissioning subject to Re-Start of works.

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CHAPTER – 6A

Status of Under Execution Hydro Electric Projects (above 25 MW) in the Country (As on 31.12.2022)

Sl. No.	Name of Project Executing Agency Date of CEA clearance / Approval Capacity (MW) Broad Features Cost (original/latest) In Rs. Crores.	State Comm. Sch. (original/ Now Ant.	Broad Present Status / Critical Area	Remarks/ Critical issues
A	Central Sector			
1	Parbati-II NHPC 11.09.2002 4x200 = 800 MW Broad Features : Dam – 85m High, 109. m long at top, concrete gravity type HRT- 6m x 31.23km P.House- Surface 23.5mx 39.7mx 123m. Turbine- Pelton Swyd.- 13.8/400 kV Cost: <u>Original:3919.59</u> Latest: 9897.59 (04/20 PL) Contractors Civil : Gammon / Valecha HM : Om Metals E&M : BHEL	<u>H.P.</u> <u>2009-10</u> 2023-24 (Mar'24)	CIVIL WORKS Dam & Intake Structure (83.7m high and 3.7m D-shaped intake structure) - Completed. Head Race Tunnel (6m diameter, 31.545Km long) – 30.87 km (97.87%) excavation out of 31.545 km completed. Total Overt lining: 28.394 km (90.01%) lining out of 31.545 km completed Power House (23.5m x 39.7m x 123m size): Completed. Nallah Works -Completed ELECTROMECHANICAL WORKS: Unit#1 and Unit#2 synchronized with grid on 17.08.20 & 29.08.20 respectively and generation was restored. Restoration works of remaining 02 units are in progress HYDROMECHANICAL WORKS: All the major HM works completed.	Slow progress of HRT excavation due to geological constraints.

2	TapovanVishnugad NTPC 11.08.2004/Nov, 2006 4x130 = 520 MW Broad Features : Barrage-5 bays of 12m HRT- 5.4m x 11.97km P.House- underground Turbine- V.Pelton Cost: Original: 2978.48 Latest: 7700 (4th qtr 22) Agencies: - Barrage Package: M/s RPPL - HRT Package: M/s HCC - Powerhouse and Penstock Package: Ms Patel Engineering Ltd. - HM Package: Om Metals - E&M Package: BHEL - Switchyard Package: M/s GE T&D India Ltd. - GT Package: ABB Ltd.	<u>Uttarakhand</u> <u>2012-13</u> <u>2024-25</u> (Dec'24)	Barrage: Excavation Completed and Concreting almost completed. HRT& Adits: Excavation of 9.69 km(71.29%) out of 13.595 km completed. 6.98 km concrete lining out of 12.09km completed. Intake concreting completed. PH : Completed. Desilting Chamber: Concreting under progress. Gate erection completed. TRT, Pressure shaft, Surge shaft completed. E&M works: Pit liner erection on all 4 units completed. Turbine housing erection of all 4 units completed. Unit #1 & 2: Boxed up and other auxiliary mechanical work completed. Unit #3: Turbine & generator erection completed. Other Auxiliary works in progress. Unit #4: Turbine and Generator erection is in progress. Generation transformers, Bus duct, Switchyard & 400 kV cable erection completed. Muck removal (Flash flood occurred on 07 Feb 2021) from all faces almost completed except at SFT. Automatic Flood Warning System has been commenced. HRT Intake Adit Portal Approach Road restored.	-Completion of HRT./ Barrage Restoration Works
3	Tehri PSS, THDC, 18.7.06 Nov-11 (Revised CCEA) 4x250=1000 MW Broad Features : Surge Shaft: U/s – 2 nos. D/s – 2 nos Power House: U/G TRT: 2, Dia 9m and Length 1070m & 1160m Turbine: VF reversible pump turbine Cost: Original: 1657.60 Latest:4835.60 (02/2019 PL) Contractors Turnkey : Alstom, France/ HCC	<u>Uttara khand</u> <u>2010-11</u> <u>2023-24</u> (Oct'23)	Upstream (Tehri Dam) and Downstream (Koteshwar Dam), intake and Head Race Tunnels (2 Nos.) already completed alongwithTehri Stage-I works. Widening of Upstream Surge Shaft-3&4 (Depth 140m each): After completion of widening of USSS-3 & 4, Monorail installation is also complete. Widening of transition of surge shaft and HRT along with support measures has completed and work of RCC lining of transition portion is in progress. Downstream Surge Shaft-3&4 (Depth 80.9 m each): Widening of DSSS-3 & 4 has been completed. Butterfly Valve Chamber (BVC 78X10X26m): Excavation completed. Penstock Assembly Chamber (PAC 95X12X19.30 m): Excavation completed. Upper Horizontal Penstocks (UHP): Excavation of UHP-5 to 8 has been completed . Vertical Penstocks(4 Nos. each of Dia 6.1 m and 135 m depth): Widening of all Vertical Penstocks has been completed. Liner erection in Vertical Penstock-5, 6,7 & 8 is in progress . Power House (203m x 28.20m x 56m size): Excavation completed and erection of EM equipment is in progress in all 4 units. Control Room: All 9 slabs have been casted. Further, cleaning work is in progress and architectural works are being taken up. Tail Race Tunnels- 3 & 4 (2406 m): Excavation completed in both TRTs and concrete Invert & Overt lining also completed up to 2232 m and 2002 m respectively. Lining (invert 16 & overt) of all four limbs are completed. Concreting work in outlet structure is also in progress. E&M Works: Both EOT cranes have been commissioned in service bay .	

			Unit-5: Rotor has been successfully lowered on 27.12.2022. Work of Installation of upper bracket is in progress. Unit-6: After lowering of Stator, turbine erection works are in progress.. Unit-7 Concreting of Generator barrel and column up to El. 594.0 m completed. Unit-8: Reinforcement/ shuttering of Slab at EL582.0m is in progress.	
4	Lata Tapovan, NTPC Aug-2012 3x57= 171 MW Broad Features : Barrage–14 bays of 11m each HRT- 7.51 Km, 4.7m dia P.House- underground Turbine- V.Francis Cost: Original: 1527.00 Latest: 1801.07 Contractors Civil & HM : L&T E&M : BHEL	<u>Uttara khand</u> <u>2017-18</u> 2028-29 (Subject to re-start of works)	Infrastructure works are almost completed. Main works to re-start after clearances from Hon'ble Supreme Court. EPC contract for Civil & HM works awarded to M/s L&T on 17-08-2012. E&M package awarded to M/s BHEL on 07.12.12. MoWR vide letter dated 24.01.2019 to MoEF has communicated that only 7 out of 51 Hydro Projects which are under various stages of construction in Uttarakhand has been recommended for implementation. LataTapovan project is not included in the 7 recommended projects. ➤ Barrage (29 m high)-Not started yet. ➤ Desilting chamber (135 m L x 33m W x 17.5 m H)--Not started yet. ➤ HRT (4.7 m diameter, 7.51 km long)-Not started yet. ➤ Surge Shaft (7 m diameter 144.8 m height)-Not started yet. ➤ Pressure Shaft (3no. 2.0 m diameter 297 m long)-Not started yet. ➤ Power House (85mx 17mx 40.5m)-Not started yet. On 08.07.2020, Director /Conservator forest NDNP, submitted report to Chief Conservator forest Dehradun for LTHEPP mentioning that as per revised notification, project is out of ESZ boundaries.	Construction work stopped vide Hon'ble Supreme Court order dated 7.5.14. Clearance from Hon'ble Supreme Court for resumption of works.
5	Vishnugad Pipakoti THDC 21.08. 2008 4x111= 444 MW Broad Features : Dam – 65m High, 89.3m long, concrete gravity HRT- 13.4 Km, 8.8m dia Horse shoe shape P. House-Underground 127mx 20.3mx 50m Turbine- Francis SWYD- 13.8/420 kV Cost:Original: 2491.58 Latest:3860.35 (02/2019 PL) Contractors Civil &HM : HCC E&M : BHEL	<u>Uttara khand</u> <u>2013-14</u> 2024-25 (Mar'25)	River diverted on 02.04.2018. Concreting of U/S coffer dam has been completed. TBM has been commissioned on 24.11.19. Desilting Chambers:-Heading of all 3 De-silting Chambers has been completed and benching 84.5% completed. Lining work in all three DC's is also in progress and around 40% lining work has been completed. HRT :Heading excavation of 1302 m out of 1400m by DBM has been completed. At TBM front, construction of Adit through DBM is in progress. Power House: In Machine Hall, crown excavation has been completed and strengthening of geologically weak section with steel rib supports is in progress.In Transformer Hall; heading completed in entire length of 140 m. Benching work with rock bolts at about EL 1047m is in progress. TRT :- 42.2 % heading excavation has been completed and balance is in progress. At TRT outlet area, 95% slope stabilization work has been completed	
6	Subansiri Lower NHPC 09.09.2003 8x250= 2000 MW (1000 MW in 12th Plan) Broad Features :	Arunachal <u>Pradesh</u> Assam <u>2009-11</u> 2023-24	➤ Dam (116m high and 284m long):- Dam concreting 18.01 lac Cum (87.55%) out of 20.56 lac Cum & Intake concreting 276664 cum (99%) out of 279454 cum completed.	

	Dam –116m High, concrete gravity HRT- 8 x 9.5m x 1145m Power House- Surface Turbine- Francis SWYD- 16/400 kV Cost: <u>Original: 6285.33</u> Latest:19992.43 (04/17 PL) Contractors Civil : BGS-SGS-Soma JV HM : Texmaco E&M : Alstom	(Mar'24)	➤ HRT (Total length-7102 m, 9.5m diameter):-100% heading excavation, 100% benching excavation, 96.75 % concrete overt lining and 69.84 % Invert lining completed. ➤ Surge Tunnel (8 nos., 9.5 M dia, Horse Shoe):-Heading excavation 95.01% & benching excavation 74.95% completed. ➤ Pressure Shaft (8 nos. 9.5/8/7 dia.): PS liner 63.26% completed. ➤ Power House (285m x 61m x 64m size):- Cumulative Power house concrete qty. achieved 343287 cum out of 512000 cum (67.05% achieved so far). ➤ E&M Works are in progress. ➤ HM Works: Erection of Diversion Tunnel Gates: Erected. Radial Gate: 23.53% work completed.	
7	Teesta-VI NHPC 08.3.2019 4x125= 500 MW Broad Features: Barrage: 26.5m high HRT- 2nos,27.52km long Pressure shaft: 4nos. 5.4m dia. 151m to 198m length, TRT: 4nos 247m each length, 7.5x7.0m D-shapped. PH- Under ground Turbine- Francis Cost: <u>Original: 3283.08</u> Latest : 5748.04 (07/2018 PL) Contractors Civil : JAL & Gammon E&M : Alstom	<u>Sikkim</u> <u>2012-13</u> 2025-26 (July'25)	(A) Civil works: Barrage (31.5 high and 105 m long)- Excavation (7.80) lac cum (79%) out of 9.83 lac cum completed. Concreting (1.56) lac cum (62%) out of 2.51 lac cum completed HRT (9.8m diameter) - Heading excavation of approx. (11.90) km (43%) executed out of total 27.51 km, benching excavation of approx.3.08 km (11%) , Overt Lining of approx. (1.78) km (6.0%), Invert lining of approx. (0.75) km (3%) has been completed. Desilting Basin - Surface Excavation of approx. 2.53 lac cum (74%) executed out of 3.42 lac cum, concreting of 0.64 lac cum (25 %) executed out of 2.5 lac cum. Surge Shaft (2 nos., 16 M dia, 89.3 M height): Excavation 67 % & concreting 59% completed. Pressure Shaft (2 nos. steel lined 5.4 internal dia.): Excavation 100 % & Backfill concrete 39% completed. Power House (142m x 18.5m x 52.44m size): Excavation 100 %, cumulative concrete qty achieved 45236 cum out of 52289 cum (87%). Downstream Surge Chamber: Excavation of Adit has been completed; however concrete lining is still to be taken up. Tail Race Tunnel: Excavation of all four tail race tunnel (TRT-I, TRT-II, TRT-III & TRT-IV) have been completed. The concrete lining of all four TRT's are almost completed. (B) HM works are in progress. (C) E & M works are in progress.	The progresses of works have been hampered on account of 1st, 2nd & 3rd wave of Covid-19 and have been subjected to series of lockdowns and restrictions imposed by Central/ State Govt.

8	Rammam-III NTPC Hydro Ltd. 10.09.14 3x40 = 120 MW Broad Features : Run of the River Scheme Cost :Original: 1381.84 Latest : 1592.34 Contractors - Barrage and Part HRT Package: M/s Simplex Infrastructures Ltd & M/s Apex-Encon Project Pvt Ltd (JV))- - Power-House and Part HRT Package: M/s SEW Infra Ltd. – - EM Package: M/S BHEL-	West Bengal <u>2019-20</u> <u>2025-26</u> (July'25)	Barrage (27m height and 122.5 m length): - River diversion completed. Excavation of 125521 cum (79%) (out of 1,59,000 cum) and concreting of 37257 cum(30%) (out of 1, 22,750 cum) have been completed. De-silting chamber (U/G, 2 nos. each of 140 m length x 7.5 m width x 12.55 m depth):- Excavation of both De-silting chamber completed, DC-1 lining completed DC-2 lining under progress. SFT excavation: - Out of 360m of SFT, 75m (21%) has been completed. HRT (3.5 m diameter, 8.2 km long): - As of now, 2312 m (28%) HRT have been excavated. Adit-2 excavation: 523m/800m (65%) have been done. Adit-1 completed. Intake tunnel, Branch tunnel and Adit-1 to GOC –DC: - excavation completed. Concreting is in progress. Surge Shaft (14.50 m diameter 53.75 m height): - Surge Shaft well excavation is completed. Pressure Shaft/Penstock (1591m long): – Vertical pressure shaft excavation of 74m completed. Horizontal Pressure shaft 260m (54%) out of 484m is completed. Powerhouse (73.50m x 22.40 m x 41.60 m): - Out of 1,56,099 cum of excavation, 1,48,399 cum (95%) has been excavated. Concreting also started. Switchyard: -Civil works completed & handed over to EM agency. EM works under progress. TRC (657m): - Excavation & Concreting completed.	Signing of PPA/ATS: - Clearance for signing of PPA by West Bengal Govt. awaited. Power Evacuation Line: Power Evacuation line/ ATS also not getting finalized due to pending decision for PPA. - Support required from Govt. of WB for shifting of homesteads in PH to Surge Shaft Road.
9	Naitwar Mori SJVN Limited 16.10.2017 2x30=60 MW Broad Features : Barrage: 30.5m height HRT: 5.6m horse shoe, 4330m long Pressure shaft: 4m dia, 109m long Surge shaft: 18m dia, 51.65m height Cost : Original: 648.33 (10/2016 PL) Latest Generation component: 1272.29 Transmission: 120.44 (estimated completion cost under approval) Contractors Civil : JP Associates HM : GMW E&M : Voith	<u>Uttara khand</u> <u>2021-22</u> <u>2022-23</u> (March'23)	➤ Barrage (30.5m high above deepest foundation, Length at top 48.9m):- Barrage excavation completed. Concreting:40203 cum (89%) out of 44950 cum completed. Desilting tank excavation & concreting completed.. ➤ HRT- (5.6m modified Horse Shoe Shape, 4329 m long):- Excavation of HRT completed, Overt Lining:4276 m (99%) completed and invert Lining: 2814 (65%) completed. ➤ Surge Shaft (18m dia, 50.28m height):- Excavation and lining completed. ➤ Pressure shaft (4.0m dia, 97.50 m long):- Excavation completed and HM works in progress. ➤ Power House (Underground 57.70m x 18.60m x 33.07m size):-100% excavation completed. Concrete/ lining & works in progress. ➤ Tail Race Tunnel (D-shaped, 8.0m (W) x 8m(H), 235.62m long, TRC-6.0m(W)x5.75m(H), 60.39m long):- Outfall structure completed. Tail race channel work is in progress. ➤ E&M works: Erection of of both units are in progress. Boxingup of unit-1 already done. Switchyard works in progress. About 90% transmission line works done.	➤ Completion of Powerhouse/erection of Pressure shaft
10	Pakal Dul CVPPL 03.10.2006 4x250 = 1000 MW Broad Features :	<u>J&K</u> <u>2020-21</u> <u>2025-26</u> (July.'25)	Civil Works: ➤ Dam Package (CFRD 167m high and 305m width).- Access adit to HRT-1 & 2 have been completed of a total of 1310 m and 1483 m respectively.	HRT & Dam works are critical.

