

केंद्रीय विद्युत प्राधिकरण

(जल विद्युत विंग)



निर्माणाधीन जल विद्युत परियोजनाओं की प्रगति

(विद्युत अधिनियम, 2003 के तहत सीईए के दायित्व की पूर्ति में)

त्रैमासिक समीक्षा संख्या. 94

QUARTERLY REVIEW No. 94

जुलाई ~ सितंबर, 2018

जल विद्युत् परियोजना प्रभोधन प्रभाग

नई दिल्ली

नवम्बर ~ 2018

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PREFACE

Present Review	<p>This quarterly review which is 94th in the series covers the period from July ~ September, 2018. 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.</p> <p>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 equipments from time to time.</p>
Milestone Achieved during Jul ~ Sep, 2018	Details of HE Projects Rolled/Commissioned during the Quarter is indicated in Chapter-1.
Sanctioned Hydro Electric Projects	A Sector wise list of Sanctioned H.E. projects Commissioned during 2017-18 & Under Execution is placed in Chapter 5.
Status of Sanctioned Hydro Electric Projects	Broad present status of HE projects commissioned during 2017-18 and 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.
Details of Award of various packages	The details of Civil package, H&M works and E&M package of HE projects has been given in Chapter 9.3.
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	The Status of Time & Cost Over-run of HE projects under execution is given in Chapter 11

Projects**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).

Teesta III HEP is enlisted in State Sector as Teesta Urja Ltd., w.e.f 6th August,2015 is a State Govt. of Sikkim enterprise.

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.

Hydro:	45487.42 MW	(16.60 %)
Thermal:	221802.59 MW	(80.93 %)
Nuclear:	6,780.00 MW	(2.47%)
Total: (excluding RES)	2,74,070.01 MW	

Sector wise Hydro Capacity Under Execution: A hydro capacity of **12,178.50 MW** is under execution. Sector wise summary is given as under :-

Sector	Under Execution (MW)
Central	6715.00
State	2337.50
Private	3126.00
Total:	12,178.50

Sector wise summary for the financial year 2018-19 given as under :-

Year	Monitorable Targets (MW)	Capacity Addition (MW)	Sector					
			Central		State		Private	
			Tgt.	Act.	Tgt.	Act.	Tgt.	Act.
2018-19	840	140	710	110	130	30	0	0

Hydro Capacity Addition Monitorable Targets for the year 2018-19:

Hydro Capacity Addition Monitorable Targets for the year 2018-19 is **840 MW** (710 MW in Central Sector, 130 MW in State Sector). Details are as under :-

Sl. No.	Particular	Unit Nos.	Cap. (MW)	Commissioning As programmed	Commissioning Actual(A)/ Anticipated	COD As programmed	COD Actual(A)/ Anticipated
A.	Central Sector						
1	Pare NEEPCO, Arunachal Pradesh 2x55=110 MW	Unit # 1 Unit # 2	55 55	May 18 May 18	24.05.2018 16.05.2018	June 18 June 18	28.05.2018 21.05.2018
2	Kameng * NEEPCO, Arunachal Pradesh 4x150=600 MW	Unit # 1 Unit # 2 Unit # 3 Unit # 4	150 150 150 150	2018-19 2018-19 2018-19 2018-19	Mar. 19 Mar. 19 2019-20 2019-20	2018-19 2018-19 2018-19 2018-19	Mar. 19 Mar. 19 2019-20 2019-20
	Sub- total (A):		710 MW		110 MW		110 MW
B.	State Sector						

Sl. No.	Particular	Unit Nos.	Cap. (MW)	Commissioning As programmed	Commissioning Actual(A)/ Anticipated	COD As programmed	COD Actual(A)/ Anticipated
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	Jan. 19 Feb. 19 Mar. 19	Aug. 18 Aug.18 Sep.18	Jan. 19 Feb. 19 Mar. 19
4	Pulichintala TSGENCO,Telangana 4x30=120 MW	Unit # 4	30	08.09.2018		Sept. 18	08.09.2018
	Sub- total (B):		130		30 MW		
	Total (A+B)		840 MW		140 MW	Total Comm. 140 MW	

*The target months for Kameng HEP are tentative and will be firmed up once the complete Non-Destructive Test report along with programme of repair is finalized by NEEPCO.

CHAPTER- 1

Milestones achieved during the Quarter July ~ September, 2018

Units Commissioned :-

No.	Particulars	Unit No.	Capacity (MW)	Date Commissioned (COD)
1.	Pulichintala TSGENCO,Telangana 4x30=120 MW	4	30	08.09.2018
<i>Total of State Sector :</i>			30.0	
<i>Total during the current Quarter :</i>			30.00	

Project Re-Start :-

Shahpurkandi HEP (206 MW) in Punjab was Stalled since 29.08.2014. An agreement was signed between the Government of J&K and Punjab on 8th September, 2018. The works are likely to Re-start soon.

CHAPTER - 2

Plan wise Hydro capacity Target Vs Achievement since 4th Plan

Plan	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	550.90	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	445.50	44.26
Annual Plan (1991-92)	754.30	436.00	57.80
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	795	60.92
2018-19 (till Sep '18)	840	140	16.67

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	(as on 30.09.2018)

Note: Figures from 1951 to 1984-85 indicate uprated/derated capacities.

★ Targets 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
A. Central Sector							
1.	Chamera-III NHPC, H.P. 3x77= 231 MW	1 2 3	77 77 77	Jun-12 Aug-12 Oct -12	77 77 77	28.06.2012(A) 12.06.2012(A) 07.06.2012(A)	
2.	Uri-II NHPC, J&K 4x60= 240 MW	1 2 3 4	60 60 60 60	Aug -12 Sept -12 Nov-12 Dec-12	-	Slipped Slipped Slipped Slipped	- 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. - Commissioned in 2013-14.
3.	Chutak NHPC, J&K 4x11 =44 MW	1 2 3 4	11 11 11 11	Sept-12 Sept-12 Nov -12 Dec-12	11 11 11 11	22.11.2012(A) 08.11.2012(A) 11.11.2012(A) 28.01.2013(A)	
4.	Parbati-III NHPC, HP 4x130= 520 MW	1	130	Mar-13	-	Slipped	- Non-availability of Transmission system. - Completion of Surge shaft gates. - Commissioned in 2013-14
	Sub- total (A):		645		275		
B. State Sector							
5.	Bhawani Kattalai -II TANGEDCO, T.N Tamil Nadu, 2x15 = 30 MW	1 2	15 15	June-12 July-12	-	Slipped	- Unit #1&2 synchronised at part load in July,11 & Sept,11 - Reservoir filling delayed on account of less release from Mettur dam. - Commissioned in 2013-14
6.	Bhawani Kattalai -III TANGEDCO, T.N 2x15 = 30 MW	1	15	Oct-12	15	08.12.12(A)	
7.	Myntdu MeECL, Meghalaya 3x42 = 126 MW	3	42	Mar-13	42	07.03.2013(A)	
	Sub- total (B):		87		57		
C. Private Sector							
8.	Budhil Lanco H P 2x35=70 MW	1 2	35 35	May-12 July-12	35 35	30.05.2012(A) 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 2 3	- - -	2013-14 2013-14 2013.14	33 33 33	30.01.2013(A) 20.01.2013(A) 24.02.2013(A)	
2.	Jaldhaka (WBSEDCL) West Bengal 4x9=36 MW	4	-	-	9	08.10.2012(A)	
	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 as per program	Actual (A)/ Anticipated	Remarks
			Target	Actual			
A. Central Sector							
1	Teesta Low Dam-III NHPC, WB. 4x33= 132 MW	Unit # 4	33	33	April-13	01.04.2013(A)	
2	Uri-II NHPC, J&K 4x60= 240 MW	Unit # 1 Unit # 2 Unit # 3 Unit # 4	60 60 60 60	60 60 60 60	May-13 June- 13 July- 13 July- 13	25.09.2013 (A) 16.11.2013 (A) 27.09.2013 (A) 02.02.2014 (A)	
3	Parbati-III NHPC, HP 4x130= 520 MW	Unit # 1 Unit # 2 Unit # 3	130 130 130	130 130 130	June-13 July -13 Feb- 14	18.02.2014 (A) 27.02.2014 (A) 15.03.2014 (A)	
4	Nimoo Bazgo NHPC, J&K 3x15 =45 MW	Unit # 1 Unit # 2 Unit # 3	15 15 15	15 15 15	Dec- 13 Nov -13 Nov-13	02.11.2013 (A) 31.10.2013 (A) 30.10.2013 (A)	
5	Rampur SJVN Limited, HP. 6x68.67 = 412 MW	Unit # 1 Unit # 2 Unit # 5	68.67 68.67 68.67	68.67 68.67 68.67	Jan- 14 Feb- 14 Mar- 14	23.03.2014 (A) 21.03.2014 (A) 29.03.2014 (A)	
	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. -Commissioned dur. 2015-16.
7	Bhawani Kattalai -II TANGEDCO, T.N Tamil Nadu, 2x15 = 30 MW	Unit # 1 Unit # 2	15 15	15 15	July -13 Aug- 13	27.08.2013 (A) 06.09.2013 (A)	
8	Bhawani Kattalai -III TANGEDCO, T.N Tamil Nadu, 2x15 = 30 MW	Unit # 2	15	15	June -13	25.09.2013 (A)	
	Sub- total (B):		85	45			
C. Private Sector							
9	Sorang Himachal Sorang Power Pvt. Ltd, H P. 2x50=100 MW	Unit # 1 Unit # 2	50 50	- -	Nov-11 Dec-11	Slipped	- Commissioning delayed, cracks developed in penstock during filling of water conductor system in 1 st week of Nov-2013. - Slipped to 2019-20 subject to Re-Start of works.
10	Chuzachen Gati Infra. Limited, Sikkim 2x49.5= 99 MW	Unit # 1 Unit # 2	49.5 49.5	49.5 49.5	June -13 July -13	21.04.2013(A) 20.04.2013(A)	
	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 as per program	Actual (A)/ Anticipated	Remarks
			Target	Actual			
A. Central Sector							
1	Parbati-III NHPC, HP 4x130= 520 MW	Unit # 4	130	130	Aug- 14	22.05.2014 (A)	
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)	
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)	
	Sub- total (A):		336	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. - Commissioned during 2015-16.
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. - Commissioned during 2016-17.
	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. - Commissioned during 2015-16.
7	Teesta-III Teesta Urja, Sikkim 6x200= 1200 MW	Unit # 6	200	0		Slipped	- Slipped due to Financial crunch with the Developer. - Commissioned during 2016-17.
	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

Hydro Capacity Addition during the Year 2015-16							
Sl. No.	Particular	Unit Nos.	Target	Actual	Commissioning as programmed	Actual(A)/ Anticipated	Remarks
			Capacity (MW)				
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 Coffe Dam in June'15 and many times thereafter. Slow progress of works. Commissioned in 2018-19.
	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	Commissioned in 2016-17
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. Slipping to 2019-20 subject to Restart of works.
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	Installed Capacity	Unit Nos.	Capacity (MW)		Commissioning		Remarks
		No.xMW		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 Commissioned
2	Pare NEEPCO, Ar. Pradesh	2x55=110 MW	Unit # 1 Unit # 2	55 55	- -	Aug.12 Aug.12	Slipped Slipped	Commissioned during 2018-19.
3	Kameng NEEPCO, Ar. Pradesh	4x150= 600 MW	Unit # 1 Unit # 2	150 150	- -	Dec.'09 Dec.'09	Slipped Slipped	Slipped Slipped
	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	Commissioned in 2017-18
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 Commissioned
4	Pulichintala TSGENCO, Telangana	4x30=120 MW	Unit # 1 Unit # 2	30 30	30 -	Aug.16 Dec16	25.09.2016(A) 2017-18	Commissioned Slipped
5	New Umtru MePGCL, Meghalaya	2x20=40 MW	Unit # 1 Unit # 2	20 20	- -	Nov.16 Dec.16	Slipped Slipped	Commissioned in 2017-18
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 Commissioned 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 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 Comm. 2017-18
2	Dikchu Sneha Kinetic Power Projects (P).Ltd., Sikkim	2x48= 96 MW	Unit # 1 Unit # 2	48 48	- -	July.16 Sept.16	Slipped Slipped	Comm. 2017-18 Comm. 2017-18
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	Comm. 2017-18 Comm. 2017-18
	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 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 Commissioned Commissioned
		Total Outside Programme :			730			
		Grand Total (31.03.2017)			1659			

