

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. 100

QUARTERLY REVIEW No. 100

जनवरी ~ मार्च, 2020

जल विद्युत् परियोजना प्रबोधन प्रभाग

नई दिल्ली

मई ~ 2020

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PREFACE

Present Review	This quarterly review which is 100th in the series covers the period from January~ March, 2020 . The objective of this review is to provide up to date information in respect of Hydro Electric (HE) Projects 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 and suppliers of equipment from time to time.
Milestone Achieved during Jan~ Mar, 2020	Details of HE Projects Rolled/Commissioned 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 Ch. 2.2a to 2.2h. Summary of Hydro Capacity Addition is in Ch. 2.3 (2019-25), Hydro Electric Projects Under Execution – Year wise Lists are placed in Ch. 2.3a to 2.3f.
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 Ch. 3 & 4.
Sanctioned Hydro Electric Projects	A Sector wise list of Sanctioned H.E. projects Commissioned during 2019-20 & 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

Trend of Hydro-Thermal-Nuclear Mix of Installed Capacity (As on 31.03.2020).

Hydro:	45,699.22 MW	(16.17 %)
Thermal:	230,599.57 MW	(81.43 %)
Nuclear:	6,780.00 MW	(2.40 %)
Total: (excluding RES)	283,078.79 MW	

Sector wise Hydro Capacity Under Execution: A hydro capacity of **12,973.50 MW** is under execution. Sector wise summary is given as under:-

Sector	Under Execution (MW)
Central	8389.00
State	2712.50
Private	1872.00
Total:	12973.50

Sector wise summary for the financial year 2019-20 given as under:-

Year	Monitorable Targets (MW)	Capacity Addition (MW)	Sector					
			Central		State		Private	
			Tgt.	Act.	Tgt.	Act.	Tgt.	Act.
2019-20	1190	300	600	300	211	0	379	0

Monitorable Targets for Hydro Capacity Addition for the year 2020-21:

Monitorable Targets for hydro capacity addition for the year 2020-21 is **1146 MW** (300 MW in Central Sector, 371 MW in State Sector and 475 MW in Private Sector). Details are as under:-

Sl. No.	Particular	Unit Nos.	Cap. (MW)	Capacity addition as programmed	Remarks
A.	Central Sector				
1	Kameng NEEPCO, Arunachal Pradesh 4x150=600 MW	Unit # 3 Unit # 4	150 150	Aug,20 Aug,20	Q-2
	Sub- total (A):		300 MW		
B.	State Sector				
2	Uhl - III BYPCL, H.P. 3x33.33=100 MW	Unit #1 Unit # 2 Unit # 3	33.33 33.33 33.33	July,20 July,20 July,20	Q-2
3	Sawra Kuddu HPPCL, H.P. 3x37=111 MW	Unit #1 Unit # 2 Unit # 3	37 37 37	July,20 July,20 July,20	Q-2
4	Thottiyar KSEB, Kerala 1x30 + 1x10= 40 MW	Unit #1 Unit # 2	30 10	Mar,21 Mar,21	Q-4

Sl. No.	Particular	Unit Nos.	Cap. (MW)	Capacity addition as programmed	Remarks
5	Vyasi UJVNL, Uttarakhand 2x60=120 MW	Unit #1 Unit # 2	60 60	Mar,21 Mar,21	Q-4
	Sub- total (B):		371 MW		
C.	Private Sector				
6	Bajoli Holi GMR, H.P. 3x60=180 MW	Unit #1 Unit # 2 Unit # 3	60 60 60	Mar,21 Mar,21 Mar,21	Q-4
7	Singoli Bhatwari L&T, Uttarakhand 2x33=99 MW	Unit #1 Unit # 2 Unit # 3	33 33 33	Aug,20 Aug,20 Aug,20	Q-2
8	Sorang HSPCL Uttarakhand 2x50=100 MW	Unit #1 Unit # 2	50 50	Mar,21 Mar,21	Q-4
9	Rongnichu 2x48= 96 MW Madhya Bharat Power Corpn., Sikkim	Unit #1 Unit # 2	48 48	Oct,20 Oct,20	Q-3
	Sub- total (C):		475		
	Total (A+B+C)		1146 MW		

CHAPTER- 1

Milestones achieved during the Quarter January ~ March, 2020

1. Capacity addition: -

Sl. No.	Particulars	Unit No.	Capacity (MW)	Remarks
1.	Kameng HEP NEEPCO, Arunachal Pradesh 4x150=600 MW	Unit #1	150	Taken into capacity addition on 10.02.2020
		Unit #2	150	Taken into capacity addition on 03.02.2020
		Total	300	
Total during the current Quarter (Central Sector) – 300 MW.				

2. New Hydro Electric Projects taken in the list of under construction projects.

- (a) Kutehr HEP (3x80=240MW), Himachal Pradesh being developed by M/s JSW Energy (Kutehr) Ltd.
- (b) Kiru HEP (4x156=624 MW), Jammu and Kashmir being developed by M/s CVPPL.

CHAPTER - 2

Plan wise Hydro capacity Target Vs Achievement since 4th Plan

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

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		<u>146.13</u>		
	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		<u>386.51</u>		
	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		<u>735.01</u>		
	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		<u>179.89</u>		
	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		<u>812.85</u>		
	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		<u>604.46</u>		
	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	1146 ★			

★ Targets set at the beginning of the year.

Chapter- 2.2a

Hydro Capacity Addition during the Year 2012-13

Sl. No.	Particular	Unit Nos.	Target (MW)	Commissioning as programmed	Actual (MW)	Actual (A)/ Anticipated	Remarks/Critical Issue
A. Central Sector							
1.	Chamera-III NHPC, H.P. 3x77= 231 MW	1	77	Jun-12	77	28.06.2012(A)	Commissioned
		2	77	Aug-12	77	12.06.2012(A)	
		3	77	Oct -12	77	07.06.2012(A)	
2.	Uri-II NHPC, J&K 4x60= 240 MW	1	60	Aug -12	-	Slipped	<ul style="list-style-type: none"> - Local agitation from mid March, 12 to June, 12 end. - TRT was flooded on 17.09.12 due to flash flood. - Filling of U/s Water conductor system delayed due to agitation by local people demanding employment in NHPC.
		2	60	Sept -12		Slipped	
		3	60	Nov-12		Slipped	
		4	60	Dec-12		Slipped	
3.	Chutak NHPC, J&K 4x11 =44 MW	1	11	Sept-12	11	22.11.2012(A)	Commissioned
		2	11	Sept-12	11	08.11.2012(A)	
		3	11	Nov -12	11	11.11.2012(A)	
		4	11	Dec-12	11	28.01.2013(A)	
4.	Parbati-III NHPC, HP 4x130= 520 MW	1	130	Mar-13	-	Slipped	<ul style="list-style-type: none"> - Non-availability of transmission system. - Non completion of Surge shaft gates.
Sub- total (A):			645		275		
B. State Sector							
5.	Bhawani Kattalai -II TANGEDCO, T.N Tamil Nadu, 2x15 = 30 MW	1	15	June-12	-	Slipped	<ul style="list-style-type: none"> - Unit #1&2 synchronised at part load in July, 11 & Sept, 11 - Reservoir filling delayed on account of less release from Mettur dam.
		2	15	July-12			
6.	Bhawani Kattalai -III TANGEDCO, T.N 2x15 = 30 MW	1	15	Oct-12	15	08.12.12(A)	Commissioned
7.	Myntdu MeECL, Meghalaya 3x42 = 126 MW	3	42	Mar-13	42	07.03.2013(A)	Commissioned
Sub- total (B):			87		57		
C. Private Sector							
8.	Budhil Lanco H P 2x35=70 MW	1	35	May-12	35	30.05.2012(A)	Commissioned
		2	35	July-12	35	26.05.2012(A)	
Sub- total (C):			70		70		
Total (A+B+C)			802		402		
Out side the programme of 2012-13.							
1.	Teesta Low Dam -III NHPC, WB 4x33=132 MW	1	-	2013-14	33	30.01.2013(A)	Commissioned
		2	-	2013-14	33	20.01.2013(A)	
		3	-	2013.14	33	24.02.2013(A)	
2.	Jaldhaka (WBSEDCL) West Bengal 4x9=36 MW	4	-	-	9	08.10.2012(A)	Commissioned
Sub- total : Outside			-		108		
Grand Total: 2012-13			802		510		

Chapter- 2.2b

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	60	60	May-13	25.09.2013 (A)	Commissioned
		Unit # 2	60	60	June- 13	16.11.2013 (A)	
		Unit # 3	60	60	July- 13	27.09.2013 (A)	
		Unit # 4	60	60	July- 13	02.02.2014 (A)	
3	Parbati-III NHPC, HP 4x130= 520 MW	Unit # 1	130	130	June-13	18.02.2014 (A)	Commissioned
		Unit # 2	130	130	July -13	27.02.2014 (A)	
		Unit # 3	130	130	Feb- 14	15.03.2014 (A)	
4	Nimoo Bazgo NHPC, J&K 3x15 =45 MW	Unit # 1	15	15	Dec- 13	02.11.2013 (A)	Commissioned
		Unit # 2	15	15	Nov -13	31.10.2013 (A)	
		Unit # 3	15	15	Nov-13	30.10.2013 (A)	
5	Rampur SJVN Limited, HP. 6x68.67 = 412 MW	Unit # 1	68.67	68.67	Jan- 14	23.03.2014 (A)	Commissioned
		Unit # 2	68.67	68.67	Feb- 14	21.03.2014 (A)	
		Unit # 5	68.67	68.67	Mar- 14	29.03.2014 (A)	
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	15	15	July -13	27.08.2013 (A)	Commissioned
		Unit # 2	15	15	Aug- 13	06.09.2013 (A)	
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	50	-	Nov-11	Slipped	- Commissioning delayed, cracks developed in penstock during filling of water conductor system in 1 st week of Nov-2013.
		Unit # 2	50	-	Dec-11		
10	Chuzachen Gati Infra. Limited, Sikkim 2x49.5= 99 MW	Unit # 1	49.5	49.5	June -13	21.04.2013(A)	Commissioned
		Unit # 2	49.5	49.5	July -13	20.04.2013(A)	
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- 2.2c

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- 2.2d

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 Coffor 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- 2.2e

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.

Chapter- 2.2e

	Sub- total (P.S.):		229	24			
	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- 2.2f

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- 2.2g

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 penstock 1&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-2.2h

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 (July,20)	-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 2020-21	-Difficult approach -Delay in welding of liner in bend
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 2020-21	Delay in completion of HRT works & associated transmission line.
	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 2020-21	-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 2020-21	-The HRT crossing two major nallahs that led to slippage of HRT completion target.

Chapter-2.2h

Sl. No.	Particular	Unit Nos.	Capacity (MW)		Commissioning		Remarks / Critical Issues
			Target	Actual	As Programmed	Actual (A)/ Anticipated	
6.	Sorang HSPCL Uttarakhand 2x50=100 MW	Unit #1 Unit # 2	50 50		Nov,19 Dec.,19	Slipping to 2020-21	- Poor planning of re-erection of penstock works - Weather constraints
	Sub- total (C):		379				
	Total (A+B+C)		1190	300			

Chapter- 2.3a

SUMMARY Hydro Capacity Addition during the Period 2020-25 (As on 31.03.2020)

(Capacity in MW)

	2020-21	2021-22	2022-23	2023-24	2024-25	Total
	MW / Nos of Scheme-Projects	MW / Nos of Scheme-Projects	MW / Nos of Scheme-Projects	MW / Nos of Scheme-Projects	MW / Nos of Scheme-Projects	MW / Nos of Scheme-Projects
Central Sector	300 (1)	1880 (4) #	1064 (3) #	4145 (5)	1000 (1)	8389 (13)
State Sector	371 (4)	497.5 (3) #	1346 (4)#	348 (2) #	150 (1) #	2712.5 (12)
Private Sector	475 (4)	576 (3)	281 (4)	300 (1)	240 (1)	1872 (13)
	1146 (9)	2953.5 (10)	2691 (11)	4793 (8)	1390 (3)	12973.5 (38)

- Note:** 1) At present, there are 38 no. of Hydro Electric Projects (above 25 MW) totaling to 12973.50 MW which are under construction in the country. Central Sector – 13 nos. (8389 MW), State Sector – 12 nos. (2712.50 MW), Private Sector – 13 nos. (1872 MW). Out of these, 27 nos. of Hydro Power Project totaling to 10767.5 MW are under construction with no major constraints and 11 nos. of Hydro Power Project totaling to 2206 MW are having major constraints/stalled. The stalled projects have been kept in a particular year based on assumption that the project can be commissioned in a particular year, if works start immediately.
- 2) Some of the schemes/Projects (Mark #) are bifurcated for benefits during more than one year.

Chapter- 2.3b

**List of under construction Hydro projects (above 25 MW) (2020-21)
(Excluding projects under Ministry of New & Renewable Energy)**

Sl. No.	Name of Project	Unit No.	State/ Implem. Agency	Capacity (MW)	Remarks
	Central Sector				
1	Kameng 4x150= 600 MW	U-3 to U-4	Arunachal Pradesh/ NEEPCO	300	
			Sub- total (Central):	300	
	State Sector				
2	Uhl III 3x33.33= 100 MW	U-1 to U-3	Himachal Pradesh/ BVPCL	100	
3	Thottiyar 1x30 + 1x10= 40 MW	U-1 to U-2	Kerala/ KSEB	40	
4	Vyasi 2x60=120 MW	U-1 to U-2	UJVNL/ Uttarakhand	120	
5	Sawra Kuddu 3x37= 111 MW	U-1 to U-3	Himachal Pradesh/ HPPCL	111	
			Sub- total (State):	371	
	Private Sector				
6	Rongnichu 2x48= 96 MW	U-1 to U-2	Sikkim/ Madhya Bharat Power Corporation Ltd.	96	
7	Bajoli Holi 3x60= 180 MW	U-1 to U-3	Himachal Pradesh/ GMR Bajoli Holi Hydro Power Pvt. Ltd.	180	
8	Singoli Bhatwari 3x33= 99 MW	U-1 to U-3	Uttarakhand/ L&T Uttaranchal Hydro power Limited	99	
9	Sorang 2x50= 100 MW	U-1 & U-2	Himachal Pradesh/ Himachal Sorang Power	100	
			Sub- total (Private):	475	
			Total (CS+SS+PS)	1146	

Chapter- 2.3c

List of under construction Hydro projects (above 25 MW) (2021-22) (Excluding projects under Ministry of New & Renewable Energy)

Sl. No.	Name of Project	Unit No.	State/ Implem. Agency	Capacity (MW)	Remarks
	Central Sector				
1	Parbati St. II 4x200= 800 MW	U-1 to U-4	Himachal Pradesh/ NHPC	800	
2	Naitwar Mori 2x30=60 MW	U-1 to U-2	Uttarakhand/ SJVNL	60	
3	Tapovan Vishnugad 4x130=520 MW	U-1 to U-4	Uttarakhand / NTPC	520	
4	Tehri PSS 4x250= 1000 MW	U-1 to U-2	Uttarakhand/ THDC	500	
			Sub- total (Central):	1880	
	State Sector				
5	Polavaram 12x80= 960 MW	U-1 to U-5	Andhra Pradesh/ Polavaram Project Authority	400	
6	Parnai 3x12.5= 37.5 MW	U-1 to U-3	Jammu & Kashmir/ JKSPDC	37.5	
7	Pallivasal 2x30= 60 MW	U-1 to U-2	Kerala/ KSEB Ltd.	60	
			Sub- total (State):	497.5	
	Private Sector				
8	Tidong-I 2x50= 100 MW	U-1 to U-2	Himachal Pradesh/ M/s Statkraft India Pvt. Ltd.	100	
9	Phata Byung 2x38= 76 MW	U-1 to U-2	Uttarakhand/ M/s Lanco	76	Subject to re-start of works
10	Maheshwar # 10x40= 400 MW	U-1 to U-10	Madhya Pradesh/ SMHPCL	400	Subject to re-start of works
			Sub- total (Private):	576	
			Total (CS+SS+PS)	2953.5	

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

Chapter- 2.3d

List of under construction Hydro projects (above 25 MW) (2022-23) (Excluding projects under Ministry of New & Renewable Energy)

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	Rammam - III 3x40=120 MW	U-1 to U-3	West Bengal/ NTPC Ltd.	120	
3	Tehri PSS 4x250= 1000 MW	U-3 to U-4	Uttarakhand/ THDC	500	
			Sub- total (Central):	1064	
	State Sector				
4	Polavaram 12x80= 960 MW	U-6 to U-12	Andhra Pradesh/ Polavaram Project Authority	560	
5	Koyna Left Bank PSS 2x40= 80 MW	U-1 to U-2	Maharashtra/ WRD, GO Mah.	80	Subject to re-start of works
6	Shahpurkandi 3x33+3x33+1x8= 206 MW	U-1 to U-7	Punjab/ Irr. Deptt. & PSPCL	206	
7	Kundah Pumped Storage (Phase-I, Phase-II & Phase-III) 4x125=500 MW	U-1 to U-4	Tamil Nadu/ TANGEDCO	500	
			Sub- total (State):	1346	
	Private Sector				
8	Rangit-IV 3x40= 120 MW	U-1 to U-3	Sikkim/ Jal Power corp. Ltd.	120	Subject to re-start of works
9	Tangnu Romai- I 2x22= 44 MW	U-1 to U-2	Himachal Pradesh/ Tangu Romai Power Generation	44	Subject to re-start of works
10	Rangit-II 2x33= 66 MW	U-1 to U-2	Sikkim/ Sikkim Hydro Power Ltd.	66	Subject to re-start of works
11	Bhasmey 2x25.5= 51 MW	U-1 to U-2	Sikkim/ Gati Infrastructure	51	Subject to re-start of works
			Sub- total (Private):	281	
			Total (CS+SS+PS)	2691	

Chapter- 2.3e

List of under construction Hydro projects (above 25 MW) (2023-24) (Excluding projects under Ministry of New & Renewable Energy)

Sl. No.	Name of Project	Unit No.	State/ Implem. Agency	Capacity (MW)	Remarks
	Central Sector				
1	Lata Tapovan 3x57= 171 MW	U-1 to U-3	Uttarakhand/ NTPC	171	Subject to re-start of works
2	Subansiri Lower 8x250= 2000 MW	U-1 to U-8	Arunachal Pradesh/ NHPC	2000	
3	Teesta- VI 4x125= 500 MW	U-1 to U-4	Sikkim/ NHPC	500	
4	Ratle # 4x205+1x30= 850 MW	U-1 to U-5	Jammu & Kashmir/ Ratle Hydro Electric Project Pvt. Ltd. / NHPC	850	Subject to re-start of works
5	Kiru 4x156=624 MW	U-1 to U-4	Jammu & Kashmir/ CVPPL	624	
			Sub- total (Central):	4145	
	State Sector				
6	Lower Kalnai 2x24= 48 MW	U-1 & U-2	Jammu & Kashmir/ JKSPDC	48	Subject to re-start of works
7	Shongtong Karcham 3x150= 450 MW	U-1 to U-2	Himachal Pradesh/ HPPCL	300	
			Sub- total (State):	348	
	Private Sector				
8	Panan 4x75= 300 MW	U-1 to U-4	Sikkim/ Himgiri Hydro Energy Pvt. Ltd.	300	Subject to re-start of works
			Sub- total (Private):	300	
			Total (CS+SS+PS)	4793	

Govt. of J&K, PDD have terminated PPA on 09.02.2017 and directed JKSPDC to take over the project and implement in JV mode with Gol. MoU for execution of project in JV mode was signed on 03.02.2019 between JKPDD, JKSPDC & NHPC.