	Dam – 167m High, Width-305m), CFRD, HRT- 2 nos. 7.2m dia 1000m long S.Shaft-16m dia 200m Height P.House- Underground (157mx20.20mx49m) TRT- 5.5m dia, 125m long. Cost: <u>Original:8112.12</u> Latest: 8112.12 Contractors Civil : Afcons – JAL – JV L&T,JAL HM: PES E&M : Voith Hydro Ltd		➤ Diversion Tunnel (1 no, diameter 11 m, length 851 m.): River Diversion achieved on 01.11.2021. ➤ Construction of upstream and downstream coffer dam is in progress. ➤ HRT-TBM Package (HRT 2Nos., 7.2m dia, 9.6 km long each (7.3 Km through TBM))- All 97 nos. consignments of TBM-1 and 94 nos. out of 95 nos. consignment of TBM-2 have also been reached at site. Construction of TBM Adit portal, development of platform and associated infrastructure works are in progress. HM Works: - Pressure Shaft Liners of Lower Horizontal Portion PS1B and PS2 have been started and cumulative progress of 54.6 m each have been completed. Power House Civil Works (PH Cavern 166m (L) x 20.2 m(W) x 50.5 m(H))- Construction of Power House Cavern, MIV cavern Transformer Hall cavern, Valve House, Adit to Pressure Shafts, Surge shaft, TRT and part-HRTs are in progress.. E&M Works - Detailed Engineering of E&M equipment's including submission/checking of drawings, layout plan and equipment manufacturing/supply/inspection is in progress. Installation of MIV Crane Embedments in MIV Service bay has been completed. Installation of GT rails and embedments in service bay, Connecting Tunnel and Transformer Cavern upto GT-4 (Grid-9) has been completed.	
11	Kiru CVPPL 13.06.2016 4x156=624 MW Broad Features : Dam – 135m High, Width-193m), Concrete gravity, Penstock 4nos., 5.5m dia. P.House- Underground (182mx23.6mx51.2m) TRT- 4 nos., 7.0m dia, 165 to 190m long. Cost: <u>Original:4287.59</u> Latest: 4287.59 Contractors Civil : Patel Engg. HM: PES Engineers E&M : Andritz Hydro	<u>J&K</u> <u>2023-24</u> 2025-26 (July'25)	Civil works - Construction of Cofferd Dam, PH Cavern, TH Cavern, Adit to Pressure Shaft top & bottom is in progress. Activity for filling of material for construction of u/s and D/s Cofferd Dam has been completed on 08.05.2022. Dam abutment stripping and dam excavation below river bed is in progress. Dam concreting has been started on 05.05.2022 and is in progress. Diversion Tunnel (1 no, diameter 9 m, length 666 m): River Diversion achieved on 31.12.2021. HM Works: Pressure Shaft (4 Nos., Internal Diameter : 5.5m , 316.0m to 322.0m Length) Excavation of Adit to Pressure Shaft top is in progress. Excavation of Adit to PS bottom completed and excavation of Bottom horizontal PS-1 is also completed. Inclined PS 1 Pilot excavation is in progress. Power House Civil Works (182m (L)x 23.6m(W) x 51.2m(H))- Power House Pilot Excavation (182m) completed on 31.03.22. • Transformer Hall Cavern – TC pilot excavation (137 m) is completed. TH Cavern Crown widening completed on 08.05.22.	The project is in initial stage of construction.
12	Ratle Ratle Hydro Electric Project Pvt. Ltd. / NHPC 19.12.2012 4x205+1x30= 850 MW Broad Features : Dam Height-133m Length-194.8m Spillway-Radia Gate-(5) Size-10.75x1420 m	<u>J&K</u> <u>2017-18</u> 2025-26 (Feb'26)	• Improvement / Construction of Roads: - Cumulative 6.16 Km (77%) road has been constructed out of total 8 Km. VT approach road clearing under progress. • Balance work of Downstream Bridge: Concreting of wearing coat has been completed during the month. 90% work has been completed till 30th September'2022.	

	Diversion Tunnel:2 Nos., Circular (Right back) Pressure Tunnel:11m dia each. Pressure Shaft : 6.6 m each steel lined. P.House-Underground Turbine- Francis Average Gross Head-100.39m Addl. Unit(30MW) Housed in Main P.H. Cavity) Rated Head-98.9m Cost : <u>Original: Rs 5281.94 Crore</u> Latest Rs. <u>5281.94 Crore</u> Contractors Civil & HM : GVK E&M : Alstom		• Excavation of Diversion Tunnels / MAT: DT-1: Heading excavation completed. Benching excavation of DT-1 is in progress. 153m excavation done during the month. Total length of 410m (87%) achieved out of 472m till date. DT-2: Heading Excavation completed. Benching excavation of DT-2 is in progress. 180m excavation done during the month. Total length of 270m (49%) achieved out of 552m till date. Excavation in Power House Access Tunnels (MAT, CVT & Surge Chamber Adit) is in progress. 6800 cum excavation achieved during the month. Total of 19080 cum (51%) achieved out of 37600 cum till date.	
13	Rangit-IV Jal Power corp. Ltd. 06.07.2007 3x40= 120 MW Broad Features: Dam: Concrte 44m high .HRT : D- 6.4m L- 6.5km Power House : Surface Turbine: Francis Cost: Original:726.17 Latest : 938.29 (10/19 PL) Contractors Civil : Ritwik (27.08.2021) HM : PES (28.06.2021) E&M : Andritz (08.07.2021)	<u>Sikkim</u> <u>2011-12</u> <u>2024-25</u> (Aug'24)	CIVIL WORKS: Dam (44 m high and 135.35 m long) - Excavation 4.09 lac cum (83.04%) out of 4.92 lac cum completed Concreting 0.87 lac cum (50.55%) out of 1.73 lac cum completed. Removal/ clearance of material deposited due to flooding in working area. 0.60 lac cum (30.0%) out of 2.0 lac cum completed. HRT (6.4 m diameter) - Heading excavation of approx.4.1 km (63.24%) executed out of total 6.48 km, benching excavation of approx. 3.91 km (60.28%) has been completed. Desilting Chamber (3 nos. each of 120 m length x 13m width x 15 m depth) - 2444.82 m (72.76%) excavation out of 3360 m is completed. Surge Shaft (1 nos., 18 M dia., 56 M height): Excavation 100% completed Pressure Shaft (1 no. 5.5m dia., 206m length) : Excavation 90.39% completed Surface Power House (75.3m (L) x 20.20m (W) x 41.35 m (H): Excavation 96.88% & concreting 66.32 % has been completed. ELECROMECHANICAL WORKS: 76% Supplies of E&M Package-I and 17% supplies of Package-II have been received at site. Hydro Mechanical works: For Execution of balance works, HM package LOT-II awarded on 28.06.2021.	Slow progress of works on account of Covid-19 associated lockdowns and restrictions. Completion of HRT works
14	Luhri Stage-1 SJVN Ltd. 01.05.2018 2x80+2x25=210 MW Broad Features: Dam: 86 m high HRT: 9m dia 38 km length Power House:Underground Turbine: Francis Cost: Original - 1810.56(05/2020) Contractor : Civil: Luhri Hydro Power Consortium dt. 24.11.2020	<u>Himachal Pradesh</u> <u>2025-26</u> <u>2025-26</u> (Jan'26)	Investment approval accorded on 20.11.2020. Civil & Hydro-mechanical Works awarded on 24.11.2020. Electro-mechanical package awarded on 16.07.2021. ➤ Diversion Tunnel (617 m): Completed. River diverted during June, 22. ➤ Dam: 258618 cum (35%) out of total 736215 cum stripping of Dam right bank abutment completed . ➤ Power House: 258679 cum (67%) out of total 386019 cum stripping of power house area completed	

	E&M works: Voith Hydro dt. 16.7.2021 Transmission line from Switchyard to Polling station: M/s Kalpatru Power dt. 6.7.2022		➤ Tail race channel: 372652 cum (75%) out of total 494207 cum stripping completed. ➤ Construction of approach roads: Approach road from Bailey bridge to Batching plant completed. Realignment of NH and construction of permanent bridge are under progress.	
15	Dhulasidh Hydro Electric Project SJVN Ltd (2x33 MW = 66 MW) Cost: Original: Rs. 687.97 Cr Civil & HM works: M/s Rithwik Projects Pvt. Ltd. dt. 6.5.2021 EM works: M/s Voith Hydro dt. 19.1.2022	<u>Himachal Pradesh</u> <u>2025-26</u> <u>2025-26</u> (Nov '25)	Investment approval accorded on 1.10.2020. ➤ Diversion tunnel (253 m), River Diversion achieved on 15.02.2022 ➤ Dam: Stripping; Right bank: 98% completed and Left Bank stripping already completed ➤ River Bed excavation: 90% completed ➤ Upstream Cofferdam completed. ➤ Power house excavation: completed. ➤ Tail Race Channel: 59800 cum (75%) out of total 80000 cum completed.	
16	Kwar Hydro Electric Project, CVPPPL (4x135 MW = 540 MW) Cost: Original: Rs. 4526.12 Cr Civil works: M/s Patel Engg. Limited dtd. 11.05.2022	<u>UT of J&K</u> <u>2026-27</u> (Nov '26)	Mobilization in progress. DT outlet portal development have been completed on 17.08.2022 & further work of DT inlet portal development and construction of access road to DT outlet and DT inlet are under progress. •Construction of main approach road (4480 m): Completed. •Construction of 81m span 70R double lane bridge over River Chenab is Under progress. Erection of Top chords, Bottom Chords along with their interconnecting Vertical & Diagonal members Completed. Shuttering for Deck slab & Concreting work also completed. Load testing is under progress.	The works have recently been awarded.

B	State Sector			-
17	Parnai JKSPDC 21.10.2013 3x12.5= 37.5 MW Broad Features: Barrage: 107m Long, 11.7m High HRT: D Shape, 9236m long, 3.2m dia Surge Shaft: 3.2m Dia Power House- Surface- 60x12x28 Cost: <u>Original: 640.86</u> <u>Latest 640.86</u> Contractors Civil : Patel & Alstom E&M : Andritz	<u>UT of J&K</u> <u>2017-18</u> 2024-25 (June, 24)	The implementation of the project has been undertaken by awarding the EPC contract in favour of M/s. Patel Engg. Ltd. in 2013. Barrage:- Excavation 46364cum out of total 46364 cum completed. Concreting 31036 cum out of 34589 cum completed. HRT (D-shaped, 3.2m diameter, 9.236km long):- 5482 m out of 9236m excavation completed. Pressure shaft (1no. 2mdia, 1733mlong): Excavation 17665 cum out of total 34560 cum completed. 693 cum out of 7212 cum concreting has been completed.. Power house: excavation 53435 Cum excavation out of 60000 Cum has been completed.	- Slow progress of works - Contractual Issues.
18	Lower Kalnai JKSPDC 16.08.2013 2x24= 48 MW Broad Features: Dam: 110m Span, 49m High HRT: D Shape, 3960m long, 4m dia Surge Shaft: 14m Dia Power House- 55x23.45x32.4	<u>UT of J&K</u> <u>2017-18</u> 2026-27 (Subject to re-start of works)	EPC contract awarded to M/s. CPL in Sept., 2013. Diversion tunnel has been completed and river diversion made on 30.11.2016. Work on coffer dams has been started Dam:- Excavation work completed for right abutment of the dam bridge. Excavation of left abutment completed upto 50%. HRT:- Adit excavation is in progress. . Works on all fronts at Dam and Power House site are stalled since 24.01.2018 due to	- Project stalled - Re-award of works

	Cost: Original: 576.87 Latest 576.87 Contractors Civil : Coastal E&M : GE		payment dispute with subcontractors and due to non-settlement of extension of time of the contract by the JKSPDC .The contract with M/s. Coastal Projects Ltd. has been terminated and The Balance Work stands tendered out by JKSPDC in EPC mode vide E-NIT No 01 on 24-03-2022.	
19	Shahpurkandi Irrigation Deptt. &PSPCL 04.05.2011 3x33+3x33+1x8=206 MW Cost: Original: 1835.50 Latest 2368.55 (Power Component) Contractors Civil & HM for Main Dam with two Head Regulators : Soma – BUREYA JV Power Houses : M/s OMIL JV E&M : BHEL	<u>Punjab</u> 2015-16 2024-25 (Aug'24)	Main Dam: Overall 89% work of Main Dam portion has been completed. Hydel Channel: Almost 95% works has been completed. Power House: Excavation 84% completed. E&M: Initial stage of procurement of equipment. Draft tube liner works for two units are in progress.	Power house civil works is critical for E&M works.
20	UHI-III Beas Valley Power Corporation Ltd. (HPSEB) 19.09.02 / (TEC -2x50 MW) 3x33.3 =100 MW (Revised vide HPSEB letter dt. 19.01.07. Broad Features: HRT-4.15m x 8.47 km S.Shaft- 13m x 68.8m Penstock- 3.4m x 1851.946 m (main) P.House- Surface Turbine- V. Francis Cost: Original: 431.56 Latest:1281.52 Contractors Civil : Continental / Abir HM : PES E&M : BHEL	<u>H.P.</u> 2006-07 2024-25 (Dec'24)	All works completed in July, 2018. During Hydro Static pressure Test (HST) of Penstock, some leakage was observed. Repair of penstock & HST completed by March, 2020. On 17.05.2020 after Trial run of Unit-1, during synchronisation to grid transmission load rejection was done but the penstock ruptured along penstock ferrule # 345 which is about 110m upstream of surface power house. The restoration of the Penstock works awarded to M/S P&R Infraprojects Pvt Ltd on November 06, 2021. The 90% work of dismantling of ruptured penstock is completed and design of work of penstock is under finalization & approval is awaited. Procurement order for ASTM grade steel has already placed with SAIL and fabrication works will also start by contractor once design approved and clearing of underground reaches of some portion of penstock.	
21	Shongtong Karcham H.P. Power Corpn. Ltd. Clearance: 16.08.2012 3x150= 450 MW Broad Features: Intake Tunnel: 4 Nos. Horse shoe 6.4m dia 192 to 280m length HRT- Circular, 10.5m dia, 8096m long. Power House- Under ground Turbine- VF. Switchyard: 400 Kv. Cost: Original: 2807.83 Latest:2807.83 Contractors Civil & HM : Patel E&M : Andritz	<u>H.P.</u> 2016-17 2026-27 (Nov'26)	River Diversion achieved on 10.02.2017. Barrage: Downstream Coffor Dam completed. Upstream Coffor Dam 84% completed. HRT: Heading excavation 7510 m out of 7712.7m completed. Benching excavation 3707 m completed Surge shaft: Pilot hole excavation completed. Power House:- 100% excavation of Powerhouse Cavern, 100% excavation of Transformer hall completed. Concreting of EOT crane beam completed.	Dam is critical due to change in design and approval of same.
22	Koyna Left Bank PSS WRD, Mah. 20.02.2004 2x40 = 80 MW Broad Features: Water from the existing ShivajiSagar Lake (Koyna reservoir)	<u>Maharashtra</u> 2014-15 2027-28 (Subject to re-start of works)	Civil Works: Excavation of intake structure 4781 cum out of 14105 cum and lining 2485 cum out of 3381 cum completed. Excavation of Switchyard completed. Excavation of Approach tunnel & Ventilation tunnel is in progress.	'Project stalled since July, 2015. The current expenditure on the project has already reached to almost original administrative approved cost level. The proposal for execution with various options (By WRD/ Through BOT/ By MSPGCL in

	is to be utilized for generation. Intake Tunnel: Dia – 7.20 M Length – 235.5 M (including Lake tap) HRT: Dia – 7.20 M Length – 80 M Penstock – 2 nos ,Dia – 2.9M Length – 10 M each P.House – Underground Turbine – Reversible Cost: <u>Original: 245.02</u> Latest:1403.77 Contractors Civil &HM : BT Patil – Malaxmi JV / Patel E&M : LitostrojSlovenia&Koncar, Croatia		Tail surge shaft :Excavation in soft strata completed. Excavation for inclined / vertical / lateral shafts in hard rock 6448 / 9223 cum completed. TRT : 364 / 24003 cum excavation completed. Machine Hall : Underground Excavation is under progress. 31500 cum excavation out of 55050 cum completed. E&M works: The contract for details engineering manufacturing supply, supervision erection, testing and commissioning of pump turbine, generator motor and associated equipment is signed with M/s IVRCL Ltd., Pune on 16.12.2010. Further TG set has been ordered as under: Turbine/Pump: M/s Litosroj Power, Slovenia (European Union) Generator/Motor: M/s Koncar Power, Plant & Electric Traction Engineering, Croatia (European Union). EOT Crane :- Works awarded to M/s Pedvak Cranes Private Limited Hyderabad on 12.04.2013. Tail surge shaft: Excavation for inclined/vertical/lateral shafts in hard rock 6448 cum out of 9223 completed. Excavation in soft strata completed.	collaboration with WRD) is under process.
23	Polavaram APGENCO / Irrigation Deptt., A.P. 21.07.2010/ 25.02.2009 12x80= 960 MW Broad Features: ECRF Dam- L-2454 m, H-57.9m, Spillway- L-1128m, Spill gate -48 Nos. Approach channel-175m. Intake tunnel: Ø 9m, L-130m (12 Nos) Power House- Surface type, Turbine- Vertical Kaplan Tail Race Channel- 1130m. Cost: <u>Original: 4956.39</u> Latest:5338.95 (Power Component) Contractors Civil :Navyug contract terminated and awarded to M/s Megha Engineering and Infrastructure Ltd. (MEIL) (EPC contractor) E&M : BHEL Overall Physical progress: 10% Overall financial progress: 12.35%	Andhra Pradesh <u>2017-18</u> 2024-26	Fabrication of steel liners for pressure tunnels-1 to 12: Fabrication of 2.50m length ferrules completed are 40 nos during the month of December,2022 and total of 192 ferrules were fabricated out of 624 Nos of ferrules required for 12 tunnels. Fabrication of 5.0m length ferrule segments completed are 20 Nos during the month of December'22 and total 80 Nos of ferrules segments fabricated out of 288 Nos ferrule segments required for 12 tunnels. Pressure Tunnels (1 to 12) works: Concreting around steel liners 1,2,3,4,5and 6 is under progress. Concreting around steel liners 11 nos. segments completed during the month of December 22 and total 34 nos out of 264 Nos. Power House area - E&M works for Unit -1to 09: Location and fixing of anchor hooks in the DT cavity area are under progress for units 2 to 9. DT Elbow liner Installation: 1 no segment (DU lx) on the DT pedestals in the DT cavity was placed and alignment was completed. Placement of DUX is in progress for unit 1. Installation of pier nose liner is under progress for units 6 & 7. Fixing of base plates on pedestals in the DT cavity area under progress for units 2 to 7. Installation of embedded pipes in first stage concreting is under progress for units 6 to 9. Fixing of channel as per detail-z is under progress for units 2 to 5. Below ground earth mat work: Earth mat risers extension works are under progress for units 1to 9. Location and fixing of anchor hooks is under progress for units 6 to 9.	