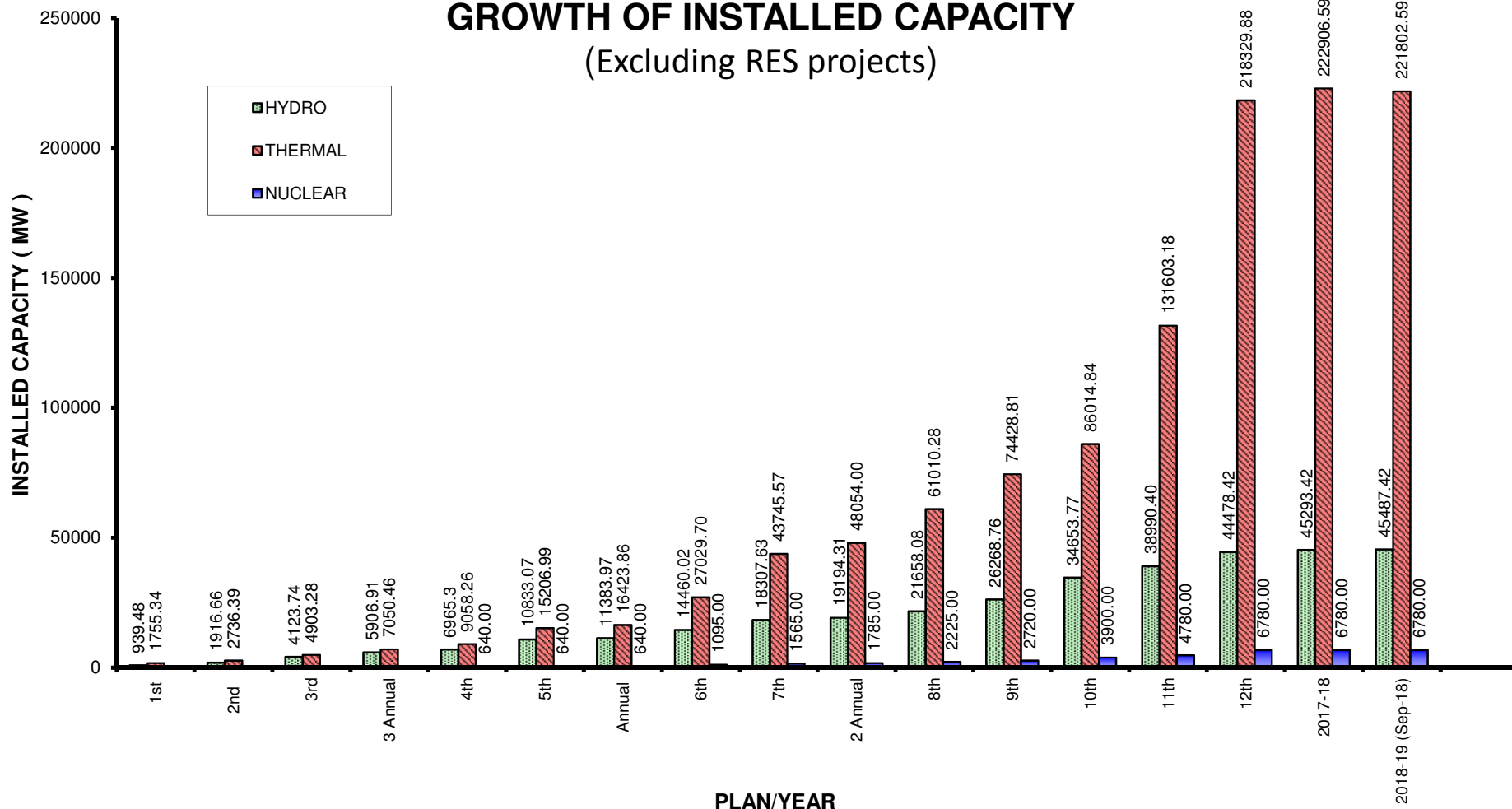
Chapter- 2.2f

Hydro Capacity Addition during the Year 2017-18

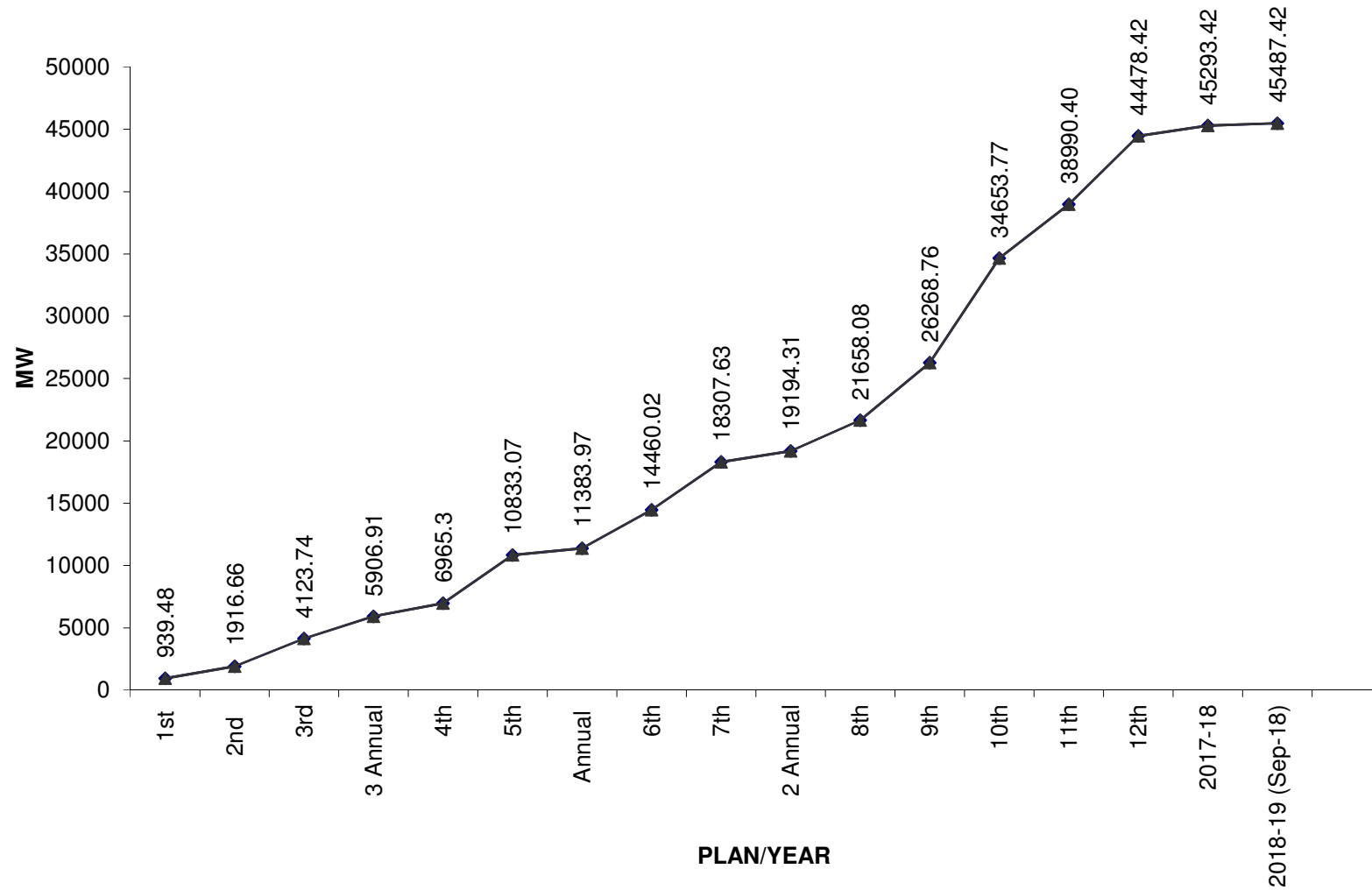
Sl. No.	Particular	Unit Nos.	Target	Actual	Commissioning	Actual(A)/ Anticipated	Remarks / Critical Issues
			Capacity (MW)		as programmed		
A.	Central Sector						
1	Tuirial NEEPCO, Mizoram 2x30 = 60 MW	Unit # 1 Unit # 2	30 30	30 30	Jun '17 Sep '17	25.08.2017(A) 28.11.2017(A)	Slipped from 1 st Quarter Slipped from 2 nd Quarter
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	Feb. '18 Feb. '18 Mar. '18	Commissioned
3	Pare NEEPCO, Arunachal Pradesh 2x55=110 MW	Unit # 1 Unit # 2	55 55	55 55	May' 18 May' 18	Slipped (2018-19) Slipped (2018-19)	Commissioned in 2018-19
4	Kameng NEEPCO, Arunachal Pradesh 4x150=600 MW	Unit # 1 Unit # 2	150 150	-	Mar. '18 Mar. ' 18	Slipped (2018-19) Slipped (2018-19)	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)	Slipped from 1 st Quarter Slipped from 1 st Quarter
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 (2018-19) Slipped (2018-19) Slipped (2018-19)	Delay in completion of HRT lining.
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)	Slipped from 2 nd Quarter
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 ahead of programme in 1 st Qtr.
	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)	Slipped from 1 st Quarter
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)	
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)	Slipped from 2 nd Quarter Slipped from 2 nd Quarter
	Sub- total (C):		205	205	Total Commissioned in Private Sector : 205 MW		
	Total (A+B+C)		1305		Total Commissioned during 2017-18 : 795 MW.		

CHAPTER - 3

GROWTH OF INSTALLED CAPACITY (Excluding RES projects)

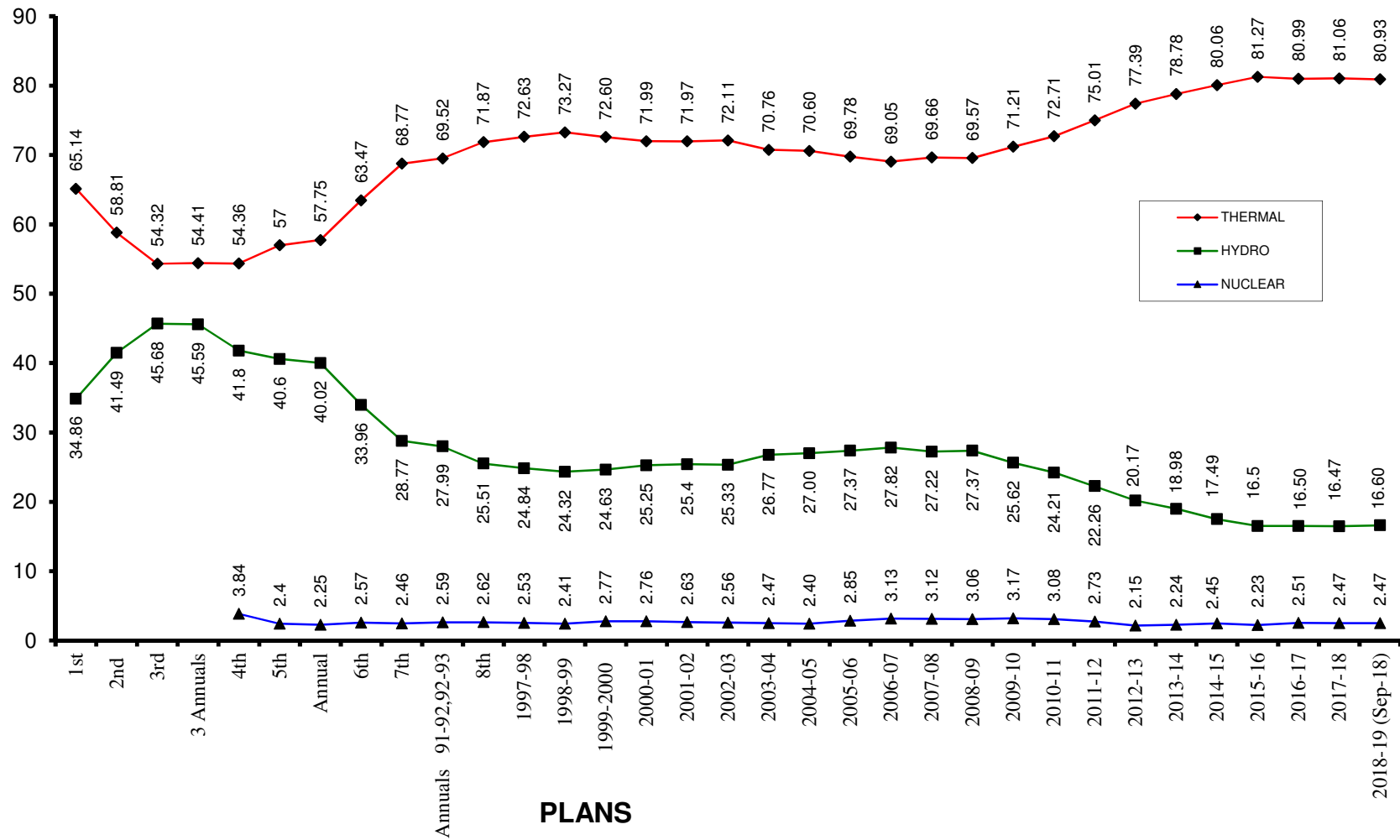


Chapter 3.1 Growth of Hydro Capacity in MW



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)

(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
Commissioned during 2018-19						
Central Sector						
1	Pare (NEEPCO)	Ar.Pr.	2x55	110.00	04.02.08	May-2018
State Sector						
2	Pulichintala (TSGENCO)	Telangana	4x30	30.00	25.04.07	08.09.2018
Commissioned during 2018-19 upto 30.09.2018)				140.00		
Under Execution						
Central Sector						
1	Pakal Dul (CVPPL)	J&K	4x250	1000.00	28.10.14	2023-24
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	2020-21
4	Subansiri Lower (NHPC)	Ar. Pr./Assam	8x250	2000.00	09.09.03	2022-23 *
5	Kameng (NEEPCO)	Ar. Pr.	4x150	600.00	02.12.04	2018-20
6	Tehri PSS (THDC)	Uttarakhand	4x250	1000.00	18.07.06	2021-22 *
7	Lata Tapovan (NTPC)	Uttarakhand	3x57	171.00	17.07.12	2022-23 *
8	Vishnugad Pipalkoti (THDC)	Uttarakhand	4x111	444.00	21.08.08	2021-22
9	Ramam-III (NTPC)	West Bengal	3x40	120.00	10.09.14	2021-22
10	Naitwar Mori (SJVN)	Uttarakhand	2x30	60.00	16.10.17	2021-22
Sub- total (Central Sector) :				6715.00		
State Sector						
11	Parnai (JKSPDC)	J&K	3x12.5	37.50	21.10.13	2021-22
12	Lower Kalnai (JKSPDC)	J&K	2x24	48.00	16.08.13	2022-23 *
13	Uhl-III (BVPCL)	H.P.	3x33.33	100.00	19.09.02	2018-19
14	Swara Kuddu (HPPCL)	H.P.	3x37	111.00	10.11.04	2019-20
15	Shongtom Karcham (HPPCL)	H.P.	3x150	450.00	16.08.12	2024-25
16	Vyasi (UJVNL)	Uttarakhand	2x60	120.00	25.10.11	2019-20
17	Shahpurkandi (PSPCL)	Punjab	3x33+3x33+1x8	206.00	04.05.11	2021-22
18	Koyna Left Bank (WRDMah)	Maharashtra	2x40	80.00	20.02.04	2022-23 *
19	Indrasagar Polavaram (PPA)	Andhra Pradesh	12x80	960.00	25.02.09	2021-23
20	Pallivasal (KSEB)	Kerala	2x30	60.00	Jan., 07	2020-21
21	Thottiyar (KSEB)	Kerala	1x30+1x10	40.00	05.06.08	2020-21
22	Kundah Pumped Storage-I (TANGENDCO)	Tamil Nadu	1x125	125.00	15.02.18	2022-23
Sub- total (State Sector) :				2337.50		
Private Sector						
23	Ratle (Ratle Hydro) #	J&K	4x205+1x30	850.00	19.12.12	2023-24 *
24	Sorang (Himachal Sorang Power)	H.P.	2x50	100.00	09.06.06	2020-21 *
25	Tidong-I (NSL Power)	H.P.	2x50	100.00	28.07.06	2021-22
26	Tangnu Romai- I (NSL Power)	H.P.	2x22	44.00	30.11.07	2021-22 *
27	Bajoli Holi (GMR)	H.P.	3x60	180.00	30.12.11	2019-20
28	Phata Byung (LANCO)	Uttarakhand	2x38	76.00	06.10.08	2021-22 *
29	Singoli Bhatwari (L&T)	Uttarakhand	3x33	99.00	11.07.08	2019-20
30	Maheshwar (SMHPCL) ##	M.P.	10x40	400.00	30.12.96	2020-21 *
31	Teesta St. VI (LANCO)	Sikkim	4x125	500.00	27.12.06	2021-22 *
32	Rangit-IV (JAL Power)	Sikkim	3x40	120.00	06.07.07	2021-22 *
33	Bhasmery (GATI Infrastructure)	Sikkim	2x25.5	51.00	Dec-08	2021-22 *
34	Rangit-II (Sikkim Hydro Power)	Sikkim	2x33	66.00	10.02.10	2020-21 *
35	Rongnichu (Madhya Bharat Power)	Sikkim	2x48	96.00	01.10.08	2019-20
36	Panan (Himagiri Hydro Energy)	Sikkim	4x75	300.00	07.03.11	2022-23 *
37	Gongri (Dirang Energy) ###	Ar. Pradesh	2x72	144.00	04.02.13	2022-23 *
Sub- total (Private Sector) :				3126.00		
Total - Under execution (as on 30.09.2018)				12178.50		

Govt. of J&K, PDD have terminated PPA on 09.02.2017 and directed JKSPDC to take over the project.

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

State Govt. terminated the agreement with developer for execution of project.