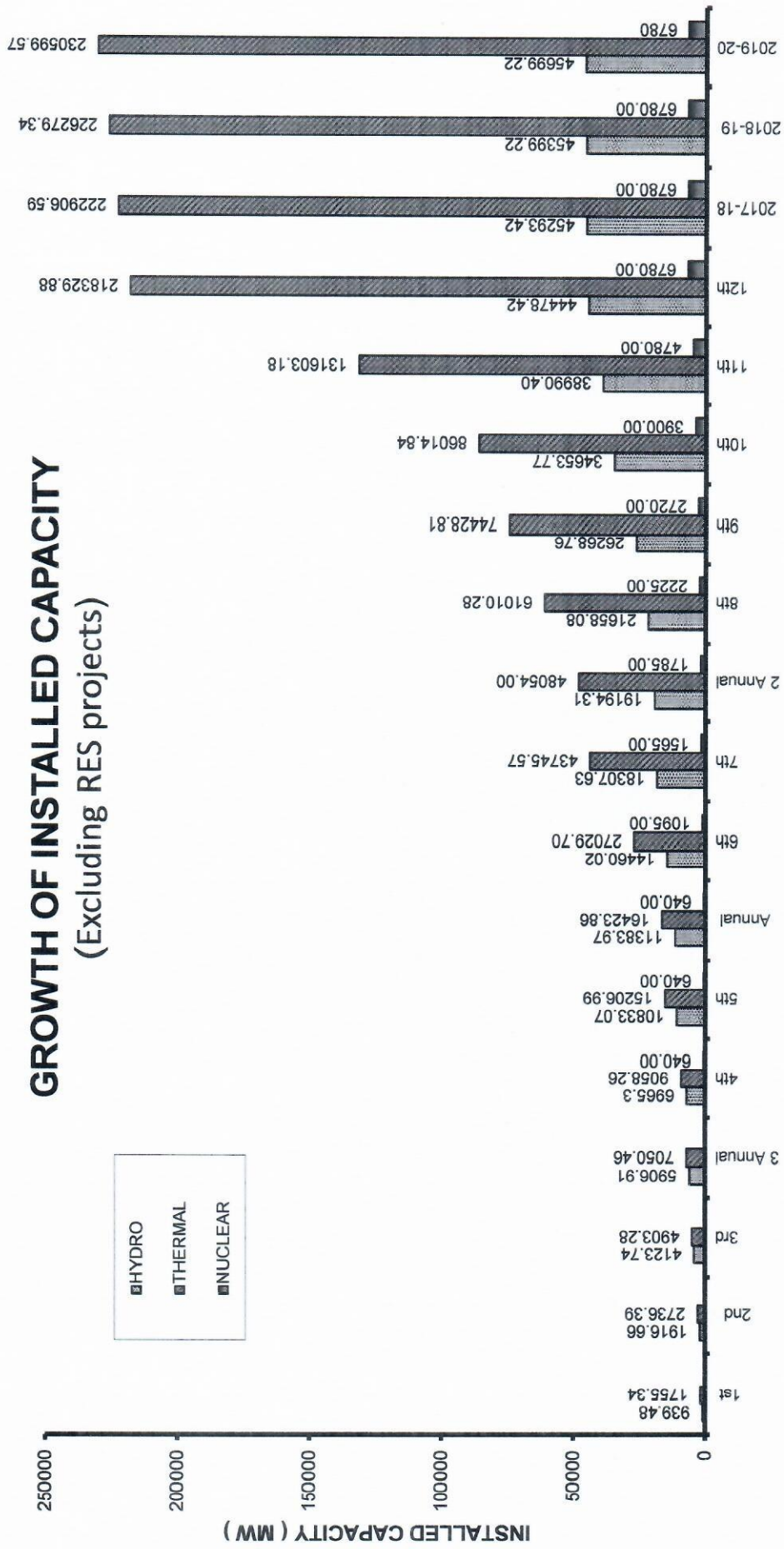
Chapter- 2.3f

**List of under construction Hydro projects (above 25 MW) (2024-25)
(Excluding projects under Ministry of New & Renewable Energy)**

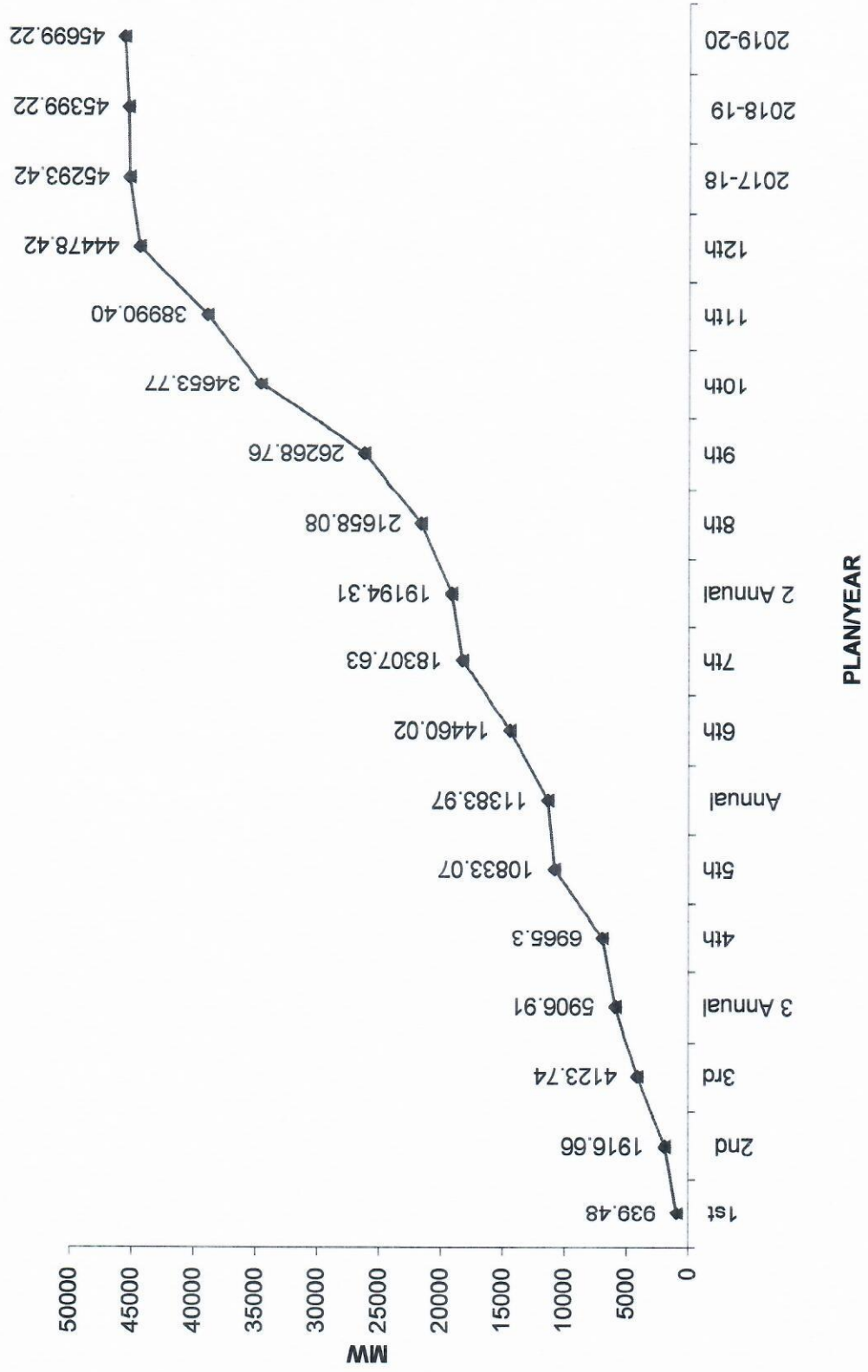
Sl. No.	Name of Project	Unit No.	State/ Implem. Agency	Capacity (MW)	Remarks
	Central Sector				
1	Pakal Dul 4x250= 1000 MW	U-1 to U-4	Jammu & Kashmir/ CVPPL	1000	
			Sub- total (Central):	1000	
	State Sector				
2	Shongtong Karcham 3x150= 450 MW	U-3	Himachal Pradesh/ HPPCL	150	
			Sub- total (State):	150	
	Private Sector				
3	Kutehr 3x80=240 MW	U-1 to U-3	Himachal Pradesh JSW Energy	240	
			Sub- total (Private):	240	
			Total (CS+SS+PS)	1390	

CHAPTER - 3

GROWTH OF INSTALLED CAPACITY (Excluding RES projects)

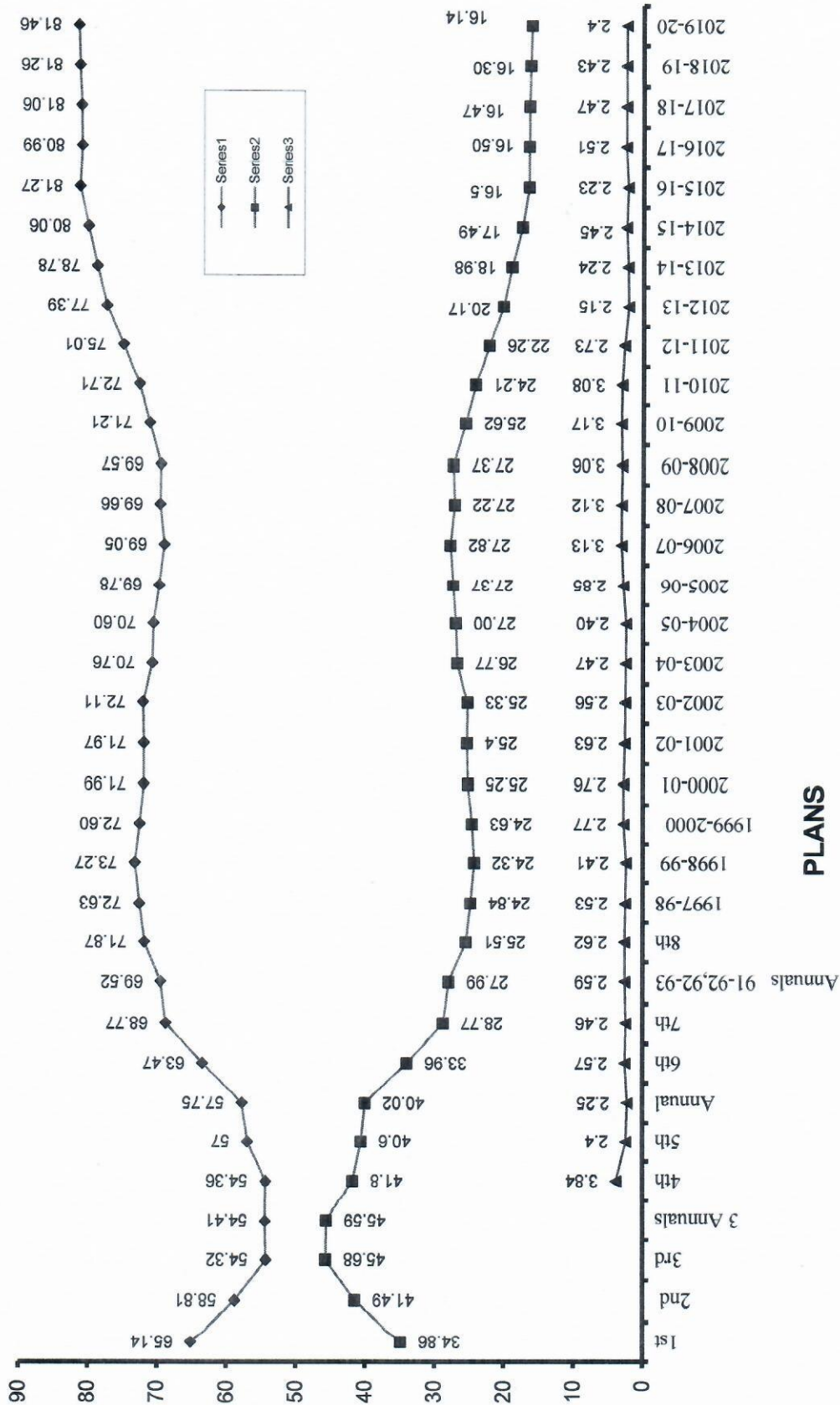


Chapter 3.1 Growth of Hydro Capacity in MW



CHAPTER - 4

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



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	Commissioned/ Commissioning
<u>Commissioned during 2019-20</u>						
<u>Central Sector</u>						
1	Kameng (NEEPCO)	Ar.Pr.	4x150	300.00	02.12.04	Feb'2020
Total Commissioned				300.00		
<u>Under Execution</u>						
<u>Central Sector</u>						
1	Pakal Dul (CVPPL)	J&K	4x250	1000.00	28.10.14	2024-25
2	Parbati St. II (NHPC)	H.P.	4x200	800.00	11.09.02	2021-22
3	Tapovan Vishnugad (NTPC)	Uttarakhand	4x130	520.00	11/2006	2021-22
4	Subansiri Lower (NHPC)	Ar. Pr./Assam	8x250	2000.00	09.09.03	2023-24
5	Kameng (NEEPCO) (2 units in operation, 2 units under construction)	Ar. Pr.	4x150	300.00	02.12.04	2020-21
6	Tehri PSS (THDC)	Uttarakhand	4x250	1000.00	18.07.06	2021-23
7	Lata Tapovan (NTPC)	Uttarakhand	3x57	171.00	17.07.12	2023-24 *
8	Vishnugad Pipalkoti (THDC)	Uttarakhand	4x111	444.00	21.08.08	2022-23
9	Naitwar Mori (SJVN)	Uttarakhand	2x30	60.00	16.10.17	2021-22
10	Ramam-III (NTPC)	West Bengal	3x40	120.00	10.09.14	2022-23
11	Teesta St. VI (NHPC)	Sikkim	4x125	500.00	08.03.19	2023-24
12	Ratle (Ratle Hydro) #	J&K	4x205+1x30	850.00	19.12.12	2023-24 *
13	Kiru (CVPPL)	J&K	4x156	624.00	08.03.19	2023-24
Sub- total (Central Sector) :				8389.00		
<u>State Sector</u>						
14	Parnai (JKSPDC)	J&K	3x12.5	37.50	21.10.13	2021-22
15	Lower Kalnai (JKSPDC)	J&K	2x24	48.00	16.08.13	2023-24 *
16	Uhl-III (BVPCL)	H.P.	3x33.33	100.00	19.09.02	2020-21
17	Swara Kuddu (HPPCL)	H.P.	3x37	111.00	10.11.04	2020-21
18	Shongtom Karcham (HPPCL)	H.P.	3x150	450.00	16.08.12	2023-25
19	Vyasi (UJVNL)	Uttarakhand	2x60	120.00	25.10.11	2020-21
20	Shahpurkandi (PSPCL)	Punjab	3x33+3x33+1x8	206.00	04.05.11	2022-23
21	Koyna Left Bank (WRDMah)	Maharashtra	2x40	80.00	20.02.04	2022-23 *
22	Indrasagar Polavaram (PPA)	Andhra Pradesh	12x80	960.00	25.02.09	2021-23
23	Pallivasal (KSEB)	Kerala	2x30	60.00	Jan., 07	2021-22
24	Thottiyar (KSEB)	Kerala	1x30+1x10	40.00	05.06.08	2020-21
25	Kundah Pumped Storage-I (TANGENDCO)	Tamil Nadu	4x125	500.00	15.02.18	2022-23
Sub- total (State Sector) :				2712.50		
<u>Private Sector</u>						
26	Sorang (Himachal Sorang Power)	H.P.	2x50	100.00	09.06.06	2020-21
27	Tidong-I (Statkraft India Pvt. Ltd.)	H.P.	2x50	100.00	28.07.06	2021-22
28	Tangnu Romai- I (Tangu Romai Power Genreation.)	H.P.	2x22	44.00	30.11.07	2022-23 *
29	Bajoli Holi (GMR)	H.P.	3x60	180.00	30.12.11	2020-21
30	Phata Byung (LANCO)	Uttarakhand	2x38	76.00	06.10.08	2021-22 *
31	Singoli Bhatwari (L&T)	Uttarakhand	3x33	99.00	11.07.08	2020-21
32	Maheshwar (SMHPCL) ##	M.P.	10x40	400.00	30.12.96	2021-22 *
33	Rangit-IV (JAL Power)	Sikkim	3x40	120.00	06.07.07	2022-23 *
34	Bhasmey (GATI Infrastructure)	Sikkim	2x25.5	51.00	Dec-08	2022-23 *
35	Rangit-II (Sikkim Hydro Power)	Sikkim	2x33	66.00	10.02.10	2021-22 *
36	Rongnichu (Madhya Bharat Power)	Sikkim	2x48	96.00	01.10.08	2020-21
37	Panan (Himagiri Hydro Energy)	Sikkim	4x75	300.00	07.03.11	2023- 24*
38	Kutehr (JSW Energy (Kutehr)Ltd.	H.P.	3x80	240.00	30.03.10	2024-25
Sub- total (Private Sector) :				1872.00		
Total - Under execution (as on 31.03.2020)				12973.50		

Govt. of J&K, PDD have terminated PPA on 09.02.2017 and directed JKSPDC to take over the project. MoU between NHPC (51% share) & JKSPDC (49% share) signed for implementation of project in JV mode on 03.02.2019.