24	Pallivasal KSEB 2x30= 60 MW 31.01.2007 Broad Features: HRT: 3.50m X 3396m Surge Shaft: 7.0m X 49m Pressure Shaft: 2.50m X 1019.20m Penstock: 2.nos., 1161.20m each. Power House: Surface Turbine: Pelton S. Yard: 220kV – Single bus Cost: Original: <u>222.00</u> Latest: 550.00 Contractors Single Package (Except Intake & balance Tunneling works) ESSAR – DEC – CPPL JV -M/s Bumi-Zillion JV (for Intake works & balance Tunneling works) -M/s Anchor structure-PSE-SSIPCV, M/s. Shri Sarvasana Industries Pvt. Ltd.	<u>Kerala</u> <u>2010-11</u> <u>2023-24</u> (Jun'23)	Contract for Civil &HM works has been terminated w.e.f. 13.09.18. Balance work has been re-rendered on the risk & cost of Contract, Subsequently balance works have been awarded to M/s. Sri Sarvasna Industries Pvt. Ltd. and M/s. DSE Anchor Structure. Civil Works: 95.40% completed. HM Works: 96.80% completed. E&M Works: 68.45% completed. Intake structure: intake structure completed except erection gate. Leading channel of Water conductor system replaced by cut & cover soil accordingly intake is shifted. HRT: Excavation 3347m/3347m completed. Overt conc. 3325.40m/3347m completed. Invert conc. 3325.40m/3347m completed. Surge Tank/Forebay : Excavation completed. Conc.843/843 cum. Pressure Shaft: Excavation - Completed. fabrication of steel Liner completed and crection of 1096/1906 m completed. Surface penstock: Excavation 122500/122600 cum. Concreting- 12850/12850 cum. Fabrication of ferrule completed, Erection completed. Power House: Excavation and Concreting completed. Tail race Channel (2 Nos.): Excavation & lining completed. The overall progress achieved :- 90.20%. The overall financial progress achieved :- 89.50%.	
25	Thottiyar KSEB 1x30 + 1x10= 40 MW 05.06.2008 Broad Features: Weir: 222m Long 11 blocks 7.5m height Tunnel: Circular 2.6m dia 199m long. Power House: Surface Turbine : Vertical Pelton Cost: Original: <u>136.79</u> Latest: 280 Contractors Civil & HM : PRIL- Sri Sarvana Industries	<u>Kerala</u> <u>2012-13</u> <u>2023-24</u> (June'23)	Original contract for Civil & HM works foreclosed without risk & cost of Contractor M/s. Coastal Project Ltd. -Civil & HM works re-awarded to M/s PRIL-Sri Sarvana Industries Pvt. Ltd. on 05.01.2018. KSEB decided to execute E&M works departmentally & tendering was awarded to M/s Fitwell. Civil Works: Weir: 80% works completed. All works expected to be completed by Feb'23. Approach Channel & Intake: 80% works completed. Penstock, civil: 89% overall works at penstock track completed. H&M: 100% fabrication and supply completed. 98% erection work completed Power House: 89% works completed. Switchyard: 97% works completed. E&M Works: 62% erection progress achieved. Physical Progress 80% Financial Progress 70%	
26	Kundah Pumped storage (Phase-I, Phase-II & Phase-III) TANGEDCO 4x125= 500 MW Broad Features: HRT: Ø 8.5mX1247.33m. Surge Shaft: Ø (28m/16m/10m) x68m depth.	<u>Tamil Nadu</u> <u>2022-23</u> <u>2024-25</u> (Dec'24)	Civil & H&M Works: - Phase-I, Package I & II (Civil and HM works), LOI issued for package - I to M/s Patel engineering, and for package - II M/s Kundah PSP Consortium on 15.02.2018. The site was handed over on 05.03.2018. Electro-Mechanical works was awarded to M/s Megha Engg. & Infrastructure Ltd. on 28.11.2019 HRT: Heading completed and Benching completed (1251 M completed). HRT intake - Excavation under progress.	

	Pressure Shaft: 2 Nos. Ø 5.50m X 463.38 m (each) Penstock: 4.nos. Ø 3.9m x45.4m each. Power House: Under Ground. Tail race surge chamber: 10m(W);52m(L);48m(H) Tail Race Tunnel: Ø 8.5mx895m Turbine: Francis reversible turbine. Cost: Original: 1216.59 Revised: 3401 EPC cost: Rs. 2424.09 crore (capital cost under revision by TANGEDCO) Contractors Civil &HM : Patel / Kundah PSP E&M: MEIL		Pressure Shaft : excavation of Lower Horizontal Portion of Pressure Shafts PS1 & PS2 Completed. Pilot tunnel excavation in Inclined portion completed and shaft widening is under progress.. Head race Surge Shaft: excavation completed. Tail Race Surge Chamber: excavation completed Power House: Mining completed upto El+1928m from crown level El+1952m. Further benching upto 1913m completed. Concreting in progress. 4 Nos. Bus ducts completed. Transformer Cavern: : excavation is completed. TRT: Mining completed and Concrete lining under progress. Lower intake excavation under progress. E&M Works: - procumbent of materials/ equipment started at site. Unit 3 & 4 draft tube erection is in progress. Earth Mat works in progress.	
27	Lower Kopli APGCL 2x55+2x2.5+1x5= 120 MW Broad Features: Dam: Conc. Gravity HRT- Circular, 7m dia, 3.64Km long. Power House- Surface Turbine- VF. Switchyard: 220 Kv. Cost: Original:1115.91 Latest:1795 Contractors Civil : L&T	<u>Assam</u> <u>2023-24</u> <u>2024-25</u> (June, 2024)	At present detailed survey work, geotechnical investigation work etc. are being carried out by M/s L&T. Civil work preliminary survey and geo technical investigations going on at site . Overall Physical progress – 38.5% Overall financial progress - 28.2% HM work – not yet started E&M works – contract awarded to M/S Andritz Hydro Pvt. Ltd on 09.09.21	
C	Private Sector			
28	Tangnu Romai-I M/s Tangnu Romai Power generation 2x22= 44 MW 30.11.2007 (TEC by HPSEB) Broad Features: Barrage at EL ± 2555 m HRT-3.1m dia& 7.220 km length Surge Shaft- 5m dia, Top Level 2570 m & Bottom Level 2520 m Penstock- 2 m dia& 609.3 m length P.House- Surface Turbine – Vertical Francis Cost: <u>Original:255.00</u> <u>Latest:641.89</u> Contractors Civil & HM : Sai Urja E&M : Andritz	<u>H.P.</u> <u>2014-15</u> <u>2027-28</u> (Subject to re-start of works)	Civil works awarded on 14.06.2010 to M/s Sai Urja Hydel Project (P) Ltd. Barrage and Diversion Cannel: 26211 cum out of 93800 cum excavation completed. Desilting Chambers & SFTPC: Excavation completed. SFT excavation 420 / 450.66 m completed. HRT: 2826m out of 6300m excavation completed. Power House, Switchyard & Misc.: 60275 m³ out of 72000 m³ excavation completed. In February-2015, due to land slide the steel bridge on Pabbar River, connecting Project components has been completely damaged. The restoration works are completed.	- Works are stalled since Jan, 2015 due to finance issues. Developer has earlier initiated the sale of project and in the process of negotiating with potential buyers to enable the project implementation. The company is presently engaged in discussion to complete the settlements with the Lenders consortium of Banks and after settlement the project activities are expected to start by March/April 2023
29	Tidong-I M/s Statkraft India Pvt. Ltd. 3x50 = 150 MW 28.07.2006 Broad Features: HRT–D-3.5m L- 8461 m P.H. Surface Turbine –Vertical Pelton	<u>H.P.</u> <u>2021-22(</u> <u>New</u> <u>Developer)</u> <u>2023-24</u> (Dec-23)	Barrage& River Diversion Works: Common Excavation completed and 71700.84/73409.00 open cut rock excavation completed. 32144 cum out of 37159 cum concreting done. Head Regulator & Desilting arrangement: Common excavation completed. 9763 cum open cut rock excavation out of 10,000 cum completed.	- Pressure shaft /Transmission Line critical.

	Cost: <u>Original</u>543.15 Latest 1472 Contractors Civil &HM : SCL Infratech / Himalaya E&M : Alstom		HRT (8409m): Excavation completed and 8164/8409 m lining concreting has been completed. Surge Shaft: Excavation completed. 10m out of 90m completed. Pressure Shaft: Excavation completed. 80% lining remaining. Power house and Tail race channel- 90% civil works completed. E&M works for unit –I & II about 90% completed. Unit-3 is initial stage of erection. The work of transmission line is critical due to forest land clearance for 17 towers out of 54 towers due to realignment of the transmission line. Overall about 60% works completed. Overall physical progress achieved is 85%. M/s Statkraft India Pvt Ltd has acquired the 100% equity of the project on 04.09.2018	
30	Kutehr M/s JSW Energy (Kutehr) Ltd. 3x80 = 240 MW 31.08.2010 Broad Features: Cost: <u>Original:</u> 1798.13 Latest : 2879 Contractors Civil &HM : M/s Angelique – PCC consortium, M/s MF BumiGeotech Pvt. Ltd. & M/s. PES Engineers Pvt. Ltd. E&M : M/s Andritz Hydro Pvt Ltd.	<u>H.P.</u> <u>2024-25</u> <u>2025-26</u> (Nov'25)	Civil works, HM works and E&M works awarded on 20.10.2019, 19.09.2019 and 13.02.2020 respectively. River diversion achieved on 25.01.2020. Barrage (27m high): Barrage excavation (left bank) completed to the tune of 146631 Cum out of 158696 Cum. Barrage excavation (right bank) completed to the tune of 9072 Cum out of 52101 Cum HRT : Five out of Six Construction Adits to HRT completed (i.e. 1453.5 m out of 1612 m completed). 9385m out of 14538 m of Head Race Tunnel excavation completed. Physical Progress56.90% Financial Progress42.69%	-
31	Phata Byung M/s Lanco 06.10.2008 2x38 MW = 76 MW Broad Features: Dam – 26m high HRT- 3.2 m dia& 9.38 km length Turbine – Frances Cost: <u>Original:</u> 520.00 Latest : 1132 Contractors Civil : Lanco HM : Cimmco E&M : Alstom	<u>Uttara khand</u> <u>2012-13</u> <u>2025-26</u> (Subject to re-start of works)	Dam concreting: 17800/18000 cum concreting completed. P.H.: Excavation completed & Concreting in progress. HRT: Excavation almost completed. 1400 m Lining has been completed. Excavation and lining of Intake-I & Intake-II completed. Pressure shaft: Excavation completed & lining is under progress. TRT: Excavation 178/235m completed. E&M Works: Pit liner erection of units completed. EOT Crane installed and Commissioned. Ferrule Fabrication work is in progress. Work progress is stalled since July'17 on account of main EPC contractor and holding Company M/s LancoInfratech Limited (LITL) being referred to NCLT under the Corporate Insolvency Resolution Process (CIRP) and subsequently, the initiation of liquidation proceeding as per NCLT Liquidation order in August 2018. However, the preservation works of Project are being carried out regularly at site by the Company, LancoMandakini Hydro Energy Private Limited (LMHEPL). Presently, the company is undergoing a corporate insolvency resolution process initiated under IBC for resolution and revival of the project since June 2020. Under this process, the resolution professional appointed by the NCLT has initiated	- Works severely affected due to flash floods in June, 2013. - Works stalled since July, 2017 due to Financial crunch with the contractor / developer. The company is undergoing a corporate insolvency resolution process initiated under IBC for resolution and revival of the project since June 2020. Under this process, the resolution professional appointed by the NCLT initiated the process for inviting prospective investors for the project. On 25.02.2022, the CoC approved the Final Statkraft IH Holding AS Resolution Plan by a majority of 100%. The Resolution Professional has filed for approval of the resolution Plan Application before the Hon'ble NCLT. Once the Resolution Plan is approved by the NCLT, the successful Resolution Applicant will take over the company and revive the project.

			the process for inviting prospective investors for the project.	
32	Maheshwar, SMHPCL 30 12 96/ 29.9.2006 (FC) 10x40= 400 MW Broad Features: Dam-35m High, concrete gravity P.Shaft-10x7.82m x 52m P.House - Surface Turbine- Kaplan Cost: Original: 1569.27 Latest: 8121.00 Contractors Civil & HM : Sew E&M : BHEL	<u>M. P.</u> <u>2001-02</u> <u>2027-28</u> (Subject to re-start of works)	Civil & HM Works: All major civil works completed. All 27 nos radial gates commissioned. Unit Erection: Unit-10: Initial spinning achieved on 14.10.2011. Unit-9 & 8: Ready for spinning. Unit-7: Guide apparatus trial assembly in progress. Unit-6: Erection of turbine embedded parts & foundation parts completed. Unit-5 to 1: Erection of units is in initial stages. Works suspended since Nov-11 due to cash flow problem with developer. M.P. Power Management Company Ltd. has terminated the Power Purchase Agreement, R&R Agreement & Escrow Agreement with SMHPCL on 18.04.2020 & 20.04.2020 respectively .	- Works suspended since Nov-11 due to cash flow problem with developer. M.P. Power Management Company Ltd. has terminated the Power Purchase Agreement with SMHPCL on 18.04.2020. The application of PFC has been admitted in NCLT on 27.09.2022 under IBC.
33	Bhasmey Gati Infrastructure 2x25.5= 51 MW Broad Features : Dam-33.2m High, Symmetrical gravity HRT-5.3m dia&5.132 km length , Circular. Surge Shaft- 89.8m Hight& 14m dia. P.House-Outdoor Turbine-VF TRT-2 Nos, L- 50m Swityard-132/11 KV Cost :Original : 408.50 Latest :746.01 Contractors Civil : Simplex E&M : Voith	<u>Sikkim</u> <u>2012-13</u> <u>2027-28</u> (Subject to re-start of works)	Project is in initial stage of construction. River diversion achieved. Barrage: 61555cum/194600cumexcavation completed. HRT: 1670m/4460m excavation completed. PH: 136105 cum/185937cum excavation completed. Surge Shaft : 8567cum / 22000cum Surface excavation completed. Overall Physical progress: 38% .	- Slow progress of works - Works stalled since Sept., 2016 due to paucity of funds. -No investor showing interest for executing the project.
34	Rangit-II Sikkim Hydro Power Limited 10.02.2010 2x33= 66 MW Broad Features : Dam-47m High, Concrete Gravity HRT-3.9m dia&4.745 km length , Surge Shaft- 65.5m High & 10m dia. Underground Pressure Shaft : 1.7 m dia& 2.5 km length. P.House-Outdoor Turbine- Pelton Vertical Swityard- GIS, 132/11KV Cost :Original : 496.44 Latest : 496.44 Contractors Civil &HM : Coastal E&M : Gammon	<u>Sikkim</u> <u>2015-16</u> <u>2027-28</u> (Subject to re-start of works)	EPC contract awarded to M/s Coastal in February, 2012. Diversion Tunnel: River diversion through diversion tunnel has been achieved. Dam : Excavation 53100cum out of 85000cum completed. HRT: Excavation 623m out of 4745m completed. Surge Shaft: Excavation completed. Concreting 37/1667 cum done. Pressure shaft: Excavation of pressure shaft I - 25m out of 128m and pressure shaft II - 154m out of 377m completed Power House: Excavation of surface power house is being taken up. Overall Physical progress: 40% .	Works are stalled due to non releasing of funds by lenders because of Power evacuation and land acquisition issues. Works restarted. A meeting with financiers were held on 23.09.2016 for release of funds. The developer was asked to submit certain document for release of funds. Works are stalled since December, 2017 due to funds constraints with developer. Project is in NCLT since 30.07.2020.
35	Panan Himagiri Hydro Energy Pvt. Ltd.	<u>Sikkim</u> <u>2018-19</u>	Civil works awarded on 22.02.2014. Infrastructural works and geological investigations are in progress.	-Works was stalled for want of NOC from State Govt. from

	07.03.2011 4x75= 300 MW Broad Features : Dam-115m from deepest foundation level Desilting Chambers : Underground, 2 Size (14Lx22Wx2.5H) HRT- modified horse shoe, 6 m dia& 9549m length , Surge Shaft- 102 m High & 15m dia. Pressure Shaft : 2/4, 3.4/2.4m dia, 707.4 m- Long P.House-Surface Turbine-Vertical Francis Cost :Original: 1833.05 Latest :2675.00 Contractors Civil : Essar	2028-29 (Subject to re- start of works)	Starting of civil construction works was held up for want of the National Board of Wild Life (NBWL) clearance. On dismissal of the case in NGT on 21.08.17, the developer has made an application to PCCF cum-Secretary, Forests, Environment & Wild Life Management Department for grant of NOC, in National Board for Wildlife (NBWL) angle. Now, the NoC in regard to NBWL has been received vide state Govt letter dated 4.10.2019. In view of the new hydro policy announced by Ministry of Power, GOI, which will help in convincing the investors to release the funds to start the project works. An artificial lake (Mantham Lake) created in August 2016 due to heavy landslide resulting no accessibility for several years to the Upper Dzongu/ Dam site, which are beyond the control of the company/ force majeure. It is being understood that now Road and Bridge Department of Govt of Sikkim started erecting 60 Tonne Bridge, but work may progress in full stretch only after this rainy season i.e. of year 2022 and the construction work is likely to be completed by 4th quarter of 2022 then the project work will re-start. The project is likely to be commissioned in 2025-26, subject to restart of works. Overall Physical progress: NIL	NBWL angle and now it is received. - Construction of bridge on Mantham lake for accessibility of site is now being started. The works are likely to start soon after accessibility to Dam site is achieved. - Some of the infrastructure works developed earlier to be redone.
36	Pinnapuram PSP Greenko Energy 20.4.2022 4x240+2x120=1200 MW Broad Features : Upper reservoir: FRL 463m Dam height-40m from ground level Lower reservoir: FRL 337m Dam height-38m from ground level Pressure Shaft : 5, 7.5m dia, 83.5 m- long P.House-Surface Turbine-Vertical Francis reversible pump turbine Cost :Original: 6465.22 Latest :6465.22 Contractors E&M : M/s Andritz	Andhra Pradesh 2024-25 2024-25 (Mar'25)	Project is in initial stage of construction and excavation of various components is in progress. Upper Reservoir and Intake Excavation: 90% completed. Pressure Shaft: excavation 50% completed. Fabrication 20% completed. Power House: 100% excavation completed. Concreting is in progress (8% completed). Lower Reservoir, Lower Intake and Tail Race Channel: Excavation 90% completed. E&M works: Supply of material/equipment started. All Draft Tubes, Runners for Units 1 & 2 , Stator Frame for Units 1 & 2, Stator Bars for Units 1 & 2, Stator Sheets & Shaft NDE for Units 1,2,3 & 4 delivered to site. Manufacturing of other major equipment are under progress. Draft tube excavation is under progress.	