Chapter 6

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

Sl. No.	Name of Project Executing Agency Date of CEA clearance / Approval Capacity (MW) Broad Features Cost (original/latest) In Rs. Crores.	State <u>Comm.</u> <u>Sch.</u> (original/ Now Ant.	Broad Present Status / Critical Area	Remarks/ Critical issues
A(i) Projects Commissioned during 2017-18				
Central Sector				
1.	Tuirial NEEPCO Revised CCEA 14.01.2011 2x30= 60 MW Broad Features: Dam: Earthfill, L – 250 M H – 75 M Diversion Tunnel: Partly circular & partly modified horse shoe Diameter Diverted concrete portion 6 M steel liner portion 6M, 5.6 M & 3.6 M Power tunnel: Concrete Portion – 200 M Steel Liner Portion – 140M, 80M & 2.30 M Cost: <u>Original:368.72</u> Latest: 1329.43	<u>Mizoram</u> <u>2006-07</u> <u>2017-18</u> (Nov'17)	Unit # 1 – Commissioned on 25.08.2017. Unit # 2 – Commissioned on 28.11.2017.	- Commissioned
2.	Kishanganga NHPC 14.01.2009 3x110 = 330 MW Broad Features : Dam – 37m High CFRD, HRT- 6.0m x 24 km long S.Shaft-17.75 dia x 104m Height P.House- Underground 113mx 21m x 45.5m. Turbine- Pelton wheel Swyd.- 220 kV Cost: <u>Original:3642.04</u> Latest: 5882.01 (01/17 PL)	<u>J&K</u> <u>2014-15</u> <u>2017-18</u> (Mar'18)	Unit # 1: Commissioned on 13.03.2018. Unit # 2: Commissioned on 21.03.2018. Unit # 3: Commissioned on 30.03.2018.	- Commissioned
State Sector				
3.	New Umtru MePGCL, 2x20=40 Broad Features: Diversion Structur- Gated structure (FRL- 130.1m, MDDL-123.3m) HRT- 5m dia, 750m long P.House- Deep Set SWYD- 132 kV Cost: <u>Original: 226.40</u> Latest : 599.00	<u>Meghalaya</u> <u>2011-12</u> <u>2017-18</u> (June-17)	Unit # 1 : Commissioned on 22.04.2017. Unit # 2 : Commissioned on 30.06.2017.	- Commissioned

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
4.	Sainj H.P. Power Corpn. Ltd. 2 X50=100 MW 29.12.2010 Cost: Original 784.56 Latest 784.56	<u>H.P.</u> <u>2014-15</u> 2017-18 (Sep.-17)	Unit # 1: Commissioned on 04.09.2017. Unit # 2: Commissioned on 04.09.2017.	- Commissioned
5a.	Pulichintala TSGENCO 120 MW (4x30 MW) (3 Unit Comm.) 25.04.2007 Broad Features: Design Head: 24 M Power House: Surface Turbine : V. Kaplan Annual Energy: 220 MU Cost: Original: 380.00 Latest: 563.49	<u>Telengana</u> <u>2009-11</u> 2018-19 (Aug,18)	Unit #1: Commissioned on 25.09.2016 Unit #2: Commissioned on 26.10.2017 Unit #3: Commissioned on 01.11.2017. Unit #4: Commissioned during 2018-19.	- Partially Commissioned
Private Sector				
6.	Dikchu Sneha Kinetic Power Projects Pvt. Ltd. 21.10.2011 2x48= 96 MW Broad Features : Dam-35m High, Concrete Gravity HRT-4m dia & 4.6 km length Circular. Surge Shaft- 65m High & 9m dia. P.House-Underground Turbine-Vertical Francis TRT-4m dia & 1000m length Swityard- 60mx30m size Cost : Original :639.57 Latest : 1140.00	<u>Sikkim</u> <u>2013-14</u> 2017-18 (Apr-17)	Unit #1: Commissioned on 11.04.2017. Unit #2: Commissioned on 12.04.2017.	- Commissioned
7.	Chanju-I M/s IA Energy 24.04.2010 3x12=36 MW Cost :Original : 295.09 Latest : 295.09	<u>H.P.</u> <u>2014-15</u> 2017-18 (July-17)	Unit #1: Commissioned on 17.02.2017 Unit #2: Commissioned on 01.02.2017. Unit #3: Commissioned on 26.07.2017.	- Commissioned
8.	Tashiding M/s Shiga Energy Pvt. Ltd. 28.03.2011 2x48.5 = 97 MW Broad Features : Barrage-EL 917m HRT-4.5 m dia & 5.437 km length , Surge Shaft- 61.058m Height & 8.5m dia. Penstock- Length upto	<u>Sikkim</u> <u>2015-16</u> 2017-18 (Nov-17)	Unit #1: Commissioned on 06.11.2017 Unit #2: Commissioned on 06.11.2017.	- Commissioned

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
	Bifucation 441.53 m After bifurcation 25 m & 30 m long P.House-Surface TRT- Open Channal & 78.5 m length. Switchyard- Outdoor, 220 KV Cost :Original : 465.95 Latest : 465.95			
(ii)	Projects Commissioned during 2018-19			
	Central Sector			
9.	Pare NEEPCO 4.12.2008 2x55 = 110 MW Broad Features: Dam : 63m High, Con. Gravity Spillway – 3 nos. gates Size of gate: 10.4m (w)X 12 m(H) Crest Level: 216 m HRT: Dia – 7.5 M Length– 2810.75M Pressure Shaft: Dia: 6.4 M Length: 220M Bifucation Penstock Dia: 4.5 M Power House: Surface P.H. Size: 68 mX 25m Type of Turbine: VF TRC: Open channel 60.62 M wide 49M long Cost: Original: <u>573.99</u> Latest: 1337.76	Arunachal Pradesh 2012-13 2018-19 (May-18)	Unit # 1: Commissioned on 28.05.2018. Unit # 2: Commissioned on 21.05.2018.	- Commissioned
	State Sector			
5b.	Pulichintala TSGENCO 120 MW (4x30 MW) (3 Unit Comm.) 25.04.2007 Broad Features: Design Head: 24 M Power House: Surface Turbine : V. Kaplan Annual Energy: 220 MU Cost: Original: <u>380.00</u> Latest: 563.49	<u>Telengana</u> 2009-11 2018-19 (Aug,18)	Unit #1: Commissioned on 25.09.2016 Unit #2: Commissioned on 26.10.2017 Unit #3: Commissioned on 01.11.2017. Unit #4: Commissioned on 08.09.2018.	- Commissioned

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
B) Hydro Capacity for benefits during 2018-19 & beyond.				
	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: Original: 3919.59 Latest: 8398.75 (03/15 PL) Contractors Civil : Gammon / Valecha HM : Om Metals E&M : BHEL	<u>H.P.</u> 2009-10 2021-22 (Dec'21)	Dam & Intake Structure- Concreting completed. Head Race Tunnel- 28.04 km Excavation out of 31.5km completed Total Overt lining: 26.44 km lining out of 31.5km completed. Power House: Concreting completed. Jiwa Nallah Feeder Tunnel: Completed. E&M Works: Unit # 1: Spun on 31.03.2017 by using water of Jiwa Nallah. Synchronization on partial load achieved on 29.07.2017 and again on 14.09.2018 after rectification work of left pressure shaft. Unit # 2: Spun on 09.04.2017 by using water of Jiwa Nallah. Synchronization on partial load achieved on 22.09.2018. Unit # 3: Boxed up. Unit # 4: Boxed up. HM Works: About 92% works completed. Critical Area: HRT.	Poor geology in HRT especially in Face-4 (TBM-Face).
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: 3846.30 Contractors Civil : Rithwik/L&T / Patel HM : Om Metals E&M : BHEL	<u>Uttara khand</u> 2012-13 2020-21 (Dec'20)	River diversion achieved on 13.04.2013 Barrage: Excavation completed and Concreting 122230 cum out of 125575 cum completed. HRT: 8.25 Km excavation completed out of 12.62 Km, TBM struck due to cavity (5.5km completed out of 8.8km) PH Cavern: Excavation and concreting completed. Desilting Chamber & Intake: 5.40 lakhs m ³ out of 6.42 lakh m ³ Excavation completed. TRT: Excavation completed. Surge shaft: Excavation & Lining completed. Penstock: Excavation completed and Lining almost 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: Stator & Rotor lowered. Unit #2: Stator winding is in progress. Unit #3: Stator Core building is in progress. Unit #4: Distributor Barrel Concreting completed. Critical : HRT	- Completion of HRT. - Restoration of TBM - 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	<u>Uttara khand</u> 2010-11 2021-22 (May'21) (Subject to re-start of works)	EPC contract has been awarded on 23.06.11 with commencement date from 27.07.11. Upstream (Tehri Dam) and Downstream (Koteshwar Dam), intake and Head Race Tunnels (2 Nos.) already completed alongwith Tehri Stage-I works. Surge Shafts upstream (2nos- 140m): After completion of Crown slashing, widening is in progress. Erection of Gantry completed. Butterfly Valve Chamber (BVC): Crown slashing with steel ribs completed. Benching work and additional stabilization work is nearing completion. Cumulative Benching Excavation 7942 Cum (49.42%) completed. Penstock Assembly Chamber (PAC): Crown slashing with steel ribs completed. Excavation of 1 st bench has been completed.	- Poor Geology in under ground works of BVC, PAC, TRT, PH Cavern etc. - Slow progress of works - Cash flow crisis with M/s. HCC. - Project Stalled.

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
	pump turbine Cost: Original: 1657.60 Latest: 4401.90 Contractors Turnkey : Alstom, France/ HCC		Power House: Excavation completed. Surge Shafts downstream (2nos): Excavation of Top Chamber completed. Surge Shaft-4: Works for Collar beam completed. Surge Shaft-3: Excavation for Collar Beam completed. Widening is under progress. TRT-3(1151 RM): Excavation in Heading 862 RM, Benching 188.5 RM. Invert Lining-126m Overt Lining - 48m completed TRT-4 (1255 RM): Excavation in Heading-948 RM, Benching- 422.5 RM Invert Lining-156m 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: 1527.00 Contractors Civil & HM : L&T E&M : BHEL	<u>Uttara khand</u> 2017-18 2022-23 (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: 3789.61 Contractors Civil & HM : HCC E&M : BHEL	<u>Uttara khand</u> 2013-14 2021-22 (Dec'21)	Diversion Tunnel: River diverted on 02.04.2018. Work on construction of coffer dam was deferred during Monsoon and shall be taken up post monsoon season. Development for TBM platform 95% excavation work has been completed. Main Access Tunnel (MAT) 407m: Excavation completed upto 397.50m. HRT (13400m): Excavation of HRT by DBM from Dam site completed.(392.8 m out of 960m. 95% Excavation work of Development of TBM platform has been completed. Surge Shaft: Upstream-82.50 RM out of 325.5 RM excavation from bottom Adit to Up Stream Surge Shaft completed. Downstream- 337.17 RM out of 352 RM from Adit to D.s Surge Tank bottom has been completed. TRT: Excavation 3045 RM out of 3070 RM completed. Desilting Chambers (3 No. X 390m) : Crown Slashing completed. In DC #1, DC #2 & DC #3 and Benching is under progress in DC #1. E&M works: Design & Engineering Is in progress. Model testing of Turbine has been successfully completed in BHEL on 01.08.2015.	-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	Arunachal Pradesh Assam 2009-11 2022-23 (Subject to re-start of works)	Dam: Excavation- 169441 cum completed out of 173000 cum. Concreting: 7.6lacs cum completed out of 19.96 lacs cum. Intake Structure: 261377 cum concreting completed out of 279454 cum. Head Race Tunnel (I-VIII): 7050 m heading excavation completed out of 7124m. 4279 m benching excavation completed out of 7124 m. 3199 m concrete overt lining completed out of 7124 m.	- Signing of MoU with State Government of Assam. - Issue of Downstream Impact Assessment & demand for stoppage of works by anti dam activists. -Since 16.12.2011

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	<p>Turbine- Francis SWYD- 16/400 kV Cost: Original: 6285.33 Latest: 18559.49 (04/17 PL)</p> <p>Contractors Civil : BGS-SGS-Soma JV / L&T/Alstom HM : Texmaco E&M : Alstom</p>		<p>Surge Tunnels (8 nos.): 3109 m heading excavation completed out of 3545 m.</p> <p>Pressure Shaft- Vertical Pressure Shaft Slashing: 199 m excavation out of 384 m completed.</p> <p>Surface Power House: Concreting: 124887 cum out of 302600 cum completed.</p> <p>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.</p> <p>HM Works: Erection of diversion tunnel gates 23% completed. Erection of Intake-5: 17% completed. Erection of Intake 7 & 8 – 20% completed each. 201 m pressure shaft steel liner erected out of total 1594 m.</p> <p>Work stopped since 16.12.11 due to agitation launched by various activists against construction of Subansiri Lower HE Project. In this regard, as decided in the tripartite meeting dated 06.12.13, discussions between Expert Group formed at the request of AASU (All Assam Students Union) and Experts of Govt. of India & NHPC was held on 23.12.13. Last meeting between Expert Group of Assam and Experts of Govt. of India was held on 02.06.14 at Guwahati. Thereafter, meetings with Expert Group of Assam on 10.12.2014 and on 21.02.2016 & 22.02.2016 with various Stakeholders of Subansiri Lower Project on 11.12.2014 were held to discuss the issues. The meetings were Co-chaired by Hon'ble MOS (I/C) for Power, Coal and New & Renewable Energy and Hon'ble MOS (I/C) for Skill Development, Entrepreneurship, Youth Affairs & Sports.</p> <p>As decided in stakeholders meeting on 11.12.2014, a Project oversight Committee (POC) was constituted vide MoP's OM dated 13.01.2015. Due to difference in opinion on some issues mainly seismic issues, the Expert Group of Assam has submitted the final report to MoP & members of POC from Government of India have also submitted a separate report to MoP in Jan / Feb'2016.</p> <p>Matter related to Subansiri Lower HEP was being heard by Hon'ble National Green Tribunal (NGT), Kolkata. The judgment has been pronounced by NGT Kolkata on 16.10.2017.</p> <p><i>"In this judgement, NGT has directed MOEF&CC to constitute a committee of three expert members from the field of Seismology, Geology and Hydrology and one of these members shall be from Northeast to examine the entire matter and reports of various committees constituted. The Terms of Reference (TOR) of the committee will be same as made to POC as contained in OM no. 2/5/2002-NHPC dated 13.01.2015. The MOEF&CC shall constitute the Committee within one month and the committee shall give its report in three months from the constitution of the committee to MOEF&CC which will be placed before Expert Appraisal Committee (EAC) for appraisal under Environment Impact</i></p>	works stopped due to agitation by various activists of Assam.