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

Chapter 6

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

As on 31.03.2020

Sl. No.	Name of Project Executing Agency Date of CEA clearance / Approval Capacity (MW) Broad Features Cost (original/latest) In Rs. Crores.	<u>State Comm. Sch.</u> (original/ Now Ant.	Broad Present Status / Critical Area	Remarks/ Critical issues
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: 9394.80 (04/18 PL) Contractors Civil : Gammon / Valecha HM : Om Metals E&M : BHEL	<u>H.P.</u> <u>2009-10</u> 2021-22 (Dec'21)	All major works related to commissioning of the project completed except HRT. Head Race Tunnel-Excavation: 28.82 km out of 31.5km completed Total Overt lining: 26.89 km lining out of 31.5km completed. E&M Works: All units have been synchronized with grid at part load using water from Jiwa Nallah.	<ul style="list-style-type: none"> - Poor geology in HRT especially in Face-4 (TBM-Face). - Re-Award of HRT Face-3 by DBM.
2	Tapovan Vishnugad 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: 5867.38 Contractors Civil : Rithwik/L&T / Patel HM : Om Metals E&M : BHEL	<u>Uttara khand</u> <u>2012-13</u> 2021-22 (Dec'21)	Barrage: Excavation Completed and Concreting 126313 cum out of 129358 cum completed. HRT: Excavation of 3.52km out of 4.95km by DBM & 5.47km out of 8.27km by TBM completed. 7.10km concrete lining out of 12.09km completed PH Cavern: Excavation and concreting completed. Desilting Chamber & Intake: Excavation completed. TRT: Excavation completed. Surge shaft: Excavation & Lining completed. Penstock: Excavation and Lining completed. E&M works: Pit liner erection on all 4 units completed. Turbine housing erection of all 4 units completed. Erection of EOT crane in BVC & service bay completed. Unit #1: Boxed up. Unit #2: Boxed up. Unit #3: Turbine erection completed. Unit #4: Turbine erection in progress. Critical : HRT	<ul style="list-style-type: none"> - Completion of HRT. - Associated Transmission system.
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	<u>Uttara khand</u> <u>2010-11</u> 2021-23 (Jun'22)	Upstream (Tehri Dam) and Downstream (Koteshwar Dam), intake and Head Race Tunnels (2 Nos.) already completed alongwith Tehri Stage-I works. Surge Shafts Upstream (2 nos- 140m): Excavation, Mucking & Rock bolt, Lattice Girder Support work in Progress. Surge Shafts Downstream (2 Nos): Excavation, Mucking & Rock Bolt, Lattice Girder Support work in progress. Butterfly Valve Chamber (BVC 78x10x26m): Excavation of 7 th & 8 th bench is under progress. Cumulative benching excavation is 10541 cum (63%). Penstock Assembly Chamber (PAC): Crown slashing with steel ribs completed. Excavation of 3 rd bench including stabilization work is in progress. Power House: Excavation completed. TRT-3(1151 RM): Excavation in Heading 1005 RM,	<ul style="list-style-type: none"> - Poor Geology in under ground works of BVC, PAC, TRT, PH Cavern etc. - Slow progress of works - Cash flow crisis with M/s. HCC.

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
	Cost: Original: 1657.60 Latest: 5024.35 (02/2019 PL) Contractors Turnkey : Alstom, France/ HCC		Benching 624 RM, Invert Lining-150m, Overt Lining 130m completed TRT-4 (1255 RM): Excavation in Heading-967 RM, Benching- 920 RM, Invert Lining-354m & Overt Lining: 244m completed. E&M Works: Manufacturing & supplies are 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> 2017-18 2023-24 (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.	-Works of barrage & HRT yet to start due to protest by villagers. -Construction work stopped vide Hon'ble Supreme Court order dated 7.5.14.
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: 4397.80 (02/2019 PL) Contractors Civil & HM : HCC E&M : BHEL	<u>Uttara khand</u> 2013-14 2022-23 (Dec'22)	River diverted on 02.04.2018. Work on construction of coffer dam is in progress. Development for TBM platform excavation 95% has been completed. Main Access Tunnel (MAT) 413.50m: Excavation completed upto 397.50m. HRT (13400m): 686m completed by DBM. Construction of Adits and infrastructure works are under progress Desilting Chambers (3 No. X 390m) : Crown Slashing completed in DC #2 & DC #3 and Benching is under progress in DC #1, DC #2 and DC#3. Upstream Surge Shaft: 102 RM out of 325.5 RM excavation from bottom adit to Upstream Surge Shaft has been completed. Downstream Surge Shaft : 337.17 RM out of 352 RM excavation from adit to Downstream Surge Tank bottom has been completed.	-Frequent disruption of works by local people. - Slow progress of works - Cash flow crisis with M/s. HCC.
6	Subansiri Lower NHPC 09.09.2003 8x250= 2000 MW (1000 MW in 12 th Plan) Broad Features : Dam –116m High, concrete gravity HRT- 8 x 9.5m x 1145m Power House- Surface Turbine- Francis SWYD- 16/400 kV Cost: Original: 6285.33 Latest: 19496.34 (04/17 PL) Contractors Civil : BGS-SGS-Soma JV HM : Texmaco E&M : Alstom	Arunachal Pradesh Assam 2009-11 2023-24	Dam :- Dam concreting 53.42% & Intake concreting 96% completed. HRT:- 98% heading excavation, 73.65% benching excavation & 56.80% concrete overt lining completed. Surge Tunnel :- Heading excavation 86.40% & benching excavation 12% completed. Pressure Shaft :- Vertical PS slashing 199m (51.82%) out of 384m. Power House :- Excavation almost completed & concreting 35% completed E&M Works:- Unit-1: Elbow Erection (1 to 6) and Turbine Stay Ring and Spiral Case erection completed. Unit-2: Elbow Erection (2 to 6) and Turbine Stay Ring and Spiral Case erection completed. HM Works: Erection of Diversion Tunnel Gates: 51.80% completed. Erection of Intake Gates: 8% completed. Out of total 1594m, 293m pressure shaft steel liner erected.	- Power House civil works to be re-awarded at the earliest by NHPC.

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
			All work except safety works were stalled from December, 2011 to September, 2019 due to agitation launched by various activists against construction of Subansiri Lower HE Project and as per directions of NGT. Works restarted w.e.f. 15.10. 2019 after clearance from NGT.	
7	Teesta-VI NHPC 08.3.2019 4x125= 500 MW Broad Features: Barrage: 34.27m high HRT- 2nos, 13.7km long Pressure shaft: 4nos. 5.4m dia. 130m av length, TRT: 4nos 250m av length, 8.5m dia. PH- Under ground Turbine- Francis Cost: Original: 3283.08 Latest : 5748.04 (07/2018 PL) Contractors Civil & HM : Lanco E&M : Alstom	<u>Sikkim</u> <u>2012-13</u> 2023-24	Barrage and Desilting: Excavation completed & concreting 98% of 380003 cum completed. HRT: Heading excavation 10650m and benching excavation 4270 m out of total 27505 m completed. Overt lining 1550 m completed. Surge Tank: Excavation completed & concreting under progress. Pressure Shaft: Underground excavation of 4 no. pressure shaft completed, lining of one no. pressure shaft completed, balance lining under progress. HM works: 2 nos. radial gates erection in bay 1&2 completed. Erection of 1 st stage embedded parts of radial gates in bay 3&4 under progress. Power House: Excavation completed & conc. 21945 / 44578 cum completed. Concreting to Draft Tube Liners for all the 4 nos. Units completed. Erection of spiral casing of Unit #1 completed. Transformer Cavern: Excavation completed & concreting 2539/7101 cum completed. TRT: Excavation & Lining almost completed.	- Works stalled since April, 2014 due to financial crunch with the developer. - NHPC Ltd. emerged as H1 bidder during bidding process by NCLT. Government of India approval recd. on 8.3.19. -The Consideration Amount of Rs. 897.50 Crore released by NHPC on 09.10.2019 and Taking over along with all assets and documents as 'Going concern' completed on 09.10.2019. -Re-Award of all packages of the balance Project work are under process.
8	Kameng NEEPCO 02.12.2004 4x150 = 600 MW (2 units in operation, 2 units under construction) Broad Features: Dam :Bichom-69m High, 247.3m long. Tenga – 24.4 High, 103m long. HRT- 6.7m dia, 14.45 km. High Pressure Tunnel (HPT)Total length 3.64 km Surge Shaft: 25m dia, 70m Height P.House- semi-U/G Turbine- Francis Cost: Original: 2496.90 Latest: 7927.34 Contractors Civil : Patel HM : Om Metals & JSC JV E&M : BHEL	Arunachal Pradesh <u>2009-10</u> 2020-21 (Aug'20)	All major works related to commissioning of project completed. All Units Boxed up. Leakage observed in penstocks during water filling in March, 2018. Thereafter, complete NDT of all joints of pressure shaft / penstock is in progress along with rectification of defects. Progress of Rectification :- Penstock-1 :- Rectification / Repair works completed. Penstock -2 : i) Repair Welding of WELD DEFECT 2532 RM completed out of 5071 RM. Unit#1 & 2 taken as Capacity addition on 10.02.2020 & 03.02.2020 respectively. ii) Repair Welding of OFFSETS:- 786 RM completed out of 873.85 RM. Balance two units are scheduled to be commissioned in July, 2020.	Rectification / repair works of penstock 2 to be expedited by M/s. Om Metals / NEEPCO.
9	Ramam-III NTPC Hydro Ltd. 10.09.14 3x40 = 120 MW Broad Features : Run of the River	<u>West Bengal</u> <u>2019-20</u> 2022-23 (Nov,22)	First stage river diversion done on 23.03.2016. First phase Barrage excavation completed and Raft concreting in progress. Intake structure 1 & 2: Excavation completed, SFT excavation 20% completed. HRT excavation 11% completed.	- Works affected due to GJMM Andolan. - Funds flow constraints with the contractor

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
	Scheme Cost : Original: 1381.84 Latest : 1592.34 Contractors Civil & HM : Simplex- Apex JV / Sew E&M : BHEL		Excavation of Desilting chamber completed. Surge Shaft: Excavation 72% completed. Pressure Shaft: Excavation 32% completed Power House: Excavation 94% completed. TRC: Excavation 84% and concreting 95% completed Switchyard : Excavation and filling completed	- PPA with West Bengal - Associated Transmission system
10	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 Latest : 648.33 Contractors Civil : JP Associates HM : GMW E&M : Voith	<u>Uttara khand</u> 2021-22 2021-22 (Dec,21)	River Diverted on 31.01.2019 Desilting Tank: Excavation: 1,27,950cum out of 1,35,000cum completed. Barrage: 1,23,910 cum out of 1,28,000 cum excavation completed. HRT: Excavation 2604m out of 4317m completed. Power House & Transformer Hall: 15400cum out of 45,000 cum excavation completed. TRT: 49m out of 174m completed. HM works : LoA issued to M/s GMW Private Ltd. on 18.04.18. E&M works : Works awarded to M/s. Voith Hydro Pvt. Ltd. On 11.06.2018.	- Powerhouse & Barrage works critical.
11	Pakal Dul CVPPL 03.10.2006 4x250 = 1000 MW Broad Features : 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: Original:8112.12 Latest: 8112.12 Contractors Civil : Afcons – JAL - JV E&M : Voith Hydro Ltd	<u>J&K</u> 2020-21 2024-25 (Dec.'24)	Infrastructural works: Excavation of MAT and adit to Powerhouse completed. Dam: Letter of Acceptance issued to M/s Jaiprakash Associates on 21.06.18. Surge Shaft: Access road to Surge shaft top completed on 30.11.18. Power House(157mx20.20mx49m): Letter of Acceptance issued to M/s. AFCON-JP Associates JV on 21.02.18. Excavation of MAT completed on 20.12.18 E&M Package: Letter of Award issued to M/s. Voith Hydro Ltd. On 02.01.2019. HM Works Package: Letter of Award issued to M/s. PES Engineers Pvt. Ltd. on 26.08.2019.	- HRT-TBM package yet to be awarded.
12	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: Original:4287.59 Latest: 4287.59 Contractors	<u>J&K</u> 2023-24 2023-24 (Sep.'24)	Civil, HM and E&M works awarded on 24.02.2020.	

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
	Civil : Patel Engg. HM: PES Engineers E&M : Andritz Hydro			
13	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 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: 5718.85</u> Latest 5718.85 (11/2018 PL) Contractors Civil & HM : GVK E&M : Alstom	<u>J&K</u> <u>2017-18</u> <u>2023-24</u> (Subject to re-start of works)	EPC Contract for Civil & HM works awarded to M/s GVK Projects & Technical Services Limited on 04.07.2013. Excavation of DT1 (298m out of 472m) & DT2 (192m out of 552m) completed. -Works have been suspended at Project site due to frequent local disturbances since 11.07.2014. -Govt. of J&K, PDD have terminated PPA on 09.02.2017 and directed JKSPDC to take over the project and implement in JV mode with Gol. MoU for execution of project in JV mode was signed on 03.02.2019 between JKPDD, JKSPDC & NHPC. Cost estimate vetted by CEA on 7.5.2019. PIB Memo circulated by MoP on 08.08.2019	- Presently works are under hold. - The State Govt. has decided to develop the project through JKSPDC. The matter is now pending adjudication before the Arbitration Tribunal constituted by the Hon'ble High court of J&K State in terms of the PPA.
	State Sector			
14	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: Original: 640.86 Latest 640.86 Contractors Civil : Patel & Alstom E&M : Andritz	<u>J&K</u> <u>2017-18</u> <u>2021-22</u> (Feb,22)	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 32603 cum out of total 46364 cum completed. Concreting 19128 cum out of 34589 cum completed. HRT (D-shaped, 3.2m diameter, 9.236km long):- 4787m out of 9236m excavation completed. Pressure shaft (1no. 2mdia, 1733mlong): Excavation: 11254 cum out of 80,000 cum completed. Concreting: 454cum out of 7212 cum completed. Surge shaft (3.2m dia.) : Excavation: 704cum out of 14000cum completed.	- Slow progress of works - Contractual Issues.
15	Lower Kalnai JKSPDC 16.08.2013 2x24= 48 MW Broad Features: Dam: 110m Span, 49m High HRT: D Shape, 3960m long, 4m dia	<u>J&K</u> <u>2017-18</u> <u>2023-24</u> (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. After suspending works in January, 2017, works resumed at	- Project stalled - Re-award of works

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
	Surge Shaft: 14m Dia Power House- 55x23.45x32.4 Cost: Original: 576.87 Latest 576.87 Contractors Civil : Coastal E&M : GE		site since 12 th April, 2017. Due to poor progress of the Contractor, JKSPDC has revoked the advance payment and the performance bank guarantee aggregating to Rs.79.21 Crores. Now the contract with M/s. Coastal Project Ltd. has been terminated and the process of retendering is under progress.	
16	Shahpurkandi Irrigation Deptt. &PSPCL 04.05.2011 3x33+3x33+1x8=206 MW Cost: Original: 1835.50 Latest 1938.74 (Power Component) Contractors Civil & HM : Soma – BUREYA JV E&M : BHEL	<u>Punjab</u> <u>2015-16</u> <u>2022-23</u> (May.22)	Main Dam: 13.55 lacs cum Excavation out of 18.40 lacs cum and 3.25 lacs cum concreting out of 11.05 lacs cum completed. Hydel Channel: Excavation / concreting is in advance stage of completion. Works of Dam stopped since 29.08.2014 due to inter-state dispute between states of J&K & Punjab on sharing of waters of river Ravi & tariff. An agreement was signed on 8.9.2018 between Chief Secretary, Govt. of Jammu & Kashmir and Chief Secretary, Govt. of Punjab. The Punjab Cabinet ratified the above agreement. Zero date of the project is 1st November, 2018. NIT for Civil works of Power House is being floated and award of works is expected by January, 2020. E&M contract work earlier accorded to BHEL has been revived, Project is programmed for Commission by March,2022.	- Power House civil works to be awarded.
17	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 57m Penstock- 3.4m x 1860m 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> <u>2006-07</u> <u>2020-21</u> (July'20)	All works completed. During Hydro Static pressure Test (HST) of Penstock some leakage was observed. Repair of penstock & HST completed and filling of water conductor system is in progress. Project is Programmed to be commissioned by March, 2020.	
18	Sawra Kuddu H.P. Power Corpn. Ltd. Clearance: 10.11.2004 3x37= 111 MW Broad Features: Diversion Structure: 10.45m high Piano Key Weir. HRT- D-Shaped, 5m dia, 11.145Km long. Power House- Under ground Turbine- 500 rpm VF. Switchyard: 220 Kv.	<u>H.P.</u> <u>2011-12</u> <u>2020-21</u> (July,20)	All works related to commissioning of the project completed except cleaning of HRT. Water conductor system filling is expected to commence by 1 st week of March, 2020. Project is likely to be commissioned by June, 2020.	-Power system evacuation