Grand Total : 36 nos. – 14,153.5 MW

Status of Under Execution Hydro Electric Projects in Bhutan

Sl. No.	Name of Project / Capacity (MW)/Executing Agency/Date of CEA clearance / Approval / Broad Features/Commissioning Schedule	Award of works	Present Status/ Issue
1.	Punatsangchhu-I 6x200=1200 MW PHPA, Bhutan Date of TEA: 27.07.2007 Broad Features : Dam – 130m High, 249m long, Concrete gravity (RCC) HRT- 10m x 8.9 km Pressure Shaft: Two nos. 6.0mx936.42 m each Surge Shaft: 24.5mx128.5m TRT: 10.0m x1182.20m P.House-Underground Turbine- Vertical Francis SWYD- 400 kV Original Commissioning Schedule: Nov' 2016 Anticipated commissioning schedule : 2025-26 (As presented in the 22nd PHPA-I meeting held on 25.09.2019 which will be revised after decision on Dam Vs Barrage) Original Cost: Rs.3514.80 Crores Latest revised Cost: Rs9375.60Cr.(Dec 2013 PL) Expenditure: Rs. 8360.99 Crores (Oct, 2022)	Civil Works: Package-I: L&T Ltd. on 27.03.2009 Package-II: Gammon India Ltd on 27.03.2009 Package-III:HCC ltd. 27.03.09 E&M Main Works: Package-I : BHEL Ltd. on 04.02.2010 Package-II: BHEL Ltd. on 27.02.2012 Package-III: Hyosung Corporation on 28.02.2012 Package-IV: SudkabelGmbh on 27.05.2011 Package-V: Schneida Electric Ltd. on 21.11.2013. Transmission Works: Joyti Structures & Gammon (India) JV on 12.08.2010 (Amended on 10.6.2013)	• Dam (130 m high and 249 m long):- The works of Cofferdam, Diversion Tunnels, and major excavation of Dam are complete. The balance works left are concreting of Dam, Intake Structures and related HM works.100% reinforcement and concreting of Power Intake structure completed. As on date, there is no agreement to continue with the construction of Dam at the existing location, due to which, the progress of Dam works is nil. • Desilting chamber (4 nos. each of 330 m length x 18 m width x 24 m depth):- Both excavation and concreting completed (100%). • Progress for MC-I Package is 69.87%. • HRT (10m diameter, 8.9 km long):- Both excavation and lining completed (100%). • Surge Shaft (24.5 m diameter 128.5 m height):- Both boring & lining completed (100%). • Progress for MC-II Package is 100%. • Pressure Shaft (2 nos. each of 6 m diameter 936.42 m long and 6 penstocks of 3.32 m diameter):- Boring, steel liner fixing and backfill concreting works completed (100%). • Power House (236.9 m x 22.9 m x 53 m size):- Both excavation and concreting completed (100%). • TRT (10.0 m diameter and 1182 m long): Both excavation and lining completed (100%). • Progress for MC-III Package is 99.05%. • E&M Works:- • Over all 88.82% works completed for Unit # 1 • Over all 99.87% works completed for Unit # 2 • Over all 99.98% works completed for Unit # 3 • Over all 99.95% works completed for Unit # 4 • Over all 82.5% works completed for Unit # 5 • Over all 99.85% works completed for Unit # 6 • Progress for E&M works is 99.94%. • Progress for Transmission work is 100%. • Overall physical progress achieved is 87.48%. Critical/ Major issue: Pending decision on the construction of Dam/ Barrage. Movement & subsidence at right bank hill. Completion of dam works.

Sl. No.	Name of Project / Capacity (MW)/Executing Agency/Date of CEA clearance / Approval / Broad Features/Commissioning Schedule	Award of works	Present Status/ Issue
			➤ Final decision regarding construction of Barrage vs Dam. ➤ Shortage of manpower in MC#3 and EM contract Package to complete the balance work due to limited quarantine facilities inside Bhutan due to Covid-19
2.			Dam (91 m high and 225 m length) Excavation completed and concreting in progress. Adverse geological situation faced at the left bank of the dam stands resolved. Conc.8.765 lakh cum completed out of 9.08 lakh cum. Desilting Chamber and Silt Flushing Tunnel All works of Desilting Chamber and Silt Flushing Tunnel stand completed except Concreting of 2063 cum and silt flushing gate and miscellaneous work which are pending due to unavailability of manpower. Total Progress for C-I Package – 95.99% HRT (11m diameter, 8.51 km long) -All the works in HRT under of C-2 Package is completed(99.64%) and concrete lining works of HRT under C-3 package (2200m) are completed. Overall HRT is 83.88% complete Total Progress for C-II Package – 100% Surge Shaft (31m diameter 137 m height) Excavation and lining completed and HM works of Gate is yet to be taken up. Pressure Shaft -Erection & concreting of Steel Liner 1236 m completed out of total 1454m. Power House (240 m x 23.5m x 51m size) Machine Hall Excavation is completed. Unit-I & II have reached to Spiral case level and Electro Mechanical works of Erection of Spiral case is in progress. Civil work in Unit-III upto MIV level is completed and from MIV floor level to Spiral case level is in progress. Planned 30m Excavation of draft tube tunnel VI from Machine hall side is completed and Preparation for raft concrete for erection of Draft tubes VI will be taken up soon. Similarly for draft tube V initial 30m excavation from Machine Hall is in progress. The balance length of tunnel in both Draft tube V& VI will be done from DSSG side. Transformer hall (216.1 X 14.7 X 26.5) Excavation is completed and 30m of GIS slab is also completed. Firewall and raft foundation for accommodating 3 transformers is also completed and lying of floor is in progress and rail line for shifting Transformer will be laid soon.

Sl. No.	Name of Project / Capacity (MW)/Executing Agency/Date of CEA clearance / Approval / Broad Features/Commissioning Schedule	Award of works	Present Status/ Issue
			Down Stream Surge Gallery About 47% excavation had been completed before the collapse of the DSSG. Now the DSSG is divided into two caverns of North and South with abandoned portion in-between. Balance excavation in South and North has to be taken up once strengthening and restoration works of DSSG is completed. As of now grouting of the loose muck in abandoned portion is completed. Construction of RCC wall at both North and South to hold the loosed grouted muck is also completed. Installation of Passive Cable Anchor is in progress. 4 rows both in North and south out of 10 and 12 rows respectively stand completed. Installation of FMI is in also in progress. Total Progress for C-III Package – 82.86% E&M Works: Erection and Commissioning of EOT crane has been completed upto Unit-II. Erection works of Spiral case for Unit-I is substantially completed and for unit-II stay ring welding is in progress. Stator for Unit-I and Unit-II are at 99 and 79% progress. Similarly Rotor for Unit-I and Unit-II is at 71% and 34% progress. Regarding the supply part more than 80% of the supply EM supply stands completed. Total Progress for E&M Package – 80.31% Total Progress for Transmission work – 100% Overall Cumulative Physical Progress of the Project is 91.97%. Critical: - DSSG completion is critical for commissioning of generating units. - Restoration & completion of downstream Surge gallery works. - E&M works.

Chapter-7
Financial Status of Under Construction H.E.P.

Sl. No.	Name of project/ State	Capacity (MW)	Benefits (MW)	Cost	Ant .Cost.	Actual Expenditure till March 2022	Actual Expend. During FY2022-23 (till DEC. '22)	Total Expend. (till Dec'2022)
	(State)			(PL)	(PL)			
	<u>Under Execution</u>							
	<u>Central Sector</u>							
1	Pakal Dul (CVPPL)	4x250	1000	8112.12	8112.12	2203.66	502.67	2706.33
	J&K			(03/2013)	(03/2013)			
2	Parbati -II(NHPC)	4x200	800	3919.59	11134.54	9596.51	561.02	10157.53
	H.P.			(12/2001)	(07/2022)			
3	Tehri PSP (THDC), Uttarakhand	4x250	1000	1657.60	6439.60	4519.48	473.41	4992.89
				(12/2005)	(10/2022)			
4	Tapovan Vishnugad (NTI Uttarakhand)	4x130	520	2978.48	7700.00	5282.73	424.26	5706.99
				(03/2004)	(4th Qtr/2022)			
5	Lata Tapovan(NTPC) Uttarakhand	3x57	171	1527.00	1527.00	149.93	0.00	149.93
				(07/2012)	(07/2012)			
6	Vishnugad Pipalkoti (TH Uttarakhand)	4x111	444	2491.58	3860.35	2481.65	324.27	2805.92
				(03/2008)	(02/2019)			
7	Ramam-III (NTPC) West Bengal	3x40	120	1381.84	1381.84	775.00	72.3	847.35
				09/2014	09/2014			
8	Subansiri Lower (NHPC) Ar. Pradesh/Assam	8x250	2000	6285.33	19992.43	15506.40	1499.45	17005.85
				(12/2002)	(01/2020)			
9	Naitwar Mori (SVJN) Uttarakhand	2x30	60	648.33	1272.29	870.80	300.81	1171.61
				(10/2016)				
10	Teesta St. VI (NHPC) Sikkim	4x125	500	5748.04	5748.04	1440.5	597.38	2037.88
				(07/2018)	(07/2018)			
11	Ratle (NHPC) J&K	4x205 + 1x30	850	5281.94	5281.94	10.36	178.11	188.47
				(11/2018)	(11/2018)			
12	Kiru (CVPPL) J&K	4x156	624	4287.59	4287.59	695.91	204.19	900.10
				(07/2018)	(07/2018)			
13	Luhri-I H.P.	2x80+2x25	210	1810.56	1810.56	645.19	349.85	995.04
				05/2020	05/2020			
14	Rangit-IV (NHPC) Sikkim	3x40	120	726.16	938.29	209.43	191.41	400.84
				(2011-12)	(10/2019)			
15	Dhualasidh (SVJN) Himachal Pradesh	2x33	66	688	688	226.89	121.46	348.35
				(05/2020)	(05/2020)			
16	Kwar (CVPPPL) J&K	4x135	540	4526.12	4526.12	136.17	107.39	243.56
				(09/2020)	(09/2020)			
17	Sunni Dam (SVJN) H.P.	73+1x73+1x	382	2614.20	2614.20	265.99	44.67	310.66
				03/21	03/21			
A	Sub Total: Central Sector		9407.00	54684.45	87314.91	45016.60	5952.65	50969.30
	<u>State Sector</u>							
18	Parnai J&K	3x12.5	37.50	640.86	640.86	286.10	23.71	309.81
				(NA)	(NA)			
19	Lower Kalnai J&K	2x24	48	576.87	576.87			
				(NA)	(NA)			
20	Uhl-III H.P.	3x33.33	100	431.56	2400	2243.64	111.94	2355.58
				(09/2002)				
21	Shontong Karcham H.P.	3x150	450	2807.83	2807.83	1540.38	101.82	1642.20
				(07/2011)	(07/2011)			
22	Shahpurkandi # Punjab	3x33+3x33+2x1x9	206	1835.50	2368.55	1731.74	299.21	2030.95
				(4/2008)	(2/2018)			

23	Koyna Left bank PSS	2x40	80	245.02	379.78			
	Maharashtra			(1999)	(2014)			
24	Polavaram HEP (PPA)	12x80	960	3013.68	5338.95	523.18	135.81	658.99
	Andhra Pradesh			(2010-11)	(2016-17)			
25	Pallivasal (KSEB)	2x30	60	222	550	436.77	42.92	479.69
	Kerala			(1999)	(2018)			
26	Thottiyar (KSEB)	1x30 + 1x10	40	136.79	280	114.36	22.50	136.86
	Kerala			(2007)	(2018)			
27	Kundah Pumped Storage-	4x125	500.00	1216.59	3401	480.42	408.63	889.05
	Tamil Nadu / (TANGENDCO)			(2007-08)	(2014)			
28	Lower Kopili	55+2x2.5+1x	120	1116	1795	502.42	211.75	714.17
	Assam			01/15	(2021)			
29	Mankulam (KSEB)	2x20	40	600	600		1.35	1.35
	Kerala			08/2022	08/2022			
30	Chanju-III (HPPCL)	3x16	48	419	419		42.83	42.83
	H.P.			01/15	01/15			
B	Sub-total: State Sector		2689.50	13261.18	21557.41	7859.01	1402.47	9261.48
	Private Sector							
31	Tidong-I	3x50	150	543.15	1850.00	1241.00	170.20	1411.20
	H.P.			(06/2018)	(06/2018)			
32	Tangnu Romai- I	2x22	44	255.00	641.89	*		
	H.P.			(1/2007)	(2018)			
33	Phata Byung	2x38	76	520.00	1132.00	*		
	Uttarakhand			(2013-14)	(9/2016)			
34	Maheshwar	10x40	400	1569.27	6793.00	Nil		
	M.P.			(1996-97)	(2016-17)			
35	Bhasmey	2x25.5	51	408.50	746.01	Nil		
	Sikkim			(2012-13)	(03/2018)			
36	Rangit- II	2x33	66	496.44	496.44	*		
	Sikkim			(2011-12)	(2011-12)			
37	Panan	4x75	300	1833.05	2671.00	0.05		
	Sikkim			(2009)	(2018)			
38	Kutehr (JSW Energy (Ku	3x80	240.00	1798.13	1798.13	1036.09	444.21	1480.30
	H.P.			(09/2011)	(09/2011)			
39	Pinnapuram (Greenko)	4x240+2x 120	1200.00	6465.22	6465.22	1853.26	2722.00	4575.26
				(02/21)	(02/21)			
C	Sub-total: Private Sector		2527.00	13888.76	22593.69	4130.40	3336.41	7466.76
	Total : (Under Execution):		14,623.50	81,834.39	131,466.01	57,006.01	10,691.53	67697.54

Note:-It is to mention that investment data is tentative (un-audited) as furnished by the developers in the monthly progress reports

Chapter 8

Status of Environmental and Forest Clearance of Under Construction Hydro Electric Projects