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			<p><i>Assessment (EIA) Notification 2006. EAC shall complete the appraisal within 60 days and place it before the competent authority for final decision."</i></p> <p>Subsequently, MoEF&CC has constituted a Committee consisting of three expert members vide order dated 27.11.2017. The committee has to give its report within 3 months from date of issue of order.</p> <p>In the meantime, the Applicant (Sh. Aabhijeet Sharma) raised objection in NGT, Kolkata on the constitution of committee by Ministry of Environment, Forest & Climate Change (MoEF &CC).</p> <p>NGT Principal bench, New Delhi vide order dated 15.02.2018 deferred the meetings of committee till further order. On 8th May, 2018 arguments completed and judgement was reserved. Matter was also mentioned by NHPC in NGT on 11.07.2018. Judgement was reserved.</p> <p>On dated 31.08.2018, Hon'ble NGT, Principal Bench released the case from being reserved and list to be reheard before the Court No. 1 on 04.09.2018. Case was not taken up by Hon'ble NGT on 04.09.2018 and the matter is listed for hearing on 13.09.2018. Again further, the matter was re-listed for hearing on dated 10.10.2018, but the same has again been postponed to be heard on 19.11.2018.</p> <p><u>Signing of MOA with Govt. of Assam:-</u> Signing of MOA with State of Assam is pending yet. NHPC had sent the draft MOA, approved by MOP, to the States of Assam and Arunachal Pradesh in April-03 for their consent / signing of Agreement. The MOA with Arunachal Pradesh Government has already been signed on 27.1.2010.</p>	
7	<p>Kameng NEEPCO 02 12 2004 4x150 = 600 MW 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</p> <p>Cost: Original: 2496.90 Latest: 6179.96</p> <p>Contractors Civil : Patel HM : Om Metals & JSC JV E&M : BHEL</p>	<p>Arunachal Pradesh</p> <p>2009-10 2018-20 (Actual time line for completion can be assessed after completion of NDT of all welded joints)</p>	<p>All major works related to commissioning of project completed. All Units Boxed up. Leakage observed in penstocks during water filling. Complete NDT of all circumferential joints of pressure shaft / penstock is in progress along with rectification of defects.</p> <p>E&M Works: All units Boxed up. Erection of Equipment & Structure in 400 KV and 132 KV Switchyard are completed.</p> <p>Critical Works: Rectification work of leakage observed in Penstock 1 & 2.</p>	Rectification works of leakage observed in penstock 1&2.
8	<p>Ramam-III NTPC Hydro Ltd. 10.09.14 3x40 = 120 MW Broad Features :</p>	<p>West Bengal</p> <p>2019-20 2021-22</p>	<p>Infrastructure works are in progress. Civil & HM works of Barrage including Part HRT Package awarded to M/s Simplex –Apex JV on 10.09.14. Civil & HM works of Power House including Part HRT awarded to M/s SEW Infrastructure Ltd. on 12.12.2014.</p>	<p>- Works affected due to GJMM Andolan.</p> <p>- Funds flow constraints with</p>

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	Run of the River Scheme Cost : Original: 1381.84 Latest : 1381.84 Contractors Civil & HM : Simplex-Apex JV / Sew E&M : BHEL	(Feb,22)	Electro-Mechanical (EM) Package awarded to M/s BHEL in Feb-2015. Barrage : First stage river diversion done on 23.03.2016. Excavation almost complete. Desilting Chamber : Excavation completed and concrete lining works started. HRT : Excavation of additional Adit from Adit #1 to GOC completed. Excavation of HRT Junction started. Adit #3 excavation works started. (359m out of 5200m completed). Surge Shaft : Surge Shaft well excavation (6.6m out of 53.75m completed). Pressure Shaft : Vertical pressure shaft excavation started. (1.6m out of 74.3m completed) . Power House : Excavation 92200 out of 145000 cum completed. Switchyard filling completed. Model testing of turbine done by BHEL in Jan 2018. E&M works : i) Procurement & transportation of Earth mat material to start. ii). Supply of primary inserts of lower pit and central frame work to start. Critical Issue: PPA with beneficiaries yet to be signed. Resolution of forest land issue in Road from Township to Surge Shaft by Forest Dept.(GoWB)	the contractor.
9	Naitwar Mori SJVN Limited 16.10.2017 2x30=60 MW Broad Features : Barrage: 30.5m height HRT: 5.6m horse shoe, 4330m long Pressure shaft: 4m dia, 109m long Surge shaft: 18m dia, 51.65m height Cost : Original: 648.33 Latest : 648.33 Contractors Civil : JP Associates HM : GMW E&M : Voith	<u>Uttara</u> <u>khand</u> <u>2021-22</u> 2021-22 (Dec,21)	LoA for civil works has been issued to M/s. Jaiprakash Associates Ltd. on 05.12.2017. Desilting Tank : Removal of slide deposit in desilting tank area is in progress. Cumulative 22,820 cum out of 48,000 cum completed. Diversions channel : Open excavation of diversion channel is in progress. Cumulative 55,005 cum out of 77,000 cum completed. Adit 1&2 : Portal development work of Adit #2 is in progress. Excavation of Adit #1 27m out of 98m completed. HM works : LoA issued to M/s GMW Private Ltd. on 18.04.18. M/s GMW has submitted the construction schedule. E&M works : Works awarded to M/s. Voith Hydro Pvt. Ltd. On 20.07.18.	-
10	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 & HM : Afcons – JAL - JV	<u>J&K</u> <u>2023-24</u> 2023-24	Infrastructural works : Excavation of MAT and Adit to Powerhouse are in progress. Dam : Letter of Acceptance issued to M/s Jaiprakash Associates on 21.06.18. HRT-TBM Package - Bids evaluated and are under consideration of the Board. Power House(157mx20.20mx49m) : Letter of Acceptance issued to M/s. AFCON-JP Associates JV on 21.02.18. Construction work is in progress.	

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	E&M : BHEL			
	State Sector			
11	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: 640.41 Latest 640.41 Contractors Civil : Patel & Alstom E&M : Andritz	<u>J&K</u> <u>2017-18</u> <u>2021-22</u> (Mar,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 19129 cum out of total 82178cum completed. HRT (D-shaped, 3.2m diameter, 9.236km long):- 3221.30m out of 9236m excavation completed. Pressure shaft (1no. 2mdia, 1733mlong) :- Excavation 11224cum out of 80,000cum completed. Surge shaft (3.2m dia.) : 704cum excavation out of 14000cum completed.	- Slow progress of works - Land acquisition issues at Adit-I to HRT & Power House area.
12	Lower Kalnai JKSPDC 16.08.2013 2x24= 48 MW Broad Features: Dam: 110m Span, 49m High HRT: D Shape, 3960m long, 4m dia Surge Shaft: 14m Dia Power House- 55x23.45x32.4 Cost: Original: 576.87 Latest 576.87 Contractors Civil : Coastal E&M : GE	<u>J&K</u> <u>2017-18</u> <u>2022-23</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 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. File was submitted to Law Deptt. For perusal and further instructions in the matter regarding termination/extension of the EPC Contractor.	- Slow progress of works
13	Shahpurkandi Irrigation Deptt. &PSPCL 04.05.2011 3x33+3x33+1x8=206 MW Cost: Original: 1835.50 Latest 1835.50 (Power Component) Contractors Civil & HM : Soma – BUREYA JV E&M : BHEL	<u>Punjab</u> <u>2015-16</u> <u>2021-22</u> (Nov,21)	Main Dam: 1286552 cum Excavation out of 1981500 cum and 89286 cum concreting out of 1135295 cum completed. Hydel Channel: 2696210 cum excavation out of 3900000 cum and 22153 cum concreting out of 42864 cum completed. 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. Work is likely to resume soon.	-Works of Dam stopped since 29.08.2014 due to inter-state dispute between states of J&K & Punjab.
14	Uhl-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:	<u>H.P.</u> <u>2006-07</u> <u>2018-19</u> (Mar,19)	All works completed. Hydro Test of Penstock performed and thereafter associated Repairs are in progress. Project is Programmed to be commissioned by March, 2019.	

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	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			
15	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. Cost: Original: 558.53 Latest: 1181.90 Contractors Civil & HM : HCC / Patel E&M : Andritz	<u>H.P.</u> 2011-12 2019-20 (May,19)	Barrage: Excavation completed & concreting is under advance stage of completion. HRT: Excavation completed and 8685 m out of 10834 m overt lining completed. Steel Liner erection 2.5m out of 530m completed. Surge Shaft: Excavation & Lining completed. Pressure shaft: Excavation & lining completed. Power House: Excavation completed and concreting almost completed. TRT: lining completed. E&M: All units boxed up. Critical : HRT.	- HRT is critical
16	Shongtong Karcham H.P. Power Corpn. Ltd. Clearance: 16.08.2012 3x150= 450 MW Broad Features: Intake Tunnel: 4 Nos. Horse shoe 6.4m dia 192 to 280m length HRT- Circular, 10.5m dia, 8096m long. Power House- Under ground Turbine- VF. Switchyard: 400 Kv. Cost: Original: 2807.83 Latest: 2807.83 Contractors Civil & HM : Patel E&M : Andritz	<u>H.P.</u> 2016-17 2024-25 (Apr,24)	River Diversion achieved on 10.02.2017. Barrage: Excavation under progress. HRT: Heading excavation of HRT 3.86km out of 7.712km completed. Surge shaft: 95m out of 100m pilot hole completed. Power House: 63% 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. Works are stalled since 18.04.2017 due to pending payment. Further, 125 out of 171 labour / workmen have been laid off by M/s. Patel Engg. Ltd w.e.f. 18.05.2017 to 21.07.2017. Work has now been resumed partially.	-Issues with Army authorities for shifting of ammunition depot. - Slow progress of works
17	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	<u>Uttarakhand</u> 2014-15 2019-20 (Mar,20)	Civil Works: Dam : Excavation completed. 202844 cum out of 3.6 lakh cum of Concreting completed. Diversion Channel : Completed. Head Race Tunnel (2.7 Km): Excavation of HRT completed. 2431.05m Overt Lining and 1325m Invert Lining out of 2655m has been done. Pressure Shaft: 3109cum out of 5000cum Excavation completed. Surge Shaft : Excavation completed. Concreting-250cum	-Dam and E&M works are Critical. -Local issues.

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	Turbine- VF. Switchyard: 220 Kv. Cost: Original: 936.23 Latest: 936.23 Contractors Civil : Gammon / MPCC E&M : BHEL		out of 6626cum completed. Power House: 258500 cum out of 270,000cum Excavation completed.	
18	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 Turbine – Reversible Cost: Original: 245.02 Latest: 1494.94 Contractors Civil & HM : BT Patil – Malaxmi JV / Patel E&M : Litostroj Slovenia & Koncar, Croatia	<u>Maha</u> <u>rasht</u> <u>2014-15</u> <u>2022-23</u> (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) 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.	-Slow progress of works. -Funds constraints due to increase in Project cost. RCE under approval.
19	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 96.51L 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 on 06.12.2017. The contract agreement was signed on 06.01.2018 and the zero date of the contract commenced from 06.01.2018. It is programmed to commission the first three (3) units within 46 month from zero date and the balance 9 units at an interval of 2 months thereafter.	
20	Pallivasal KSEB 2x30= 60 MW 31.01.2007	<u>Kerala</u> <u>2010-11</u> <u>2020-21</u>	Intake structure: Excavation – 28398/33492 cum completed. Leading channel of Water conductor system replaced by cut & cover/soil tunnel and accordingly intake is shifted.	- Poor Geology. -Contractual Issues.- - Works stopped by the civil contractor from

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	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 : 284.69 Contractors Single Package(Except Intake & balance Tunneling works) ESSAR – DEC – CPPL JV -M/s Bumi-Zillion JV (for Intake works & balance Tunneling works)	(Dec,20)	HRT: Excavation –2858/3330 m completed. Overt conc. 1634/3330 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 –105204/122600 cum. Concreting- 11401/12850 cum. Fabrication completed and 1477m 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. Intake works and Balance Tunneling. Work awarded to M/s.Bumi-ZILLION JV by delinking this portion from M/s.ESSAR-DEC-CPPL Consortium. The progress of the work :- 41 Nos of Pile completed for Intake Box culvert.. Tunnel: 12.50 m completed. Pipe roofing works in progress. Kerala State is flooded in the month of August due to heavy rain, hence in turn the progress of works are also affected seriously due to land slides and heavy rain.	22.07.2015 based on remarks that the progress of the work is very poor and not satisfactory. Contactor was asked to furnish a proposal regarding the foreclosure of contract, but could not be materialized due to intangible condition .Later contractor has resumed the remaining works excluding Intake and balance tunneling works of Face-I in April,2017.Later on demanding enhanced claim, balance work was stopped in April,2018 by the contractor. Govt. has accorded sanction to retender the Pallivasal Ext. Scheme at the risk and cost of contactor in July,2018. The Board has served termination notice to contractor in Sept,2018. The contractor has filed a writ petition before the Hon'ble High court of Kerala challenging the termination order.
21	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: 150.02 Contractors Civil & HM : PRIL- Sri Sarvana Industries	<u>Kerala</u> 2012-13 2020-21	Civil Works: Weir: 3258 cum excavation out of total 5850 cum and 1598 Cum concreting out of 8690 Cum completed. Approach Channel & Intake: 3184 cum out of 9100 cum done. Power Tunnel : Excavation completed. Power House, switchyard & allied works: 31390 cum excavation out of 44500 cum and 2658 cum concreting out of 15675 m done. E&M and HM Works: Supply of equipment in progress. Critical – Works stopped from 15.08.2018 to 26.08.18 due to heavy rain. Machineries stored in the shade and open yard at Lower Periyar HEP yard has got flooded & damaged. Now concreting of weir under progress	-Works are stand still since 2015 due to Contractual Issues. Accordingly the contractor put forwarded a proposal for foreclosure of the project due to their financial stringency. -Civil & HM works was re-awarded to the L1 bidder- M/s PRIL- Sri Sarvana Industries Pvt. Ltd. on 05.01.2018. Tendering process for balance Electrical works under process.
22	Kundah Pumped storage Phase-I TANGEDCO 1x125= 125 MW Cost: Original: 488.48 Latest: 989.80 Contractors	<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 MAT, Adit to TRT & Surge Shaft under progress. Excavation of CCVT completed. E&M works: Award of works is under progress.	

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	Civil & HM : Patel / Kundah PSP			
	Private Sector			
23	Ratle Ratle Hydro Electric Project Pvt. Ltd. 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 : Original: 5517.02 Latest : 6257 (09/2013) Contractors Civil & HM : GVK E&M : Alstom	<u>J&K</u> <u>2017-18</u> <u>2023-24</u> (Subjct to re-start of works)	EPC Contract for Civil & HM works awarded to M/s GVK Projects & Technical Services Limited on 04.07.2013. The infrastructure works of Road & Bridges was under progress and erection of upstream Bridge completed & downstream Bridge was in progress. Works have been suspended at Project site due to frequent local disturbances since 11.07.2014. Power Development Department, GoJK have been requested to resolve the various critical issues including 1) resolving of disturbance at site 2) restoration of congenial atmosphere and 3) IWT issues for resumption of works at site. Excavation of DT1 (298m out of 472m) & DT2 (192m out of 552m) completed. Govt. of J&K, PDD have terminated PPA on 09.02.2017 and directed JKSPDC to take over the project. 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.	- Presently works are under hold. - Local Issues
24	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> <u>2011-12</u> <u>2020-21</u> (Subjct to re-start of works)	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 compensation package and funds for repair of penstocks pipe is being worked out with the bankers.	- Repair of penstock work -Project presently stalled -Funds constraints with developer
25	Tangnu Romai-I M/s Tangnu Romai Power generation 2x22= 44 MW 30.11.2007 (TEC by HPSEB)	<u>H.P.</u> <u>2014-15</u> <u>2021-22</u> (Subjct to re-start of	Civil works awarded on 14.06.2010 to M/s Sai Urja Hydel Project (P) Ltd. Barrage and Diversion Cannel: 26211 cum out of 93800 cum excavation completed. Desilting Chambers & SFTPC: Excavation completed. SFT excavation 420 / 450.66 m completed.	- Slow progress of works HRT critical, poor geology. - Works are stalled due to finance issues since Jan, 2015.

