Status of Under Execution Hydro Electric Projects for 12th Plan & beyond

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
	Hydro Capacity for benefits during 12th Plan			
i)	**Projects Commissioned during 12th Plan**			
	Commissioned during 2012-13			
1.	**Chamera-III** 3x77= 231 MW NHPC **Broad Features :** Dam –68m High, 78 m length , concrete gravity HRT- 6.5m x 15.93 km P.House- underground 100mx 20.6mx 40m Turbine- V.Francis SWYD- 11/220 kV **Cost:** Original: 1405.63 Latest: 1405.63	H.P. 2010-11 2012-13	**Unit#3: Commissioned on 07.06.2012.** **Unit#2: Commissioned on 12.06.2012.** **Unit#1: Commissioned on 28.06.2012.**	
2.	**Chutak** 4x11 = 44 MW NHPC **Broad Features:** Barrage- 5 bays, 47.5 long HRT- D-5.9m , L-4.37Km P.House- Underground 81mx 15.5 mx 34.5 m Turbine- V. Francis SWYD- 11/33 kV **Cost:** Original: 621.26 Latest: 913.25	J&K 2010-11 2012-13	**Unit#2: Commissioned on 08.11.2012.** **Unit#3: Commissioned on 11.11.2012.** **Unit#1: Commissioned on 22.11.2012.** **Unit#4: Commissioned on 28.01.2013.**	
3a.	**Teesta Low Dam-III** 4x33 = 132 MW NHPC **Broad Features :** Barrage–140m L , 32.5m Height Penstock-4x 7m x 50m P.House- Surface 125mx 22mx56m Turbine- Kaplan Net head- 21.34m SWYD- 11/220 kV **Cost:** Original:768.92 Latest: 1628.00	West Bengal 2006-07 2012-13	**Unit-1: Commissioned on 30.01.2013** **Unit-2: Commissioned on 20.01.2013.** **Unit-3: Commissioned on 24.02.2013.**	
	State Sector			
4a.	**Bhawani Kattalai Barrage-III,** 2x15 = 30 TANGEDCO 27.03.02 **Broad Features:** Barrage –22 gates P.House- Surface Turbine- Bulb **Cost:** Original: 99.75 Latest: 442.73 Cr.	Tamil Nadu 2006-07 2012-14	**U #1: Commissioned on 08.12.2012.**	

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
5.	**Myntdu,** MeECL 20.09.99/ 2x42+1x42 = 126 MW **Broad Features:** Dam –63m High HRT- 3316.46mx3.4m dia Power House- Surface Turbine- V. Francis **Cost:** Original: 363.08 Latest: 965.93	Megh. 2006-07 2012-13	**Unit #3: Commissioned on 07.03.2013.**	
6	**Jaldhaka** (WBSEDCL) 4x9=36 MW	W.B	**Unit# 1, #2, #3 Commissioned.** **Unit #4: Commissioned on 08.10.12**	**Commissioned during 12th Plan**
	Private Sector			
7.	**Budhil** Lanco Green Power Pvt Ltd 1.06.2005/ Jan, 06 (FC) 2x35=70 MW **Broad Features:** Dam-58m High HRT-4m x 6028m. Power House-underground Turbine- V. Francis **Cost:** Original: 418.80 Latest: 418.80	H.P. 2008-09 2012-13	**Unit#2: Commissioned on 26.05.2012.** **Unit#1: Commissioned on 30.05.2012.**	
	Commissioned during 2013-14			
	Central Sector			
3b	**Teesta Low Dam-III** 4x33 = 132 MW NHPC **Broad Features :** Barrage – 140m long , 32.5 m high Penstock-4x 7m x 50m P.House- Surface 125mx 22mx56m Turbine- Kaplan Net head- 21.34m SWYD- 11/220 kV **Cost:** Original: 768.92 (12/02) Latest: 1628.00	West Bengal 2006-07 2013-14	**Unit-4: Commissioned on 01.04.2013.**	
8.	**Uri-II** NHPC 01.09.2005 4x60 = 240 MW **Broad Features :** Dam – 52m High, 172m long, concrete gravity HRT- 8.4m x 4.27km P.House-Underground Turbine- V. Francis TRT- 8.4 m diax 3.78 km long SWYD- 11/400 kV **Cost:** Original:1724.79 Latest: 2081.00	J&K 2009-10 2013-14	**Unit#1: Commissioned on 25.09.2013.** **Unit#3: Commissioned on 27.09.2013.** **Unit#2: Commissioned on 16.11.2013.** **Unit#4: Commissioned on 02.02.2014.**	