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
	Cost: Original: 558.53 Latest: 1181.90 Contractors Civil & HM : HCC / Patel E&M : Andritz			
19	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	H.P. 2016-17 2023-25 (Apr'24)	River Diversion achieved on 10.02.2017. Barrage: Drawings are to be submitted by contractor. HRT: Heading excavation of HRT 5.72 km out of 7.712km completed. Surge shaft: 95m out of 100m pilot hole completed. Power House: 98% excavation of Power House completed. Works hampered in some portion of HRT due to re-location of Army ammunition depot. Issue is under resolution between Army, GoHP & HPPCL.	-Issues with Army authorities for shifting of ammunition depot. - Slow progress of works
20	Vyasi UJVNL 25.10.2011 (TEC) 2x60= 120 MW Broad Features: Dam: Conc. Gravity H- 86m L-207.2m HRT- Circular, 7m dia, 2.7Km long. Power House- Surface Turbine- VF. Switchyard: 220 Kv. Cost: Original: 936.23 Latest: 936.23 Contractors Civil : Gammon / MPCC E&M : BHEL	Uttarakhand 2014-15 2020-21 (Mar,21)	Civil Works: Dam : Excavation completed. 3.22 Lakh cum out of 3.6 lakh cum of Concreting completed. Diversion Channel : Completed. Head Race Tunnel (2.7 Km): Excavation of HRT completed. 2632m Overt Lining and 2544m Invert Lining out of 2655m has been done. Pressure Shaft: 4939cum out of 5000cum Excavation completed. Surge Shaft : Excavation completed. Concreting-2118cum out of 6626cum completed. Power House: 2,58,500 cum out of 270,000cum Excavation completed. 14498 cum out of 17,800 cum Concreting of Sub structure completed. Erection of Draft Tube in both the units completed.	-Dam and E&M works are Critical.
21	Koyna Left Bank PSS WRD, Mah. 20.02.2004 2x40 = 80 MW Broad Features: Water from the existing Shivaji Sagar Lake (Koyna reservoir) 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	Maha rashtra 2014-15 2022-23 (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. 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. 22600 cum excavation out of 55050 cum completed. E&M works: The contract for details engineering manufacturing supply, supervision erection, testing commissioning and putting into commercial use of pump turbine, generator motor and associated equipments 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)	-Slow progress of works. -Funds constraints due to increase in Project cost. RCE under approval. - Contractual Issues - The proposal to construct the project on BOT basis had been sent to State Govt., as no response has been received from State Govt., WRD is planning to take up the project after availability of funds. -

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
	Turbine – Reversible Cost: Original: 245.02 Latest: 1403.77 Contractors Civil & HM : BT Patil – Malaxmi JV / Patel E&M : Litostroj Slovenia & Koncar, Croatia		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.	
22	Polavaram APGENCO / Irrigation Deptt., A.P. 21.07.2010/ 25.02.2009 12x80= 960 MW Cost: Original: 4956.39 Latest: 5338.95 (Power Component) Contractors Civil : Navyug HM : PES E&M : GE	Andhra Pradesh 2017-18 2021-23 (Mar,23)	Spillway, Earth cum Rockfill Dam, Power House Foundations Works awarded in March, 2013 to M/s. Transtroy- JSC EC UES JV. ECRF DAM: Earth work of 508.06 L.Cum /833.169L.Cum is completed. Diaphragm Wall concreting – completed. SPILLWAY: Excavation-838.80 L Cum out of 1115.59 L Cum completed. Concreting 9.60 L Cum out of 36.79 L cum completed. Gates: Radial Gate fabrication – 11010 MT completed out of 18000 MT (61.17%). Power House: Earth work of 112.20 L Cum / 114 L.Cum is completed & embankment of 9.79 L.Cum / 10 L.Cum is completed. B) The LoA for works of Power House on turnkey basis was issued to M/s Navayuga Engineering company Limited (NECL) on 06.12.2017. Contract was terminated by APGENCO on 14.08.2019. M/s. NECL challenged the termination order in Hon'ble High Court of A.P. on 19.08.2019. Hon'ble High Court granted interim stay on 22.08.2019. In the meanwhile, on retendering, LOI was issued to M/s Megha Engg. Infrastructure Limited. (MEIL) on 01.11.2019. Since stay order is in force. No further action could be initiated.	-At present work is standstill, since stay order by Hon'ble High Court of A.P. is in force.
23	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: 222.00 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-SSIPCJV, M/s.	Kerala 2010-11 2021-22 (Dec,21)	Intake structure: Excavation – 28398/33492 cum completed. Leading channel of Water conductor system replaced by cut & cover/soil tunnel and accordingly intake is shifted. HRT: Excavation –2858/3330 m completed. Overt conc. 1637/3330 m completed. Invert Conc.. – 1637/3330 m completed. Surge Tank/Forebay: Exc.–7640/13400 cum. Conc.423/843 cum. Pressure Shaft: Excavation completed. Fabrication of steel liner completed and erection of 96/1096 m completed. Surface penstock: Excavation –109354/122600 cum. Concreting- 11641/12850 cum and 1701m out of 2036m erection completed. Power House: Excavation completed. Concreting 3980/11225cum. Tail race Channel (2 Nos.): Excavation & lining completed. E&M Works: 75% supply completed. Erection yet to start.	- Poor Geology - Contractual Issues - Contract for Civil &HM works has been terminated w.e.f. 13.09.18. Balance work has been re-tendered 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. Tender for Erection of Supplied Electro Hydro Mechanical Equipment & Supply and Erection of BoP equipment is under progress.

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
	Shri Sarvasana Industries Pvt. Ltd.			
24	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: 136.79 Latest: 280 Contractors Civil & HM : PRIL- Sri Sarvana Industries	<u>Kerala</u> 2012-13 2020-21 (Mar'21)	Civil Works: Weir: 3590.17 cum excavation out of total 10208 cum and 5550 Cum concreting out of 10928 Cum completed. Approach Channel & Intake: Excavation-3184 cum out of 9584 cum done. Power Tunnel : Excavation completed. Power House, switchyard & allied works: 33785 cum excavation out of 43690 cum and 3676 cum concreting out of 16209 m done.	-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. E&M works to be executed by KSEB.
25	Kundah Pumped storage (Phase-I, Phase-II & Phase-III) TANGEDCO 4x125= 500 MW Cost: Original: 1216.59 Latest: 1717.91 Contractors Civil & HM : Patel / Kundah PSP E&M: MEIL	<u>Tamil Nadu</u> 2022-23 2022-23	Civil & HM Works: LOI issued to M/s Patel Engg. Ltd. for Package-I & M/s Kundah PSP Consortium for Package-II on 15-02-2018. Excavation of balance MAT, balance CCVT, Adits to TRT, TRSS, Power House top/bottom, Pressure Shaft bottom have been completed. HRT portal: Benching under progress. Power House: Slashing of PH & transformer cavern completed & benching is in progress. Pressure Shaft: Excavation in Horizontal & inclined position are under progress. TRT: Excavation under progress. Head Race Surge Shaft:- Excavation under progress. E&M works: works awarded to M/s. Megha Engg. & Infrastructure Ltd. on 28.11.2019.	
Private Sector				
26	Sorang Himachal Sorang Power corporation Ltd. June, 2006/ 2x50= 100 MW Broad Features: HRT- 1.5 km Trench Weir-59 m P.House- underground Turbine- Pelton Gross Head-626 m SWYD- 11/400 kV (GIS) Cost: Original: 586.00 Latest: 586.00 Contractors Civil & HM : NCC – Maytas – SS JV E&M : Voith Siemens	<u>H.P.</u> 2011-12 2020-21 (Mar-21)	All Civil Works completed. Both the units are boxed up. During the filling of water conductor system in 1 st week of Nov., 2013, leakage occurred in penstock due to cracks. Rectification work completed in April, 2015. Unit #1 synchronized with grid on 30.10.2015, however, could not be commissioned due to non-availability of rated discharge. On 18-11-2015 when Unit # 2 was under trial run, there was rupture in the surface penstock pipe. The incidence caused loss of lives and property. The rectification work is under progress. Land acquisition for new alignment of Penstock & other infrastructure is completed. Fabrication of Ferrules under progress.	- Repair of penstock work -Arrangement of funds to carry out repair works.
27	Tangnu Romai-I M/s Tangnu Romai Power generation 2x22= 44 MW	<u>H.P.</u> 2014-15 2022-23	Civil works awarded on 14.06.2010 to M/s Sai Urja Hydrel Project (P) Ltd. Barrage and Diversion Cannel: 26211 cum out of 93800 cum excavation completed.	- Slow progress of works HRT critical, poor geology. - Works are stalled due

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
	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: Original: 255.00 Latest: 641.89 Contractors Civil & HM : Sai Urja E&M : Andritz	(Subject to re-start of works)	Desilting Chambers & SFTPC: Excavation completed. SFT excavation 420 / 450.66 m completed. HRT: 2826m out of 6300m excavation completed. Power House, Switchyard & Misc.: 60275 m ³ out of 72000 m ³ 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.	to finance issues since Jan, 2015. - Developer have initiated the sale of the Project and are in the process of negotiating with Potential Buyers.
28	Bajoli Holi M/s GMR Bajoli Holi Hydro Power Pvt. Limited 31.12.2011 3x60= 180 MW Broad Features Dam Height-66 M Dam Length-178 M Desilting Chamber- 2 Nos. 240 Mx14.5 MX 10.8 M HRT- Length-15.538 Km., 5.6 M dia P.H. –Surface Cost: Original 1696.93 Latest 2205.00 Contractors Civil & HM : Gammon E&M : Alstom/ GE	H.P. 2018-19 2020-21 (Mar,21)	Civil Works: 86% works completed. Dam: Excavation completed. Concreting 1,36,844 cum out of 2,10,000 cum completed. HRT: Excavation completed. 6.485 km lining out of 15.9 km completed. Surge Shaft: Excavation completed. Lining-4470/5200 cum completed. Pressure shaft: Excavation completed. Lining-664MT / 2440MT completed. Power house: Excavation completed and concreting almost completed. HM Works: 72% works completed. E&M Works: 82% works completed.	-Slow progress of works -Poor approach roads -Power evacuation system is critical. - Due to excessive snowfall on 6 th & 7 th Feb 2019, in the entire region up to Chamba, access roads got severely damaged. Power Supply remained completely cut off to the entire region during 6 th ~25 th Feb 2019.
29	Tidong-I M/s Statkraft India Pvt. Ltd. 2x50 = 100 MW 28.07.2006 Broad Features: HRT-D-3.5m L- 8461 m P.H. Surface Turbine –Vertical Pelton Cost: Original 543.15 Latest 1286.27 Contractors Civil & HM : SCL Infratech / Himalaya E&M : Alstom	H.P. 2013-14 2021-22 (Oct. 21)	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. HRT (8526m): Excavation 3054m completed and 10,299/83,800 cum Head works concreting has been completed. Surge Shaft: Excavation 63m/87m completed. Pressure Shaft: Excavation completed. 205m / 1310m lining completed. Power house and Tail race channel- 87709 cum out of 92500 cum excavation completed. 11237 cum out of 16156 cum concreting completed. Overall 72 % of Powerhouse civil works completed. M/s Statkraft India Pvt Ltd has acquired the 100% equity of the project on 04.09.2018 and remobilization of manpower on the project is in progress. Presently project is scheduled to be commissioned by October 2021.	- Slow progress of works. - Transmission Line critical.

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
30	Kutehr M/s JSW Energy (Kutehr) Ltd. 3x80 = 240 MW 31.08.2010 Broad Features: Cost: Original Latest Contractors Civil & HM : E&M :	<u>H.P.</u> <u>2024-25</u> <u>2024-25</u> (Nov. 24)	Civil works awarded on 29.10.2019.	-
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: Original: 520.00 Latest : 1133 Contractors Civil : Lanco HM : Cimcco E&M : Alstom	<u>Uttara khand</u> <u>2012-13</u> <u>2021-22</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.	- Works severely affected due to flash floods in June, 2013. - Works are stalled since July, 2017 due to Funds constraints with the developer
32	Singoli Bhatwari M/s L&T 11.07.2008 3x33 MW = 99 MW Broad Features: Barrage-FRL 1017 m, MDDL 1009 m, Barrage Top 1020m HRT- 4.65m dia & 11.870m length Surge Shaft-10 m dia & 102.85 m length Pressure Shaft-One, 3.80m dia & 358m length Penstock- 3 Nos., 2.20 m dia & 34m, 42m, 48m long. P. House-Surface Turbine-Vertical Francis TRT- Open Channel, 650m length Cost : Original : 666.47 Latest: 1694.00(PL-2018) Contractors Civil : L&T HM : General Mechanical Works E&M : Voith	<u>Uttara khand</u> <u>2012-13</u> <u>2020-21</u> (Aug,20)	Dam & Dykes/Barrage: Excavation almost completed and concreting 66169 out of 70220 cum completed. HRT: Excavation completed Overt Concrete Lining 11127m out of 11257m completed. Invert Lining: 11127 m out of 11257m completed. Pressure Shaft: Excavation completed. Power House: Excavation completed & concreting 29365cum out of 29959cum completed. Surge Tank: Excavation completed. 4113.93cum out of 5349cum concreting completed. E&M Works: Boxing up of Unit#1 & Unit#3 completed & Boxing up of Unit#2 is in progress. All the works are scheduled to be completed by March, 2020 and project is programmed to be commissioned by May, 2020.	- Works severely affected due to flash floods in June, 2013. - HRT Critical
33	Maheshwar, SMHPCL 30 12 96/ 29.9.2006 (FC) 10x40= 400 MW Broad Features:	<u>M. P.</u> <u>2001-02</u> <u>2021-22</u> (Subject to	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.	- Completion of R&R works and E&M works. - Works held up due to Fund constraints with developer.

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
	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	re-start of works)	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. Recently, the GoMP constituted a High-Level Task Force vide Energy Department Order dtd. 18.04.2019, under the Chairmanship of Dr. Rajan Katoch (IAS Retd.) and having Senior IAS Officers from GoMP among others as members to examine the difficulties in implementation of the project and suggest the way forward. In the first meeting of the Task Force held on 25.05.2019, the Chairman of the Task Force directed the Promoter and Lenders to engage in discussions to reach an understanding on the way forward. Pursuant to the directions of the Task Force, a Memorandum of Understanding (MoU) has been executed on 22.07.2019 between the Entegra Limited (Promoter), Power Finance Corporation (Lead Lender) and SMHPCL. As agreed in the MoU, new Management nominated by the Promoter has taken over charge of SMHPCL, in August 2019. Mr. M L Gupta, former CMD, THDCIL, who was also MD of SMHPCL during 2005-2010, has taken over as CMD of SMHPCL. Efforts are being made to initially commission the 3 machines already installed since 2011 and start generation with part filling of reservoir after completing R&R to that level. BHEL has agreed to supervise the restoration and commissioning of 3 machines. Action for arrangement of funds required is being taken.	- Sub-Judice in NCLT.
34	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 : 1692.60 Contractors Civil : Coastal HM : Texmacho E&M : Andritz	<u>Sikkim</u> 2011-12 2022-23 (Subject to re-start of works)	Dam & Intake works: Excavation 409184 / 492775 cum completed and concreting 61045 cum out of 173229 cum completed. Excavation of road diversion tunnel has been completed. HRT: Excavation in progress and 3794 m out of 6488 m completed. Surge Shaft: Excavation has been completed & concreting yet to start. Pressure Shaft: Excavation of Horizontal Pressure Shaft completed. Vertical Pressure Shaft 60.5 m out of 84.7m completed. Power House: Excavation in Power House completed. Concreting 8565 cum out of 19900 cum completed. Desilting chamber: Excavation 2143 m out of 3360 m completed. In the Joint Lenders Forum meet held in PFC on 5 th April, 18, Lenders decided to file application in NCLAT and the same has been filed on 24 th April, 18. Last hearing of NCLT held on 29.03.2019 and order pronounced on 9.04.2019. As per the order IRP has been appointed. NHPC Ltd. submitted EOI on dated 08.07.2019 and was shortlisted under final list of Prospective Resolution Applicants on dated 23.08.2019. The Resolution Plan submitted by NHPC on 04.12.2019. The Resolution Plan Approval Application was listed for	Financial crunch with the developer. Work held up since Oct, 2013 due to fund constraints.

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
			hearing on 17.02.2020 before NCLT, Hyderabad ("Tribunal"). Next hearing is on 19.03.2020.	
35	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 High & 14m dia. P.House-Outdoor Turbine-VF TRT-2 Nos, L- 50m Swityard-132/11 KV Cost :Original : 408.50 Latest : 690.30 Contractors Civil : Simplex E&M : Voith	<u>Sikkim</u> <u>2012-13</u> <u>2022-23</u> (Subject to re-start of works)	Project is in initial stage of construction. River diversion achieved. Barrage: 61555cum/194600cum excavation completed. HRT: 1670m/4460m excavation completed. PH: 136105 cum/185937cum excavation completed. Surge Shaft : 8567cum / 22000cum Surface excavation completed.	- Slow progress of works - Works stalled since Sept., 2016 due to paucity of funds.
36	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>2022-23</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.	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.
37	Rongnichu Madhya Bharat Power Corporation Ltd. 01.10.2008 2x48= 96 MW Broad features : Barrage : Height 14m, length 120.00m Desilting Basin : Size (60Lx18Wx7H)m. HRT : Horse shoe type, 12.302km, 4.00m dia Surge shaft : 85m high, 10m dia, orifice dia 1.7m Pressure shaft : 3.0m dia, 415m long steel	<u>Sikkim</u> <u>2014-15</u> <u>2020-21</u> (Oct'20)	The civil works have been re-awarded to M/s Moshvaraya Infrastructure Ltd. and E&M works to M/s Litosroj Power, Slovenia & CG Electric system, Hungary. Barrage: Excavation completed & 71300 out of 71700 cum concreting completed. HRT: Excavation completed and concreting 8217cum out of 12600cum completed. Surge shaft: Excavation & Concreting completed. Pressure Shaft: 175m out of 1426.50m of steel lining completed. Civil works of VPS completed. Power House: Excavation completed. 15482cum out of 24644 cum Concreting has been completed. E&M works: EOT Crane works completed Unit #1 & #2 : Erection works are in progress.	- Land acquisition. - Poor geology.