Status of Environmental and Forest Clearance of Under Construction Hydro Electric Projects								
Sl. No.	Name of Project	State	I.C. (No.xMW)	Benefits (MW)	Date of TEC Clearance	Date of Env. Clearance	Date of Forest Clearance	Date of I. Approval
I	Central Sector							
1	Pakal Dul (CVPPL)	J&K	4x250	1000	03.10.06	12.07.12	15.12.15	28.10.14
2	Parbati-II (NHPC)	H.P.	2x400	800.00	03.01.01	04.06.01	04.09.2001	11.09.02
3	Tehri PSS (THDC)	Utt.	4x250	1000.00	10.10.88	19.07.90	04.06.87	18.07.06
4	Tapovan Vishnugad (NTPC)	Utt.	4x130	520.00	11.08.04	08.02.05	22.04.06	11/2006
5	Lata Tapovan (NTPC)	Utt.	3x57	171.00	08.02.06	21.02.07	30.04.07	01.08.12
6	Vishnugad Pipalkoti (THDC)	Utt.	4x111	444.00	09/2006	22.08.07	28.05.13	21.08.08
7	Ramam-III (NTPC)	W.B.	3x40	120.00	12.09.06	17.08.07	18.10.08	10.09.14
8	Subansiri Lower (NHPC)	Ar. Pr./Asm.	8x250	2000.00	13.01.03	16.07.03	24.06.2004	09.09.03
9	Naitwar Mori (SJVN)	Uttarakhand	2x30	60.00	02.03.10	16.06.2016	05.08.2016	16.10.17
10	Teesta St. VI	Sikkim	4x125	500.00	27.12.2006	21.09.06	23.05.2008	08.03.2019
11	Ratle (NHPC)	J&K	4x205+1x30	850.00	19.12.2012	12.12.12	15.10.14	11.02.2021
12	Kiru (CVPPL)	J&K	4x156	624.00	13.06.2016	24.06.16	19.05.16	08.03.19
13	Rangit-IV	Sikkim	3x40	120.00	06.07.2007	16.05.07	26.12.07	30.03.2021
14	Luhri -I (SJVN)	H.P.	2x80+2x25	210.00	01.05.2018	17.03.2020	28.03.2019	20.11.2020
15	Dhaulasidh (SJVN)	H.P.	2x33	66.00	25.06.2011	21.02.2013	11.08.2020	01.10.2020
16	Kwar (CVPPPL)	J&K	4x135	540.00	23.02.2017	10.04.2017	08.08.2014	11.05.2022
Sub-total (Central Sector):				9025.00				
II	State Sector							
17	Parnai (JKSPDC)	J&K	3x12.5	37.50	11.12.1992	24.12.2010	17.05.2013	25.10.2013
18	Lower Kalnai (JKSPDC)	J&K	2x24	48.00	16.08.2013	22.08.2014		16.08.2013
19	Uhl-III	H.P.	3x33.33	100.00	19.09.02	15.11.02	20.12.02	26.09.03
20	Shongtong Karcham	H.P.	3x150	450.00	16.8.12	19.05.11	22.03.11	-
21	Shahpurkandi	Punjab	x33+3x33+1x	206.00	08/2009	18.11.81	Not Req'd.	04.05.11
22	Koyna Left Bank PSS	Mah.	2x40	80.00	-	16.05.07	Not Req'd.	20.02.04
23	Indrasagar Polavaram (PPA)	Andhra Pr.	12x80	960.00	21.07.2010	28.07.10	21.07.10	25.02.09
24	Pallivasal Extn.	Kerala	2x30	60.00	31.01.07	Not Req'd.	11.07.07	31.01.07
25	Thottiyar	Kerala	1x30 + 1x10	40.00	05.06.08	Not Req'd.	11.07.07	05.06.08
26	Kundah Pumped Storage-I (T. Tamil Nadu)		4x125	500.00	15.02.18	08.05.07	27.11.08	03.12.08
27	Lower Kopli (APGCL)	Assam	2x55+2x2.5	120.00	24.05.16	04.09.2019	04.12.2020	Nov,2020
Sub-total (State Sector):				2601.50				
III	Private Sector							
28	Tidong-I	H.P.	3X50	150.00	-	18.06.08	18.06.08	23.07.07
29	Tangnu Romai- I	H.P.	2x22	44.00	-	01.05.09	19.01.10	30.11.07
30	Phata Byung	Uttarakhand	2x38	76.00	-	01.05.09	-	30.11.07
31	Maheshwar	M.P.	10x40	400.00	-	07.01.94	Not Req'd.	29.09.06
32	Bhasmey	Sikkim	2x25.5	51.00	-	15.05.07	13.09.10	-
33	Rangit- II	Sikkim	2x33	66.00	-	16.04.10	22.10.10	10.2.10
34	Panan	Sikkim	4x75	300.00	-	02.01.07	21.09.10	07.03.11
35	Kutehr	H.P.	3x80	240.00		05.07.11	19.02.13	31.03.10
36	Pinnapuram (Greenko AP01 I	A.P.	4x240+2x120	1200.00	20.04.22	14-07-2020	23-04-2020	Stage-I
Sub-total (Private Sector):				2527.00				
Total : Under Execution				14153.50				

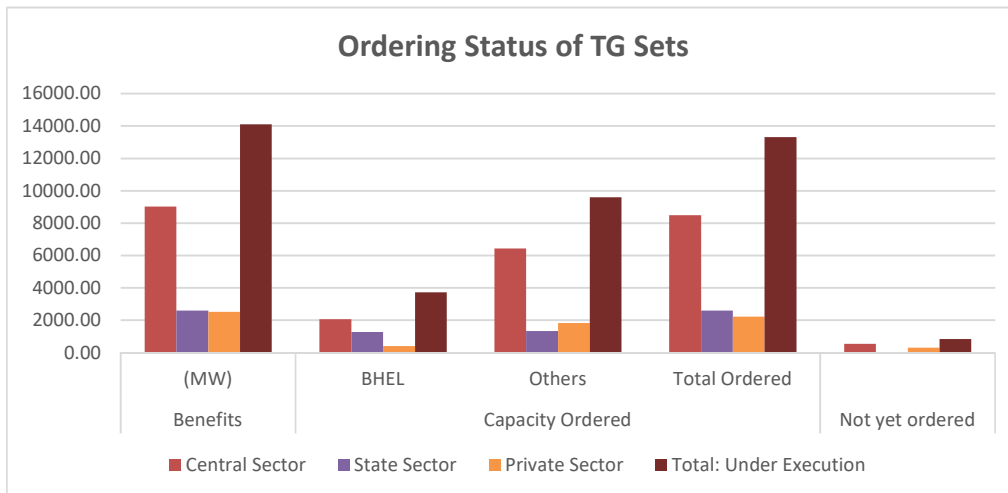
Chapter 9

Status of Civil Package Award (First Package) of Under Construction Hydro Electric Projects

Sl. No.	Name of Project	State	Capacity (MW)	Benefits	Date of CCEA/ Investment	Date of letter of award
Central Sector						
1	Pakal Dul(CVPPL)	J&K	4x250	1000.00	28.10.14	21.02.2018
2	Parbati-II (NHPC)	H.P.	4x200	800.00	11.09.02	11.09.2002
3	Tehri PSP	Uttarakhand	4x250	1000.00	18.07.06	23.06.2011
4	Tapovan Vishnugad (NTPC)	Uttarakhand	4x130	520.00	11/06	11/2006
5	Lata Tapovan (NTPC)	Uttarakhand	3x57	171.00	08/2012	17.08.2012
6	Vishnugad Pipalkoti (THDC)	Uttarakhand	4x111	444.00	21.08.08	17.01.2014
7	Ramam-III	W.B.	3x40	120.00	10.9.14	10.09.2014
8	Subansiri Lower (NHPC)	Ar.Pr./ Assam	8x250	2000.00	09.09.03	19.12.2003
9	Naitwar Mori (SJVN)	Uttarakhand	2x30	60.00	16.10.2017	05.12.2017
10	Teesta St. VI	Sikkim	4x125	500.00	08.03.19	31.03.2020
11	Ratle (NHPC)	J&K	4x205+1x30	850.00	11.02.2021	18.01.2022
12	Kiru (CVPPL)	J&K	4x156	624.00	08.03.2019	24.02.2020
13	Rangit-IV	Sikkim	3x40	120.00	30.03.2021	27.08.2021
14	Luhri -I (SJVN)	H.P.	2x80+2x2	210.00	20.11.20	24.11.2020
15	Dhaulasidh (SJVN)	H.P.	2x33	66.00	01.10.2020	06.05.2021
16	Kwar (CVPPL)	J&K	4x135	540.00	11.05.2022	11.05.2022
Sub-total (Central Sector):				9025.00		
State Sector						
17	Parnai (JKSPDC)	J&K	3x12.5	37.50	21.10.2013	25.10.2013
18	Lower Kalnai (JKSPDC)	J&K	2x24	48.00	16.08.2013	12.09.2013
19	Uhl-III	H.P.	3x33.33	100.00	19.09.02	02.04.2003
20	Shongton Karcham	H.P.	3x150	450.00	16.08.12	04.08.2012
21	Shahpurkandi	Punjab	3x33+3x33+1x8	206.00	04.05.11	11.02.2013
22	Koyna Left Bank PSS	Mah.	2x40	80.00	20.02.04	20.06.2007
23	Indrasagar Polavaram (PPA)	Andhra Pr.	12x80	960.00	21.02.2012	20.12.2017
24	Pallivasal	Kerala	2x30	60.00	31.08.07	31.01.2007
25	Thottiyar	Kerala	1x30 + 1x10	40.00	05.06.08	22.12.2008
26	Kundah Pumped Storage-I (TANGENDCO)	Tamil Nadu	4x125	500.00	03.12.08	15.02.2018
27	Lower Kopli (APGCL)	Assam	2x55+2x2.5+1x5	120.00	Nov,2020	21.08.2020
Sub-total (State Sector):				2601.50		
Private Sector						
28	Tidong-I	H.P.	3X150	150.00	23.07.07	07.11.2008
29	Tangnu Romai- I	H.P.	2x22	44.00	2014-15	14.06.2010
30	Phata Byung	Uttarakhand	2x38	76.00	06.10.08	12.04.2008
31	Maheshwar	M.P.	10x40	400.00	30.12.96	20.02.1997
32	Bhasmey	Sikkim	2x25.5	51.00	Dec-08	12.04.2010
33	Rangit-II	Sikkim	2x33	66.00	10.02.10	24.10.2011
34	Panan	Sikkim	4x75	300.00	07.03.11	22.02.2014
35	Kutehr (JSW Energy (Kutehr)Ltc	H.P.	3x80	240.00	31.03.10	20.10.2019
36	Pinnapuram (Greenko AP01 IRE	A.P.	4x240+2x120	1200.00		
Sub-total (Private Sector):				2527.00		
Total - Under Execution:				14153.50		

Chapter 9.1

Ordering Status of TG sets for Under Construction Hydro Electric Projects					
Summary- Units Ordered					
Sector	Benefits	Capacity Ordered			Not yet ordered
	(MW)	BHEL	Others	Total Ordered	
Central Sector	9025.00	2055.00	6430.00	8485.00	540.00
State Sector	2601.50	1266.00	1335.50	2601.50	0.00
Private Sector	2527.00	400.00	1827.00	2227.00	300.00
Total: Under Execution	14103.50	3721.00	9592.50	13313.50	840.00



Chapter 9.2

Ordering Status of TG sets of Under Construction Hydro Electric Projects

Sl. No.	Name of the Project/State	Capacity (No.x MW)	Benefits (MW)	Make/Supplier of TG set	Date of Order
A. Central Sector					
BHEL Units					
1	Parbati-II (NHPC),(H.P.	4x200	800.00	BHEL	24.12.02
2	Tapovan Vishnugad (NTPC), Utt.	4x130	520.00	BHEL	01/2008
3	Lata Tapovan, Uttarakhand	3x57	171.00	BHEL	12/2012
4	Vishnugad Pipalkoti (THDC)	4x111	444.00	BHEL	18.11.14
5	Ramam-III (NTPC)	3x40	120.00	BHEL	19.02.15
Sub-total- BHEL			2055.00		
Other Units					
6	Tehri PSP (THDC)	4x250	1000.00	Alstom, France	27.07.11
7	Subansiri Lower (NHPC), Ar. Pr.	8x250	2000.00	Alstom, France & India	11.02.05
8	Naitwar Mori (Uttarakhand)	2x30	60.00	Voith Hydro Pvt. Ltd.	11.06.18
9	Teesta St. VI, (Sikkim)	4x125	500.00	Alstom, India	04/2009
10	Pakal Dul(J&K)	4x250	1000.00	Voith Hydro Pvt. Ltd.	01/2019
11	Rangit-IV, (Sikkim)	3x40	120.00	Andritz Hydro, India	28.08.09
12	Kiru (CVPPL)	4x156	624.00	M/s Andritz Hydro Pvt. Ltd.	24.02.20
13	Luhri -I (SJVN)	2x80+2x25	210.00	Voith Hydro Pvt. Ltd.	16.07.21
14	Dhaulasidh (SJVN)	2x33	66.00	Voith Hydro Pvt. Ltd.	19.01.2022
15	Ratle (J&K)	4x205+1x30	850.00	M/s Megha Engineering & Infrastructures Limited	18.01.2022
Sub-total- Others			6430.00		
Sub-total (Central Sector):			8485.00		
B State Sector					
BHEL Units					
16	Uhl-III (H.P.) BVPCL	3x33.33	100.00	BHEL	15.02.07
17	Shahpurkandi, Punjab ; PSPCL	3x33+3x33+1x8	206.00	BHEL	28.02.14
18	Polavaram (PPA) Andhra Pr.	12x80	960.00	BHEL	30.03.21
Sub-total- BHEL			1266.00		
Chinese					
19	Pallivasal, Kerala ;KSEB	2x30	60.00	Dongfang Elec.Corp., China	31.01.07
20	Thottiyar, Kerala KSEB	1x30 + 1x10	40.00	Chongqing, China	22.12.08
Sub-total- Chinese			100.00		
OTHER UNITS					
21	Koyna Left Bank PSS, Maharashtra	2x40	80.00	IVRCL Ltd	16.12.10
22	Shontong Karcham, H.P.	3x150	450.00	Andritz Hydro, India	04.03.15
23	Parnai (JKSPDC) J&K	3x12.5	37.50	Andritz Hydro, India	-
24	Lower Kalnai (JKSPDC) J&K	2x24	48.00	GE Power India Pvt. Ltd.	-
25	Kundah Pumped Storage-I (Tamil Nad	4x125	500.00	Megha Engineering & Infrastructure Ltd.	28.11.2019
26	Lower Kopli (APGCL)	2x55+2x2.5+1x5	120.00	M/s ANDRITZ HYDRO Private Ltd	09.09.2021
Sub-total- Others			1235.50		
Sub-total (State Sector):			2601.50		

Sl. No.	Name of the Project/State	Capacity (No.x MW)	Benefits (MW)	Make/Supplier of TG set	Date of Order
C	Private Sector				
	BHEL Units				
27	Maheshwar (M.P.)	4x100	400.00	BHEL	25.06.07
	Sub-total- BHEL		400.00		
	OTHER UNITS				
28	Tidong-I, (H.P.)	3X50	150.00	Alstom, India	28.02.11
29	Tangnu Romai- I, (H.P.)	2x22	44.00	Andritz Hydro, India	17.04.13
30	Phata Byung, (Uttarakhand)	76.00	76.00	Alstom, India	12.04.08
31	Bhasmey, (Sikkim)	2x25.5	51.00	Voith Hydro, India	14.04.10
32	Rangit-II, (Sikkim)	2x33	66.00	Gammon India Ltd.	24.03.12
33	Pinnapuram (Greenko)	4x240+2x120	1200.00	Andritz Hydro Pvt. Ltd., India	
34	Kutehr(HP)	3x80	240.00	Andritz Hydro Pvt. Ltd., India	13.02.20
	Sub-total- Others		1827.00		
	Sub-total (Private Sector):		2227.00		
	Under Execution Total (Units Ordered):		13313.50		
<u>Units not yet ordered</u>					
A	Central Sector		540.00		
35	Kwar (CVPPPL)	4x135	540.00		
B	State sector		0.00		
C	Private Sector				
36	Panan, Sikkim	4x75	300.00		
	Sub-total (Private Sector):		300.00		
Total: (Units not yet ordered)			840.00		
Total: Under execution			14153.50		

Chapter 9.2

Ordering Status of TG sets of Under Construction Hydro Electric Projects

Sl. No.	Name of the Project/State	Capacity (No.x MW)	Benefits (MW)	Make/Supplier of TG set
A.	Central Sector			
	BHEL Units			
1	Parbati-II (NHPC),(H.P.	4x200	800.00	BHEL
2	Tapovan Vishnugad (NTPC), Utt.	4x130	520.00	BHEL
3	Lata Tapovan, Uttarakhand	3x57	171.00	BHEL
4	Vishnugad Pipalkoti (THDC)	4x111	444.00	BHEL
5	Ramam-III (NTPC)	3x40	120.00	BHEL
	Sub-total- BHEL		2055.00	
	Other Units			
6	Tehri PSP (THDC)	4x250	1000.00	Alstom, France
7	Subansiri Lower (NHPC), Ar. Pr.	8x250	2000.00	Alstom, France & India
8	Naitwar Mori (Uttarakhand)	2x30	60.00	Voith Hydro Pvt. Ltd.
9	Teesta St. VI, (Sikkim)	4x125	500.00	Alstom, India
10	Pakal Dul(J&K)	4x250	1000.00	Voith Hydro Pvt. Ltd.
11	Rangit-IV, (Sikkim)	3x40	120.00	Andritz Hydro, India
12	Kiru (CVPPL)	4x156	624.00	M/s Andritz Hydro Pvt. Ltd.
13	Luhri -I (SJVN)	2x80+2x25	210.00	Voith Hydro Pvt. Ltd.
14	Dhaulasidh (SJVN)	2x33	66.00	Voith Hydro Pvt. Ltd.
15	Ratle (J&K)	4x205+1x30	850.00	M/s Megha Engineering & Infrastructures Limited (M/s BHEL on sub contract)
	Sub-total- Others		6430.00	
	Sub-total (Central Sector):		8485.00	
B	State Sector			
	BHEL Units			
16	Uhl-III (H.P.) BVPCL	3x33.33	100.00	BHEL
17	Shahpurkandi, Punjab ; PSPCL	3x33+3x33+1x8	206.00	BHEL
18	Polavaram (PPA) Andhra Pr.	12x80	960.00	BHEL
	Sub-total- BHEL		1266.00	
	Chinese			
19	Pallivasal, Kerala ;KSEB	2x30	60.00	Dongfang Elec.Corp., China
20	Thottiyar, Kerala KSEB	1x30 + 1x10	40.00	Chongqing, China
	Sub-total- Chinese		100.00	
	OTHER UNITS			
21	Koyna Left Bank PSS, Maharas	2x40	80.00	IVRCL Ltd (Contract terminated & yet to be awarded)
22	Shontong Karcham, H.P.	3x150	450.00	Andritz Hydro, India
23	Parnai (JKSPDC) J&K	3x12.5	37.50	Andritz Hydro, India
24	Lower Kalnai (JKSPDC) J&K	2x24	48.00	GE Power India Pvt. Ltd.
25	Kundah Pumped Storage-I (Tamil l	4x125	500.00	Megha Engineering & Infrastructure Ltd. (M/s GE)
26	Lower Kopli (APGCL)	2x55+2x2.5+1x5	120.00	Andritz Hydro, India
	Sub-total- Others		1235.50	
	Sub-total (State Sector):		2601.50	
C	Private Sector			