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
9.	**Nimoo Bazgo** NHPC 24.08.2006 3x15 = 45 MW **Broad Features:** Dam –57.5m High, concrete Spillway- 5 x 65m P.House- Surface Turbine- V. Francis SWYD- 11/33 kV **Cost:** Original: 611.01 Latest**:** 936.10	J&K 2010-11 2013-14	**Unit#3: Commissioned on 30.10.2013.** **Unit#2: Commissioned on 31.10.2013.** **Unit#1: Commissioned on 02.11.2013.**	
10a	**Parbati-III** NHPC 09.11.2005 4x130 = 520 MW **Broad Features :** Dam – 43m High, 229 m long, Rockfill type HRT- 7.25m x 7.98km P. House -Underground Turbine- V. Francis SWYD- 13.8/400 kV **Cost:** Original: 2304.56 Latest**:** 2716.00	H.P. 2010-11 2013-15	**Unit#1: Commissioned on 18.02.2014.** **Unit#2: Commissioned on 27.02.2014.** **Unit#3: Commissioned on 15.03.2014.**	
11a	**Rampur** SJVNL 16.12.2005/25.01.07 6x68.67= 412 MW **Broad Features:** HRT-10.5m x 15.08Km S.Shaft- 38m x 149m P.House- Surface Turbine- Francis Switchyard – 400 kV **Cost:** Original: 2047.03 Latest**:** 3337.91	H.P. 2011-12 2013-15	**Unit#1: Commissioned on 23.03.2014.** **Unit#2: Commissioned on 21.03.2014.** **Unit#5: Commissioned on 29.03.2014.**	
	State Sector			
12.	**Bhawani Kattalai Barrage-II** 2x15 = 30 MW TANGEDCO 11.6.99 **Broad Features:** Barrage –22 gates P.House- Surface Turbine- Bulb **Cost:** Original: 99.15 Latest: 497.46.	Tamil Nadu 2006-07 2013-14	**Unit#1: Commissioned on 27.08.2013.** **Unit#2: Commissioned on 06.09.2013.**	
4b.	**Bhawani Kattalai Barrage-III,** 2x15 = 30 TANGEDCO 27.03.02 **Broad Features:** Barrage –22 gates P.House- Surface Turbine- Bulb **Cost:** Original: 99.75 Latest: 442.73	Tamil Nadu 2006-07 2013-14	**U #2: Commissioned on 25.09.2013.**	

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
	Private Sector			
13.	**Chujachen** Gati Infrastructure Ltd, Secunderabad 30.11.2004 (State Govt.) 2x49.5= 99 MW **Broad Features:** Dam – Rangpo- 48.5m High Rongli- 41m High HRT- Rampo-3.3m x 2578m Rongli-3.5m x 2256m Common-5.2m x 3225m S. Shaft-12m x 104m P.House- Surface Turbine- V. Francis **Cost:** Original: 448.76 Latest: 1044.50	Sikkim 2009-10 2013-14	**Unit#2: Commissioned on 20.04.2013.** **Unit#1: Commissioned on 21.04.2013.**	
	Commissioned during 2014-15			
	Central Sector			
10b.	**Parbati-III** NHPC 09.11.2005 4x130 = 520 MW **Broad Features :** Dam – 43m High, 229 m long, Rockfill type HRT- 7.25m x 7.98km P. House -Underground Turbine- V. Francis SWYD- 13.8/400 kV **Cost:** Original: 2304.56 Latest**:** 2716.00	H.P. 2010-11 2014-15	**Unit#4: Commissioned on 22.05.2014**	
11b.	**Ram Pur** SJVNL 16.12.2005/25.01.07 6x68.67= 412 MW **Broad Features:** HRT-10.5m x 15.08Km S.Shaft- 38m x 149m P.House- Surface Turbine- Francis Switchyard – 400 kV **Cost:** Original: 2047.03 Latest**:** 3337.91	H.P. 2011-12 2014-15	**Unit#4: Commissioned on 12.06.2014** **Unit#3: Commissioned on 31.07.2014** **Unit#6: Commissioned on 04.12.2014**	
14a.	**Kol Dam** NTPC 30.6.2002/Oct.2002 4x200 = 800 MW **Broad Features :** Dam – 163m High, Rock & Gravell fill Penstock Tunnel: 4nos. 6.45m dia, 1600m long P.House- Surface Turbine- V. Francis **Cost:** Original: 4527.15 Latest: 7220.00	H.P. 2008-10 2014-16	**Unit#2: Commissioned on 30.03.2015** **Unit#1: Commissioned on 31.03.2015**	
	Commissioned during 2015-16			
	Central Sector			
14b.	**Kol Dam** NTPC	H.P.	**Unit # 3: Commissioned on 10.04.2015** **Unit # 4: Commissioned on 12.06.2015**	