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
	lined Penstock 812m long Power house : Surface (61.5Lx47.75Wx38.0H) m Turbine : Pelton, vertical shaft, 2nos. Cost : Original : 491.32 Latest : 1187.00 Contractors Civil & HM : Sew E&M : Voith			
38	Panan Himagiri Hydro Energy Pvt. Ltd. 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 :2516.00 Contractors Civil : Essar	<u>Sikkim</u> <u>2018-19</u> <u>2023-24</u> (Subject to re- start of works)	Civil works awarded on 22.02.2014. Infrastructural works and geological investigations are in progress. Starting of civil construction works was earlier held up for want of the National Board of Wild Life (NBWL) clearance. NBWL clearance obtained in December, 2015. However, there is a case challenging the Eco-Sensitive zone notification of MoEF & Climate Change in NGT. The case is disposed on 21.8.2017. The developer applied for issuance of clearance from Forest, Environment & Wild Life Management Dept., Govt. of Sikkim.	-Works stalled for want of NoC from NWLB.

Grand Total : 38 nos. – 12,973.5 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	Broad Present Status
1.	<p>Punatsangchhu-I 6x200=1200 MW PHPA, Bhutan Date of TEA: 27.07.2007 Broad Features : Dam – 136m High, 279.2m long, Concrete gravity (RCC) HRT- 10m x 8.948 km Pressure Shaft: Two nos. 6.0mx482.20m 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 : 2024-25</p>	<p>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 (Ammended on 10.6.2013)</p>	<p>Dam (136m high and 239m long):- 69.913 lac cum excavation out of 71.177 lac cum is completed (69.87%). Desilting chamber (4 nos. each of 330 m length x 18m width x 24 m depth):- Excavation/ Concreting completed (100%). HRT (10m diameter, 8.9 km long):- Excavation and lining completed (100%). Surge Shaft (24.5m diameter 128.5m height):- Boring & lining completed (100%). Pressure Shaft (2nos. Each of 6m diameter 433m long and 6 penstocks of 3.32m diameter):- 99.81% works completed. Power House (236.5m x 22.9m x 53m size):-Excavation completed. Concreting 32,300 cum out of 33,300 cum completed (99.99%). TRT (10.0 m diameter and 1182.20m long): Excavation and lining completed. E&M Works:-Box-up of U#1 & U#2 is in progress and rest of units are in various stages of construction (94.37%). Cumulative Physical Progress is 86.84%.</p> <p>Critical: Movement & subsidence at right bank hill. Completion of dam works.</p>
2.	<p>Punatsangchhu-II 6x170=1020 MW PHPA, Bhutan Date of TEA: 30.04.2010 Broad Features : Dam – 86m High, 213.5m long, concrete gravity HRT- 11m x 8.585 km Pressure Shaft: 3 nos. 5.5mx997m each Surge Shaft:31 m x137m TRT: 11.0m x3163m P.House-Underground Turbine- Vertical Francis</p>	<p>Civil Works: Package- CI : JP Associate Ltd. on 25.07.2011 Package-CII: Gammon India Ltd on 25.07.2011 Package-CIII: JP Associate Ltd. on 25.07.2011 E&M Main Works: Package-I: BHEL Ltd. on 18.07.2012 Package-II: BHEL Ltd. on 7.05.2013 Package-III: Hyosung Corporation on 7.05.2013</p>	<p>Dam (86m high and 213.5m wide):- Excavation completed. Adverse geological situation faced at the left bank of the dam. Conc.7.996 lakh cum completed out of 8.96 lakh cum. (86.10%) Desilting Chamber:- Excavation 939925 cum out of 937096 cum completed and lining 144784 cum out of 144269 cum completed. (97.50%) HRT (11m diameter, 8.58 km long):- Excavation in benching completed, overt lining completed and invert lining 6276 m out of 6314 m completed. (98.98%) Surge Shaft (31m diameter 137 m</p>

Sl. No.	Name of Project / Capacity(MW)/Executing Agency/Date of CEA clearance / Approval / Broad Features/Commissioning Schedule	Award of works	Broad Present Status
	<p>SWYD- 400 kV Original Commissioning Schedule: June' 2017 Anticipated commissioning schedule: 2022-23 (Likely to shift due to effect of floods on E&M equipments)</p>	<p>Package-IV:LS Cables & System Ltd. on 7.05.2013 Transmission Works: Bhutan Power Corp.Ltd on 21.03.2013 (on deposit work basis)</p>	<p>height):- Excavation and lining completed. Pressure Shaft:-Erection & conc. of Steel Liner 1327 M completed out of 1454 M. (93.70%) Power House (236m x 23m x 51m size):- M/C Hall Excavation completed and Benching from EL 582 m to EL 555.50 m completed . Erection of D/T liners for U# 2&3 completed and for U# 1,4&6 is in progress. Transformer hall excavation completed. (74.32%) TRT (11m diameter 3.3 km long):- Heading Excavation completed. 39 m overt conc. from face-V and 1250m invert lining from face-III is also completed. (93%) E& M Works: Erection and Commissioning of EOT crane has been completed. (78.59%) Cumulative Physical Progress is 87%. Critical: - Restoration & completion of downstream Surge gallery works. - E&M works.</p>
3.	<p>Mangdechhu HEP 4x180=720 MW MHPA, Bhutan Date of Approval:: 30.04.2010 Broad Features : Dam – 114m High, 141.28m long, Concrete gravity HRT- 6.5m x 13.561 km Pressure Shaft: Two nos. 3.5mx1856m each Surge Shaft:13.5 m x152.0m TRT: 8.0m x1295m Power.House-Underground Turbine- Pelton Vertical axis SWYD- 400 kV Original Commissioning Schedule: Sep'17</p>	<p>Civil Works: Package-I : JP Associate Ltd. on 20.03.2012 Package-II: Gammon India Ltd on 20.03.2012 Package-III:JP Associate Ltd. on 20.03.2012 H&M Works: Package-IV: PES Engg.Pvt.Ltd. on 20.03.2012 E&M Works: Package-I: BHEL Ltd. On 07.01.2013 Package-II: Alstom T&D India Ltd. on 20.03.14 Package III: M/s Hyosung Corp. South Korea on 22.04.15 Package IV: M/s LS Cable & Systems Ltd., South Korea on 22.04.2015 Transmission works: Kalpataru Power Trans Ltd. on 1.01.2013</p>	<p>Unit #1 COD achieved on 28.06.2019. Unit #2 COD achieved on 08.07.2019. Unit #3 COD achieved on 16.08.2019. Unit #4 COD achieved on 14.08.2019. All works completed.</p>

Financial Status of Under Construction H.E.P.						Figures in Crores					
Sl. No.	Name of project/ State (State)	Capacity (MW)	Benefits (MW)	Cost (PL)	Ant .Cost. (PL)	Total Expend.	Total Expend. Upto Mar'17	Total Expend. Upto Mar'18	Total Expend. Upto Mar'19	Total Expend. Upto (Month)	Expend. During 2019-20
						upto					
						Mar,16					
Under Execution											
Central Sector											
1	Pakal Dul (CVPPL) J&K	4x250	1000	8112.12 (03/2013)	8112.12 (03/2013)	-	887.22	993.93	1086.32	1257.50 (Dec,19)	171.18 (Dec,19)
2	Parbati -II(NHPC) H.P.	4x200	800	3919.59 (12/2001)	9394.80 (04/2018)	5557.21	6176.84	6670.12	7277.60	7876.76 (Mar, 20)	599.16 (Dec, 19)
3	Tehri PSP (THDC), Uttarakhand	4x250	1000	1657.60 (12/2005)	5024.35 (02/2019)	1706.72	2189.76	2540.27	2792.49	3205.50 (Dec, 19)	413.01 (Dec, 19)
4	Tapovan Vishnugad (NTPC) Uttarakhand	4x130	520	2978.48 (03/2004)	5867.38 (04/2019)	2788.00	3133.00	3521.00	3938.20	4215.99 (Oct, 19)	277.79 (Oct, 19)
5	Lata Tapovan(NTPC) Uttarakhand	3x57	171	1527.00 (07/2012)	1801.07 (NA)	143.00	146.00	148.00	149.16	148.91 (Sept, 19)	
6	Vishnugad Pipalkoti (THDC) Uttarakhand	4x111	444	2491.58 (03/2008)	4397.80 (02/2019)	824.04	1148.27	1393.66	1604.36	1858.36 (Jan,20)	254.00 (Jan,20)
7	Ramam-III (NTPC) West Bengal	3x40	120	1381.84 (NA)	1592.34 (NA)	174.00	260.00	322.00	447.75	489.61 (Dec, 19)	41.86 (Dec, 19)
8	Subansiri Lower (NHPC) Ar Pradesh/Assam	8x250	2000	6285 (12/2002)	19496 (04/2017)	8368	9158.79	9966.92	10749.37	11842.12 (Jan, 20)	1092.75 (Dec, 19)
9	Kameng (NEEPCO) Ar Pradesh	4x150	300	2496.90 (03/2004)	6179.96 (03/2015)	4574.80	5563.86	6424.41	7120.47	7722.05 (Dec, 19)	601.58 (Dec, 19)
10	Naitwar Mor (SJVN) Uttarakhand	2x30	60	648.33 (10/2016)	648.33 (10/2016)			100.37	198.68	355.65 (Mar, 20)	156.97 (Dec, 19)
11	Teesta St. VI (NHPC) Sikkim	4x125	500	5748.04 (07/2018)	5748.04 (07/2018)	3396.00			897.50	897.50 (Mar'19)	
12	Ratle J&K	4x205 + 1x30	850	5517.02 (NA)	5281.94 (Nov,18)	1451.00		1451.00		1451.00 (Mar-16)	
13	Kiru (CVPPL) J&K	4x156	624	4640.88 (9/2014)						223.08 (Jan,20)	223.08 (Jan,20)
Sub Total: Central Sector			8389.00	42763.83	73544.47				36261.90	41320.95	
State Sector											
14	Parnai J&K	3x12.5	37.50	640.86 (NA)	640.86 (NA)		105.83	136.50	189.62	218.43 (Feb,20)	28.81 (Feb,20)
15	Lower Kalnai J&K	2x24	48	577 (NA)	576.87 (NA)	51.63	76.38	87.94 (Dec-17)		87.94 (Dec,17)	
16	Uhl-III H.P.	3x33.33	100	431.56 (09/2002)	1281.52 (12/2012)	1259.29	1348.40	1459.21 (Feb-18)	1602.78 (Feb-19)	1810.81 (Nov,19)	208.03 (Nov,19)
17	Sawara Kuddu H.P.	3x37	111	558.53 (03/2003)	1181.9 (03/2012)	1026.62	1154.72	1232.00	1609.98	1658.92 (Jan,20)	48.94 (Jan,20)
18	Shontong Karcham H.P.	3x150	450	2807.83 (07/2011)	2807.83 (07/2011)	451.19	529.31	657.56	918.05	1056.72 (Dec,19)	138.67 (Dec,19)
19	Vyasi Uttarakhand	2x60	120	936.23 (02/2010)	936.23 (02/2010)	183.93	292.96	430.67	825.73	1143.77 (Dec,19)	318.04 (Dec,19)
20	Shahpurkandi Punjab	3x33+3x33+ 1x8	206	1835.50 (NA)	1938.74 (NA)		602.00	650.00 (Mar-18)	729.96	932.64 (Dec,19)	202.68 (Dec,19)
21	Koyna Left bank PSS Maharashtra	2x40	80	245.02 (NA)	1403.77 (NA)	188.62	334.59	334.59 (Mar-17)		354.01 (Mar,19)	
22	Indrasagar Polavaram (PPA) Andhra Pradesh	12x80	960	3013.68 (2011)	5338.95 (2017)		125.00	608.74	758.708	765.549 (Apr,20)	6.84
23	Pallivasal (KSEB) Kerala	2x30	60	283.19 (1999)	550 (2018)	183.70	248.04	259.35	267.54	305.14 (Dec,18)	
24	Thottiyar (KSEB) Kerala	1x30 + 1x10	40	145.47 (1999)	280 (2018)	52.87	52.87	61.08	63.61	76.04 (Feb,20)	12.43 (Feb,20)
25	Kundah Pumped Storage-I Tamil Nadu / (TANGENDCO)	4x125	500.00	488 (2007-08)	989.80 (2014-15)		118.09	136.74	221.52	311.84 (Apr,20)	90.32 (Apr,20)
Sub-total: State Sector			2712.50	11534.56	17926.47				7187.50	8721.81	
Private Sector											
26	Sorang H.P.	2x50	100	586.00 (2006)	586.00 (2006)			1380 (Jun-17)		1380 (Jun-17)	
27	Tidong-I H.P.	2x50	100	940.00 (06/2018)	940.00 (06/2018)				163.74	200.3 (May-19)	36.56 (May-19)
28	Tangnu Romai-I H.P.	2x22	44	255.00 (2006)	641.89 (2018)			329.36 (Mar-18)		329.36 (Mar-18)	
29	Bajoli Holi H.P.	3x60	180	1696.93 (NA)	2525 (NA)	897.00	1153.00 (Dec-16)	1740.00 (Mar-18)	2188.00	2282.00 (May-19)	94.00 (May -19)
30	Phata Byung Uttarakhand	2x38	76	520.00 (2007)	1132.00 (NA)	818.49 (Jul-16)	897.35 (Jan-17)	1135.00 (Dec-17)	1263.00 (Dec-18)	1263.00 (Dec-18)	
31	Singoli Bhatwari Uttarakhand	3x33	99	666.47 (2008)	1694.00 (NA)	848.53	956.22	1474.00	1741.00	1987.00 (Jan,20)	246.00 (Jan,20)

Chapter 7

Sl. No.	Name of project/ State (State)	Capacity (MW)	Benefits (MW)	Cost	Ant .Cost.	Total Expend. upto	Total Expend. Upto	Total Expend. Upto	Total Expend. Upto	Total Expend. Upto	Expend. During 2019-20
				(PL)	(PL)	Mar,16	Mar'17	Upto Mar'18	Upto Mar'19	(Month)	
Under Execution											
Central Sector											
32	Maheshwar M.P.	10x40	400	1569.27 (1996-97)	8121.00 (NA)						5443 (Sept.16)
33	Rangit-IV Sikkim	3x40	120	726.16 (NA)	1692.60 (06/2016)	816.76 (Jun-16)	818.44	818.44 (Jun-17)			818.44 (Jun-17)
34	Bhasmey Sikkim	2x25.5	51	408.50 (NA)	746.01 (03/2018)	276.70 (Oct-15)		353.00 (Jun-17)			353.00 (Jun-17)
35	Rangit- II Sikkim	2x33	66	496.44 (2011-12)	496.44 (2011-12)		119.88	125.76 (Feb-18)	126.83 (June-18)		126.83 (June-18)
36	Rongnichu Sikkim	2x48	96	491.32 (NA)	1187.45 (NA)		94.24 (Nov-11)	126.53 (Mar-18)	1085.00 (Mar-19)		1256.39 (Nov.19)
37	Panan Sikkim	4x75	300	1833.05 (2009)	2615.00 (2018)	152.30	161.00	165.00	170.00 (Nov.18)		179.00 (Jun-19)
38	Kutehr (JSW Energy (Kutehr)Ltd. H.P.	3x80	240.00	1798.13 09/2011							
Sub-total: Private Sector			1872.00	10189.14	22377.39				6737.57		15618.32
Total : (Under Execution):			12,973.50	64,487.53	113,848.33				50,186.97		65,661.08

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

Sl. No.	Name of Project	State	I.C. (No.xMW)	Benefits (MW)	Date of Clearance	Date of Env. Clearance	Date of Forest Clearance	Date of Approval
A Commissioned during 2019-20								
1	Kameng (NEEPCO). 2 unit commissioned.	Ar.Pr.	4x150	300.00	30.04.91	29.03.01	03.08.2000	02.12.04
Total Commissioned				300.00				
B Under Execution								
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	41122.00
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	Kameng (NEEPCO)	Ar. Pr.	4x150	300.00	30.04.91	29.03.01	03.08.2000	02.12.04
10	Naitwar Mori (SJVN)	Uttarakhand	2x30	60.00	02.03.10	16.06.2016	05.08.2016	16.10.17
11	Teesta St. VI	Sikkim	4x125	500.00	-	21.09.06	25.04.08	27.12.06
12	Ratle (Ratle Hydro) #	J&K	4x205+1x30	850.00	-	12.12.12	27.04.12	19.12.12
13	Kiru (CVPPL)	J&K	4x156	624.00	-	24.06.16	19.05.16	08.03.19
Sub-total (Central Sector):				8389.00				
State Sector								
14	Parnai (JKSPDC)	J&K	3x12.5	37.50	11.12.1992	24.12.2010	17.05.2013	25.10.2013
15	Lower Kalnai (JKSPDC)	J&K	2x24	48.00	16.08.2013	22.08.2014	-	16.08.2013
16	Uhl-III	H.P.	3x33.33	100.00	19.09.02	15.11.02	20.12.02	26.09.03
17	Sawara Kuddu	H.P.	3x37	111.00	June, 07	May, 07	June, 06	June, 07
18	Shongtong Karcham	H.P.	3x150	450.00	16.8.12	19.05.11	22.03.11	-
19	Vyasi	Uttarakhand	2x60	120.00	25.10.2011	22.04.10	14.10.13	25.10.2011
20	Shahpurkandi	Punjab	3x33+3x33+1x8	206.00	08/2009	18.11.81	Not Reqd.	04.05.11
21	Koyna Left Bank PSS	Mah.	2x40	80.00	-	16.05.07	Not Reqd.	20.02.04
22	Indrasagar Polavaram (PPA)	Andhra Pr.	12x80	960.00	21.07.2010	28.07.10	21.07.10	25.02.09
23	Pallivasal Extn.	Kerala	2x30	60.00	31.01.07	Not Reqd.	11.07.07	31.01.07
24	Thottiyar	Kerala	1x30 + 1x10	40.00	05.06.08	Not Reqd.	11.07.07	05.06.08
25	Kundah Pumped Storage-I (Tamil Nadu)	Tamil Nadu	4x125	500.00	15.02.18	08.05.07	27.11.08	03.12.08
Sub-total (State Sector):				2712.50				
Private Sector								
26	Sorang	H.P.	2x50	100.00	-	07.09.06	Nov, 06	June, 06
27	Tidong-I	H.P.	100.00	100.00	-	18.06.08	18.06.08	23.07.07
28	Tangnu Romai- I	H.P.	2x22	44.00	-	01.05.09	19.01.10	30.11.07
29	Bajoli Holi	H.P.	3x60	180.00	-	24.01.11	08.07.11	30.12.11
30	Phata Byung	Uttarakhand	2x38	76.00	-	01.05.09	-	30.11.07
31	Singoli Bhatwari	Uttarakhand	3x33	99.00	-	24.08.07	16.01.09	11.07.08
32	Maheshwar	M.P.	10x40	400.00	-	07.01.94	Not Reqd.	29.09.06
33	Rangit-IV	Sikkim	3x40	120.00	-	16.05.07	26.12.07	06.07.07
34	Bhasmey	Sikkim	2x25.5	51.00	-	15.05.07	13.09.10	-
35	Rangit- II	Sikkim	2x33	66.00	-	16.04.10	22.10.10	10.2.10
36	Rongnichu	Sikkim	2x48	96.00	-	04.04.07	18.05.09	01.10.08
37	Panan	Sikkim	4x75	300.00	-	02.01.07	21.09.10	07.03.11
38	Kutehr	H.P.	3x80	240.00	-	05.07.2011	19.02.13	31.03.10
Sub-total (Private Sector):				1872.00				
Total : Under Execution				12973.50				