BHEL Units				
27	Maheshwar (M.P.)	4x100	400.00	BHEL
Sub-total- BHEL			400.00	
OTHER UNITS				
28	Tidong-I, (H.P.)	150.00	150.00	Alstom, India
29	Tangnu Romai- I, (H.P.)	2x22	44.00	Andritz Hydro, India
30	Phata Byung, (Uttarakhand)	76.00	76.00	Alstom, India
31	Bhasmey, (Sikkim)	2x25.5	51.00	Voith Hydro, India
32	Rangit-II, (Sikkim)	2x33	66.00	Gammon India Ltd.
33	Kutehr(HP)	3x80	240.00	Andritz Hydro Pvt. Ltd., India
34	Pinnapuram (Greenko)	4x240+2x120	1200.00	
Sub-total- Others			1827.00	
Sub-total (Private Sector):			2227.00	
Under Execution Total (Units Ordered):			13313.50	
<u>Units not yet ordered</u>				
<u>A</u>	Central Sector		540.00	
35	Kwar (CVPPPL)	4x135	540.00	
<u>B</u>	State sector		0.00	
<u>C</u>	Private Sector			
36	Panan, Sikkim	4x75	300.00	
Sub-total (Private Sector):			300.00	
Total: (Units not yet ordered)			840.00	
Total: Under execution			14153.50	

**Date of
Order**

24.12.02

01/2008

12/2012

18.11.14

19.02.15

27.07.11

11.02.05

11.06.18

04/2009

01/2019

28.08.09

24.02.20

16.07.21

19.01.2022

18.01.2022

15.02.07

28.02.14

30.03.21

31.01.07

22.12.08

16.12.10

04.03.15

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28.11.2019

09.09.2021

25.06.07

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17.04.13

12.04.08

14.04.10

24.03.12

13.02.20

Chapter 9.3

Status of ordering of various packages for Under Construction Hydro Electric Projects

Sl. No.	Project name/ Exec. Agency CEA clearance/ Approval Capacity (MW)	State Region	Contract	Scope of works & brief details	Contracting Agency (Name & Location)	Contract value (Rs. Crs.)	Date of Contract (commencem ent)/ Completion
Under Execution							
A Central Sector							
1	Pakal Dul CVPPL 03.10.2006/ 28.10.2014 4x250 = 1000MW	UT of J&K North Region	Civil works	Power House Package- Power House, Transformer Cavern, MIV cavern, Valve House, TRT , Pressure shaft , Surge Shaft and associated works.	M/s. Afcons- Jaiprakash Associates JV	1051.00	<u>21.02.2018</u> 20.12.2022
				Dam Pkg. - Diversion Tunnel works, Dam works, Spillways, and Part of HRT by DBM and associated works.	M/s Jaiprakash Associates	2853.00	<u>21.06.2018</u> 20.03.2023
			E&M Works	Letter of Award Issued: Supply, Erection & commissioning of E&M components.	M/s. Voith Hydro Limited	703.63	<u>02.01.2019</u> 01.11.2023
			H&M Works	Letter of Award Issued: Supply, Erection & commissioning of HM components.	M/s PES Engineers Pvt. Ltd	286.58	<u>26.08.2019</u> 25.06.2023
			HRT- TBM	Letter of Award Issued- HRT by TBM	M/s L&T Ltd.	2575.63	<u>03.07.2020</u> 02-01-2025
2	Parbati-II NHPC 12.10.1999/ 11.09.2002 4x200 = 800 MW	Himachal Pradesh, North Region	Civil works	Lot-1: Civil & HM works for Dam and Part HRT (0-3500m)	M/s Patel-SEW JV,	322.9	<u>11.09.2002</u> <u>13.08.2011</u> (revised)
				Lot-2: Civil & HM works of HRT (3500-24733m)	M/s Himachal JV	419.89	11.09.2002 10.09.2007
				Contract terminated in March-12 and Fresh awarded as under.			
				Lot-2A: Balance civil works of HRT by TBM	M/s Gammon-CMC JV, Mumbai	455.63	<u>13.08.2013</u> 27.01.2020 (revised)
				Lot-2B: Balance civil works of HRT by DBM and associated HM works *contract has been terminated on 22.12.2018	M/s Valecha Engg. Ltd, Mumbai	176.30	<u>21.11.2013</u> 24.01.2018 (revised)
				Lot 2C : Execution of 1500 m Head Race Tunnel by DBM	M/s Gammon Engineers Contractors Pvt Limited	211.64	<u>02.06.2020</u> <u>01.03.2023</u>
				Lot-3: Civil & HM works of Power House, Pressure Shaft, Surge Shaft & Part HRT (24733-31525)	M/s Gammon India Ltd.	603.69	<u>13.09.2002</u> 24.05.2016 (revised)
				Lot-4: Jiwa Nallah Works	M/s BJ_Techno-HAS (JV)	56.47	<u>11.09.2002</u> 10.09.2007
				Contract terminated and Fresh awarded as under:			
				Lot-4A: Balance Civil & HM works of Jiwa Nallah and associated works *contract has been terminated on 25.05.2019	M/s Coastal Projects, Noida	78.34	<u>22.06.2011</u> 24.03.2015 (revised)

Sl. No.	Project name/ Exec. Agency CEA clearance/ Approval Capacity (MW)	State <u>Region</u>	Contract	Scope of works & brief details	Contracting Agency (Name & Location)	Contract value (Rs. Crs.)	Date of Contract (commencem ent)/ Completion
			E&M works	Generating Units, EOT Crane Main step up Transformers, Switch Yard and	M/s BHEL	354.44	<u>24.12.2002</u> 23.04.2007
				Electrical & Mechanical Auxiliaries	M/s BHEL	34.2	<u>24.12.2002</u> 23.04.2007
				Design, Manufacture, Supply, Erection , Testing & commg.	M/s BHEL	391.11	<u>29.12.2006</u> 02/2011
			H&M Works	Hydro-Mechanical Packages	M/s Patel-Sew JV	23.61	<u>11.09.2002</u> 13.08.2011 (revised)
3	Tehri PSS, THDC, 18.7.06 Nov-11 (Revised CCEA) 4x250=1000 MW	<u>Uttara khand NR</u>	EPC/ Turnkey Contract	i. Planning, Design and Engg. ii. Civil works iii. Supply of EM & HM (off shore) iv. Supply of E&M and HM (on shore) E&M and HM services	Consortium of M/S Alstom Hydro France and Hindustan Construction Company with M/s Alstom Hydro, France as lead partner	Total in 1843.49 E&M equip:- Euro 62.92 million + 474.43 Cr.	<u>23.06.2011</u> 27.07.11 26.01.2016 (Commencem ent <u>Date</u>)
							U-1: 48 Mth. U-2: 50 Mth. U-3: 52 Mth. U-4: 54 mth. (from commenc.)
4	Tapovan Vishnugad NTPC 11.08.2004/Nov, 2006 4x130 = 520 MW	<u>Uttara khand NR</u>	Civil works	Construction of Barrage and De-silting chambers	M/s SSJV Projects Pvt. Ltd. and M/s ZVS, Russia	269..15	01/2007 07/2012
				Contract terminated in November-10 and fresh award made in July-12			
				Construction of Barrage and De-silting chambers (Balance Works)	M/s Rithwik Projects Pvt. Ltd., Hyderabad.	457.57	07/2012 03/2015
				Construction of HRT	M/s L&T Ltd. and M/s Alpine Mayreder Bau GmbH	455.921	11/2006 08/2012
				HRT contract terminated on 09.01.2014. HRT package re-awarded on 09.03.2016.			
				Construction of HRT(Balance Works)	M/s HCC	634.03	03/2016 01/2019
				Power House & Penstock package	M/s Patel Engg. Pvt. Ltd.	221.28 Cr. + Euro 37.58m	05/2007 08/2012
			E&M works	Turbine generating units and associated auxiliaries	M/s BHEL	321.28 crs.	1/2008 12/12
5	Lata Tapovan, NTPC Aug-2012 3x57= 171 MW	<u>Uttara khand NR</u>	Civil & HM works	EPC Contract	M/s L&T	780.54	17.08.2012 16.08.2017
			E&M Package		BHEL	2611.04	Dec, 12 June, 17
6	Vishnugad Pipalkoti, THDC 21.08.2008 4x111= 444 MW	<u>Uttara khand NR</u>	Civil & HM works	EPC Contract	M/s HCC Ltd	1597.30	17.01.2014 16.07.2018
			E&M Package	EPC Contract	BHEL	360.36	18.11.2014 17.11.2018

Sl. No.	Project name/ Exec. Agency CEA clearance/ Approval Capacity (MW)	State <u>Region</u>	Contract	Scope of works & brief details	Contracting Agency (Name & Location)	Contract value (Rs. Crs.)	Date of Contract (commencem ent)/ Completion
7	Teesta-VI NHPC 08.03.2019/ 07/.2007(FC) 4x125= 500MW	<u>Sikkim</u> <u>NER</u>	Civil works	Barrage, Desilting Basin, SFT, Intake part of HRT-I &HRT-II & other associated structure	M/s Jaiprakash Associate Limited	1710	31.03.2020
				Part of HRT-I &HRT-II , Surge Shaft, Power House ,TRT & other associated structure	M/s Patel Engineering Limited	1251	22.09.2021
			H&M works		M/s PES Engineers Private Limited	INR 100.76 & EURO 17.5 lakhs	27.10.2021
			E&M works	E&M Package, EM-I	M/s GE Power India Ltd.	107.49	14.12.2020
				E&M Package, EM-II	M/s BHEL	150.10	04.09.2020
				E&M Package, EM-III	M/s Technico India Pvt Ltd	3.98	22.09.2020
				E&M Package, EM-IV	M/s Jakson Ltd	3.07	1.10.2021
				E&M Package, EM-V	M/s SHES Air and Automation	5.63	06.08.2021
				E&M Package, EM-VI	M/s Aavids Technovators Pvt. Ltd.,	3.89	16.04.21
				E&M Package, EM-VII	M/s PGCIL	55.57	21.12.2021
				E&M Package, EM-VIII	M/s B. C. Technomation	6.23	28.08.2021
8	Subansiri Lower NHPC 07.06.2001/09.0 9.03 8x250= 2000 MW	<u>Ar.Pr/</u> <u>Assam</u> <u>NER</u>	Civil works	Dam/Barrage	M/s BGS – SGS - Soma JV, Hyderabad	1098.32	19.12.2003 12/2009
				Power House & Tail Race civil works	M/s L & T LTD, Chennai	921.59	19.12.2003 12/2009 (Contract Foreclosed on 28.04.2015)
				Surge Tunnel Works	M/s L & T LTD, Chennai	422.50	14.05.2009 11/2012 (Contract Foreclosed on 28.04.2015)
				Balance civil work of Powerhouse complex from HRT to Tail Race Channel	M/s Patel Engineering Ltd, Mumbai	1564.41	01.09.2021 12/2023
			E&M works	Supply of CIF/CIP: Supply of all off shore equipments and material including general and specified spares.	Consortium of M/s Alstom Power Hydraulique, France And M/s Alstom Project India Ltd.	Euro 76.80 million + US\$ 6,779,760.	11.02.2005 08/2010
				Ex-works supply of all equipment and material including general and specified spares of Indian origin.	Consortium of M/s Alstom Power Hydraulique, France and M/s Alstom Project India Ltd.	€ 23.21 million + US\$ 14,56 million + 727.97 crs	11.02.2005 08/2010

Sl. No.	Project name/ Exec. Agency CEA clearance/ Approval Capacity (MW)	State <u>Region</u>	Contract	Scope of works & brief details	Contracting Agency (Name & Location)	Contract value (Rs. Crs.)	Date of Contract (commencement)/ Completion
				Local transportation including port clearance and port charges and inland insurance and installation services.	M/s Alstom Project India Ltd.	1,23,74,37,486.00	11.02.2005 08/2010
			H&M works	Supply, erection & commng. of gates	M/s Texmaco Ltd.	283.48 Cr. + Euro 2.22 M	19.06.2006 04/2010
9	Ramam-III NTPC Ltd. 3x40= 120 MW	<u>W.B.</u> <u>E.R.</u>	Civil works & HM works	Approach road to right bank of barrage to access various project component, Barrage construction, Under ground de-silting chamber with SFT and 5.1 km HRT	M/s. Simplex-Apex-JV	360.83	<u>10.09.14</u> 09/2019
				Access from bridge on Rammam river to various proj. components, 3.1 km HRT, Surface Power House, 740 m TRC and 132 KV Switchyard.	M/s. SEW Infrastructure Ltd.	265.39	<u>12.12.14</u> <u>12/2019</u>
			E&M works	Design, Engineering, Manufacturing, Supply, Insurance, Erection, Testing & Commissioning works for EM works EPC contract package.	M/s. BHEL	224.67	<u>19.02.2015</u> <u>11/2018</u>
10	Naitwar Mori (SJVN Ltd.) 02.03.2010 (2x30=60 MW)	Uttarakha nd	Civil Works	C/o all civil works of barrage, intake, desilting tank, HRT, Power house, surge shaft, TRT, Adits & infra works etc.	M/s. Jaiprakash Associates Ltd.	370.87	05.12.2017/ 04.09.2021
			E&M works	Design, engineering, manufacture, transportation, erection and commissioning of all EM components of project.	M/s. Voith Hydro Pvt. Ltd.	113.49	11.06.2018/ 10.10.2021
			H&M works	Design, engineering, procurement, fabrication, transportation, erection and commissioning of all HM components incl. Pressure shaft liner of project.	M/s GMW Pvt. Ltd.	34.44	18.04.2018/ 17.06.2022
			Transmi ssion Line	Construction of 220KV single zebra, Double Circuit Transmission line from Mori (Uttarakhand) to Snail (Himachal Pradesh)	M/s KEC International Limited	81.46	30.04.2021/ 29.04.2022
11	Ratle GVK Ratle HEP Pvt. Ltd. (GRHEPPL) 19-12-2012 <u>4x205+1x30=</u> <u>850 MW</u>	<u>J&K</u> <u>NR</u>	Turnkey execution of 850MW Ratle Hydroelectric project has been awarded to M/s Megha Engineering & Infrastructures Limited on 18.01.2022 on EPC basis for 52 months at contract value Rs. 3485.14 crores.				
12.	Kiru CVPPL 13.06.2016 4x156=624 MW	<u>J&K</u> <u>NR</u>	Civil Works	Civil and HM works of DT, concrete gravity Dam, Intake, Pressure shaft, TRT and underground Power House.	M/s. Patel Engineering Ltd.	2240.27	<u>24.02.2020</u> <u>23.04.2024</u>

Sl. No.	Project name/ Exec. Agency CEA clearance/ Approval Capacity (MW)	State <u>Region</u>	Contract	Scope of works & brief details	Contracting Agency (Name & Location)	Contract value (Rs. Crs.)	Date of Contract (commencement)/ Completion
			HM Works	Providing all service, Model testing, transportation, testing, Commissioning of Radial Gates, Vertical Gate, Gantry Cranes, Stoplogs, Steel liner for Pressure Shaft and Trash racks.	M/s PES Engineers Pvt. Ltd.	202.10	<u>24.02.2020</u> <u>23.01.2024</u>
			E & M works	Design, Manufacture, Supply Erection, Testing & commissioning of TG, 400 KV GIS, 400 KV outdoor pothead yard equipment, Associated Accessories and Auxiliaries,	M/s Andritz Hydro Pvt. Ltd.	552.52	<u>24.02.2020</u> <u>23.07.2024</u>
13.	Rangit-IV Jal Power Corp. Ltd. 06.07.2007/23. 10.2007(FC) 3x40 MW= 120	<u>Sikkim</u> <u>NER</u>	Civil works	Construction of Balance Civil works package: Diversion Channel, Cofferdams, Dam, Spillway & Stilling Basin, Intake structure, Desilting Chambers, SFT, HRT, Surge Shaft, Pressure Shaft, Surface power house, TRC & other associated structures etc.	M/s Rithwik-HIPL Joint Venture	452.11	27.08.2021
			H&M works	Hydro-mechanical Works package of Rangit Stage-IV HE Project,	M/s PES Engineers Private Limited	100.40	28.06.2021
			E&M works	Electromechanical Works Package EM-2 for Design, Supply, Erection, Testing & Commissioning of Balance of Plant (BOP) items	M/s Andritz Hydro Private Limited	80.12	08.07.2021
14.	Luhri Stage-1 SJVN Ltd. 01.05.2018 2x80+2x25=210 MW	Himachal Pradesh	Civil and HM works	Design & engineering services, Civil and HM works of project.	M/s Luhri Hydro Power Consortium (A consortium of Patel Engineering and HES Infra Pvt. Ltd.)	976.50	24.11.2020/ 23.11.2025
			E&M works	Design, engineering, manufacture, transportation, erection and commissioning of all EM components of project.	M/s. Voith Hydro Pvt. Ltd.	420.28	16.07.2021/ 16.05.2025
15	Dhaulasidh Hydro Electric Project SJVN Ltd (2x33 MW = 66MW)	Himachal Pradesh NR	Civil and HM works	Design & engineering services, Civil and HM works of project.	M/s Rithwik Projects Pvt Ltd	526.92	06.05.2021/ 05.05.2025
			E&M works	Design, engineering, manufacture, transportation, erection and commissioning of all EM components of project.	Voith Hydro Pvt. Ltd.	136.64	19.01.2022/ 18.01.2025
16	<u>Kwar</u> <u>(CVPPL)</u>	J&K	Civil and HM works	Civil Works of DT, Dam, Intake Pressure, Shafts, Power House, TRT.	M/s Patel Engineering Limited	2461	11.05.2022/ 10.05.2026
			E&M works				