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
	30.6.2002/Oct.2002 4x200 = 800 MW **Broad Features :** Dam – 163m High, Rock & Gravell fill Penstock Tunnel: 4nos. 6.45m dia, 1600m long P.House- Surface Turbine- V. Francis **Cost:** Original: 4527.15 Latest: 7220.00	2008-10 2015-16		
15a.	**Teesta Low Dam-IV** NHPC 30.09.2005 4x40 = 160 MW **Broad Features :** Dam – 45m High, 511m long, concrete gravity P. House- Surface 130mx 24mx 63m Turbine- Kaplan SWYD- 11/220 kV **Cost:** Original: 1061.38 Latest**: :** 2336.74 (12/15 PL)	West Bengal 2009-10 2016-17 (Sep, 2016)	**Unit #1: Commissioned on 14.02.2016.** **Unit #2: Commissioned on 16.03.2016.**	- Partially Commissioned.
	State Sector			
16.	**Baglihar-II** JKPDC 19.03.2012 3x150= 450 MW **Broad Features:** HRT – 10.15 m dia circular & 1888.8 m long Surge Shaft: 27.5 m dia & 97.5 m high restricted orifice type Power House: Underground TRT: D-10.05 m L-342.6 m **Cost:** Original: 3113.19 Latest: 3113.19	J&K 2015-16 2015-16	**Unit # 1 : Commissioned on 05.09.2015**. **Unit # 2 : Commissioned on 29.09.2015**. **Unit # 3 : Commissioned on 26.10.2015**.	
17a.	**Lower Jurala** TSGENCO, 04.12.2008 6x40=240 MW (120 MW likely to slip) **Broad Features:** Intake: 18 vents (3 vents for each unit) 4.7m width, Power House- Surface, Turbine- Bulb Design Head- 20m SWYD- 220 kV **Cost:** Original: 908.34 Latest**:** 1969.14	Telengana 2011-13 2015-17	**Unit # 2: Commissioned on 30.09.2015.** **Unit # 1: Commissioned on 14.10.2015.** **Unit # 3: Commissioned on 04.01.2016** **Unit # 4: Commissioned on 05.03.2016**	- Partially Commissioned.
	Private Sector			
18.	**Shrinagar** AHPC Ltd.. 14/06/2000/ FC 4x82.5=330 **Broad Features:**	Uttarakhand 2005-06 2015-16	**Unit # 1: Commissioned on 10.04.2015** **Unit # 2: Commissioned on 08.06.2015** **Unit # 3: Commissioned on 20.04.2015** **Unit # 4: Commissioned on 03.06.2015**	