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
	Broad Features: Barrage at EL \pm 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	works)	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.	- Developer have initiated the sale of the Project and are in the process of negotiating with Potential Buyers.
26	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	<u>H.P.</u> 2018-19 2019-20 (Aug,19)	Civil Works: 81% works completed. Dam : Excavation completed. 1,21,216cum out of 2,10,000 cum concreting completed. HRT: 14.814km excavation out of 16km completed. Surge Shaft: Excavation completed. Pressure shaft: Excavation completed. Lining-2117cum out of 20500 cum completed. Powerhouse: Excavation completed. 36271cum out of 49720cum concreting done. HM Works: 45% works completed. E&M Works: 65% works completed.	-Slow progress of works -Poor approach roads -Power evacuation system is critical.
27	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	<u>H.P.</u> 2013-14 2021-22 (Oct-21)	Barrage & River Diversion Works: Common Excavation completed and 71700.84/73409.00 open cut rock excavation completed. 32349 cum out of 37647 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 completed and 1879m lining completed. Surge Shaft: Excavation completed. Pressure Shaft: Excavation completed Power house and Tail race channel- 87709 cum out of 92500 cum excavation completed. 11237 cum out of 16156 cum concreting completed. M/s Statkraft India Pvt. Ltd. Has acquired 100% equity of the project on 04.09.2018 & re-mobilization of manpower on the project is in progress.	- Slow progress of works. - Transmission Line critical. - Funds constraint.
28	Phata Byung M/s Lanco 06.10.2008 2x38 MW = 76 MW Broad Features: Dam – 26m high	<u>Uttara khand</u> 2012-13 2021-22 (Subject to	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.	- Works severely affected due to flash floods in June, 2013. - Funds constraints with the 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
	HRT- 3.2 m dia & 9.38 km length Turbine – Frances Cost: <u>Original: 520.00</u> Latest : 1225.53 Contractors Civil : Lanco HM : Cimmco E&M : Alstom	re-start of works)	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.	
29	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 : <u>Original : 666.47</u> Latest:1694.00(PL-2018) Contractors Civil : L&T HM : General Mechanical Works E&M : Voith	<u>Uttara khand</u> <u>2012-13</u> 2019-20 (Jun,19)	River diversion – completed. Dam & Dykes/Barrage: Excavation almost completed and concreting 62147 / 70220 cum completed. HRT: Excavation completed Overt Concrete Lining 4940m / 11257m completed. Invert Lining 5010m / 11257m completed. Pressure Shaft: Excavation completed. PH: Excavation completed & concreting 27399/ 29959cum completed. Surge Tank: Excavation completed. 4113.93cum out of 5349cum concreting completed. E&M Works: Erection of spiral casing of Unit#1 is in progress. Draft tube erection and EOT crane Erection & Load testing completed.	- Works severely affected due to flash floods in June, 2013. - HRT Critical
30	<u>Maheshwar,</u> SMHPCL 30 12 96/ 29.9.2006 (FC) 10x40= 400 MW Broad Features: Dam-35m High, concrete gravity P.Shaft-10x7.82m x 52m P.House - Surface Turbine- Kaplan Cost: <u>Original: 1569.27</u> Latest: 8121.00 Contractors Civil & HM : Sew E&M : BHEL	<u>M. P.</u> <u>2001-02</u> 2020-21 (Subject to re-start of works)	Civil & HM Works: All major civil works completed. All 27 nos radial gates commissioned. Unit Erection: Unit-10: Initial spinning achieved on 14.10.2011. Unit-9 & 8: Ready for spinning. Unit-7: Guide apparatus trial assembly in progress. Unit-6: Erection of turbine embedded parts & foundation parts completed. Unit-5 to 1: Erection of units is in initial stages. Works suspended since Nov-11 due to cash flow problem with developer. A high level committee under the chairmanship of Additional Chief Secretary(Finance) GoMP, was formed on 16 th Oct, 2014 to find ways to complete the project. The committee has submitted its report on 2.5.2015. The committee has recommended three scenarios for commissioning the Maheshwar Project. Under the first scenario, another attempt to complete the project with the present private developer has been envisaged. Timeline for first Scenario has elapsed (2nd August 2015) without the promoter complying with its requirements. As per second scenario, Lenders as Govt. Companies (PFC as	- Completion of R&R works and E&M works. - Works held up due to Fund constraints with developer. - Sub-Judice in NCLT.

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
			lead lender) have acquired majority equity i.e. 51% in the SMHPCL w.e.f. 1 st June, 2016. National Company Law Tribunal (NCLT), Ahmedabad inter-alia declaring shareholding of lenders bad in law. Against the adverse order of NCLT, appeal has been filed in National Company Law Appellate Tribunal (NCLAT), New Delhi. NCLAT passed the order on 12-03-2018 against the share holding of lenders. NCLAT in the order also mentioned that Central Govt. may also as a part of investigation, direct, at the cost of the company, forensic audit of the company under supervision of the official of CAG at least since 2005 if not earlier. PFC has filed an application in NCLT Ahmedabad on 16 th February 2018 to start Corporate Insolvency Resolution Professional (CIRP) under Insolvency and Bankruptcy Code(IBC). The way forward is now dependent on the outcome of the petition filed by PFC in NCLAT seeking resolution under IBC and also on the forensic audit by CAG.	
31	Teesta-VI LANCO 27.12.2006 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 : 7542.00 Contractors Civil & HM : Lanco E&M : Alstom	<u>Sikkim</u> <u>2012-13</u> 2021-22 (Subject to re-start of works)	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.
32	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> <u>2011-12</u> 2021-22 (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.	Financial crunch with the developer. Work held up since Oct, 2013 due to fund constraints. High Power Hydro Sub Committee (HPC), Govt. of Sikkim has taken a meeting on 20.04.2017 wherein they have agreed to enhance their equity to 51% and asked Lenders, i.e. PFC to submit their proposal for making the tariff viable by giving incentives viz reducing rate of Interest, increasing payback period of loan etc so that the project work can be started

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
				early and balance works ca be completed in 3.5 years from revival of project.
33	Bhasmey Gati Infrastructure 2x25.5= 51 MW Broad Features : Dam-33.2m High, Symmetrical gravity HRT-5.3m dia & 5.132 km length , Circular. Surge Shaft- 89.8m Hight & 14m dia. P.House-Outdoor Turbine-VF TRT-2 Nos, L- 50m Swityard-132/11 KV Cost :Original : 408.50 Latest : 690.30 Contractors Civil : Simplex E&M : Voith	<u>Sikkim</u> 2012-13 2021-22 (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.
34	Rangit-II Sikkim Hydro Power Limited 10.02.2010 2x33= 66 MW Broad Features : Dam-47m High, Concrete Gravity HRT-3.9m dia & 4.745 km length , Surge Shaft- 65.5m High & 10m dia. Underground Pressure Shaft : 1.7 m dia & 2.5 km length. P.House-Outdoor Turbine- Pelton Vertical Swityard- GIS, 132/11KV Cost : Original : 496.44 Latest : 496.44 Contractors Civil & HM : Coastal E&M : Gammon	<u>Sikkim</u> 2015-16 2020-21 (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 financers were held on 23.09.2016 for release of funds. The developer was asked to submit certain document for release of funds.
35	Rongnichu Madhya Bharat Power Corporation Ltd. 01.10.2008 2x48= 96 MW Cost : Original : 491.32 Latest : 1187.00 Contractors Civil & HM : Sew E&M : Voith	<u>Sikkim</u> 2014-15 2019-20 (Mar,20)	The civil works have been awarded to M/s SEW Infrastructure Ltd. and E&M works to M/s Voith Hydro Power Pvt. Ltd. Barrage: Excavation completed & 38581 out of 40674 cum concreting completed. HRT: Civil Works almost completed. Surge shaft: 49m excavation out of 88m completed. Pressure Shaft: 97% Civil works LHPS & 48% Civil works of VPS completed. Power House: 28675cum out of 29626.54cum of Excavation completed. 13320cum out of 24644 cum Concreting has been completed.	- 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
36	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-Height P.House-Surface Turbine-Vertical Francis Cost : Original: 1833.05 Latest :2516.00 Contractors Civil : Essar	<u>Sikkim</u> <u>2018-19</u> <u>2022-23</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
37	Gongri Dirang Energy Pvt. Ltd. 04.02.13 2x72= 144 MW Broad Features : Barrage-H-29m, L-216.5m MDDL- EL 1447m Spillway-2nos. Radial Gates; 2 Nos. 10.5m x 13m Intake: EL1438m Desilting Chambers : 2 nos. (260Lx13Wx16H) HRT- modified horse shoe, 5.8 m dia & 7137m length , Surge Shaft- 92 m High & 13m dia. Pressure Shaft : 4.4m dia, 647.26m length bifurcating into 3.1m dia & 28.51m & 34.5m length P.House-Surface Turbine- Vertical Francis Cost : Original: 1436.27 Latest :1436.27 Contractors Civil & HM : Patel E&M : Andritz	Ar. Pradesh <u>2016-17</u> <u>2022-23</u> (Subject to re-start of works)	EPC contract for all works awarded to Patel Engineering Ltd., Mumbai on 22-11-2011. TEC accorded on 04-02-2013 & Financial closure achieved on 15-02-13. The EPC contract for E&M works has been awarded to M/s. Andritz Hydro Pvt. Ltd. Consent to establish from State Pollution Control Board was issued on 19-05-2014. Barrage: 23400cum excavation out of 1.185 Lakh cum completed. Power House & Switchyard : Open Excavation 68500cum out of 2.15 Lakh cum completed. Construction work stalled since October, 2016 due to funds constraints with developer. State Govt. terminated the agreement with developer for execution of project.	-Works awarded on 22.11.2011. However, consent to establish from SPCB was issued on 19.05.2014 -Works stopped since October, 2016 due to funds constraints with developer. -State Govt. terminated the contract with developer for execution of project.

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.	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 Commissioning Schedule: Nov' 2016 Anticipated commissioning schedule : 2022-23	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)	Dam: Excavation 67.20 lac cum out of 70.45 lac cum is completed. Concreting yet to be taken. Excavation of dam pit was hampered due to movement & subsidence at right bank hill. Desilting Chamber: Excavation & concreting completed. HRT: excavation and lining completed. Surge Shaft: Boring & Lining completed. Pressure shaft: Excavation is completed and back fill concreting 1286m completed out of 1460m. Power House: Excavation, Construction of Service Bay and Construction-I at D/T level completed. Construction-II at Auxiliary Bay Level 6613 cumec out of 9310 cumec completed. TRT: excavation and overt lining completed. E&M works: Stator of unit-I lowered in Barrel. Lowering of stator of unit-II is under progress. MIV of unit-II lowered. Critical: Movement & subsidence at right bank hill. Completion of dam works.
2.	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 SWYD- 400 kV Commissioning Schedule: June' 2017 Anticipated commissioning schedule: 2021-22	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 Package-IV:LS Cables & System Ltd. on 7.05.2013 Transmission Works: Bhutan Power Corp.Ltd on 21.03.2013 (on deposit work basis)	Dam: Excavation completed. Adverse geological situation faced at the left bank of the dam. Conc. 42349 cum completed out of 886000 cum. HRT: heading excavation completed. Benching excavation 4619 Km out of 6314m completed. Overt lining 4067.51m and Invert lining 1009.81 m completed out of 6314 m. Surge Shaft: Excavation & Lining (Overt) completed. Pressure Shaft: Excavation Completed. Top, Horizontal and Vertical portion Liner completed. 1327m out of 1454m steel lines erected in horizontal portion. Power House: Machine hall excavation Completed. Erection of Draft tube liners for Unit #2 & #3 is completed, and for Unit #1, #4, #6 are in progress. Transformer Hall excavation completed. Excavation of Down Surge Chamber Gallery completed (60%). On 02-03 March,2016, massive rock fall from the roof of downstream Surge Gallery occurred. TRT: Heading Excavation: 3277m completed &

Sl. No.	Name of Project / Capacity(MW) /Executing Agency/Date of CEA clearance / Approval / Broad Features/Commissioning Schedule	Award of works	Broad Present Status
			2731m overt lining also completed. Critical: - Restoration & completion of downstream Surge gallery works.
3.	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 Commissioning Schedule: Sep'17 Anticipated commissioning schedule: 2018-19	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	Dam: Concreting completed, other works in progress and to be completed by Dec 2018. Reservoir filling shall start after commissioning of 4 nos Radial Gates and plugging of HRT Adits. HRT: Excavation completed 13435 Km Overt lining & 12,709 km Invert lining completed out of 13.505 Km. Pressure shaft: Excavation completed. Fabrication (99%) & Erection (99%) completed. Surge Shaft: Lining almost completed. Radial Gates: Erection completed for 3 Radial Gates, in progress for 4 th Radial Gate Power House: Works completed . Tail Race Tunnel : Completed. H&M Works: Fabrication (99%) and Erection (95%) completed. E&M works: Unit #1, #2 & #3 Boxed up. Unit # 4 Erection of Shaft completed. Critical: Completion of balance HRT Lining. Power Evacuation System (India side).

Chapter 7

Financial Status of Under Construction Hydro Electric Projects as on 30.09.2018

HPM DIVISION, CEA

Figures in
Crores

Sl. No.	Name of project (State)	Capacity (MW)	Benefits (MW)	Sancd. Cost (PL)	Latest/ Ant. Cost (PL)	Total Expend. upto Mar,12	Total Expend. upto Mar,13	Total Expend. upto Mar,14	Total Expend. upto Mar,15	Total Expend. upto Mar,16	Total Expend. upto Mar,17	Total Expend. Up to Mar,18	Total Expend. Up to Month
Commissioned during 2018-19													
Central Sector													
1	Pare (NEEPCO) Ar. Pr.	2x55	110	573.99 (06/07)	1337.76 (01/16)	310.59	517.54	811.78	994.40	1160.87	1362.80	1621.18	1633.22 (Apr-18)
State Sector													
2	Pulichintala (TSGENCO) Telangana	4x30	30	380.00 (2006-07)	563.49	174.46	217.91	240.94	424.63	425.30	455.99	483.94 (Feb-18)	494.92 (Jul-18)
Total Commissioned during 2018-19:			140.00										
Under Execution													
Central Sector													
1	Pakal Dul (CVPPL) J&K	4x250	1000.00	8112.12 (03/2013)	-	-	-	-	-	-	-	882.02	1008.81 (Jun-18)
2	Parbati -II(NHPC) H.P.	4x200	800	3919.59 (12/2001)	8398.76 (03/2015)	3363.07	3854.20	4383.57	4950.04	5557.21	6176.84	6684.84	7058.21 (Sep-18)
3	Tehri PSP (THDC), Uttarakhand	4x250	1000	1657.60 (12/05)	4401.90 (01/17)	320.76	466.42	692.34	1180.43	1706.72	2189.76	2540.27	2611.14 (Sep-18)
4	Tapovan Vishnugad (NTPC) Uttarakhand	4x130	520	2978.48 (03/2004)	3846.30 (01/2014)	1457.00	1813.00	2078.00	2417.00	2788.00	3133.00	3420.00 (Jan-18)	3639.93 (Aug-18)
5	Lata Tapovan(NTPC) Uttarakhand	3x57	171	1527.00 (07/2012)	1801.07 (07/2012)	36.00	97.00	138.00	139.00	143.00	146.00	148.00 (Jan-18)	149.17 (Aug-18)
6	Vishnugad Pipalkoti (THDC) Uttarakhand	4x111	444	2491.58 (3/08)	3789.61 (05/17)	298.92	342.98	479.31	592.44	824.04	1148.27	1393.66	1468.27 (Sep-18)
7	Ramam-III (NTPC) West Bengal	3x40	120	1381.84	1592.34				108.00	174.00	260.00	303.00 (Jan-18)	353.54 (Aug-18)
8	Subansiri Lower (NHPC) Ar. Pradesh/Assam	8x250	2000	6285 (12/2002)	18064 (04/15)	5606	6203	6783	7579	8368	9158.79	9979.37	10295.43 (Sep-18)
9	Kameng (NEEPCO) Ar. Pradesh	4x150	600	2496.90 (03/04)	6179.96 (03/2015)	1800.28	2215.94	2846.68	3762.55	4574.80	5563.86	6424.41	6788.96 (Sep-18)
10	Naitwar Mori (SJVN) Uttarakhand	2x30	60	648.33 (10/2016)								100.37 (Feb-18)	118.79 (Aug-18)
Sub Total: Central Sector			6715.00										
State Sector													
11	Parnai J&K	3x12.5	37.50								105.83	136.50 (Mar-18)	348.74 (Sep-18)
12	Lower Kalnai J&K	2x24	48							51.63	76.38	87.94 (Dec-17)	87.94 (Dec-17)
13	Uhl-III H.P.	3x33.33	100	431.56 (09/02)	940.84 (03/08)	754.74	881.49	1004.70	1128.30	1259.29	1348.40	1459.21 (Feb-18)	1571.36 (Aug-18)
14	Sawara Kuddu H.P.	3x37	111	558.53 (03/03)	1181.9 (03/12)	660.18	813.55	959.09	1022.55	1028.62	1154.72	1232.51 (Mar-18)	1274.73 (Sep-18)
15	Shontong Karcham H.P.	3x150	450	2807.83	3316.35		178.89	229.04	270.93	451.19	529.31	658.81 (Mar-18)	689.59 (Sep-18)
16	Vyasi Uttarakhand	2x60	120	936.23 (2010-02)	936.23				114.53	183.93	292.96	430.67 (Mar-18)	658.70 (Sep-18)
17	Shahpurkandi Punjab	3x33+3x33+ 1x8	206	2286 (04/2008)	2285.81	299.34					601.98	638.04 (Dec-17)	638.04 (Dec-17)