Sl. No.	Project name/ Exec. Agency CEA clearance/ Approval Capacity (MW)	State <u>Region</u>	Contract	Scope of works & brief details	Contracting Agency (Name & Location)	Contract value (Rs. Crs.)	Date of Contract (commencem ent)/ Completion
B State Sector							
17	Parnai JKSPDC 21.10.2013 3x12.5= 37.5 MW	NR <u>J&K</u>	Civil works	EPC contract	M/s. Patel Engineering Ltd. & M/s. Alstom India.		25.10.2013
			E&M works	T.G. Set	M/S.Andritz Hydro, India		
18	Lower Kalnai JKSPDC 16.08.2013 2x24= 48 MW	NR <u>J&K</u>	Civil works	EPC contract	M/s Coastal Projects Ltd.		<u>12.09.2013</u>
			E&M works	T.G. Set	M/s. GE Power India Pvt. Ltd.		
19	Uhl-III, BVPC Ltd. 19.09.02 / ----- - (TEC -2x50 MW) 3x33.3 =100	<u>H.P.</u> <u>NR</u>	Civil works & HM Works	Neri Intake works & power channel	M/s SSJVPP Ltd. 12 th floor S.N.Tower 25/2 M.G.Road, Banglore Fresh Package awarded on 25.10.08 to: Continental Corp Project Ltd.	8.68	<u>18.04.05</u> 15.8.07 Re-awarded on 25.10.08
				Head Race Tunnel (HRT)	M/s SSJVPP Ltd. 12 th floor S.N.Tower 25/2 M.G.Road, Banglore 560001 Package re- awarded to: Continental Corp Project Ltd.. Re- awarded to M/s Abir Infrastructure Pvt. Ltd., Gurgaon.	69.58	<u>02.04.03</u> 30.04.07 15.10.2010
				Rana Intake Works & Power channel	M/s TRG Industries Pvt Ltd E- 461 Greater Kailash –II New Delhi	17.53	<u>26.07.05</u> 26.10.07
				Penstock fabrication, erection	M/s PES.Engineers Pvt. Ltd. Hyderabad-500016	57.26	<u>27.05.05</u> 27.11.07
			E&M works	Power House	M/s Pilot Engg., Ludhiana	9.87	<u>19.6.2007</u> 12/2009
				Generating Equipment & Associated Aux, Transformers	M/s BHEL	117.36	<u>15.02. 07</u> 15.04.10
20	Shongtong Karcham H.P. Power Corpn. Ltd. Clearance: 16.08.2012/ 3x150= 450 MW	H.P. 2017-18 2017-18	Civil And H&M works	EPC Contract Package for Civil & HM works	M/s Patel Engineering Ltd.	103.24	<u>04.08.2012</u> 03.08.2017
21	Shahpurkandi, Irrigation Deptt/PSPCL 04.05.2011 3x33+3x33+1x8 = 206 MW	<u>Punjab</u> <u>NR</u>	Civil works & HM works	Main Dam alongwith Two head regulators	SOMA-BUREYA Joint Venture	687.51	<u>11.02.2013</u> Oct- 2016
				Hydel Channel	M/s Gurinder Singh Contractor	90.11	<u>26.02.2013</u> Oct- 2015
			E&M works	EPC Contract	BHEL		<u>28.02.14</u>
22	Koyna Left Bank PSS WRD, Govt. of Mah. 20.02.2004 2x40 = 80 MW	<u>Maha.</u> <u>WR</u>	Civil and H&M works	Barrage, Intake tunnel, Twin lake tap, Ventilation tunnel, Power house, Intake structure ,HRT, Pressure shaft, tail surge shaft, pen stoke, TRT, Bus duct tunnel, Lower intake structure	M/s B.T. Patil-Malaxmi (JV), Pune M/s Patel Engg. Ltd. Mumbai	131.91 Crs. 118.86 Crs.	<u>20.06.2007</u> 30.06.2013 <u>03.10.2007</u> 30.06.2016
			E&M works	Design, manufacture, testing & commissioning of TG unit and auxiliaries	M/s IVRCL Ltd. Pune Turbine- Litostroj Slovania Generator- Koncar, Croatia	Euro 4.03 Crs + 177.99 Crs	<u>16.12.2010</u> 15.12.2014

Sl. No.	Project name/ Exec. Agency CEA clearance/ Approval Capacity (MW)	State <u>Region</u>	Contract	Scope of works & brief details	Contracting Agency (Name & Location)	Contract value (Rs. Crs.)	Date of Contract (commencem ent)/ Completion
23	Polavaram (PPA) 21.07.10/ 25.02.09 12x80 = 960MW	<u>Andhra Pradesh</u> <u>S.R.</u>	Civil works & HM works & E&M works	Investigation and L.P schedules etc., (Balance) &	M/s. Trans stroy-JSCECUES (JV), Hyderabad	4054.00	<u>02.03.2013</u> <u>01.03.2018</u>
				EPC contract on TURNKEY basis.	M/s. Navayuga Engineering Company Contract terminated on 14.08.2019 & re-awarded to M/s Megha Engineering and Infrastructure Limited on 01.11.2019	3220.28 Crs 2810.88 Cr.	<u>20.12.2017</u> <u>01.11.2019</u>
24	Pallivasal KSEB/ Not Req./31.1.2007 2x30=60	<u>Kerala SR</u>	Civil, H&M works and E&M works	The work was awarded to M/s ESSAR – DEC – CPPL consortium as a single package and an agreement in this regard was executed on 31.01.2007. The contractual date of completion is 48 months i.e. 01.3.2011. E&M: Dongfang Electric Corporation, China (DEC)		242.96 Crs + US\$57 million	<u>31.01.2007</u> 01.03.2011
25	Thottiyar KSEB 1x30 + 1x10= 40 MW	<u>Kerala SR</u>	Civil works	Dam, Water Conductor System, power House	M/s Coastal Projects Private Ltd- Chongqing Joint Venture, Hyderabad E&M: Chongqing, China	44.23	<u>22.12.2008</u> 19.05.2012
			H&M works	Gates, erection, commissioning		24.09	<u>22.12.2008</u> 19.05.2012
			E&M works	Planning, Engineering, Manufacture, Supply, Erection, testing & commissioning		75.68	<u>22.12.2008</u> 19.05.2012
26	Kundah Pumped Storage Phase -4 x125=125 MW Phase-I, II & III	Tamil Nadu	Civil & HM Works	Package-I: Power House HM works on the Downstream side of P/House (Phase-I).	M/s. Patel Engg., Mumbai - Package-I	346.48	<u>15.02.18</u> 15.02.22
				Package-II: Head Race Tunnel, Head Surge Shaft, Pressure Shafts, HM works on the Upstream side of P/House (Phase-I).	M/s. Kundah PSP Consortium - Package-II	321.34	<u>15.02.18</u> 15.11.21
			E & M Works	Phase –I, Package-III: 1x125 MW Phase-II: 2x125 MW. Phase-III: 1x125 MW. (Complete design, Engineering, Procurement, Manufacturing assembly, Inspection, Testing, Transporting, Supply of complete reversible pump turbine, Generating M/c, Gen. Tx. and common accessories.including C&P system etc.,as specified at site erection ,testing and commissioning of unit)	M/s Megha Engineering Infrastructure Ltd,Hydrabad.	604.62 (Phase-I, Package-III) 756.54 (Phase-II) 401.85 (Phase-III)	<u>28.11.2019</u> 28.05.2023 <u>28.11.2019</u> 28.05.2023 <u>28.11.2019</u> 28.05.2023
27	Lower Kopli APGCL 2x55+2x2.5+1x5= 120 MW	<u>Assam</u> NER	Civil & HM Works	Civil, Road & HM works awarded on 21.08.2020.	M/s L&T	1163.04	<u>June 2024</u>
			EM Works	E&M work awarded on 09.09.2021.	M/s Andritz Hydro Pvt. Ltd.	306.72	<u>June 2024</u>

Sl. No.	Project name/ Exec. Agency CEA clearance/ Approval Capacity (MW)	State Region	Contract	Scope of works & brief details	Contracting Agency (Name & Location)	Contract value (Rs. Crs.)	Date of Contract (commencem ent)/ Completion
C	Private Sector						
28	Tidong-I M/s NSL Tidong Power Gen. Ltd. 2x50 = 100 MW	<u>HP</u> <u>NR</u>	Civil works	Construction of River diversion, barrage, intake, Desilting basins, storage reservoir & HRT (RD 0 m - 905 m)	M/s SCL Infratech Ltd. Hyderabad	127.996	<u>07.11.2008</u> 06.11.2011
				Construction of HRT (RD 905 m-RD 5537 m)	M/s SCL Infratech Ltd. Hyderabad	83.327	<u>7.11.2008</u> 09/2014
				Construction of HRT (RD 5537 m -RD 8537 m)	M/s Himalaya Construction (P) Ltd.	31	<u>07.07.2011</u> 06.07.2015
				Construction of Surge Shaft, Pressure Shaft, Power House and Tail Race Channel	M/s Himalaya Construction (P) Ltd.	40	<u>07.07.2012</u> 06.06.2015
			E&M works	Supply, Installation, testing & commissioning of TG sets	M/s Alstom Projects, India	84	<u>28.02.2011</u> 27.05.2013
29	Tangu Romai-I M/s Tangu Romai Power generation 2x22= 44 MW 30.11.2007 HPSEB	<u>HP</u> <u>NR</u>	Civil works	Construction of Diversion Barrage, Intake, desilting, HRT, Surge Shaft, Penstock, Power House & Tail Race Channel	M/s Sai Urja Hydel Projects (P) Ltd., Shimla	164.7	<u>14.06.2010</u> 06/2014
			E&M works	Supply, installation, T&C of TG set, Switchyard equipment & associated auxiliaries	M/s Andritz Hydro, India	56	<u>17.04.2013</u> 16.07.2015
30	Phata Byung M/s Lanco 06.10.2008 2x38 MW = 76 MW	<u>Uttarakha</u> <u>nd</u> <u>NR</u>	Civil works	Dam, water conductor System, power House	Lanco Infratech Ltd.	206	<u>12.04.2008</u> 07/2012
			H&M works	Design, Engineering, Manufacture, Farication & Erectio,n of all hydro- mechanical equipment	M/s CIMMCO	34	<u>12.04.2008</u> 08/2012
			E&M works	Manufacturing., Supply, erection & commng. of TG units	M/s Alstom Project, India	84	<u>12.04.2008</u> 08.2012
31	<u>Maheshwar,</u> SMHPCL 12 96/ 29.9.2006 (FC) 10x40= 400MW	<u>M. P.</u> <u>WR</u>	Civil and HM works	All civil works like dam, Power Dam, HRC, Penstock PH etc.	M/s SEW Construction –Prasad and Company Ltd.	275.0 Crs. 22.02.97	<u>22.02.1997</u> 03/2005
			E&M works	Manuf., Supply, erection & commng. of TG units	M/s BHEL	470.5 Crs. + USD \$ 11.74 M 18.05.2001	<u>25.06.2007</u> 10/ 2009
32	Bhasmey Gati Infrastructure 2x25.5 = 51 MW	<u>Sikkim</u> <u>NER</u>	Civil works	Dam, Tunnels , Power House, Surge Shaft, Pressure Shaft, Intake	M/s Simplex Infrastructure Ltd.	160	<u>12.04.2010</u> 11/2012
			H&M works	N.A.			
			E&M works	Manufacturing., Supply, erection & commng. of TG units	M/s Voith Hydro, India	93	<u>14.04.2010</u> 10/2012
33	Rangit-II Sikkim Hydro Power Limited 2x33= 66 MW	<u>Sikkim</u> <u>NER</u>	Civil &HM works	EPC Contract	M/s Coastal Project Limited	220.35	<u>13.12.2011</u> 23.10.2013
			E&M works		M/s. Gammon India Ltd.		<u>24.03.2012</u>
34	Panan Himagiri Hydro Energy Pvt. Ltd. 07.03.2011 4x75= 300 MW	<u>Sikkim</u> <u>NER</u>	Civil works	Coffer Dam, Diversion Tunnel, Dam, Desilting Basin, Power House, Surge Shaft, Pressure Shaft, Intake etc.	M/s Essar Projects (India) Ltd..	392.40 (Excl. cost of cement, Steel, explosives)	<u>22.02.2014</u> 21.02.2018 (48 months)
			E&M works	Manufacturing., Supply, erection & commng. of TG units	Under Award		

Sl. No.	Project name/ Exec. Agency CEA clearance/ Approval Capacity (MW)	State <u>Region</u>	Contract	Scope of works & brief details	Contracting Agency (Name & Location)	Contract value (Rs. Crs.)	Date of Contract (commencem ent)/ Completion
35	Kutehr M/s JSW Energy (Kutehr) Ltd. 3x80 = 240 MW 31.08.2010	<u>HP</u> <u>NR</u>	Civil works	Lot-1 Civil works for River diversion, Barrage, Power intake & Part of HRT. Lot-2 Civil works for balance HRT, Surge Shaft, Pr. Shaft, Steel liner, under ground power house, TRT, and Pothead yard. Lot-3 Complete HM works Lot-1D Design, fabrication ,supply and erection of steel liner and pen stock.	-M/s Angelique-PCC Constorium. -M/s MF Bumi Geotech private ltd. -M/s P.E.S. Engineers Pvt Ltd. -M/s Greyhound Engineers India Private Ltd.	567.00 507.40 60.00 18.00	<u>20.10.2019</u> <u>19.06.2023</u> <u>25.11.2019</u> <u>24.05.2023</u> <u>06.01.2020</u> <u>05.05.2023</u> <u>21.07.2020</u> <u>20.07.2023</u>
			E&M works	Electro Mechanical works.	M/s Andritz Hydro Pvt. Ltd.	220	<u>29.07.2020</u> <u>28.07.2023</u>
			Design	Project Design and Engineering	M/s AF Consult India Private Ltd, Tower 1, Steller IT Park, Sector 62, NOIDA- 201 301	11.5	<u>11.04.2019</u> <u>10.05.2024</u>
			Colony	Construction of Jura Colony	M/s Swastik Prefab Private Limited, Sector - 16, NOIDA-201 031	16	<u>06.02.2020</u> <u>30.11.2022</u>
36	Pinnapuram (Greenko AP01 IREP Private Ltd)	A.P.	Civil works & HM	M/s Megha Engineering			
			E&M works	M/s Andritz Hydro Pvt. Ltd.			

CHAPTER – 10

Status of financial closure of Under Execution Private Sector H. E. Projects

I. No.	Name of Project, State, Capacity, Date of TEC	Implementing Agency	Financial Closure Status	Remarks/ Constraints
	Under Execution			
1	Maheshwar, M.P., 10x40 MW, 30.12.96	Shree Maheshwar Hydel Power Corporation Ltd.	Financial closure achieved on 29.9.2006.	
2.*	Teesta-VI, Sikkim 4x125 MW 27.12.2006	M/s Lanco Energy Pvt. Ltd.	Financial closure achieved in July, 07.	
3.*	Rangit-IV, Sikkim 3x40 MW 06.07.2007	M/s Jal Power corporation Ltd.	Financial closure achieved on 25.01.2010.	
4.	Tidong-I, H.P. 150 MW 23.07.2007	M/s NSL Tidong.	Financial closure achieved on 25.03.2010.	
5.	Tangu Romai, H.P. 2x22 MW 30.11.2007	Tangu Romai Power Gen. Pvt. Ltd.	Financial closure achieved on 22.01.2010.	
6.	Phata Byung Uttarakhand 2x38 MW 06.10.2008	M/s Lanco	Financial closure achieved on 25.07.2009.	
7.	Bhasmey, Sikkim 2x25.5= 51 MW Dec, 2008	M/s Gati Infrastructure	Financial closure achieved on 25.03.2010	
8.	Rangit Stage- II Sikkim 2x33= 66 MW 10.02.2010	M/s Sikkim Hydro Power Ventures Limited	Financial closure achieved on 15 th Jan, 2014, 31 st March 2015 (Revised).	
9.*	Ratle, J&K 4x205+1x30= 850 MW	M/s GVK Ratle HEP Pvt. Ltd. (GRHEPPL)	Financial closure achieved.	
10.	Panan, Sikkim 4x75= 300 MW 07.03.2011	Himagiri Hydro Energy Pvt. Ltd.	Financial closure with total debt of Rs. 1516.42 is tied up with PFC ((808.76 Crores), PTC (Rs. 120 Crores) & REC (Rs 587.67 Crores).	
11.	Kutehr, H.P. 3x80=240 MW	M/s JSW Energy (Kutehr) Ltd	Financial closure achieved on 14.01.2021	
12.	Pinnapuram, Andhra pradesh 4x240 + 2x120 = 1200 MW	Greenko AP01 IREP Private Limited)		

*Now these are CPUS's Projects

**DETAILS OF TIME/COST OVERRUN OF UNDER DEVELOPMENT HYDRO ELECTRIC PROJECTS (ABOVE 25 MW) – STATE WISE
(As on 31.12.2022)**

Sl. No	Project Name/(I.C.)/ Executing Agency	Unit No.	Cap. (MW)	Org. Comm. Sched.	Ant. Comm. Sched.	Time over run (month s)	Org. Cost (Rs. in Crores) (Price Level)	Latest/Ant. Cost (Rs. in Crores) (Price Level)	Cost over run (Rs. in Crores) (%)	Major reasons for time over run
1	2	4	5	6	7	8	9	10	11	12
	Andhra Pradesh									
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 (Mar'18)	2024-25 2024-25 2024-25 2024-25 2025-26 2025-26 2025-26 2025-26 2025-26 2025-26 2025-26 2025-26 (Mar,26)	96	3013.68 (2010-11 PL) (Power Component)	5338.95 (2016-17 PL) (Power Component)	2325.27 (77.15)	Works stalled since 19.07.2019 till 30.03.2021 as APGENCO asked contractor Navayuga Engineering Company Ltd. (NECL) to stop all works and termination of contract issued on 14.08.2019. The writ petition filed by NECL was disposed by Hon'ble High Court against NECL on 14.12.2020. Final Contract concluded with new contractor M/s MEIL for execution of PHEP works on 30.03.2021
2	Pinnapuram (4x240+2x120 MW) M/s Greenko	1 2 3 4 5 6	240 240 240 240 120 120	2024-25 2024-25 2024-25 2024-25 2024-25 2024-25 (Mar'25)	2024-25 2024-25 2024-25 2024-25 2024-25 2024-25 (Mar'25)	Nil	6465.22 (Feb'2021 PL)	6465.22 (Feb'2021 PL)	Nil	The project is in initial stage of construction.
	Arunachal Pradesh									
3	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 (Mar'24)	162	6285.33 (12/02)	19992.43 (01/20)	13707.10 (218.08)	➤ 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 activists in Assam against construction of Project. Work restarted w.e.f. 15.10.2019. ➤ DT-2 Inlet Area collapse and flooding of PH in September 2022.
	Assam									