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
	Dam –66.5m High, concrete gravity HRT- 13m x 889m Penstock-4x 5.6m x 114m P.House- Surface Turbine- Francis **Cost:** Original: 1699.12 Latest**:** 2069.00			
19.	**Jorethang Loop** M/s DANS Energy 2x48 = 96 MW **Broad Features:** Barrage: Gravity Floor on Permeable Foundation 15 m High . HRT : D- 7m L-6.780km Surge Shaft :59m Height & 25m dia. Pressure Shaft : 172.60m length & 6m dia. Power House : Surface TR-Cut & Cover Conduit & 46.4m length. Switchyard: Outdoor, 220 KV/11KV **Cost:** Original: 543.15 Latest : 543.15	Sikkim 2012-13 2015-16	**Unit # 1: Commissioned on 22.09.2015** **Unit # 2: Commissioned on 23.09.2015**	
	Commissioned during 2016-17			
	Central Sector			
15b.	**Teesta Low Dam-IV** NHPC 30.09.2005 4x40 = 160 MW **Broad Features :** Dam – 45m High, 511m long, concrete gravity P. House- Surface 130mx 24mx 63m Turbine- Kaplan SWYD- 11/220 kV **Cost:** Original: 1061.38 Latest**: :** 2336.74 (12/15 PL)	West Bengal 2009-10 2016-17 (Sep, 2016)	**Unit #1: Commissioned on 14.02.2016.** **Unit #2: Commissioned on 16.03.2016.** **Unit #3: Commissioned on 03.07.2016.** **Unit #4: Commissioned on 11.08.2016.**	- **Commissioned.**
	State Sector			
20.	**Kashang-I** H.P. Power Corpn. Ltd. 31.07.08 ; 65 MW Broad Features: HRT-3.5m x 4.115, 2 km long S.Shaft- 2.6m dia & 0.5 m backfill & 1346m long TRT: 335 m combined 6/4.5 m D. stream Cost: Original: 478.02 Latest: 478.02	H.P. 2013-14 2016-17	**Commissioned on 27.06.2016**	- **Commissioned.**
17b.	**Lower Jurala** TSGENCO, 04.12.2008	Telengana	**Unit #2: Commissioned on 30.09.2015** **Unit #1: Commissioned on 14.10.2015** **Unit #3: Commissioned on 04.01.2016**	**- 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
	6x40=240 MW (120 MW likely to slip) **Broad Features:** Intake: 18 vents (3 vents for each unit) 4.7m width, Power House- Surface, Turbine- Bulb Design Head- 20m SWYD- 220 kV **Cost:** Original: 908.34 Latest**:** 1969.14	2011-13 2016-17	**Unit # 4: Commissioned on 05.03.2016** **Unit # 5: Commissioned on 20.08.2016** **Unit # 6 : Commissioned on 29.09.2016**	
21*P	**Kashang-II & III** H.P. Power Corpn. Ltd. 1x65 + 1x65= 130 MW **Cost:** Original: 601.78 Latest**:** 601.78	H.P. 2013-14 2019-20	**Unit #1 has been commissioned on 28.08.2016**.	Commissioned using the water from water conductor system of Kashang I HEP.
22*P	**Pulichintala** TSGENCO 120 MW (4x30 MW) 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	Telen gana 2009-11 2016-18	**Unit # 1: Commissioned on 25.09.2016.**	- **Partially Commissioned.**
A	**Hydro Capacity for benefits during 12th Plan**			
	Central Sector			
1	**Kishanganga** NHPC 14.01.2009 3x110 = 330 MW **Broad Features :** Dam – 77m High, concrete gravity HRT- 5.3m x 24 km long S.Shaft-15m dia x 127m Height P.House- Underground 103mx 21m x 45.5m. Turbine- Pelton wheel Swyd.- 220 kV **Cost:** Original:3642.04 Latest**:** 5783.17 (09/15 PL)	J&K 2015-16 2017-18	**Dam & Intake works:- CFRD** Completed. **HRT**:- Excavation completed by TBM/ DBM. Lining of TBM portion (14.7 km) completed and 7137m lining of DBM portion completed out of 8410m. **Surge Shaft:-** Concreting completed**.** **Pressure Shaft liner:-** 662 m liner completed out of 1024 m. **Power House:- C**oncreting completed. **E&M: - Unit # 1:** Boxing up is in progress. **Unit # 2:** Stator lowered, Rotor building under progress. **Unit # 3:** Erection of Turbine housing & Distributor Completed. **Critical Area: 1**) Power evacuation system. 2) Due to ongoing Kashmir bandh since 9th July 2016, the construction activities at Dam Site are adversely affected and project works at Power House in Bandipura area are completely closed since July 2016.	-Completion of Power evacuation arrangement. (PGCIL)
2.	**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	H.P. 2009-10 2018-19	**Dam & Intake Structure-** Concreting completed. **Head Race Tunnel-** 27171 m Excavation out of 31525m completed **Total Overt lining:** 23586 m lining out of 31525 m completed. **Power House:** Concreting completed. **Jiwa Nallah Feeder Tunnel:** Excavation completed. 1395 m Concreting out of 4560 m completed. **E&M Works:** **Unit # 1:** Boxed up. **Unit #2 :** Boxing up in progress. **Unit # 3:** Stator & rotor lowered. Alignment is in progress.	Poor geology in HRT especially in Face-4 (TBM-Face).

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	Cost: Original:3919.59 Latest**:** 8398.75		**Unit # 4**: Erection of Stator frame and stator core building completed. Rotor rim building in progress. **HM Works**: Erection of ferrules in both Pressure Shafts completed and testing & commissioning of surge shafts gate completed. Erection of Radial Gates & welding 95% completed. **Critical Area:** HRT.	
3.	**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	Uttara khand 2012-13 2019-20	River diversion achieved on 13.04.2013 **Barrage:** Excavation completed and Concreting 96466 cum out of 141295 cum completed. **HRT**: 7651.5 m excavation completed out of 12087.9 m, TBM struck due to cavity (5.5km completed out of 8.8km) **PH Cavern**: Excavation completed and concreting 11835 cum out of 20000 cum completed. **Desilting Chamber & Intake:** 2.55 lakhs m^3 out of 4.73 lakh m^3 Excavation completed. **TRT:** Excavation completed. Unit #1 Stator Core building & Rotor poles erection is under progress. **Surge shaft:** Excavation & Lining completed. **Penstock:** Excavation completed and Lining of 794 m out of 1372 m 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. Distributor Unit#1 Hydro Test Successfully completed. **Critical :** HRT	- HRT is critical.
4a.	**Subansiri Lower** NHPC 09.09.2003 8x250= 2000 MW **Broad Features :** Dam –116m High, concrete gravity HRT- 8 x 9.5m x 1145m Power House- Surface Turbine- Francis SWYD- 16/400 kV **Cost:** Original: 6285.33 Latest**:** 17435.15 (02/16 PL)	Arunachal Pradesh Assam 2009-11 2020-21 (Subject to re-start of works)	**Dam:** **Excavation-** 169441 cum completed out of 173000 cum. **Concreting:** 575426 cum completed out of 1823782 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. **Surge Tunnels (8 nos.):** 3109 m heading excavation completed out of 3545 m. **Pressure Shaft-** **Vertical Pressure Shaft Slashing:** 199 m excavation out of 384 m completed. **Surface Power House:** **Concreting:** 124887 cum out of 302600 cum completed. **E&M Works:** **Unit #1:** Elbow erection (1 to 6) and Turbine stay ring and Spiral case erection completed. **Unit #2:** Elbow erection (2 to 6) and Turbine stay ring and Spiral case erection completed. **HM Works:** Erection of diversion tunnel gates 23% completed. Erection of Intake-5: 2% completed. Erection of Intake 7 & 8 – 20% completed each. 201 m pressure shaft steel liner erected out of total 1594 m. 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	**- 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 works stopped due to agitation by various activists of Assam.** **-Case in NGT.**