HPM DIVISION, CEA											Crores		
Sl. No.	Name of project (State)	Capacity (MW)	Benefits (MW)	Sancd. Cost (PL)	Latest/ Ant. Cost (PL)	Total Expend. upto Mar,12	Total Expend. upto Mar,13	Total Expend. upto Mar,14	Total Expend. upto Mar,15	Total Expend. upto Mar,16	Total Expend. upto Mar,17	Total Expend. Up to Mar,18	Total Expend. Up to Month
18	Koyna Left bank PSS Maharashtra	2x40	80	245.02	1494.94	84.80	116.67	128.93	131.60	188.62	334.59	334.59 (Mar-17)	334.59 (Mar-17)
19	Indrasagar Polavaram (PPA) Andhra Pradesh	12x80	960	3013.68 (2011)	5338.95 (2016-17)						125.00	382.04 (Feb-18)	382.04 (Feb-18)
20	Pallivasal (KSEB) Kerala	2x30	60	222.00 (2004)	284.69 (2007)	146.41	158.54	173.68	178.77	183.70	183.70	248.00 (Feb-18)	248.00 (Feb-18)
21	Thottiyar (KSEB) Kerala	1x30 + 1x10	40	136.79 (2007)	150.02 (2007)	2.91	16.24	32.05	46.18	52.87	52.87	61.00 (Jan-18)	61.08 (Mar-18)
22	Kundah Pumped Storage-I Tamil Nadu / (TANGENDCO)	1x125	125.00	488.48 (2007-08)	989.80 (2014-15)								181.20 (Sep-18)
Sub-total: State Sector			2337.50										
Private Sector													
23	Ratle J&K	4x205 + 1x30	850	5517.02 (09/2013)	6275.00 (09/2013)	124.12	373.80			1451.00		1451.00 (Mar-18)	1451.00 (Mar-18)
24	Sorang H.P.	2x50	100	586.00 (2006)	586.00 (2006)							1380 (Jun-17)	1380.00 (Jun-17)
25	Tidong-I H.P.	2x50	100	543.15 (08/05)	543.15 (08/05)	226.00	250.89	279.89 (May-13)	398.14 (Oct-15)			727.57 (Mar-18)	727.57 (Mar-18)
26	Tangu Romai- I H.P.	2x22	44	255.00 (2006)	255.00 (2006)	41.37	179.00					329.36 (Mar-18)	329.36 (Mar-18)
27	Bajoli Holi H.P.	3x60	180	1696.93	2205.00		112.00		323.28 (Dec-14)	897.00	1153.00 (Dec-16)	1740.00 (Mar-18)	1977.00 (Jul-18)
28	Phata Byung Uttarakhand	2x38	76	520.00 (2007)	1225.53	364.98	486.96	518.24 (Jun-13)		818.49 (Jul-16)	897.35 (Jan-17)	1135.00 (Dec-17)	1135.00 (Dec-17)
29	Singoli Bhatwari Uttarakhand	3x33	99	666.47 (2008)	1694.00 (2018)	351.00	485.78	635.13	737.42	848.53	956.22	1374.00 (Feb-18)	1549.00 (Sep-18)
30	Maheshwar M.P.	10x40	400	1569.27 (96-97)	6793.00	2917.70			3135.00			3135.00 (Mar-15)	5443.00 (Sep-18)
31	Teesta St. VI Sikkim	4x125	500	3283.08	7542.00	2086.25	2399.50		3052.22	3396.00	3621.00 (Dec-16)	3621.00 (Dec-16)	3621.00 (Dec-16)
32	Rangit-IV Sikkim	3x40	120	726.16	1692.60 (06/2016)	376.36	416.53	563.20 (Sep-13)	804.37 (Aug-15)	816.76 (Jun-16)	818.44	818.44 (Jun-17)	818.44 (Jun-17)
33	Bhasmey Sikkim	2x25.5	51	408.50	690.30	160.90	162.40 (Apr-12)		237.10 (Mar-15)	276.70 (Oct-15)		353.00 (Jun-17)	353.00 (Jun-17)
34	Rangit- II Sikkim	2x33	66	496.44	496.44						119.88	126.53 (Mar-18)	126.83 (Jun-18)
35	Rongnichu Sikkim	2x48	96	491.32	1187.00						94.24 (Nov-11)	823.08 (Mar-18)	873.18 (Jun-18)
36	Panan Sikkim	4x75	300	1833.05	2516.00 (09/2016)	104.62	117.31	127.40	141.35	152.30	161.00	165.00 (Mar-18)	168.70 (Sep-18)
37	Gongri Ar. Pradesh	2x72	144	1436.27	1436.27		290.21	426.87	468.86	521.21		599.56 (Dec-17)	599.56 (Dec-17)
Sub-total: Private Sector			3126.00										
Total : (Under Execution):			12,178.50										

Colored Cells denote information not available with CEA

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 2018-19								
1	Pare	Ar. Pr.	2x55	110.00	24.09.07	13.09.06	13.07.2009	04.12.08
2	Pulichintala	Telangana	4x30	30.00	-	09.06.2005	20.10.2006	25.04.07
Total Commissioned (upto 30.09.18):				140.00				
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	28.10.14
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	600.00	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
Sub-total (Central Sector):				6715.00				
State Sector								
11	Parnai (JKSPDC)	J&K	3x12.5	37.50	11.12.1992	24.12.2010	17.05.2013	25.10.2013
12	Lower Kalnai (JKSPDC)	J&K	2x24	48.00	16.08.2013	22.08.2014		16.08.2013
13	Uhl-III	H.P.	3x33.33	100.00	19.09.02	15.11.02	20.12.02	26.09.03
14	Sawara Kuddu	H.P.	3x37	111.00	June, 07	May, 07	June, 06	June, 07
15	Shongtong Karcham	H.P.	3x150	450.00	16.8.12	19.05.11	22.03.11	-
16	Vyasi	Uttarakhand	2x60	120.00	25.10.2011	22.04.10	14.10.13	25.10.2011
17	Shahpurkandi	Punjab	:33+3x33+1:	206.00	08/2009	18.11.81	Not Req.	04.05.11
18	Koyna Left Bank PSS	Mah.	2x40	80.00	-	16.05.07	Not Req.	20.02.04
19	Indrasagar Polavaram (PPA)	Andhra Pr.	12x80	960.00	21.07.2010	28.07.10	21.07.10	25.02.09
20	Pallivasal Extn.	Kerala	2x30	60.00	31.01.07	Not Req.	11.07.07	31.01.07
21	Thottiyar	Kerala	1x30 + 1x10	40.00	05.06.08	Not Req.	11.07.07	05.06.08
22	Kundah Pumped Storage-I (T)	Tamil Nadu	1x125	125.00	15.02.18			
Sub-total (State Sector):				2337.50				
Private Sector								
23	Ratle	J&K	4x205=1x30	850.00	-	12.12.12	27.04.12	19.12.12
24	Sorang	H.P.	2x50	100.00	-	07.09.06	Nov, 06	June, 06
25	Tidong-I	H.P.	100.00	100.00	-	18.06.08	18.06.08	23.07.07
26	Tangnu Romai- I	H.P.	2x22	44.00	-	01.05.09	19.01.10	30.11.07
27	Bajoli Holi	H.P.	3x60	180.00	-	24.01.11	08.07.11	30.12.11
28	Phata Byung	Uttarakhand	2x38	76.00	-	01.05.09	-	30.11.07
29	Singoli Bhatwari	Uttarakhand	3x33	99.00	-	24.08.07	16.01.09	11.07.08
30	Maheshwar	M.P.	10x40	400.00	-	07.01.94	Not Req.	29.09.06
31	Teesta St. VI	Sikkim	4x125	500.00	-	21.09.06	25.04.08	27.12.06
32	Rangit-IV	Sikkim	3x40	120.00	-	16.05.07	26.12.07	06.07.07
33	Bhasmey	Sikkim	2x25.5	51.00	-	15.05.07	13.09.10	-
34	Rangit- II	Sikkim	2x33	66.00	-	16.04.10	22.10.10	10.2.10
35	Rongnichu	Sikkim	2x48	96.00	-	04.04.07	18.05.09	01.10.08
36	Panan	Sikkim	4x75	300.00	-	02.01.07	21.09.10	07.03.11
37	Gongri	Ar. Pradesh	2x72	144.00	-	07.09.12	19.03.13	04.02.13
Sub-total (Private Sector):				3126.00				
Total : Under Execution				12178.50				

Chapter 9

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

Status of Civil Package Award (First Package) or 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)
Commissioned during 2018-19						
1	Pare(NEEPCO)	Ar. Pr.	2x55	110.00	04.12.08	31.08.2009
2	Pulichintala	Telangana	4x30	30.00	25.04.07	01.08.2007
Commissioned during 2018-19 upto 30.09.2018)				140.00		
B	Under Execution					
Central Sector						
1	Pakal Dul(CVPPPL)	J&K	4x250	1000.00	28.1014	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		10.09.2014
8	Subansiri Lower (NHPC)	Ar.Pr./ Assam	8x250	2000.00	09.09.03	19.12.2003
9	Kameng (NEEPCO)	Ar. Pr.	4x150	600.00	02.12.04	08.12.2004
10	Naitwar Mori (SJVN)	Uttarakhand	2x30	60.00	16.10.2017	05.12.2017
Sub-total (Central Sector):				6715.00		
State Sector						
11	Parnai (JKSPDC)	J&K	3x12.5	37.50	21.10.2013	25.10.2013
12	Lower Kalnai (JKSPDC)	J&K	2x24	48.00	16.08.2013	12.09.2013
13	Uhl-III	H.P.	3x33.33	100.00	19.09.02	02.04.2003
14	Sawara Kuddu	H.P.	3x37	111.00	06/07	17.07.2007
15	Shongton Karcham	H.P.	3x150	450.00	16.08.12	04.08.2012
16	Vyasi	Uttarakhand	2x60	120.00	25.10.11	10.12.2013
17	Shahpurkandi	Punjab	3x33+3x33+1x8	206.00	04.05.11	11.02.2013
18	Koyna Left Bank PSS	Mah.	2x40	80.00	20.02.04	20.06.2007
19	Indrasagar Polavaram (PPA)	Andhra Pr.	12x80	960.00		
20	Pallivasal	Kerala	2x30	60.00	31.01.07	31.01.2007
21	Thottiyar	Kerala	1x30 + 1x10	40.00	05.06.08	22.12.2008
23	Kundah Pumped Storage-I (TANGENDCO)	Tamil Nadu	1x125	125.00		15.02.2018
Sub-total (State Sector):				2337.50		
Private Sector						
24	Ratle	J&K	4x205+1x30	850.00	19.12.12	04.07.2013
25	Sorang	H.P.	2x50	100.00	06/06	06/2007
26	Tidong-I	H.P.	100.00	100.00	23.07.07	07.11.2008
27	Tangnu Romai- I	H.P.	2x22	44.00	2014-15	14.06.2010
28	Bajoli Holi	H.P.	3x60	180.00	30.12.11	29.05.2013
29	Phata Byung	Uttarakhand	2x38	76.00	06.10.08	12.04.2008
30	Singoli Bhatwari	Uttarakhand	3x33	99.00	11.07.08	20.06.2008
31	Maheshwar	M.P.	10x40	400.00	30.12.96	22.02.2097
32	Teesta St. VI	Sikkim	4x125	500.00	27.12.06	03/2007
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	Gongri	Ar. Pradesh	2x72	144.00	04.02.13	22.12.2011
Sub-total (Private Sector):				3126.00		
Total - Under Execution:				12178.50		
Additional						
1	Demwe Lower	Ar. Pradesh	5x342+1x40	1750.00	20.11.09	12/2010
Works on the project yet to start for want of Financial Closure.						

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	6715.00	2655.00	3060.00	5715.00	1000.00
State Sector	2337.50	426.00	1786.50	2212.50	125.00
Private Sector	3126.00	400.00	2426.00	2826.00	300.00
Total: Under Execution	12178.50	3481.00	7272.50	10753.50	1425.00

Chapter 9.2

Ordering Status of TG sets of Under Construction Hydro Electric Projects

Sl. No.	Name of the Project/State	Capacity (No.x MW)	Benefits (MW)	Make/Supplier of TG set	Date of Order
A. Commissioned during 2018-19					
Central Sector					
1	Pare(NEEPCO), Ar.Pr.	2x55	110.00	Andritz Hydro, India	01.10.10
2	Pulichintala, Telangana TSGENCO	4x30	30.00	BHEL	25.05.07
Total Commissioned during 2018-19 as on 30.09.18			110.00		
Under Execution : Units ordered					
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.	4x150	600.00	BHEL	03.12.04
6	Ramam-III (NTPC)	3x40	120.00	BHEL	10.09.14
Sub-total- BHEL			2655.00		
Other Units					
7	Tehri PSP (THDC)	4x250	1000.00	Alstom, France	23.06.11
8	Subansiri Lower (NHPC), Ar. Pradesh	8x250	2000.00	Alstom, France & India	11.02.05
9	Naitwar Mori (Uttarakhand)	2x30	60.00	Voith Hydro Pvt. Ltd.	20.07.18
Sub-total- Others			3060.00		
Sub-total (Central Sector):			5715.00		
State Sector					
BHEL Units					
10	Uhl-III (H.P.) BVPCL	3x33.33	100.00	BHEL	15.02.07
11	Shahpurkandi, Punjab ; PSPCL	3x33+3x33+1x8	206.00	BHEL	28.02.14
12	Vyasi , Uttarakhand UJVNL	2x60	120.00	BHEL	26.03.14
Sub-total- BHEL			426.00		
Chinese					
		2x30	60.00	Dongfang Elec.Corp., China	31.01.07
13	Pallivasal, Kerala ;KSEB				
14	Thottiyar, Kerala KSEB	1x30 + 1x10	40.00	Chongqing, China	22.12.08
Sub-total- Chinese			100.00		
OTHER UNITS					
15	Sawara Kuddu, H.P.	3x37	111.00	Andritz Hydro, India	05.02.09
16	Koyna Left Bank PSS, Maharashtra	2x40	80.00	Litostroj Slovenia, Koncar, Croatia	16.12.10
17	Shontong Karcham, H.P.	3x150	450.00	Andritz Hydro, India	04.03.15
18	Parnai (JKSPDC) J&K	3x12.5	37.50	Andritz Hydro, India	-
	Lower Kalnai (JKSPDC) J&K	2x24	48.00	GE Power India Pvt. Ltd.	-
19					
20	Indrasagar Polavaram (PPA) Andhr	12x80	960.00	Navayuga (GE)	06-12-17
Sub-total- Others			1686.50		
Sub-total (State Sector):			2212.50		