Sl. No	Project Name/(I.C.)/ Executing Agency	Unit No.	Cap. (MW)	Org. Comm. Sched.	Ant. Comm. Sched.	Time over run (month s)	Org. Cost (Rs. in Crores) (Price Level)	Latest/Ant. Cost (Rs. in Crores) (Price Level)	Cost over run (Rs. in Crores) (%)	Major reasons for time over run
1	2	4	5	6	7	8	9	10	11	12
4	Lower Kopili (2x55+2x2.5+1x5 =120MW)	1 2 3 4 5	55 55 5 2.5 2.5	2024-25 2024-25 2024-25 2024-25 2024-25 (Jun'24)	2024-25 2024-25 2024-25 2024-25 2024-25 (March'25)	9	1115.91 (01/15)	1795 (2021)	679.09 (60.86)	The project is in initial stage of construction.
	Himachal Pradesh									
5	Parbati - II (4x200 = 800 MW) NHPC	1 2 3 4	200 200 200 200	2009-10 2009-10 2009-10 2009-10 (Sept'09)	2023-24 2023-24 2023-24 2023-24 (Mar,24)	174	3919.59 (12/01)	11134.54 (07/22)	7215.04 (184.07)	➤ 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.
6	Uhl-III (3x33.33 = 100 MW) BVPCL	1 2 3	33.33 33.33 33.33	2006-07 2006-07 2006-07 (Mar'07)	2024-25 2024-25 2024-25 (Dec,24)	213	431.56 (09/02)	2400 (2022)	1968.44 (456.12)	➤ 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
7	Shongtom Karcham (3x150 = 450 MW) HPPCL	1 2 3	150 150 150	2016-17 2016-17 2016-17 (Mar'17)	2026-27 2026-27 2026-27 (Nov,26)	115	2807.83 (07/11)	2807.83 (07/11)	NIL	➤ Shifting of Army Ammunition Depot. ➤ Disruption of works by local people.
8*	Tangnu Romai-I (2x22 = 44 MW) TRPGPL	1 2	22 22	2014-15 2014-15 (Jun'14)	2027-28 2027-28 (subject to re-start of works(4 years))	165	255.00 (01/07)	641.89 (2018)	386.89 (151.72)	➤ Works are stalled since January, 2015 due to fund constraints with developer.

Sl. No	Project Name/(I.C.)/ Executing Agency	Unit No.	Cap. (MW)	Org. Comm. Sched.	Ant. Comm. Sched.	Time over run (month s)	Org. Cost (Rs. in Crores) (Price Level)	Latest/Ant. Cost (Rs. in Crores) (Price Level)	Cost over run (Rs. in Crores) (%)	Major reasons for time over run
1	2	4	5	6	7	8	9	10	11	12
9	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 2 3	50 50 50	2021-22 2021-22 (Oct'21) New Developer	2023-24 2023-24 (Dec'23)	26	543.15 (01/2007)	1850.00 (06/2018)	1306.85 (240.6)	➤ Delay in NOC by Projects affected Panchayats. ➤ Suspension of works by Govt. for one year. ➤ Funds constraints with the developer ➤ Trans.line forest clearance, stuck with Supreme court .
10	Kutehr 3x80=240 MW JSW Energy (Kutehr) Ltd	1 2 3	80 80 80	2024-25 2024-25 2024-25 (Nov'24)	2025-26 2025-26 2025-26 (Nov'25)	12	1798.13 (09/2011)	2879 (03/2019)	1080.87 (60.11)	➤ Slow mobilization due to Covid-19 Lockdown.
11	Luhri Hydro Electric Project Stage-I (2X 80+2X25 MW = 210 MW)	1 2 3 4	80 80 25 25	2025-26 2025-26 2025-26 (Jan'26)	2025-26 2025-26 2025-26 (Jan'26)	NIL	1810.56 (05/2020)	1810.56 (05/2020)	NIL	➤ Work started recently ➤ Rs. 1810.56 Crore which includes project cost of Rs. 1744.37 Crores (05/2020 PL) and Rs. 66.19 Crore for enabling infrastructure (to be availed as budgetary support from GoI)
12	Dhulasidh (SJVN) 2x 33+66MW Hamirpur/ Kangra	1 2	33 33	2025-26 2025-26 (Nov'25)	2025-26 2025-26 (Nov'25)	NIL	687.97 (05/2020)	687.97 (05/2020)	NIL	• Work started recently • (Rs. 687.97 Crores which includes project cost of Rs. 666.32 Crores (05/2020 PL) and Rs. 21.65 Crores for enabling infrastructure (to be availed as budgetary support from GoI)
	Govt. of UT of J&K									
13	Pakal Dul (4x250= 1000 MW) CVPPL	1 2 3 4	250 250 250 250	2020-21 2020-21 2020-21 2020-21 (Apr'20)	2025-26 2025-26 2025-26 2025-26 (July'25)	63	8112.12 (03/13)	8112.12 (03/13)	#	➤ Contractual and Legal issues before award of works. (40 Months) ➤ Delay in award of works due to higher bids. ➤ Impact of COVID-19.
14	Parnai 3x12.5= 37.5 MW JKSPDC	1 2 3	12.5 12.5 12.5	2017-18 2017-18 2017-18 (Jan'18)	2024-25 2024-25 2024-25 (Jun,24)	77	640.86 (Completion cost)	640.86 (Completion cost)	#	➤ Delay in Land acquisition.
15*	Lower Kalnai 2x24= 48 MW JKSPDC	1 2	24 24	2017-18 2017-18 (Sep'17)	2026-27 2026-27	114	576.87 (12/12) (Completion cost)	576.87 (12/12) (Completion cost)	#	➤ Works on all fronts at Dam and Power House site are stalled since 24.01.2018 due to payment dispute with

Sl. No	Project Name/(I.C.)/ Executing Agency	Unit No.	Cap. (MW)	Org. Comm. Sched.	Ant. Comm. Sched.	Time over run (month s)	Org. Cost (Rs. in Crores) (Price Level)	Latest/Ant. Cost (Rs. in Crores) (Price Level)	Cost over run (Rs. in Crores) (%)	Major reasons for time over run
1	2	4	5	6	7	8	9	10	11	12
					(subject to re-start of works (4 years))					subcontractors and due to non-settlement of extension of time of the contract by the JKSPDC. The contract with M/s. Coastal Projects Ltd. has been terminated and re-tendering for selection of EPC contractor is under process.
16	Kiru (4x156=624 MW) CVPPL	1 2 3 4	156 156 156 156	2023-24 2023-24 2023-24 2023-24 (Aug,23)	2025-26 2025-26 2025-26 2025-26 (July,25)	23	4287.59 (07/18)	4287.59 (07/18)	Nil	➤ Delay in award of works due to issue regarding sanction of Sub debt for the project between GoI and GoJK. ➤ Slow mobilization due to Covid-19 lockdown
17	Ratle (4x205+1x30) = 850 MW RHPPL / NHPC	1 2 3 4 5	205 205 205 205 30	2025-26 2025-26 2025-26 2025-26 2025-26 (Feb'26)	2025-26 2025-26 2025-26 2025-26 2025-26 (Feb'26)	NIL	5281.94 (11/18)	5281.94 (11/18)	Nil	➤ Project was stalled since 11.07.2014 due to various issues viz. R&R issues, Local issues, Law & order problem, etc. Earlier, it was under execution by private sector developer and some works have already been done. There was no progress from 11.07.2014 to 18.01.2022. JV of Govt. of UT of J&K and NHPC was formed and contract was awarded on turnkey basis on 18.01.2022.
18	Kwar (4x135=540 MW) CVPPL	1 2 3 4	135 135 135 135	2026-27 2026-27 2026-27 2026-27 (Nov'2026)	2026-27 2026-27 2026-27 2026-27 (Nov'2026)	Nil	4526.12 (Sep.'20)	4526.12 (Sep.'20)	Nil	➤ The project is in initial stage of construction.
	Kerala									
19	Pallivasal 2x30 = 60 MW KSEB	1 2	30 30	2010-11 2010-11 (Mar'11)	2023-24 2023-24 (June,23)	147	222 (1999)	550.00 (2018)	328 (147.74)	➤ 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.
20	Thottiyar (1x30+1x10)= 40MW KSEB	1 2	30 10	2012-13 2012-13 (Apr'12)	2023-24 2022-23 (June,23)	134	136.79 (2007)	280 (2018)	143.21 (104.69)	➤ Land acquisition issue. ➤ The works of weir and approach channel stopped from 2010 to 2012 by local people.

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1	2	4	5	6	7	8	9	10	11	12
										➤ 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.
	Madhya Pradesh									
21*	Maheshwar (10x40 = 400 MW) SMHPCL	1 2 3 4 5 6 7 8 9 10	40 40 40 40 40 40 40 40 40 40	2001-02 2001-02 2001-02 2001-02 2001-02 2001-02 2001-02 2001-02 2001-02 2001-02 (Mar'02)	2027-28 (subject to re- start of works(Two years)	312	1569.27 (96-97)	6793 (2016-17)	6551.73 (332.87)	➤ Works suspended since Nov-11 due to cash flow problem with developer. M.P. Power Management Company Ltd. has terminated the Power Purchase Agreement with SMHPCL on 18.04.2020. The application of PFC has been admitted in NCLT on 27.09.2022 under IBC.
	Maharashtra									
22*	Koyna Left Bank PSS 2x40 = 80 MW WRD, Maha	1 2	40 40	2014-15 2014-15 (Oct' 14)	2027-28 (subject to re- start of works (4 years)	161	245.02 (1999)	379.78 (2014)	134.76 (54.99)	➤ Project stalled since July, 2015. The current expenditure on the project has already reached to almost original administrative approved cost level.
	Punjab									
23	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 (Mar,16)	2024-25 2024-25 2024-25 2024-25 2024-25 2024-25 2024-25 (Aug, 24)	101	1835.50 (04/08) (Power Component)	2368.55 (02/2018) (Power Component)	533.05 (29.04)	➤ Works of Dam stopped since 29.08.2014 to sept. 2018 due to inter-state dispute between states of J&K & Punjab on sharing of waters of river Ravi and Tariff.
	Sikkim									
24	Teesta Stage VI (4x125 = 500 MW) LancoTeesta Hydro Power Ltd. (LTHPL) (Project taken over by NHPC w.e.f. 08.03.2019)	1 2 3 4	125 125 125 125	2023-24 2023-24 2023-24 2023-24 (March'24)	2025-26 2025-26 2025-26 2025-26 (July,25)	16	5748.04 (07/2018)	5748.04 (07/2018)	Nil	➤ Poor geology. ➤ Land acquisition. ➤ Contractual issues ➤ Funds constraints with developer (Private) and stalled from April, 2014 to October, 2019

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1	2	4	5	6	7	8	9	10	11	12
										➤ 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.
25*	Bhasmey (2x25.5 =51 MW) Gati Infrastructure	1 2	25.5 25.5	2012-13 2012-13 (Jun'12)	2027-28 2027-28 (subject to re- start of works(3 years))	189	408.50 (2012-13)	746.01 (03/18)	337.51 (82.62)	➤ Works are stalled since Sept., 2016 due to funds constraints with developer
26	Rangit-IV HE Project (3X40 = 120 MW) NHPC	1 2 3	40 40 40	2023-24 2023-24 2023-24 (March'24)	2024-25 2024-25 2024-25 (Aug'24)	5	938.29 (10/19)	938.29 (10/19)	Nil	Project was stalled since October, 2013 due to funds constraints with the developer. The project was under NCLT process since 9th April, 2019. The project has been awarded to NHPC. CCEA approval was accorded on 30.03.2021. The contract was awarded in 2021.
27*	Rangit-II 2x33= 66 MW Sikkim Hydro Power Ltd.	1 2	33 33	2015-16 2015-16 (Apr'15)	2027-28 2027-28 (subject to re- start of works(2- ½ years))	155	496.44 (2011-12)	496.44 (2011-12)	#	➤ Works are stalled since December, 2017 due to funds constraints with developer. Project is in NCLT since 30.07.2020.
28*	Panan 4x75= 300 MW Himagiri Hydro Energy Pvt. Ltd.	1 2 3 4	75 75 75 75	2018-19 2018-19 2018-19 2018-19	2028-29 2028-29 2028-29 2028-29 (subject to re- start of works(4- ½ years))	120	1833.05 (2009)	2675.00 (2020)	841.95 (45.93)	Project was under construction in the private sector but stalled due to Issue of construction of bridge on Mantham Lake for accessibility of site which is pending with the State Govt. The works was stalled for want of NOC from State Govt. from NBWL angle and now it has been received. It is being understood that concerned deptt of Govt of Sikkim started erecting 60 Tonne Bridge, but work may progress in full stretch only after this rainy season and will take atleast 12 to 18 months resulting delay in getting the civil bids price to start the project works.
	Tamil Nadu									
29	Kundah PSP (Phase-I, Phase-II & Phase-III) (4x125=500 MW)	1 2 3	125 125 125	2021-22 2021-22 2021-22	2024-25 2024-25 2024-25	40	1216.59 (2007-08)	3401 (2014)	2184.41 (179.55)	➤ Delay in award of civil works.

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1	2	4	5	6	7	8	9	10	11	12
	TANGEDCO	4	125	2021-22 (Aug,21)	2024-25 (Dec,24)					➤ Civil & HM works have been taken up from 05/2018 & EM works awarded in 11/2019
	Uttarakhand									
30*	Lata Tapovan (3x57 = 171 MW) NTPC	1 2 3	57 57 57	2017-18 2017-18 2017-18 (Aug'17)	2028-29 2028-29 2028-29 (subject to re-start of works(4 years))	139	1527.00 (07/12)	1527.00 (07/12)	#	Infrastructure works almost completed. As per Hon'ble Supreme Court vide its order dated 07.05.2014 stayed the construction of 24 Hydro projects in Uttarakhand including Lata Tapovan HEPP. According all construction activities stopped since 08.05.14. Main works to re-start after clearance from Hon'ble Supreme Court.
31	Tapovan Vishnughad (4x130 = 520 MW) NTPC	1 2 3 4	130 130 130 130	2012-13 2012-13 2012-13 2012-13 (Mar'13)	2024-25 2024-25 2024-25 2024-25 (Dec'24)	141	2978.48 (03/04)	7700 (09/22)	4721.52 (158.52)	➤ 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.. ➤ The unprecedented, devastating flash flood on 07.02.2021,due to glacial outburst, avalanching into Rishiganga River has hit the project Components. ➤ Barrage DC basin, Intake Part HRT and SFT was filled with Muck. Radial gates of barrage packages were washed away.
32	Tehri PSS (4x250 = 1000 MW) THDC	1 2 3 4	250 250 250 250	2015-16 2015-16 2015-16 2015-16 (Feb'16)	2022-23 2023-24 2023-24 2023-24 (Oct'23)	92	1657.60 (12/05)	4825.60 (02/19)	3168 (191.12)	➤ 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.
33	Naitwar Mori (2x30 = 60 MW) SJVN	1 2	30 30	2021-22 2021-22 (Dec'21)	2022-23 2022-23 (Feb'-23)	14	648.33 (10/2016)	947.89 (12/2020)	299.56 (46.20)	➤ COVID-19 related restrictions. ➤ Delay in Environment Clearance for Quarry site.
34	Vishnugad Pipalkoti (4x111 = 444 MW) THDC	1 2 3 4	111 111 111 111	2013-14 2013-14 2013-14 2013-14 (Jun'13)	2024-25 2024-25 2024-25 2024-25 (Mar'25)	141	2491.58 (03/08)	3860.35 (02/19)	1368.77 (54.93)	➤ CCEA approval in Aug-2008 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.

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1	2	4	5	6	7	8	9	10	11	12
										➤ Disruption of works by local people. ➤ Cash flow problem with contractor.
35*	Phata Byung (2x38 = 76 MW), LANCO	1 2	38 38	2012-13 2012-13 (Jun'12)	2025-26 2025-26 (subject to re- start of works(3 years))	165	520.00 (2013-14)	1132 (09/16)	612 (117.69)	➤ Works stalled since July, 2017 due to Financial crunch with the contractor / developer. The company is undergoing a corporate insolvency resolution process initiated under IBC for resolution and revival of the project since June 2020. Under this process, the resolution professional appointed by the NCLT has initiated the process for inviting prospective investors for the project.
	West Bengal									
36	Rammam-III (3x40= 120 MW)	1 2 3	40 40 40	2019-20 2019-20 2019-20 (Sep'19)	2025-26 2025-26 2025-26 (July,25)	70	1381.84 (09/14)	1381.84 (09/14)	#	➤ 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.

Note:- It is to mention that cost overrun has been calculated as the difference between the Latest Cost (provided by the developer to CEA along with the Price Level) and the Original Cost approved by the Central Government / State Government. In most of the cases the Latest cost at the current Price Level has not been provided by the developers.

* Construction is held-up.

Cost overrun could not be calculated due to non-availability of latest cost.