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			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. 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. Matter related to Project is being heard by NGT. NGT allowed NHPC to undertake emergency maintenance works for safety and protection of the public & property. Next hearing in NGT will be held on 9th Nov '2016.	
5.	**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 **Cost:** Original: 2496.90 Latest**:** 6179.96	Arunachal Pradesh 2009-10 2017-18	**Bichom Dam:** Excavation 764383/780000 cum and Concreting 340126/404748 cum completed. **Tenga Dam:** Excavation 151455 / 152005 cum and Concreting 94089.5 / 97086 cum completed. **HRT:** Excavation completed. lining of 12356.8 out of 14328m completed. **Surge Shaft**: Orifice concrete lining 62.8 Rm / 71.35 Rm completed. **HPT:** Boring of vertical and horizontal portion completed & Open excavation of Surface Penstock including valve house 443036/462504 cum completed. **Power House & Tail Race:** Excavation completed. Concreting 85003 / 85379 cum completed. **HM Works**: Fabrication of penstocks completed and 95% fabrication & erection of gates done. **Unit erection:** Unit # 1 & 2: Assembly of stator and Rotor is in progress. Assembly of Runner & Shaft for Unit #1 is in progress. Unit # 3 & 4: Hydro test of spiral case completed. Assembly of Stator for Unit #3 & #4 in progress. **Critical:** 1. Dam construction & associated HM works.	-Dam works are critical.
6.	**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	Arunachal Pradesh 2013-14 2017-18	**Civil Works:** **Dam: Excavation** - 367358 cum out of 398000 cum completed. Concreting – 126080 cum out of 183000 cum completed. **Head Race Tunnel:** Boring and Lining completed. **High Pressure Tunnel** : Boring completed. **Surge shaft:** Open excavation, boring and lining completed. **Power House:** Excavation in pit completed. Concreting 40951 / 41000 cum completed. **Hydro Mechanical Works:** Erection of steel liner – 262.75 out of 264.25 m completed. Erection of DT inlet gate completed. **Unit erection:** **Unit-1:** Erection of spiral casing, MIV & Turbine Assembly completed	-Dam works are critical.

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	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: 573.99 Latest: 1262.27		**Unit-2:** Erection of spiral casing, MIV completed. Rotor Assembly & Stator Assembly lowered. **Critical:** 1. Dam Concreting & Spillway Gates.	
7.	**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:** Original:368.72 Latest: 1381.71	Mizoram 2006-07 2017-18	**Dam:** 5.06 lac cum excavation out of 5.19 lacs cum completed & filling 29.77 lacs cum out of 30.73 lacs cum completed. **Spillway:** Excavation almost completed. Concreting 123256 cum out of 124074 cum completed. **Power House & Switchyard:** Excavation almost completed. 20482 cum of Concreting in Power House out of 22010 cum is completed. **E&M works**: Installation of DT Liner & Lower pit Liner from Unit # 2 completed. EOT crane has been erected and load test to be conducted. Assembly & Stator of Rotor for Unit # 1 is in progress. **H&M works:** Erection of steel lining in Penstock in progress (43% completed). Erection of Radial Gate in Bay 2 & 3 is in progress. (87% completed). **Critical:** E&M works.	- Slope failure in Power house area. - Slope stabilization completed. - Poor approach roads. - Late mobilization of erection contractor for E&M works.
	State Sector			
8.	**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:** 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**:** 940.84	H.P. 2006-07 2017-18	Almost all civil works completed except lining of HRT. 6475 m (6031 + 444 Done by earlier contractor) lining of HRT completed out of 8459m. **E&M**:- All units boxed up. **Critical :** HRT	- HRT lining critical.
9.[*p]	**Kashang-II & III** H.P. Power Corpn. Ltd. 1x65 + 1x65= 130 MW **Cost:** Original: 601.78 Latest**:** 601.78	H.P. 2013-14 2019-20 (Subject to re-start of works)	Works of Kerang-Kashang link (KK Link) tunnel awarded to M/s Patel Engineering Ltd. Work on KK link tunnel is hampered due to two separate cases regarding Forest and Environmental issues are filed in NGT, out of which one has been decided in favour of HPPCL whereas in the 2nd case, the application for challenging the NGT decision has been filed in the Hon'ble Supreme Court. Works on BR-III resumed on 17.09.2015 and widening -1199m, bending -1097m & concreting – 652m out of 1238m completed. **E&M works**: are in progress along with works of Kashang – I works and in advance stage of completion.	-Works on KK Link tunnel getting delayed due to continuous agitation by locals. -The matter is sub-judice.