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					
21	Maheshwar (M.P.)	4x100	400.00	BHEL	25.06.07
Sub-total- BHEL			400.00		
OTHER UNITS					
22	Ratle (J&K)	4x205+1x30	850.00	Alstom, India	31.12.12
23	Sorang (H.P.)	2x50	100.00	Voith Siemens, India	06/2007
24	Tidong-I, (H.P.)	100.00	100.00	Alstom, India	28.02.11
25	Tangnu Romain- I, (H.P.)	2x22	44.00	Andritz Hydro, India	17.04.13
26	Phata Byung, (Uttarakhand)	76.00	76.00	Alstom, India	12.04.08
27	Singoli Bhatwari, Uttarakhand	3x33	99.00	Voith Hydro, India	15.06.11
28	Rangit-IV, (Sikkim)	3x40	120.00	Andritz Hydro, India	28.08.09
29	Bhasmey, (Sikkim)	2x25.5	51.00	Voith Hydro, India	14.04.10
30	Teesta St. VI, (Sikkim)	4x125	500.00	Alstom, India	04/2009
31	Rongnichu, (Sikkim)	2x48	96.00	Voith Hydro, India	28.09.11
32	Gongri, (Ar. Pradesh)	2x72	144.00	Andritz Hydro, India	13.12.13
33	Rangit-II, (Sikkim)	2x33	66.00	Gammon India Ltd.	24.03.12
34	Bajoli Holi, (H.P.)	3x60	180.00	Alstom, India	20.02.15
Sub-total- Others			2426.00		
Sub-total (Private Sector):			2826.00		
Under Execution Total (Units Ordered):			10753.50		
<u>Units not yet ordered</u>					
Central Sector					
35	Pakal Dul(J&K)	4x250	1000.00		
Sub-total (Central Sector):			1000.00		
State Sector					
36	Kundah Pumped Storage-I (Tamil Nad	1x125	125.00		
Sub-total (State Sector):			125.00		
Private Sector					
37	Panan, Sikkim	4x75	300.00		
Sub-total (Private Sector):			300.00		
Total: (Units not yet ordered)			1425.00		
Total: Under execution			12178.50		

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 (commence ment)/ 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	21.02.2018	
				Dam Pkg. Letter of Acceptance issued to M/s Jaiprakash Associates on 21.06.2018	M/s Jaiprakash Associates	2853.00	21.06.2018	
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	11.09.2002 10.09.2007	
				Lot-2: Civil & HM works of HRT (3500-24733m)	M/s Himachal JV	419.89	11.09.2002 10.09.2007	
				Contract terminated in March-12 and Fresh awarded as under.				
				Lot-2A: Balance civil works of HRT by TBM	M/s Gammon-CMS JV, Mumbai	455.63	13.08.2013 12.08.2017	
				Lot-2B: Balance civil works of HRT by DBM and associated HM works	M/s Valecha Engg. Ltd, Mumbai	176.29	21.11.2013 20.11.2017	
				Lot-3: Civil & HM works of Power House, Pressure Shaft, Surge Shaft & Part HRT (24733-31525)	M/s Gammon India Ltd.	603.69	13.09.2002 13.03.2007	
				Lot-4: Jiwa Nallah Works	M/s BJ_Techno-HAS (JV)	56.47	11.09.2002 10.09.2007	
				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	22.06.2011 21.04.2014	
				E&M works	Generating Units, EOT Crane Main step up Transformers, Switch Yard and	M/s BHEL	354.44	24.12.2002 23.04.2007
					Electrical & Mechanical Auxiliaries	M/s BHEL	34.2	24.12.2002 23.04.2007
				E&M works	Design, Manufacture, Supply, Erection , Testing & commg.	M/s BHEL	391.11	29.12.2006 02/2011
H&M works	Hydro-Mechanical Packages	M/s Om Metals-SPML (JV)	96.08	26.07.07 15.8.10				
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.	23.06.2011 27.07.11 26.01.2016 (Commence ment Date)	
							U-1: 48 Mth. U-2: 50 Mth. U-3: 52 Mth. U-4: 54 mth. (from commenc.)	

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 (commence ment)/ Completion
4	Tapovan Vishnugad NTPC 11.08.2004/Nov, 2006 4x130 = 520 MW	<u>Uttara khand NR</u>	Civil works	Construction of Barrage and De-silting chambers	M/s SSJV Projects Pvt. Ltd. and M/s ZVS, Russia	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
5	Lata Tapovan, NTPC Aug-2012 3x57= 171 MW	<u>Uttara khand NR</u>	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
			Civil & HM works	EPC Contract	M/s L&T	780.54	17.08.2012 16.08.2017
			E&M Package		BHEL	2611.04	Dec, 12 June, 17
6	Vishnugad Pipalkoti, THDC 21.08.2008 4x111= 444 MW	<u>Uttara khand NR</u>	Civil & HM works	EPC Contract	M/s HCC Ltd	1597.30	17.01.2014 16.07.2018
			E&M Package	EPC Contract	BHEL	360.36	18.11.2014 17.11.2018
7	Subansiri Lower NHPC 07.06.2001/09.09.03 8x250= 2000 MW	<u>Ar.Pr/ Assam NER</u>	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
8	Kameng NEEPCO 12 2004/ 4x150 = 600	<u>Ar. Pr. NER</u>	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

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 (commence ment)/ Completion
				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
9	Ramam-III NTPC Ltd. 3x40= 120 MW	<u>W.B.</u> <u>E.R.</u>	Civil works & HM works	Approach road to right bank of barrage to access various project component, Barrage construction, Under ground de- silting chamber with SFT and 5.1 km HRT	M/s. Simplex-Apex-JV	360.83	<u>10.09.14</u> 09/2019
				Access from bridge on Rammam river to various proj. components, 3.1 km HRT, Surface Power House, 740 m TRC and 132 KV Switchyard.	M/s. SEW Infrastructure Ltd.	265.39	<u>12.12.14</u> <u>12/2019</u>
			E&M works	Design, Engineering, Manufacturing, Supply, Insurance, Erection, Testing & Commissioning works for EM works EPC contract package.	M/s. BHEL	224.67	<u>19.02.2015</u> <u>11/2018</u>
10	Naitwar Mori (SJVN Ltd.) 02.03.2010 (2x30=60 MW)	Uttra khand	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> 11.10.2021
			H&M works	-	M/s GHW Pvt. Ltd.		<u>18.04.2018</u> 18.06.2022
State Sector							
11	Parnai JKSPDC 21.10.2013 3x12.5= 37.5 MW	NR <u>J&K</u>	Civil works	EPC contract	M/s. Patel Engineering Ltd. & M/s. Alstom India.		<u>25.10.2013</u>
			E&M works	T.G. Set	M/S.Andritz Hydro, India		
12	Lower Kalnai JKSPDC 16.08.2013 2x24= 48 MW	NR <u>J&K</u>	Civil works	EPC contract	M/s Coastal Projects Ltd.		<u>12.09.2013</u>
			E&M works	T.G. Set	M/s. GE Power India Pvt. Ltd.		
13	Uhl-III, BVPC Ltd. 19.09.02 / ----- (TEC -2x50 MW) 3x33.3 =100	<u>H.P.</u> <u>NR</u>	Civil works	Neri Intake works & power channel	M/s SSJVPP Ltd. 12 th floor S.N.Tower 25/2 M.G.Road, Banglore Fresh Package awarded on 25.10.08 to: Continental Corp Project Ltd.	8.68	<u>18.04.05</u> 15.8.07 Re-awarded on 25.10.08
			& HM Works	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

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 (commence ment)/ Completion
				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 works	Generating Equipment & Associated Aux, Transformers	M/s BHEL	117.36	<u>15.02.07</u> 15.04.10
14	Sawara Kuddu HP Power Corporation, 3x36.67=110	<u>H.P.</u> <u>NR</u>	Civil and H&M works	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 works	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
15	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
16	Shahpurkandi, Irrigation Deptt/PSPCL 04.05.2011 3x33+3x33+1x8= 206 MW	<u>Punjab</u> <u>NR</u>	Civil works & HM works	Main Dam alongwith Two head regulators	SOMA-BUREYA Joint Venture	687.51	<u>11.02.2013</u> Oct- 2016
				Hydel Channel	M/s Gurinder Singh Contractor	90.11	<u>26.02.2013</u> Oct- 2015
			E&M works	EPC Contract	BHEL		<u>28.02.14</u>
17	Koyna Left Bank PSS WRD, Govt. of Mah. 20.02.2004 2x40 = 80 MW	<u>Maha.</u> <u>WR</u>	Civil and H&M works	Barrage, Intake tunnel, Twin lake tap, Ventilation tunnel, Power house, Intake structure ,HRT, Pressure shaft, tail surge shaft, pen stoke, TRT, Bus duct tunnel, Lower intake structure	M/s B.T. Patil-Malaxmi (JV), Pune M/s Patel Engg. Ltd. Mumbai	131.91 Crs. 118.86 Crs.	<u>20.06.2007</u> 30.06.2013 <u>03.10.2007</u> 30.06.2016
			E&M works	Design, manufacture, testing & commissioning of TG unit and auxiliaries	M/s IVRCL Ltd. Pune Turbine- Litostroj Slovenia Generator- Koncar, Croatia	Euro 4.03 Crs + 177.99 Crs	<u>16.12.2010</u> 15.12.2014
18	Polavaram (PPA) 21.07.10/ 25.02.09	<u>Andhra</u> <u>Pradesh</u>	Civil works	Investigation and L.P schedules etc., (Balance) &	M/s. Trans stroy-JSCECUES (JV), Hyderabad	4054.00	<u>02.03.2013</u> <u>01.03.2018</u>

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 (commence ment)/ Completion
	12x80 = 960MW	<u>S.R.</u>	& HM works & E&M works	EPC contract on TURNKEY basis.	M/s. Navayuga Enggineering Company	3220.28Crs	<u>20.12.2017</u>
19	Pallivasal KSEB/ Not Req./31.1.2007 2x30=60	<u>Kerala SR</u>	Civil, H&M works and E&M works	The work was awarded to M/s ESSAR – DEC – CPPL consortium as a single package and an agreement in this regard was executed on 31.01.2007. The contractual date of completion is 48 months i.e. 01.3.2011. E&M: Dongfang Electric Corporation, China (DEC)		242.96 crs + US\$57 million	<u>31.01.2007</u> 01.03.2011
20	Thottiyar KSEB 1x30 + 1x10= 40 MW	<u>Kerala SR</u>	Civil works	Dam, Water Conductor System, power House	M/s Coastal Projects Private Ltd- Chongqing Joint Venture, Hyderabad E&M: Chongqing, China	44.23	<u>22.12.2008</u> 19.05.2012
			H&M works	Gates, erection, commissioning		24.09	<u>22.12.2008</u> 19.05.2012
			E&M works	Planning, Engineering, Manufacture, Supply, Erection, testing & commissioning		75.68	<u>22.12.2008</u> 19.05.2012
21	Vyasi UJVNL 2x60=120 MW	Uttra khand	Civil works	Intake, Dam half portion of HRT 1.35 km.	M/s. Gammon India Ltd.	317 Crs.	
				Half posrtion of HRT 1.35 km, Surge Shaft, Penstock, Powerhouse, TRC	M/s. NPCC Contract value	114.59 Crs.	
			E&M works	EPC contract for E&M Works	M/s. BHEL	125 Crs.	<u>26.03.2014</u>
22	Kundah Pumped Storage Phase-I 1x125=125 MW	Tamil Nadu	Civil works	Letter of Intents issued on 15.02.18	Package-I - M/s. Patel Engg., Mumbai Package-II-M/s. Kundah PSP Consortium	-	<u>15.02.18</u>
Private Sector							
23	Ratle GVK Ratle HEP Pvt. Ltd. (GRHEPPL) 19-12-2012 4x205+1x30= 850 MW	<u>J&K 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> 31.12.2017
			E&M works	EPC contract for E&M Works	M/s Alstom, India	800 Cr. + Euro 600000 + USD 4200000	<u>31.12.2012</u> 31.12.2017
			Review of Design of EPC Contractors		Lahmeyer International (India) Pvt. Ltd.	8.30 Cr. + Euro 580000	<u>23.03.2013</u>
24	Sorang Himachal Sorang Power Pvt. Ltd 2x50=100 MW	<u>H.P. NR</u>	Civil works	Power house, and other works	M/s NCC-Maytas- SSJV Consortium	184	<u>06/2007</u>
			E&M works	Manufacturing., Supply, erection & commng. of TG units	M/s Voith Siemens, India	146	<u>06/2007</u>
25	Tidong-I M/s NSL Tidong Power Gen. Ltd. 2x50 = 100 MW	<u>HP NR</u>	Civil works	Construction of River diversion, barrage, intake, Desilting basins, storage reservoir & HRT (RD 0 m -905 m)	M/s SCL Infratech Ltd. Hyderabad	127.996	<u>07.11.2008</u> 06.11.2011
				Construction of HRT (RD 905 m-RD 5537 m)	M/s SCL Infratech Ltd. Hyderabad	83.327	<u>7.11.2008</u> 09/2014
				Construction of HRT (RD 5537 m -RD 8537 m)	M/s Himalaya Construction (P) Ltd.	31	<u>07.07.2011</u> 06.07.2015

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 (commence ment)/ Completion
				Construction of Surge Shaft, Pressure Shaft, Power House and Tail Race Channel	M/s Himalaya Construction (P) Ltd.	40	<u>07.07.2012</u> 06.06.2015
			E&M works	Supply, Installation, testing & commissioning of TG sets	M/s Alstom Projects, India	84	<u>28.02.2011</u> 27.05.2013
26	Tangnu Romai-I M/s Tangu Romai Power generation 2x22= 44 MW 30.11.2007 HPSEB	<u>HP</u> <u>NR</u>	Civil works	Construction of Diversion Barrage, Intake, desilting, HRT, Surge Shaft, Penstock, Power House & Tail Race Channel	M/s Sai Urja Hydel Projects (P) Ltd., Shimla	164.7	<u>14.06.2010</u> 06/2014
			E&M works	Supply, installation, T&C of TG set, Switchyard equipment & associated auxiliaries	M/s Andritz Hydro, India	56	<u>17.04.2013</u> 16.07.2015
27	Bajoli Holi M/s GMR Bajoli Holi Hydro Power Pvt. Limited 31.12.2011	<u>HP</u> <u>NR</u>	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		
28	Phata Byung M/s Lanco 06.10.2008 2x38 MW = 76 MW	<u>Uttarak</u> <u>hand</u> <u>NR</u>	Civil works	Dam, water conductor System, power House	Lanco Infratech Ltd.	206	<u>12.04.2008</u> 07/2012
			H&M works	Design, Engineering, Manufacture, Fabrication & Erection 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
29	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>
30	Maheshwar, SMHPCL 12 96/ 29.9.2006 (FC) 10x40= 400MW	<u>M. P.</u> <u>WR</u>	Civil and HM works	All civil works like dam, Power Dam, HRC, Penstock PH etc.	M/s SEW Construction – Prasad and Company Ltd.	275.0 Crs. 22.02.97	<u>22.02.1997</u> 03/2005
			E&M works	Manuf., Supply, erection & commng. of TG units	M/s BHEL	470.5 Crs. + USD \$ 11.74 M 18.05.2001	<u>25.06.2007</u> 10/ 2009