Chapter 9

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

Sl. No.	Name of Project	State	Capacity (MW)	Benefits (MW)	Date of CCEA/ Investment Decision	Date of letter of award (First Package)
Under Execution						
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	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	Kameng (NEEPCO) (2 units in operation, 2 units under construction)	Ar. Pr.	4x150	300.00	02.12.04	08.12.2004
10	Naitwar Mori (SJVN)	Uttarakhand	2x30	60.00	16.10.2017	05.12.2017
11	Teesta St. VI	Sikkim	4x125	500.00	08.03.19	03/2007
12	Ratle (Ratle Hydro) #	J&K	4x205+1x30	850.00	19.12.12	04.07.2013
13	Kiru (CVPPL)	J&K	4x156	624.00	08.03.2019	24.02.2020
Sub-total (Central Sector):				8389.00		
State Sector						
14	Parnai (JKSPDC)	J&K	3x12.5	37.50	21.10.2013	25.10.2013
15	Lower Kalnai (JKSPDC)	J&K	2x24	48.00	16.08.2013	12.09.2013
16	Uhl-III	H.P.	3x33.33	100.00	19.09.02	02.04.2003
17	Sawara Kuddu	H.P.	3x37	111.00	06/07	17.07.2007
18	Shongton Karcham	H.P.	3x150	450.00	16.08.12	04.08.2012
19	Vyasi	Uttarakhand	2x60	120.00	25.10.11	10.12.2013
20	Shahpurkandi	Punjab	3x33+3x33+1x8	206.00	04.05.11	11.02.2013
21	Koyna Left Bank PSS	Mah.	2x40	80.00	20.02.04	20.06.2007
22	Indrasagar Polavaram (PPA)	Andhra Pr.	12x80	960.00		
23	Pallivasal	Kerala	2x30	60.00	31.01.07	31.01.2007
24	Thottiyar	Kerala	1x30 + 1x10	40.00	05.06.08	22.12.2008
25	Kundah Pumped Storage-I (TANGENDCO)	Tamil Nadu	4x125	500.00	03.12.08	15.02.2018
Sub-total (State Sector):				2712.50		
Private Sector						
26	Sorang	H.P.	2x50	100.00	06/06	06/2007
27	Tidong-I	H.P.	100.00	100.00	23.07.07	07.11.2008
28	Tangnu Romai- I	H.P.	2x22	44.00	2014-15	14.06.2010
29	Bajoli Holi	H.P.	3x60	180.00	30.12.11	29.05.2013
30	Phata Byung	Uttarakhand	2x38	76.00	06.10.08	12.04.2008
31	Singoli Bhatwari	Uttarakhand	3x33	99.00	11.07.08	20.06.2008
32	Maheshwar	M.P.	10x40	400.00	30.12.96	22.02.2097
33	Rangit-IV	Sikkim	3x40	120.00	06.07.07	22.11.2007
34	Bhasmey	Sikkim	2x25.5	51.00	Dec-08	12.04.2010
35	Rangit-II	Sikkim	2x33	66.00	10.02.10	24.10.2011
36	Rongnichu	Sikkim	2x48	96.00	01.10.08	07.04.2010
37	Panan	Sikkim	4x75	300.00	07.03.11	22.02.2014
38	Kutehr (JSW Energy (Kutehr)Ltd.	H.P.	3x80	240.00	31.03.10	20.10.2019
Sub-total (Private Sector):				1872.00		
Total - Under Execution:				12973.50		

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	8389.00	2355.00	6034.00	8389.00	0.00
State Sector	2712.50	426.00	2286.50	2712.50	0.00
Private Sector	1872.00	400.00	1172.00	1572.00	300.00
Total: Under Execution	12973.50	3181.00	9492.50	12673.50	300.00

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
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	Kameng (NEEPCO), Ar. Pr. (2 units in operation. 2 units under construction)	4x150	300.00	BHEL	03.12.04
6	Ramam-III (NTPC)	3x40	120.00	BHEL	10.09.14
Sub-total- BHEL			2355.00		
Other Units					
7	Tehri PSP (THDC)	4x250	1000.00	Alstom, France	23.06.11
8	Subansiri Lower (NHPC), Ar. Pr.	8x250	2000.00	Alstom, France & India	11.02.05
9	Naitwar Mori (Uttarakhand)	2x30	60.00	Voith Hydro Pvt. Ltd.	20.07.18
10	Teesta St. VI, (Sikkim)	4x125	500.00	Alstom, India	04/2009
11	Pakal Dul(J&K)	4x250	1000.00	Voith Hydro Pvt. Ltd.	01/2019
12	Ratle (J&K)	4x205+1x30	850.00	Alstom, India	31.12.12
13	Kiru (CVPPL)	4x156	624.00	M/s Andritz Hydro Pvt. Ltd.	24.02.20
Sub-total- Others			6034.00		
Sub-total (Central Sector):			8389.00		
State Sector					
BHEL Units					
14	Uhl-III (H.P.) BVPCL	3x33.33	100.00	BHEL	15.02.07
15	Shahpurkandi, Punjab : PSPCL	3x33+3x33+1x8	206.00	BHEL	28.02.14
16	Vyasi , Uttarakhand UJVNL	2x60	120.00	BHEL	26.03.14
Sub-total- BHEL			426.00		
Chinese					
17	Pallivasal, Kerala ;KSEB	2x30	60.00	Dongfang Elec.Corp., China	31.01.07
18	Thottiyar, Kerala KSEB	1x30 + 1x10	40.00	Chongqing, China	22.12.08
Sub-total- Chinese			100.00		
OTHER UNITS					
19	Sawara Kuddu, H.P.	3x37	111.00	Andritz Hydro, India	05.02.09
20	Koyna Left Bank PSS, Maharashtra	2x40	80.00	Litostroj Slovenia, Koncar, Croatia	16.12.10
21	Shontong Karcham, H.P.	3x150	450.00	Andritz Hydro, India	04.03.15
22	Parnai (JKSPDC) J&K	3x12.5	37.50	Andritz Hydro, India	-
21	Lower Kalnai (JKSPDC) J&K	2x24	48.00	GE Power India Pvt. Ltd.	-
23	Polavaram (PPA) Andhra Pr.	12x80	960.00	Megha Engineering and Infrastructures ltd,	01.11.2019
24	Kundah Pumped Storage-I (Tamil Nadu)	4x125	500.00	GE Power India Pvt.	28.11.19
Sub-total- Others			2186.50		
Sub-total (State Sector):			2712.50		

Sl. No.	Name of the Project/State	Capacity (No.x MW)	Benefits (MW)	Make/Supplier of TG set	Date of Order
Private Sector					
BHEL Units					
25	Maheshwar (M.P.)	4x100	400.00	BHEL	25.06.07
	Sub-total- BHEL		400.00		
OTHER UNITS					
26	Sorang (H.P.)	2x50	100.00	Voith Siemens, India	06/2007
27	Tidong-I, (H.P.)	100.00	100.00	Alstom, India	28.02.11
28	Tangnu Romai- I, (H.P.)	2x22	44.00	Andritz Hydro, India	17.04.13
29	Phata Byung, (Uttarakhand)	76.00	76.00	Alstom, India	12.04.08
30	Singoli Bhatwari, Uttarakhand	3x33	99.00	Voith Hydro, India	15.06.11
31	Rangit-IV, (Sikkim)	3x40	120.00	Andritz Hydro, India	28.08.09
32	Bhasmey, (Sikkim)	2x25.5	51.00	Voith Hydro, India	14.04.10
33	Rongnichu, (Sikkim)	2x48	96.00	Voith Hydro, India	28.09.11
34	Rangit-II, (Sikkim)	2x33	66.00	Gammon India Ltd.	24.03.12
35	Bajoli Holi, (H.P.)	3x60	180.00	Alstom, India	20.02.15
36	Kutehr(HP)	3x80	240.00	Andritz Hydro Pvt. Ltd., India	13.02.20
	Sub-total- Others		1172.00		
	Sub-total (Private Sector):		1572.00		
	Under Execution Total (Units Ordered):		12673.50		
	Units not yet ordered				
	Sub-total (Central Sector):		0.00		
	State Sector				
	Sub-total (State Sector):		0.00		
	Private Sector				
37	Panan, Sikkim	4x75	300.00		
	Sub-total (Private Sector):		300.00		
	Total: (Units not yet ordered)		300.00		
	Total: Under execution		12973.50		

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 (commencement)/ Completion			
Under Execution										
Central Sector										
1	Pakal Dul CVPPL 03.10.2006/ 28.10.2014 4x250 = 1000MW	J&K NR	Civil works	Power House Package- Letter of Acceptance issued to M/s. Afcons-JP Associates JV on 21.02.2018	M/s. Afcons-Jaiprakash Associates JV	1051.00	<u>21.02.2018</u>			
				Dam Pkg. Letter of Acceptance issued to M/s Jaiprakash Associates on 21.06.2018	M/s Jaiprakash Associates	2853.00	<u>21.06.2018</u>			
			E&M Works	Letter of Award Issued	M/s. Voith Hydro Limited	703.63	<u>02.01.2019</u>			
			H&M Works	Bids have been evaluated. The package is likely to be awarded by May'2019	-					
2	Parbati-II NHPC 12.10.1999/ 11.09.2002 4x200 = 800 MW	H.P. NR	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>10.09.2007</u>			
				Lot-2: Civil & HM works of HRT (3500-24733m)	M/s Himachal JV	419.89	<u>11.09.2002</u> <u>10.09.2007</u>			
				Contract terminated in March-12 and Fresh awarded as under.						
				Lot-2A: Balance civil works of HRT by TBM	M/s Gammon-CMS JV, Mumbai	455.63	<u>13.08.2013</u> <u>12.08.2017</u>			
				Lot-2B: Balance civil works of HRT by DBM and associated HM works	M/s Valecha Engg. Ltd, Mumbai	176.29	<u>21.11.2013</u> <u>20.11.2017</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> <u>13.03.2007</u>			
				Lot-4: Jiwa Nallah Works	M/s BJ_Techno-HAS (JV)	56.47	<u>11.09.2002</u> <u>10.09.2007</u>			
				Contract terminated and Fresh awarded as under:						
				Lot-4A: Balance Civil & HM works of Jiwa Nallah and associated works	M/s Coastal Projects, Noida	78.34	<u>22.06.2011</u> <u>21.04.2014</u>			
				E&M works	Generating Units, EOT Crane Main step up Transformers, Switch Yard and	M/s BHEL	354.44	<u>24.12.2002</u> <u>23.04.2007</u>		
Electrical & Mechanical Auxiliaries	M/s BHEL	34.2	<u>24.12.2002</u> <u>23.04.2007</u>							
E&M works	Design, Manufacture, Supply, Erection, Testing & commg.	M/s BHEL	391.11	<u>29.12.2006</u> <u>02/2011</u>						
H&M works	Hydro-Mechanical Packages	M/s Om Metals-SPML (JV)	96.08	<u>26.07.07</u> <u>15.8.10</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 (commencement)/ Completion			
3	Tehri PSS, THDC, 18.7.06 Nov-11 (Revised CCEA) 4x250=1000 MW	Uttara Khand NR	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 (Commencement Date) 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	Uttara Khand NR	Civil works	Construction of Barrage and De- silting chambers	M/s SSJV Projects Pvt. Ltd. and M/s ZVS, Russia	276..91	01/2007 07/2012 Contract terminated in Nov-10.			
				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			
				Works have been re-awarded. Details to be provided.	M/s L&T Ltd. and M/s Alpine Mayreder Bau GmbH	455.921	11/2006 08/2012			
			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	328.28 crs.	1/2008 12/12						
H& M works	Manufacturing, erection & Commissioning of various gates.	M/s Om Metal Infra project Ltd.	64.19 Cr. + €1.26m	10./07 09/12						
5	Lata Tapovan, NTPC Aug-2012 3x57= 171 MW	Uttara Khand NR	Civil & HM works	EPC Contract	M/s L&T	780.54	17.08.2012 16.08.2017			
			E& M Packag e		BHEL	2611.04	Dec, 12 June, 17			
6	Vishnugad Pipalkoti, THDC 21.08.2008 4x111= 444 MW	Uttara Khand NR	Civil & HM works	EPC Contract	M/s HCC Ltd	1597.30	17.01.2014 16.07.2018			
			E& M Packag e	EPC Contract	BHEL	360.36	18.11.2014 17.11.2018			
7	Teesta-VI NHPC 08.03.2019/ 07/2007(FC) 4x125= 500MW	Sikkim NER	Civil works	Dam, Tunnel , Power House, Surge-Shaft, Intake	EPC contract To M/s Lanco Infratech Ltd.	2260.00	<u>03/2007</u> 10/2011			
			H& M works	Design Engineering Fabrication & Erection of Gates						

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 (commencement)/ Completion	
			E&M works	Main Plant Generating units, and auxiliaries	M/s Alstom Projects, India	568.00	04/2009	
8	Subansiri Lower NHPC 07.06.2001/09.09.03 8x250= 2000 MW	Ar.Pr/ Assam NER	Civil works	Dam/Barrage, Water conductor system	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	
				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	
			E&M works	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	
				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	Kameng NEEPCO 12 2004/ 4x150 = 600	Ar. Pr. NER	Civil and H&M works	Package-I Bichom Dam & part of Bichom & Tenga tunne	M/s Patel – Unity JV, Mumbai	143.81	08.12.2004 08.02.2009	
				Package-II Tenga Dam & part of Bichom & Tenga Tunnel & part of Tenga kimi tunnel		116.40	08.12.2004 08.02.2009	
				Package-III P.H. civil works & part of Tenga kimi tunnel		131.65	08.12.2004 08.02.2009	
				Package-IV Hydro-mechanical works & penstock lining.		M/s OMML & JSC-JV, New Delhi	236.14	17.12.2004 51 months
				Diversion Tunnel (Re-awarded)		M/s SEW Coastel-JV Hyderabad	39.44	07.01.2010 07/2010
			E&M works	Package-V Generating Units	M/s. BHEL, New Delhi.	241.11	03.12.2004 12/2009	
10	Ramam-III NTPC Ltd. 3x40= 120 MW	W.B. E.R.	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	10.09.14 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	12.12.14 12/2019	

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 (commencement)/ Completion
			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>
11	Naitwar Mori (SJVN Ltd.) 02.03.2010 (2x30=60 MW)	Uttarakhand	Civil Works	Major Civil works	M/s. Jaiprakash Associates Ltd.	370.87	<u>05.12.2017</u> <u>04.09.2021</u>
			E&M works	-	M/s. Voith Hydro Pvt. Ltd.		<u>11.06.2018</u> <u>11.10.2021</u>
			H&M works	-	M/s GHW Pvt. Ltd.		<u>18.04.2018</u> <u>18.06.2022</u>
12	Ratle GVK Ratle HEP Pvt. Ltd. (GRHEPPL) 19-12-2012 <u>4x205+1x30= 850 MW</u>	<u>J&K</u> <u>NR</u>	Civil & HM Works	EPC contract for Civil & HM works including infrastructure works	GVK Projects & Technical Services Ltd.	2400	<u>20.07.2012</u> <u>31.12.2017</u>
			E&M works	EPC contract for E&M Works	M/s Alstom, India	800 Cr. + Euro 600000 + USD 4200000	<u>31.12.2012</u> <u>31.12.2017</u>
			Review of Design of EPC Contractors		Lahmeyer International (India) Pvt. Ltd.	8.30 Cr. + Euro 580000	<u>23.03.2013</u>
13.	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>
			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>23.01.2020</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>
State Sector							
14	Parnai JKSPDC 21.10.2013	NR <u>J&K</u>	Civil works	EPC contract	M/s. Patel Engineering Ltd. & M/s. Alstom India.		<u>25.10.2013</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
	3x12.5= 37.5 MW		E& M work s	T.G. Set	M/S.Andritz Hydro, India		
15	Lower Kalnai JKSPDC 16.08.2013 2x24= 48 MW	NR J&K	Civil work s	EPC contract	M/s Coastal Projects Ltd.		<u>12.09.2013</u>
			E& M work s	T.G. Set	M/s. GE Power India Pvt. Ltd.		
16	Uhl-III, BVPC Ltd. 19.09.02 / ----- (TEC -2x50 MW) 3x33.3 =100	H.P. NR	Civil work s & HM Wor ks	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
				Power House	M/s Pilot Engg., Ludhiana	9.87	<u>19.6.2007</u> 12/2009
			E& M work s	Generating Equipment & Associated Aux. Transformers	M/s BHEL	117.36	<u>15.02.07</u> 15.04.10
17	Sawara Kuddu HP Power Corporation, 3x36.67=110	H.P. NR	Civil and H& M work s	Package-I : Barrage, Power Intake, Desanding Arrangements and Gates & Hoisting Arrangements	M/s Patel Engineering Ltd.	283.49	<u>08.10.2009</u> 07.06.2012
				Package-II : Construction of HRT	M/s Aban Coastal JV	115.92	<u>17.07.2007</u> 16.07.2011
				Contract Terminated on 09.01.2014. Re-awarded on 03.11.2014 to M/s. HCC.			
			Package-III : Power House Complex, Surge Shaft, Pressure shaft, Machine Hall, Erection Bay, Transformer Cavern, Pot Head Yard, Cable Tunnel, MAT & other Tunnels and TRT	M/s Patel Engineering Ltd.	153.37	<u>04.03.2009</u> 03.06.2012	
E& M work s	Package-IV: Generating Units with associated Auxiliaries, Generator Transformers, 245 KV GIS, XLPE Cable and other power equipment	M/s Andritz Hydro Pvt.Ltd.	180.54	<u>28.04.2009</u> 27.04.2012			