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
			Unit#1 has been commissioned on 28.08.2016 using the water from water conductor system of Kashang I HEP. Unit#2 is in advance stage of completion.	
10.	**Sainj** H.P. Power Corpn. Ltd. 2 X50=100 MW 29.12.2010 **Cost:**Original 784.56 Latest 784.56	H.P. 2014-15 2016-17	**Barrage**: Under advance stage of completion. **HRT:** Excavation & Lining completed. **Surge Shaft:** Excavation & lining completed. **Pressure Shaft:** Excavation & Lining completed. **Power House**: Excavation & lining almost completed. **TRT:** Excavation and Concreting completed. Unit Erection: **Unit-1-** Boxed up. **Unit-2-** Boxing up in progress.	
11.	**Swara 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	H.P. 2010-11 2018-19	**Barrage:** Excavation completed & concreting is under advance stage of completion. **HRT:** 10508m out of 11364 m from all faces of HRT excavation completed and 5004 m out of 11364 m overt lining 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.	- Works badly suffered due to encounter of poor geology in HRT. - Contractual Issues. -Contract for HRT package terminated on 9.1.14. Re-awarded in Nov' 2014 to M/s. HCC
12.	**Nagarajuna Sagar TR** APGENCO 17 01 05 2x25=50 MW **Broad Features:** Dam –29.5m High Spillway- 21nos gate Penstock- 2x 5.35m P.House- Surface Turbine- V. Kaplan **Cost:**Original: 464.63 Latest**:** 958.67	A.P. 2008-09 2016-17	- All works completed. - Initial spinning for both units completed. - Commissioning held up due to non-availability of water, Units likely to be commissioned on availability of water.	-Availability of water.
13*p	**Pulichintala** TSGENCO 120 MW (4x30 MW) 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	Telengana 2009-11 2016-18	**Dam:** Completed **Power House:** The excavation of power house completed and 76596 cum concreting done against 89850 cum.. **E&M Works:** **EOT Crane:** Erection and testing completed for all the units. **Unit #1: Commissioned on 25.09.2016** **Unit #2:** Boxing up is in progress. **Unit #3 and #4:** Draft tube and Spiral Casing assembly completed.	- E&M issues of mismatch of parts (BHEL) for Unit 3 & 4. - Availability of water.
14.	**Pallivasal** KSEB 2x30= 60 MW 31.01.2007 **Broad Features:** HRT: 3.50m X 3396m Surge Shaft: 7.0m X 49m Pressure Shaft: 2.50m X 1019.20m	Kerala 2010-11 2019-20 (Subject to re-start of works)	**Intake structure:** Excavation **–** 28398/33492 cum completed. Leading channel of Water conductor system replaced by cut & cover/soil tunnel and accordingly intake is shifted. **HRT:** Excavation **–**2858/3330 m completed. Overt conc. 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	- Poor Geology. -Contractual Issues. -Works stopped by the civil contractor from 28.01.2015.

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	Penstock: 2.nos., 1161.20m each. Power House: Surface Turbine : Pelton S.Yard: 220kV – Single bus **Cost:** Original: 222.00 Latest : 284.69		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.	
15.	**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	Kerala 2012-13 2019-20 (Subject to re-start of works)	**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. Erection yet to start.	-Works are stand still due to Contractual Issues.
16.	**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:** Original: 226.40 Latest **:** 599.00	Meghalaya 2011-12 2016-17	**Dam:** Excavation almost completed. Concreting 72511.4 cum out of 73488 cum completed. **Intake:** Excavation completed. Concreting 20596 cum out of 21300cum completed. **HRT:** Excavation completed. Concreting 16686 cum out of 24480 cum completed. **Pressure Shaft:** Completed. **Surge shaft:** Open excavation and concreting completed. **Power House:** Excavation completed & Concreting almost completed. **TRT**: Open excavation & tunnel boring completed & lining 7486.57 cum out of 7827 cum completed. **E&M :** Assembly of Generator for Unit # 1 in Service Bay completed. Assembly of Turbine in barrel for Unit # 1 is in progress. **Critical :** 1. Erection of Unit. 2. Radial Gates of Dam, Surge Shaft & Draft tube Gates.	
17.	**Teesta-III** Teesta Urja Ltd. 12.05.2006 6x200=1200 MW **Broad Features:** .Dam-Concrete with chute spillway 60m high. HRT- 7.5m dia, 13.325Km long. Press. Shaft- 3nos. 3.8m dia. Power House- Under ground Turbine- Pelton **Cost:** Original 5705.55 Latest 11382.00	Sikkim 2011-12 2016-17	ALL **Civil Works** Completed. **HM Works:** LHS pressure shaft completed. RHS Pressure Shaft in the advance stage of completion. **E&M works:** All Units boxed up. Water conductor system filling started by LHS Pressure Shaft. **Critical :** ATS to be completed by March, 2017. As a interim arrangement Teesta-III & Rangpo LILO line is under construction and 0.5km stringing is balance.	- Work held up from Sept, 2014 due to fund constraints and re-started in October, 2015. **- Transmission System is Critical.**