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 (commence ment)/ Completion
31	Teesta-VI M/s Lanco Energy Pvt. Ltd. 27.12.2006/ 07/2007(FC) 4x125= 500MW	Sikkim NER	Civil works	Dam, Tunnel , Power House, Surge-Shaft, Intake	EPC contract To M/s Lanco Infratech Ltd. M/s Alstom Projects, India	2260.00	03/2007 10/2011
			H&M works	Design Engineering Fabrication & Erection of Gates		568.00	04/2009
			E&M works	Main Plant Generating units, and auxiliaries			
32	Rangit-IV Jal Power Corp. Ltd. 06.07.2007/23.10.20 07(FC) 3x40 MW= 120	Sikkim NER	Civil works	Dam, Intake, desilting chamber Package	M/s Coastal Projects Pvt. Ltd	125.297	01.02.2008 46 months
				HRT Package		127.9	22.11.2007 47 months
				Power House, Surge-Shaft, Pressure Shaft, Switchyard & Tail race Channel		77.789	23.05.2008 48 months
				Road diversion Tunnel		7.938	6.12.2007 4 months
				Hill slopes Stabilization	M/s Bumi Engineering	19.951	16.01.2010 12 months
			H&M works	Supply , Fabrication, Assembly, testing, painting, erection of various gates and their operating equipment including accessories, auxiliaries 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	28.08.2009 12/2012
				Package-II (Balance of Plant)	M/s Siemens Ltd.	53.9	14.04.2011 04/2013
33	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	12.04.2010 11/2012
			H&M works	N.A.			
			E&M works	Manufacturing., Supply, erection & commng. of TG units	M/s Voith Hydro, India	93	14.04.2010 10/2012
34	Rangit-II Sikkim Hydro Power Limited 2x33= 66 MW	Sikkim NER	Civil &HM works	EPC Contract	M/s Coastal Project Limited	220.35	13.12.2011 23.10.2013
			E&M works		M/s. Gammon India Ltd.		24.03.2012
35	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	07.04.2010 05.10.2013
			E&M works	Manufacturing., Supply, erection & commng. of TG units	M/s Voith Hydro, India	101.100	28.09.2011
36	Panani 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)	22.02.2014 21.02.2018 (48 months)
			E&M works	Manufacturing., Supply, erection & commng. of TG units	Under Award		
37	Gongri Dirang Energy Pvt. Ltd. 04.02.2013 2x72= 144 MW	Ar. Pradesh NER	EPC Cntrt.	Planning, Engineering, Design and Construction of Civil, HM, E&M & Infrastructure works.	Patel Engineering Ltd, Mumbai (42 months from date of start) State Pollution Control Board issued consent to establish in 19.05.2014	989.589	22.12.2011 19.11.2017
			E&M works	Manufacturing., Supply, erection & commng. of TG units	M/s Andritz Hydro Pvt. Ltd.		13.12.2013

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.	Rongnichu,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.	Gongri ,Ar.Pr. 2x72= 144 MW 04.02.13	M/s Dirang Energy Private Limited	Financial closure achieved on 15.02.2013.	
Works Awarded but yet to start				
16.	Demwe Lower Ar. Pradesh 5x342+1x40 MW 20.11.2009	M/s Athena Demwe Power Pvt. Ltd.	Financial closure awaited.	

Chapter 11

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)	Rev. Cost (Rs. in Crores)	Latest/ Ant. Cost (Rs. in Crores)	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	Uttara khand	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)	2020-21 2020-21 2020-21 2020-21 (Dec'20)	93	2978.48 (11/06)	3846.30 (01/14)	3846.30 (01/14)	867.82	<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 June, 2013 & Aug'12 damaging coffer dam. ➤ Termination of civil contracts for Barrage and HRT. ➤ Cash flow issues with civil contractors.
2	Lata Tapovan (3x57 = 171 MW) NTPC	Uttara khand	1 2 3	57 57 57	2017-18 2017-18 2017-18 (Aug'17)		2022-23 2022-23 2022-23 (subject to re-start of works(4 years))	67	1527.00 (07/12)		Under revision	N.A.	<ul style="list-style-type: none"> ➤ Flash flood during June, 2013 in Uttarakhand. ➤ 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)		2021-22 2021-22 2021-22 (Feb,22)	29	1381.84 (10/14)		1381.84 (10/14)	Nil	<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	Central	1 2 3 4	150 150 150 150	2009-10 2009-10 2009-10 2009-10 (Dec'09)		2018-19 2018-19 2019-20 2019-20 (Jun,19)	111 114	2496.90 (03/04)		6179.96 (03/15)	3683.06	<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
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	2015-16 2015-16 2015-16 2015-16	2021-22 2021-22 2021-22 2021-22	130	1657.60 (Dec-05)	2978.86 (Apr'10)	3939.11	2281.51	<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.

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1	2	3	4	5	6		7	8	9		10	11	12
					(July'10)	(Feb'16) RCE-I	(May'21) (subject to re-start of works)						<ul style="list-style-type: none"> ➤ 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 since April, 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)		8398.75 (03/15)	4479.16	<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 contractor.
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)		2022-23 2022-23 2022-23 2022-23 2022-23 2022-23 2022-23 2022-23 (subject to re-start of works (4 years))	150	6285.33 (12/02)		18559.49 (04/17)	12274.16	<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. ➤ Stoppage of works due to agitation launched by Anti Dam activists in Assam against construction of Project. Work stopped since 16.12.2011. ➤ Issue of D/s impact studies. ➤ Case in NGT.
8	Vishnugad Pipalkoti (4x111 = 444 MW) THDC	Uttara khand	1 2 3 4	111 111 111 111	2013-14 2013-14 2013-14 2013-14 (Jun'13)		2021-22 2021-22 2021-22 2021-22 (Dec'21)	102	2491.58 (03/08)		3789.61 (05/17)	1298.03	<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.
	STATE SECTOR												
9	Parnai (3x12.5= 37.5 MW) JKSPDC	Jammu & Kashmir	1 2 3	12.5 12.5 12.5	2017-18 2017-18 2017-18		2021-22 2021-22 2021-22	50	640.41 (Completion cost)		640.41 (Comple tion)	Nil	<ul style="list-style-type: none"> ➤ Slow progress of works. ➤ Delay in Land acquisition.

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)	Rev. Cost (Rs. in Crores)	Latest/ Ant. Cost (Rs. in Crores)	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
					(Jan'18)		(Mar,22)				cost)		
10	Lower Kalnai 2x24= 48 MW JKSPDC	Jammu & Kashmir	1 2	24 24	2017-18 2017-18 (Sep'17)		2022-23 2022-23 (subject to re-start of works (4 years))	66	576.87 (12/12) (Completion cost)		576.87 (12/12) (Comple tion cost)	Nil	<ul style="list-style-type: none"> ➤ Inadequate mobilization of man & machinery by Contractor. ➤ Delany in finalization of R&R Plan. ➤ Slow progress of works. ➤ Funds constraints with contractor. Contractor under CDR.
11	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)		2018-19 2018-19 2018-19 (Mar,19)	144	431.56 (09/02)		1281.52 (12/12)	849.96	<ul style="list-style-type: none"> ➤ 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.
12	Sawra Kuddu (3x37 =111MW) HPPCL,	Himachal Pradesh	1 2 3	37 37 37	2011-12 2011-12 2011-12 (Jan'12)		2019-20 2019-20 2019-20 (May,19)	88	558.53 (03/03)		1181.90 (06/09)	623.37	<ul style="list-style-type: none"> ➤ 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.
13	Shongtom Karcham (3x150 = 450 MW) HPPCL 16.08.2012	Himachal Pradesh	1 2 3	150 150 150	2016-17 2016-17 2016-17 (Mar'17)		2024-25 2024-25 2024-25 (Apr,24)	85	2807.83 (06/11)		2807.83 (06/11)	Nil	<ul style="list-style-type: none"> ➤ Shifting of Army Ammunition Depot. ➤ Local Issues.
14	Pallivasal 2x30 = 60 MW KSEB	Kerala	1 2	30 30	2010-11 2010-11 (Mar'11)		2020-21 2020-21 (Dec,20)	117	222.00 (2004)		550.00	328.00	<ul style="list-style-type: none"> ➤ 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 due to contractual issues. Contractor resumed remaining works in April, 2017except Intake and balance tunneling works of Phase I which is now not included in his scope of contract. Re-tendering of balance Intake works are in process.

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1	2	3	4	5	6		7	8	9		10	11	12
15	Thottiyar (1x30+1x10)= 40MW KSEB	Kerala	1 2	30 10	2012-13 2012-13 (Apr' 12)		2020-21 2020-21	107	136.79 (2007)		150.02 (2007)	13.23	<ul style="list-style-type: none"> ➤ Land acquisition issue. ➤ The works of weir and approach channel stopped from 2010 to 2012 by local people. ➤ The work stopped by Court from 12.12.2012 to April-2013. ➤ Contractual issues. ➤ Financial crunch with contractor. ➤ Foreclosure of earlier contract in April,2017 and balance works re-awarded in January, 2018.
16	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		2021-22 2021-22 2021-22 2021-22 2021-22 2021-22 2021-22 (Nov., 21)	68 68	1835.50 (04/08) (Power Component)		1835.50 (04/08) (Power Component)	Nil	<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.
17	Koyna Left Bank PSS 2x40 = 80 MW WRD, Maha	Maharashtra	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	<ul style="list-style-type: none"> ➤ Slow progress of works. ➤ Fund constraints due to increase in project cost. RCE under approval.
18	Vyasi 2x60=120 MW, UJVNL	Uttarakhand	1 2	60 60	2014-15 2014-15 (Dec' 14)		2019-20 2019-20 (Mar,20)	63	936.23 (02/10)		936.23 (02/10)	Nil	<ul style="list-style-type: none"> ➤ Delay in award of works. ➤ Local Issues.
19	Polavaram (12x80 = 960 MW) APGENCO / Irr. Deptt., A.P.	Andhra Pradesh	1 2 3 4 5 6 7 8 9 10 11 12	80 80 80 80 80 80 80 80 80 80 80 80	2017-18 2017-18 2017-18 2017-18 2017-18 2017-18 2017-18 2017-18 2017-18 2017-18 2017-18 2017-18 (Mar' 18)		2021-22 2021-22 2021-22 2021-22 2021-22 2022-23 2022-23 2022-23 2022-23 2022-23 2022-23 2022-23 (Mar,23)	48 60 60	4956.39 (2016-17 PL) (Power Component)		4956.39 (2016-17 PL) (Power Component)	Nil	<ul style="list-style-type: none"> ➤ Slow progress of works ➤ Funds constraints ➤ E&M works yet to be awarded

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1	2	3	4	5	6		7	8	9		10	11	12
	PRIVATE SECTOR												
20	Tidong-I 2x50 =100 MW Statkraft India Pvt. Ltd.	Himachal Pradesh	1 2	50 50	2013-14 2013-14 (Dec'13)		2021-22 2021-22 (Oct. 21)	94	543.15 (01/07)		1286.27 (01/17)	743.12	➤ Delay in NOC by Projects affected Panchayats. ➤ Suspension of works by Govt. for one year. ➤ Funds constraints with the developer
21	Tangnu Romai-I (2x22 = 44 MW) TRPGPL	Himachal Pradesh	1 2	22 22	2014-15 2014-15 (Jun'14)		2021-22 2021-22 (subject to re-start of works(4 years))	93	255.00 (01/07)		562.97 (01/17)	307.97	➤ Slow progress of civil works. ➤ Poor geology. ➤ Difficult area. ➤ Weather conditions & accessibility. ➤ Financial constraints with the developer.
22	Sorang (2x50 = 100 MW), HSPPL	Himachal Pradesh	1 2	50 50	2011-12 2011-12 (Nov'11)		2020-21 2020-21 (subject to re-start of works(1 Year))	112	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 run. ➤ Funds constraints with developer.
23	Singoli Bhatwari (3x33 = 99 MW) L&T	Uttarakhand	1 2 3	33 33 33	2012-13 2012-13 2012-13 (Dec'12)		2018-20 2018-20 2018-20 (Jun,19)	78	666.47 (2008)		1577	910.53	➤ Poor geology in HRT. ➤ Agitation by local people. ➤ Flash flood in June,2013.
24	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)		1225.53	705.53	➤ Flash flood in June,2013. ➤ Poor geology in HRT.
25	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)		2020-21 (subject to re-start of works(1-½ years))	228	1569.27 (96-97)		8121.00 (2016-17)	6551.73	➤ 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.

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1	2	3	4	5	6		7	8	9		10	11	12
26	Teesta Stage VI (4x125 = 500 MW) Lanco Energy Pvt. Ltd.	Sikkim	1 2 3 4	125 125 125 125	2012-13 2012-13 2012-13 2012-13 (Jul' 12)		2021-22 2021-22 2021-22 2021-22 (subject to re-start of works(3 years))	116	3283.08 (2008)		7542.00 (12/16)	4258.92	<ul style="list-style-type: none"> ➤ Poor geology. ➤ Land acquisition. ➤ Contractual issues ➤ Funds constraints with developer
27	Rangit-IV HE Project (3X40 = 120 MW) JPCL	Sikkim	1 2 3	40 40 40	2011-12 2011-12 2011-12 (Jan' 12)		2021-22 2021-22 2021-22 (subject to re-start of works(3-½ year)	122	726.17 (2011-12)		1692.60 (06/16)	966.43	<ul style="list-style-type: none"> ➤ Slow progress of HRT & Surge Shaft works due to poor geology. ➤ Works hampered due to earthquake in September, 2011. ➤ Financial constraints with developer
28	Bhasmey (2x25.5 =51 MW) Gati Infrastructure	Sikkim	1 2	25.5 25.5	2012-13 2012-13 (Jun' 12)		2021-22 2021-22 (subject to re-start of works(3 years))	117	408.50 (2012-13)		690.30	281.80	<ul style="list-style-type: none"> ➤ Forest clearance ➤ Financial constraints with developer
29	Rongnichu (2x48 =96 MW) Madhya Bharat Pvt. Ltd.	Sikkim	1 2	48 48	2014-15 2014-15 (Jul' 14)		2019-20 2019-20 (Mar,20)	68	491.32		1187	695.68	<ul style="list-style-type: none"> ➤ Land Acquisition ➤ Poor geology.
30	Ratle (4x205+1x30) = 850 MW Ratle HEP Pvt .Ltd.	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 2023-24 (subject to re-start of works(5 years))	72	5517.02 (03/12)		6257.00 (09/2013)	739.98	<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.
31	Gongri 2x72= 144 MW Dirang Energy (P)Ltd	Ar. Pradesh	1 2	72 72	2016-17 2016-17 (Oct' 16)		2022-23 2022-23 (subject to re-start of works(3-½	77	1436.27 (05/12)		1436.27 (05/12)	Nil	<ul style="list-style-type: none"> ➤ Works awarded on 22.11.2011. However, consent to establish from State Pollution Control Board was issued on 19-5-14. ➤ Financial constraints with the developer. ➤ State Govt. terminated the agreement with developer for

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1	2	3	4	5	6		7	8	9		10	11	12
							years)						execution of project
32	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)		2019-20 2019-20 2019-20 (Aug,19)	15	1696.93		2481.00	784.07	➤ Slow progress of works.
33	Rangit-II 2x33= 66 MW Sikkim Hydro Power Ltd.	Sikkim	1 2	33 33	2015-16 2015-16 (Apr'15)		2020-21 2020-21 (subject to re-start of works(2-½ years))	71	496.44		496.44	Nil	➤ Slow progress of works. ➤ Financial constraints with the developer.
34	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		2022-23 2022-23 2022-23 2022-23 (subject to re-start of works(4-½ years))	48	1833.05 (2009)		2516.00 (09/16)	682.95	➤ Clearance from NWLB received in December, 2015. ➤ Clearance from NGT obtained ➤ Applied for NoC from Govt. of Sikkim in NWLB angle