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 (commencement)/ Completion
18	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
19	Shahpurkandi, Irrigation Deptt/PSPCL 04.05.2011 3x33+3x33+1x8= 206 MW	Punjab NR	Civil works & HM works	Main Dam alongwith Two head regulators	SOMA-BUREYA Joint Venture	687.51	<u>11.02.2013</u> Oct- 2016
			Civil works & HM works	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>
20	Koyna Left Bank PSS WRD, Govt. of Mah. 20.02.2004 2x40 = 80 MW	Maha. WR	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 Slovenia Generator- Koncar, Croatia	Euro 4.03 Crs + 177.99 Crs	<u>16.12.2010</u> 15.12.2014
			Civil works & HM works & E&M works	Investigation and L.P schedules etc., (Balance) & EPC contract on TURNKEY basis.	M/s. Trans stroy-JSCECUES (JV), Hyderabad M/s. Navayuga Engineering Company	4054.00 3220.28Crs	<u>02.03.2013</u> <u>01.03.2018</u> <u>20.12.2017</u>
21	Polavaram (PPA) 21.07.10/ 25.02.09 12x80 = 960MW	Andhra Pradesh S.R.	Civil works & HM works & E&M works	Investigation and L.P schedules etc., (Balance) & EPC contract on TURNKEY basis.	M/s. Trans stroy-JSCECUES (JV), Hyderabad M/s. Navayuga Engineering Company	4054.00 3220.28Crs	<u>02.03.2013</u> <u>01.03.2018</u> <u>20.12.2017</u>
22	Pallivasal KSEB/ Not Req./31.1.2007 2x30=60	Kerala SR	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
23	Thottiyar KSEB 1x30 + 1x10= 40 MW	Kerala SR	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

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
24	Vyasi UJVNL 2x60=120 MW	Ultra khand	Civil work s	Intake, Dam half portion of HRT 1.35 km.	M/s. Gammon India Ltd.	317 Crs.	
				Half porstion of HRT 1.35 km, Surge Shaft, Penstock, Powerhouse, TRC	M/s. NPCC Contract value	114.59 Crs.	
			E& M work s	EPC contract for E&M Works	M/s. BHEL	125 Crs.	<u>26.03.2014</u>
25	Kundah Pumped Storage Phase -4 x125=125 MW Phase-I, II &III	Tamil Nadu	Civil & HM Wor ks	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> <u>15.02.22</u>
				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> <u>15.11.21</u>
			E & M Wor ks	Phase -I, Package-III: 1x125 MW Phase-II: 2x125 MW. Phase-III: 1x125 MW. (Complete design, Engineering, Procurement, Manufacturing assembly, Inspection, Testing, Transpo rting, 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> <u>28.05.2023</u> <u>28.11.2019</u> <u>28.05.2023</u> <u>28.11.2019</u> <u>28.05.2023</u>
Private Sector							
26	Sorang Himachal Sorang Power Pvt. Ltd 2x50=100 MW	H.P. NR	Civil work s	Power house, and other works	M/s NCC-Maytas- SSJV Consortium	184	<u>06/2007</u>
			E& M work s	Manufacturing., Supply, erection & commng. of TG units	M/s Voith Siemens, India	146	<u>06/2007</u>
27	Tidong-I M/s NSL Tidong Power Gen. Ltd. 2x50 = 100 MW	HP NR	Civil work s	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> <u>06.11.2011</u>
				Construction of HRT (RD 905 m- RD 5537 m)	M/s SCL Infratech Ltd. Hyderabad	83.327	<u>7.11.2008</u> <u>09/2014</u>
				Construction of HRT (RD 5537 m -RD 8537 m)	M/s Himalaya Construction (P) Ltd.	31	<u>07.07.2011</u> <u>06.07.2015</u>
				Construction of Surge Shaft, Pressure Shaft, Power House and Tail Race Channel	M/s Himalaya Construction (P) Ltd.	40	<u>07.07.2012</u> <u>06.06.2015</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 (commencement)/ Completion
			E&M works	Supply, Installation, testing & commissioning of TG sets	M/s Alstom Projects, India	84	<u>28.02.2011</u> 27.05.2013
28	Tangnu Romai-I M/s Tangu Romai Power generation 2x22= 44 MW 30.11.2007 HPSEB	HP NR	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
29	Bajoli Holi M/s GMR Bajoli Holi Hydro Power Pvt. Limited 31.12.2011	HP NR	Civil works	Lot-I & Lot-II All Major Civil Works	M/s Gammon India Ltd.	369 +400	<u>29.05.2013</u> 30.11.2017
			E&M works	E&M works	M/s. Alstom, India		
30	Phata Byung M/s Lanco 06.10.2008 2x38 MW = 76 MW	Uttarakh and NR	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, Fabrication & 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	Singoli Bhatwari M/s L&T 11.07.2008 3x33 MW = 99 MW		Civil works	P-1 (Project Roads & Bridges)	M/s L&T DPBU	34.2214	<u>2.5.2008</u> ---
				P-2 (Dam/Barrage, Tunnels)		381.7573	<u>6.10.2008</u> ---
				P-39 Power House, Tail Race Tunnel & Associated works)		87.7931	<u>20.6.2008</u> ---
			H&M works	Supply, fabrication, Manufacturing, commissioning of Gates and Hoists	M/s General Mechanical Works Private Limited	25.45	<u>4.12.2011</u> 12/2014
				Supply, fabrication, Manufacturing, commissioning of Steel Liners	NA		
			E&M works	Generating units and auxiliaries	M/s Voith Hydro, India	EURO 1813069 + \$ 3006954 + 963332930 + 122570000	<u>15.06.2011</u>
32	Maheshwar, SMHPCL 12 96/ 29.9.2006 (FC) 10x40= 400MW	M. P. WR	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
33	Rangit-IV	Sikkim NER		Dam, Intake, desilting chamber Package		125.297	<u>01.02.2008</u> 46 months

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 (commencement)/ Completion
	Jal Power Corp. Ltd. 06.07.2007/23.10.2007(FC) 3x40 MW= 120		Civil works	HRT Package	M/s Coastal Projects Pvt. Ltd	127.9	<u>22.11.2007</u> 47 months
				Power House, Surge-Shaft, Pressure Shaft, Switchyard & Tail race Channel		77.789	<u>23.05.2008</u> 48 months
				Road diversion Tunnel		7.938	<u>6.12.2007</u> 4 months
				Hill slopes Stabilization		19.951	<u>16.01.2010</u> 12 months
			H&M works	Supply , Fabrication,Assembly, testing, painting, erection of various gates and their operating equipment including accessories, auxillaries etc.	M/s Texmaco Rail & Engg. Ltd.	36.7	
			E&M works	Package-I (Generating units and auxiliaries)	M/s Andritz Hydro, India	111.11	<u>28.08.2009</u> 12/2012
				Package-II (Balance of Plant)	M/s Siemens Ltd.	53.9	<u>14.04.2011</u> 04/2013
34	Bhasmey Gati Infrastructure 2x25.5 = 51 MW	Sikkim NER	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
35	Rangit-II Sikkim Hydro Power Limited 2x33= 66 MW	Sikkim NER	Civil & H M 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>
36	Rongnichu Madhya Bharat Power Corporation Ltd. 2x48= 96 MW	Sikkim NER	Civil works	Barrage, Desilting Basin, Tunnel , Power House, Surge Shaft, Pressure Shaft, Intake etc.	M/s SEW Infrastructure Ltd.	157.298	<u>07.04.2010</u> 05.10.2013
			E&M works	Manufacturing., Supply, erection & commng. of TG units	M/s Voith Hydro, India	101.100	28.09.2011
37	Panan Himagiri Hydro Energy Pvt. Ltd. 07.03.2011 4x75= 300 MW	Sikkim NER	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 Region	Contract	Scope of works & brief details	Contracting Agency (Name & Location)	Contract value (Rs. Crs.)	Date of Contract (commencement)/ Completion
38	Kutehr M/s JSW Energy (Kutehr) Ltd. 3x80 = 240 MW 31.08.2010	HP NR	Civil works	Lot-1 Civil works for River diversion, Barrage, Power intake & Part of HRT.	-M/s Angelique-PCC Constorium.	567.00	<u>20.10.2019</u> 19.06.2023
				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	-M/s MF Bumi Geotech private ltd.	507.40	<u>25.11.2019</u> <u>19.05.2023</u>
			Lot-1D Design, fabrication ,supply and erection of steel liner and pen stock.	-M/s P.E.S. Engineers Pvt Ltd. -M/s Greyhound Engineers India Private Ltd.	60.00 18.00	19.09.2019 (LOI date) 19.09.2019 (LOI date)	
			E& M works	Electro Mechanical works.	M/s Andritz Hydro Pvt. Ltd.	270.74	13.02.2020 (LOI date)

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.	Sorang H.P. 2x50 MW June, 2006	M/s Sorang Power Pvt. Ltd.	Financial closure achieved in June, 07.	
2.	Maheshwar, M.P., 10x40 MW, 30.12.96	Shree Maheshwar Hydel Power Corporation Ltd.	Financial closure achieved on 29.9.2006.	
3.	Teesta-VI, Sikkim 4x125 MW 27.12.2006	M/s Lanco Energy Pvt. Ltd.	Financial closure achieved in July, 07.	
4.	Rangit-IV, Sikkim 3x40 MW 06.07.2007	M/s Jal Power corporation Ltd.	Financial closure achieved on 25.01.2010.	
5.	Tidong-I ,H.P. 100 MW 23.07.2007	M/s Nuziveedu Seeds	Financial closure achieved on 25.03.2010.	
6.	Tangu Romai,H.P. 2x22 MW 30.11.2007	Tangu Romai Power Gen. Pvt. Ltd.	Financial closure achieved on 22.01.2010.	
7.	Phata Byung Uttarakhand 2x38 MW 06.10.2008	M/s Lanco	Financial closure achieved on 25.07.2009.	
8.	Singoli Bhatwari Uttarakhand 3x33 MW 11.07.2008	M/s L&T	Financial closure achieved on 9.5.2011.	
9.	Bhasmey, Sikkim 2x25.5= 51 MW Dec, 2008	M/s Gati Infrastructure	Financial closure achieved on 25.03.2010	
10.	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).	
11.	Rongniehu,Sikkim 2x48= 96 01.10.2008	M/s Madhya Bharat Power Corporation Ltd.	Financial closure achieved. Loan agreement signed on 21.03.2011	
12.	Bajoli Holi, H.P. 3x60= 180 MW 30.12.2011	M/s GMR Bajoli Holi Hydro Power Pvt. Ltd.	Financial closure achieved. Loan agreement signed with IDBI Bank.	
13.	Ratle, J&K 4x205+1x30= 850 MW	M/s GVK Ratle HEP Pvt. Ltd. (GRHEPPL)	Financial closure achieved.	
14.	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).	
15.	Kutehr,H.P. 3x80=240 MW	M/s JSW Energy (Kutehr) Ltd	Financial closure under Process.	

**DETAILS OF UNDER CONSTRUCTION HYDRO ELECTRIC PROJECTS (ABOVE 25 MW)
HAVING TIME/COST OVERRUN**

Sl. No	Project Name/(I.C.)/ Executing Agency	State	Unit No.	Cap. (MW)	Org. Comm. Sched.	Rev. Comm. Sched.	Ant. Comm. Sched.	Time over run (months)	Org. Cost (Rs. in Crores) (Price Level)	Rev. Cost (Rs. in Crores) (Price Level)	Latest/Ant. Cost (Rs. in Crores) (Price Level)	Cost over run (Rs. in Crores) (%)	Reasons for time and cost over run
1	2	3	4	5	6	7	8	9	10	11	12		
CENTRAL SECTOR													
1	Tapovan Vishnughad (4x130 = 520 MW) NTPC	Uttarakhand	1 2 3 4	130 130 130 130	2012-13 2012-13 2012-13 2012-13 (Mar'13)	2015-16 2015-16 2015-16 2015-16 (Mar'16)	2021-22 2021-22 2021-22 2021-22 (Dec'21)	105	2978.48 (11/06)	3846.30 (01/14)	5867.38 (04/19)	2888.90 (96.99)	<ul style="list-style-type: none"> ➤ Heavy water ingress due to bad geology in HRT and rock fall on TBM. TBM struck 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.
2	Lata Tapovan (3x57 = 171 MW) NTPC	Uttarakhand	1 2 3	57 57 57	2017-18 2017-18 2017-18 (Aug'17)		2023-24 2023-24 2023-24 (subject to re-start of works(4 years))	79	1527.00 (07/12)		1801.07 (NA)	247.07 (16.18)	<ul style="list-style-type: none"> ➤ Flash flood during June, 2013 in Uttarakhnad. ➤ Local issues / non-start of works in Barrage area ➤ Hon'ble Supreme court ban on construction works since May-14.
3	Rammam-III (3x40= 120 MW)	West Bengal	1 2 3	40 40 40	2019-20 2019-20 2019-20 (Sep'19)		2022-23 2022-23 2022-23 (Nov,22)	38	1381.84 (10/14)		1592.34 (NA)	210.50 (15.23)	<ul style="list-style-type: none"> ➤ 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.
4	Kameng (4x150 = 600 MW) NEEPCO 2 units taken in operation	Central	3 4	150 150	2009-10 2009-10 (Dec'09)		2020-21 2020-21 (Aug'20)	128	2496.90 (03/04)		6179.96 (03/15)	3683.06 (147.50)	<ul style="list-style-type: none"> ➤ Change in dam parameters. ➤ Slow progress in dam & HRT due to bad geology, heavy seepage, inadequate machinery. ➤ Flash flood in Oct. 08 and Sept. 2012. ➤ Ingress of water in HRT. ➤ Poor approach roads. ➤ Contractual issues. ➤ Shortage of aggregate. ➤ Clearance for quarry from State Govt. ➤ Slow Progress of works. ➤ Leakage from penstocks & rectification of defects. ➤ Cash flow issues with civil contractor

Sl. No	Project Name/(I.C.)/ Executing Agency	State	Unit No.	Cap. (MW)	Org. Comm. Sched.	Rev. Comm. Sched.	Ant. Comm. Sched.	Time over run (months)	Org. Cost (Rs. in Crores) (Price Level)	Rev. Cost (Rs. in Crores) (Price Level)	Latest/Ant. Cost (Rs. in Crores) (Price Level)	Cost over run (Rs. in Crores) (%)	Reasons for time and cost over run
1	2	3	4	5	6		7	8	9		10	11	12
5	Tehri PSS (4x250 = 1000 MW) THDC	Uttara khand	1 2 3 4	250 250 250 250	2010-11 2010-11 2010-11 2010-11 (July'10)	2015-16 2015-16 2015-16 2015-16 (Feb'16) RCE-I	2021-22 2021-22 2022-23 2022-23 (Jun'22)	137 139 141 143	1657.60 (Dec-05)	2978.86 (Apr'10)	5024.35 (02/19)	3366.75 (203.10)	<ul style="list-style-type: none"> ➤ Approval of RCE as L-1 price bid was more than cost estimate. RCE approved in Nov-2011. ➤ Cash flow problem with contractor. ➤ Litigation by bidders. ➤ Poor geology. ➤ Local agitation at Asena Quarry. ➤ Agitation at muck disposal area. ➤ Poor preparedness of contractor. ➤ Revision of Lay out of machine hall due to poor geology. ➤ Works stalled from April,2018 to November,2018 due to funds constraints with contractor.
6	Parbati - II (4x200 = 800 MW) NHPC	Himachal Pradesh	1 2 3 4	200 200 200 200	2009-10 2009-10 2009-10 2009-10 (Sept'09)		2021-22 2021-22 2021-22 2021-22 (Dec,21)	147	3919.59 (12/01)		9394.80 (04/18)	5475.21 (139.68)	<ul style="list-style-type: none"> ➤ Hon'ble High Court of Himachal Pradesh ban on stone crusher operation. ➤ Delay in revised forest clearance. ➤ TBM suffered extensive damage due to heavy ingress of water and slush in TBM face in Nov, 2006. ➤ Slide in Power House area in Apr-04, Jun-06 and Feb-07. ➤ Flash flood in 2004,2005,2010 and 2011. ➤ Jiwa Nallah works affected due to cavity treatment. ➤ Contractual issues. ➤ Poor geology in HRT. ➤ Cash flow issues with civil contractors.
7	Subansiri Lower (8x250 = 2000 MW) NHPC	Arunachal Pradesh/ Assam	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	162	6285.33 (12/02)		19496.34 (04/17)	13211.01 (210.18)	<ul style="list-style-type: none"> ➤ Delay in transfer of forest land. ➤ Disruption of works by locals in Ar. Pradesh side. ➤ Slope failure in Power House in Jan. 2008. ➤ Damage to bridge on Ranganadi river. ➤ Change in design of surge shafts to surge tunnels. ➤ All works except safety works were stalled from December, 2011 to October, 2019 due to agitation launched by Anti Dam activists in Assam against construction of Project. Work restarted w.e.f. 15.10.2019. ➤ Issue of D/s Impact.
8	Teesta Stage VI	Sikkim			Under	Private	Sector						➤ Poor geology.