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	Private Sector			
18.	**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	H.P. 2012-13 2017-18 (Subject to re-start of works)	All Civil Works completed. Both the units are boxed up. During the filling of water conductor system in 1st 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. Details of damage is being assessed by developer.	Repair of penstock work
19.	**Tidong-I** M/s NSL Tidong Power Gen. 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 543.15	H.P. 2013-14 2017-18	**Head Regulator & Desilting arrangement:** Common excavation completed. 8550 cum open cut rock excavation out of 10,000 cum completed. **HRT (8526m):** Excavation completed and 1879m lining completed. **Surge Shaft:** open excavation top 33982 cum / 38500 cum completed. **Pressure Shaft:** Excavation completed **Power house and Tail race channel**- 87689 cum out of 92500 cum excavation completed. 10925 cum out of 15878 cum concreting completed.	- Slow progress of works. - Transmission Line critical.
20.	**Tangnu Romai-I** M/s Tangnu Romai Power generation 2x22= 44 MW 30.11.2007 (HPSEB) **Broad Features:** Barrage at EL + 2555 m HRT-3.1m dia & 7.220 km length Surge Shaft- 5m dia, Top Level 2570 m & Bottom Level 2520 m Penstock- 2 m dia & 609.3 m length P.House- Surface Turbine – Vertical Francis **Cost:** Original**:** 255.00 Latest**:** 255.00	H.P. 2014-15 2018-19 (Subject to re-start of works)	Civil works awarded on 14.06.2010 to M/s Sai Urja Hydel Project (P) Ltd. **Barrage and Diversion Cannel:** 26211 cum out of 93800 cum excavation completed. **Desilting Chambers & SFTPC:** Excavation completed. SFT excavation 420 / 450.66 m completed. **HRT**: 2826m out of 6300m excavation completed. **Power House**, **Switchyard & Misc.**: 60275 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.	- Slow progress of works HRT critical, poor geology. - Works are stalled due to finance issues.
21.	**Phata Byung** M/s Lanco 06.10.2008 2x38 MW = 76 MW Broad Features: Dam – 26m high HRT- 3.2 m dia & 9.38 km length Turbine – Frances **Cost:** Original: 520.00 Latest : 1225.53	Uttara khand 2013-14 2018-19 (Sub. to active start of works)	**Dam concreting:** 17800/18000 cum concreting completed. **P.H.:** Excavation completed & Concreting in progress. **HRT:** Excavation almost (98%) completed. 512 m Lining has been completed. Excavation and lining of Intake-I & Intake-II completed. **Pressure shaft:** Excavation completed & lining is under progress. **TR**T: Excacation 178/235m completed. **E&M Works**: Pit liner erection of units completed. EOT Crane installed and Commissioned.	- Works severely affected due to flash floods in June, 2013.
22.	**Singoli Bhatwari** M/s L&T 11.07.2008	Uttara khand	**River diversion** – Completed. **Dam & Dykes/Barrage:** Excavation 94612.5 / 90744 cum and concreting 51787 / 70220 cum completed.	- Works severely affected due to flash floods in June, 2013.

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	3x33 MW = 99 MW **Broad Features:** Barrage-FRL 1017 m, MDDL 1009 m, Barrage Top 1020m HRT- 4.65m dia & 11.870m length Surge Shaft-10 m dia & 102.85 m length Pressure Shaft-One, 3.80m dia & 358m length Penstock- 3 Nos., 2.20 m dia & 34m, 42m, 48m long. P. House-Surface Turbine-Vertical Francis TRT- Open Channel, 650m length **Cost :** Original : 666.47 Latest : 1577.00	2012-13 2020-21 (subject to Active start of works)	**HRT**: Excavation 9340m / 11257m completed. **Overt Concrete Lining** 2053m / 11257m completed. **Invert Lining** 1977m / 11257m completed. **Pressure Shaft**: Excavation 465 / 506 m completed. **PH:** Excavation completed & concreting 12347.62 / 17693 cum completed. **Surge Tank:** Excavation completed. 241.70 / 5249cum of concreting completed.	
23.	**Maheshwar,** SMHPCL 30 12 96/ 29.9.2006 (FC) 10x40= 400 MW **Broad Features:** Dam-35m High, concrete gravity P.Shaft-10x7.82m x 52m P.House - Surface Turbine- Kaplan **Cost:** Original: 1569.27 Latest**:** 6793.00	M. P. 2001-02 2017-19 (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.** In this regard, a high level committee under the chairmanship of Additional Chief Secretary(Finance) GoMP, was formed on 16th 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 compete 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. Currently, the process for revival of project under second scenario is underway which envisages Government companies having majority equity in the project with management control .	- Completion of R&R works and E&M works. - Works held up due to Fund constraints with developer.
24.	**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 : 5400.00	Sikkim 2012-13 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 1st 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	- Works held up due to financial crunch with the developer.