Sl. No	Project Name/(I.C.)/ Executing Agency	State	Unit No.	Cap. (MW)	Org. Comm. Sched.	Rev. Comm. Sched.	Ant. Comm. Sched.	Time over run (months)	Org. Cost (Rs. in Crores) (Price Level)	Rev. Cost (Rs. in Crores) (Price Level)	Latest/Ant. Cost (Rs. in Crores) (Price Level)	Cost over run (Rs. in Crores) (%)	Reasons for time and cost over run
1	2	3	4	5	6		7	8	9		10	11	12
	(4x125 = 500 MW) Lanco Teesta Hydro Power Ltd. (LTHPL) (Project taken over by NHPC w.e.f. 08.03.2019)		1 2 3 4	125 125 125 125	2012-13 2012-13 2012-13 2012-13 (Jul'12) Under 2023-24 2023-24 2023-24 2023-24 (Mar'24)	Central	Till 08.03.2019 Sector 2023-24 2023-24 2023-24 2023-24 (subject to re-start of works (5 years))	72 Nil	3283.08 (2008) 5748.04 (07/2018)		7542.00 (NA) 5748.04 (07/2018)	4258.92 (129.72) Nil	<ul style="list-style-type: none"> ➤ Land acquisition. ➤ Contractual issues ➤ Funds constraints with developer (Private) and stalled from April, 2014 to October, 2019 ➤ M/s.LTHPL came under Corporate Insolvency Resolution Process. NHPC Ltd. emerged as HI 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.
9	Vishnugad Pipalkoti (4x111 = 444 MW) THDC	Utara khand	1 2 3 4	111 111 111 111	2013-14 2013-14 2013-14 2013-14 (Jun'13)		2022-23 2022-23 2022-23 2022-23 (Dec'22)	114	2491.58 (03/08)		4397.80 (02/19)	1906.22 (76.50)	<ul style="list-style-type: none"> ➤ 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. ➤ Disruption of works by local people. ➤ Cash flow problem with contractor.
10	Pakal Dul (4x250= 1000 MW) CVPP	Jammu & Kashmir	1 2 3 4	250 250 250 250	2020-21 2020-21 2020-21 2020-21 (Apr'20)		2024-25 2024-25 2024-25 2024-25 (Dec'24)	56	8112.12 (03/13)		8112.12 (03/13)	Nil	<ul style="list-style-type: none"> ➤ Delay in award of works
11	Ratle (4x205+1x30) = 850 MW RHPPL / NHPC	J&K	1 2 3 4 5	205 205 205 205 30	2017-18 2017-18 2017-18 2017-18 2017-18		2023-24 2023-24 2023-24 2023-24 (subject to re-start of works(5 years))	72	5517.02 (03/12)		6275.00 (09/13)	757.98 (13.73)	<ul style="list-style-type: none"> ➤ Slow progress of works. ➤ Works suspended since 11.7.14 due to frequent local disturbance. ➤ Developer wants to surrender the Project to State Govt. Govt. of J&K, PDD have terminated PPA on 09.02.2017 and directed JKSPDC to take over the project. ➤ The parties namely, GVKRHEPPL and JKPDD have contested their respective claims and matter is now Sub-judice. ➤ JV of JKSPDC & NHPC formed for implementation of project.
	STATE SECTOR												

Sl. No	Project Name/(I.C.)/ Executing Agency	State	Unit No.	Cap. (MW)	Org. Comm. Sched.	Rev. Comm. Sched.	Ant. Comm. Sched.	Time over run (months)	Org. Cost (Rs. in Crores) (Price Level)	Rev. Cost (Rs. in Crores) (Price Level)	Latest/Ant. Cost (Rs. in Crores) (Price Level)	Cost over run (Rs. in Crores) (%)	Reasons for time and cost over run
1	2	3	4	5	6	7	8	9	10	11	12		
12	Pamai 3x12.5=37.5 MW JKSPDC	Jammu & Kashmir	1 2 3	12.5 12.5 12.5	2017-18 2017-18 2017-18 (Jan'18)		2021-22 2021-22 2021-22 (Feb.22)	49	640.86 (Completion cost)		640.86 (Completion cost)	Nil	Delay in Land acquisition.
13	Lower Kalhai 2x24=48 MW JKSPDC	Jammu & Kashmir	1 2	24 24	2017-18 2017-18 (Sep'17)		2023-24 2023-24 (subject to re-start of works (4 years))	78	576.87 (12/12) (Completion cost)		576.87 (12/12) (Completion cost)	Nil	Inadequate mobilization of man & machinery by Contractor. Delay in finalization of R&R Plan. Slow progress of works. Funds constraints with contractor. Contractor under CDR.
14	Uhl-III (3x33.33 = 100 MW) BVPCL	Himachal Pradesh	1 2 3	33.33 33.33 33.33	2006-07 2006-07 2006-07 (Mar'07)		2020-21 2020-21 2020-21 (July,20)	160 160 160	431.56 (09/02)		1281.52 (12/12)	849.96 (196.95)	Delay in transfer of forest land. Delay in acquisition of private land Delay in transfer of quarry sites. Delay in award of works. 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.
15	Sawra Kaddu (3x37 =111MW) HPPCL	Himachal Pradesh	1 2 3	37 37 37	2011-12 2011-12 2011-12 (Dec'12)		2020-21 2020-21 2020-21 (July,20)	104 104 104	558.53 (03/03)		1181.90 (06/09)	623.37 (111.60)	Delay in MOEF clearance. Delay in award of Civil & E&M works. Poor geology in HRT. Slow progress of HRT Lining. Contractual issues. Contract for HRT package terminated on 9.1.14. Re-awarded in Nov,2014 to M/s. HCC.
16	Shongtom Karcham (3x150 =450 MW) HPPCL	Himachal Pradesh	1 2 3	150 150 150	2016-17 2016-17 2016-17 (Mar'17)		2023-24 2023-24 2024-25 (Apr,24)	81 83 85	2807.83 (06/11)		2807.83 (06/11)	Nil	Shifting of Army Ammunition Depot. Local Issues.
17	Pallivasal 2x30 = 60 MW KSEB	Kerala	1 2	30 30	2010-11 2010-11 (Mar'11)		2021-22 2021-22 (Dec,21)	129	222.00 (2004)		550.00 (2018)	328.00 (147.74)	Slow progress of civil works. Delay in land acquisition. Change in alignment of Adit to HRT. Poor geology strata in HRT. Heavy Monsoon Works stopped by contractor since 28.1.15 to

Sl. No	Project Name/(I.C.)/ Executing Agency	State	Unit No.	Cap. (MW)	Org. Comm. Sched.	Rev. Comm. Sched.	Ant. Comm. Sched.	Time over run (months)	Org. Cost (Rs. in Crores) (Price Level)	Rev. Cost (Rs. in Crores) (Price Level)	Latest/Ant. Cost (Rs. in Crores) (Price Level)	Cost over run (Rs. in Crores) (%)	Reasons for time and cost over run
1	2	3	4	5	6		7	8	9		10	11	12
18	Thottiyar (1x30+ 1x10)= 40MW KSEB	Kerala	1 2	30 10	2012-13 2012-13 (Apr'12)		2020-21 2020-21 (Mar'21)	107	136.79 (2007)		280 (2018)	143.21 (104.69)	<ul style="list-style-type: none"> ➤ 11.04.2017 due to contractual issues. ➤ Contract terminated on 13.09.2018. Matter in Hon'ble High Court of Kerala. ➤ Land acquisition issue. ➤ The works of weir and approach channel stopped from 2010 to 2012 by local people. ➤ The work stopped by Court from 12.12.2012 to April-2013. ➤ Contractual issues. ➤ Financial crunch with contractor. ➤ Foreclosure of earlier contract in April,2017 and balance works re-awarded in January, 2018.
19	Shahpurkandi 3x33+3x33+1x8 =206 MW, Irrigation Deptt. &PSPCL	Punjab	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		2022-23 2022-23 2022-23 2022-23 2022-23 2022-23 (May, 22)	74 74	1835.50 (04/08) (Power Component)		1938.74 (02/18) (Power Component)	103.24 (5.62)	<ul style="list-style-type: none"> ➤ Works of Dam stopped since 29.08.2014 due to inter-state dispute between states of J&K & Punjab on sharing of waters of river Ravi and Tariff.
20	Koyna Left Bank PSS 2x40 = 80 MW WRD. Maha	Maha rashtra	1 2	40 40	2014-15 2014-15 (Oct'14)		2022-23 (subject to re-start of works (4 years)	101	245.02 (1999)		1494.94 (2014)	1249.92 (510.12)	<ul style="list-style-type: none"> ➤ Slow progress of works. ➤ Fund constraints due to increase in project cost. RCE under approval.
21	Vyasi 2x60=120 MW, UJVNL	Uttara khand	1 2	60 60	2014-15 2014-15 (Dec'14)		2020-21 2020-21 (Mar,21)	75	936.23 (02/10)		936.23 (02/10)	Nil	<ul style="list-style-type: none"> ➤ Delay in award of works. ➤ Local Issues.
22	Polavaram (12x80 = 960 MW)	Andhra Pradesh	1 2	80 80	2016-17 2016-17		2021-22 2021-22		3013.68 (2010-11 PL)		5338.95 (2016-17 PL)	2325.27 (77.15)	<ul style="list-style-type: none"> ➤ Slow progress of works ➤ Funds constraints

Sl. No	Project Name/(I.C.)/ Executing Agency	State	Unit No.	Cap. (MW)	Org. Comm. Sched.	Rev. Comm. Sched.	Ant. Comm. Sched.	Time over run (months)	Org. Cost (Rs. in Crores) (Price Level)	Rev. Cost (Rs. in Crores) (Price Level)	Latest/Ant. Cost (Rs. in Crores) (Price Level)	Cost over run (Rs. in Crores) (%)	Reasons for time and cost over run
1	2	3	4	5	6	7	8	9	10	11	12		
	APGENCO / Irr. Deptt., A.P.		3	80	2016-17		2021-22	60	(Power Component)		(Power Component)		
			4	80	2016-17		2021-22						
			5	80	2016-17		2021-22						
			6	80	2016-17		2022-23	60					
			7	80	2017-18		2022-23						
			8	80	2017-18		2022-23						
			9	80	2017-18		2022-23	60					
			10	80	2017-18		2022-23						
			11	80	2017-18		2022-23						
			12	80	2017-18		2022-23						
					(Mar'18)		(Mar'23)						
23	Kundah PSP (Phase-I, Phase-II & Phase-III) (4x125=500 MW) TANGEDCO	Tamil Nadu	1	125	2021-22	2022-23	2022-23	9	1216.59	1717.91 (2014-15)		501.32 (41.20)	➤ Delay in award of Civil & HM works ➤ Civil & HM works have been taken up from 05/2018 only
			2	125	2021-22	2022-23	2022-23						
			3	125	2021-22	2022-23	2022-23						
			4	125	2021-22	2022-23	2022-23						
	PRIVATE SECTOR												
24	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)	Himachal Pradesh	1	50	Under 2013-14	Previous	Developer Till 04.09.2018 56	94	543.15 (01/07)		1286.27 (01/17)	743.12 (136.81)	➤ Delay in NOC by Projects affected Panchayats. ➤ Suspension of works by Govt. for one year. ➤ Funds constraints with the developer
			2	50	2013-14 (Dec'13)		Developer 2021-22 (Oct. 21)	Nil	940.00 (06/18)		940.00 (06/18)	Nil	
25	Tangnu Romai-I (2x22 = 44 MW) TRPGPL	Himachal Pradesh	1	22	2014-15		2022-23	105	255.00 (01/07)		641.89 (2018)	386.89 (151.72)	➤ Slow progress of civil works. ➤ Poor geology. ➤ Difficult area. ➤ Weather conditions & accessibility. ➤ Financial constraints with the developer.
			2	22	2014-15 (Jun '14)		2022-23 (subject to re-start of works(4 years))						
26	Sorang (2x50 = 100 MW), HSPPL	Himachal Pradesh	1	50	2011-12		2020-21	124	586.00 (04/2005)		Under revision	N.A.	➤ Poor geology. ➤ Poor weather conditions, difficult & poor accessibility. ➤ Penstock cracks / leakage during filling of Water conductor System in Nov '13. ➤ Rupture in surface penstock in Nov-15 during trial
			2	50	2011-12 (Nov '11)		2020-21 (Mar'21)						

Sl. No	Project Name/(L.C.)/ Executing Agency	State	Unit No.	Cap. (MW)	Org. Comm. Sched.	Rev. Comm. Sched.	Ant. Comm. Sched.	Time over run (months)	Org. Cost (Rs. in Crores) (Price Level)	Rev. Cost (Rs. in Crores) (Price Level)	Latest/Ant. Cost (Rs. in Crores) (Price Level)	Cost over run (Rs. in Crores) (%)	Reasons for time and cost over run
1	2	3	4	5	6		7	8	9		10	11	12
27	Singoli Bhatwari (3x33 = 99 MW) L&T	Uttarakhand	1 2 3	33 33 33	2012-13 2012-13 2012-13 (Dec'12)		2020-21 2020-21 2020-21 (Aug,20)	92	666.47 (2008)		1694 (2018)	1027.53 (154.17)	run. Funds constraints with developer. Poor geology in HRT. Agitation by local people. Flash flood in June,2013.
28	Phata Byung (2x38 = 76 MW), LANCO	Uttara khand	1 2	38 38	2012-13 2012-13 (Jun'12)		2021-22 2021-22 (subject to re-start of works(3 years))	117	520.00 (2013-14)		1132 (NA)	612 (117.69)	Flash flood in June,2013. Poor geology in HRT.
29	Maheshwar (10x40 = 400 MW) SMHPCL	Madhya Pradesh	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)		2021-22 (subject to re-start of works(1-½ years))	240	1569.27 (96-97)		8121.00 (2016-17)	6551.73 (417.50)	R&R issues Cash flow problem with developer PFC as lead lender have acquired majority equity i.e. 51% in the SMHPCL w.e.f. 1 st June, 2016. Matter Sub-judice.
30	Rangit-IV HE Project (3X40 = 120 MW) JPCL	Sikkim	1 2 3	40 40 40	2011-12 2011-12 2011-12 (Jan'12)		2022-23 2022-23 2022-23 (subject to re-start of works(3-½ year))	134	726.17 (2011-12)		1692.60 (06/16)	966.43 (133.08)	Slow progress of HRT & Surge Shaft works due to poor geology. Works hampered due to earthquake in September, 2011. Financial constraints with developer Works stopped since October, 2013 due to paucity of funds.
31	Bhasmey (2x25.5 =51 MW) Gati Infrastructure	Sikkim	1 2	25.5 25.5	2012-13 2012-13 (Jun'12)		2022-23 2022-23 (subject to re-start of works(3 years))	129	408.50 (2012-13)		746.01 (03/18)	337.51 (82.62)	Forest clearance Financial constraints with developer Works stopped since September, 2016 due to paucity of funds.

Sl. No	Project Name/(I.C.)/Executing Agency	State	Unit No.	Cap. (MW)	Org. Comm. Sched.	Rev. Comm. Sched.	Ant. Comm. Sched.	Time over run (months)	Org. Cost (Rs. in Crores) (Price Level)	Rev. Cost (Rs. in Crores) (Price Level)	Latest/Ant. Cost (Rs. in Crores) (Price Level)	Cost over run (Rs. in Crores) (%)	Reasons for time and cost over run
1	2	3	4	5	6	7	8	9	10	11	12		
32	Rongnichu (2x48 =96 MW) Madhya Bharat Pvt. Ltd.	Sikkim	1 2	48 48	2014-15 2014-15 (Jul'14)		2020-21 2020-21 (Oct,20)	75	491.32 (NA)		1187.45 (NA)	696.23 (141.68)	<ul style="list-style-type: none"> ➤ Land Acquisition ➤ Poor geology.
33	Bajoli Holi 3x60= 180 MW M/s GMR Bajoli Holi	H.P.	1 2 3	60 60 60	2018-19 2018-19 2018-19 (May'18)		2020-21 2020-21 2020-21 (Mar,21)	34	1696.93 (NA)		2525.00 (NA)	828.07 (48.79)	<ul style="list-style-type: none"> ➤ Slow progress of works.
34	Rangit-II 2x33= 66 MW Sikkim Hydro Power Ltd.	Sikkim	1 2	33 33	2015-16 2015-16 (Apr'15)		2022-23 2022-23 (subject to re-start of works(2-½ years))	95	496.44 (2011-12)		496.44 (2011-12)	Nil	<ul style="list-style-type: none"> ➤ Slow progress of works. ➤ Financial constraints with the developer. ➤ Works stopped since December, 2017 due to paucity of funds.
35	Panan 4x75= 300 MW Himagiri Hydro Energy Pvt. Ltd.	Sikkim	1 2 3 4	75 75 75 75	2018-19 2018-19 2018-19 2018-19		2023-24 2023-24 2023-24 2023-24 (subject to re-start of works(4-½ years))	60	1833.05 (2009)		2615.00 (2018)	781.95 (42.66)	<ul style="list-style-type: none"> ➤ Clearance from NWLB received in December, 2015. ➤ Clearance from NGT obtained ➤ Applied for NoC from Govt. of Sikkim in NWLB angle

Note:- The cost figures are as furnished by the developers in the monthly progress reports. Further, the latest / anticipated cost has not been updated at the latest price level by most of the developers.