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			completed. **Transformer Cavern:** Excavation completed & concreting 2539/7101 cum completed. **TRT:** Excavation & Lining almost completed.	
25.	**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	Sikkim 2011-12 2018-19 (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.**
26.	**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	Sikkim 2012-13 2019-20	Project is in initial stage of construction. River diversion achieved. **Barrage: 48636cum/194600cum** excavation completed. **HRT:** 1380.4m out of 4460m excavation completed. **PH:** 132270 cum/185937cum excavation completed. **Surge Shaft** : 6234.7cum / 22000cum Surface excavation completed.	- Slow progress of works
B.	**Hydro Capacity for benefits beyond 12th Plan**			
	Central Sector			
27.	**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 Lenghth 1070m + 1160m Turbine: VF reversible pump turbine **Cost:** Original: 1657.60 Latest**:** 2978.86	Uttara khand 2010-11 2019-20	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, benching is in progress. **Butterfly Valve Chamber (BVC):** Crown slashing with steel ribs completed. Benching work and additional stabilization work i.e. rock bolting and cable anchoring is in progress. **Penstock Assembly Chamber (PAC):** Crown slashing with steel ribs completed. Benching will start after two benches of BVC. **PH:** Underground excavation of PH 159437 cum out of 220000 cum completed. **Surge Shafts downstream (2nos).**: After completion of excavation of Top Chamber, stabilization work for Shaft widening is in progress. **TRT (2 Nos- 1070m & 1160m).):** In Heading & Benching 1315.4m and 331.0m excavation has been completed respectively. **E&M Works:** Manufacturing & supplies are in progress.	- Poor Geology in under ground works of BVC, PAC, TRT, PH Cavern etc. - Law and order issues at Asena Quarry. -Diversion of land for dumping area at village chopra.

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28.	**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	Uttara khand 2017-18 2021-22 (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.
29.	**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**:** 2491.58	Uttara khand 2013-14 2019-20	Civil and HM works awarded on 17.01.2014. E&M works awarded on 18.11.2014. Heading & Benching excavation for Diversion Tunnel completed. Cut & Cover at inlet &Outlet and Overt Lining is under progress. River diversion is re-scheduled on Feb 2017. Excavation for de-silting Chamber 3 no. is under progress. Development for TBM platform excavation 95% has been completed. Construction of Adits and infrastructure works are under progress.	-Frequent disruption of works by local people.
4b.	**Subansiri Lower** NHPC 09.09.2003 8x250= 2000 MW **Broad Features :** Dam –116m High, concrete gravity HRT- 8 x 9.5m x 1145m Power House- Surface Turbine- Francis SWYD- 16/400 kV **Cost:** Original: 6285.33 Latest**:** 17435.15 (02/16 PL)	Arunachal Pradesh Assam 2009-11 2020-21 (Subject to re-start of works)	**Dam:** **Excavation-** 169441 cum completed out of 173000 cum. **Concreting:** 575426 cum completed out of 1823782 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. **Surge Tunnels (8 nos.):** 3109 m heading excavation completed out of 3545 m. **Pressure Shaft-** **Vertical Pressure Shaft Slashing:** 199 m excavation out of 384 m completed. **Surface Power House:** **Concreting:** 124887 cum out of 302600 cum completed. **E&M Works:** **Unit #1:** Elbow erection (1 to 6) and Turbine stay ring and Spiral case erection completed. **Unit #2:** Elbow erection (2 to 6) and Turbine stay ring and Spiral case erection completed. **HM Works:** Erection of diversion tunnel gates 23% completed. Erection of Intake-5: 2% completed. Erection of Intake 7 & 8 – 20% completed each. 201 m pressure shaft steel liner erected out of total 1594 m. 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	**- 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 works stopped due to agitation by various activists of Assam.** **-Case in NGT.**

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			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. 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. Matter related to Project is being heard by NGT. NGT allowed NHPC to undertake emergency maintenance works for safety and protection of the public & property. Next hearing in NGT will be held on 9th Nov 2016.	
30.	**Ramam-III** NTPC Hydro Ltd. 10.09.14 3x40 = 120 MW **Broad Features :** Run of the River Scheme **Cost :** Original: 1381.84 Latest : 1381.84	West Bengal 2019-20 2019-20	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. Electro-Mechanical (EM) Package awarded to M/s BHEL in Feb-2015. First stage river diversion done on 23.03.2016. Adit-1 Excavation completed. Excavation of other Adits is in progress.	
	State Sector			
31.	**Shahpurkandi** Irrigation Deptt. &PSPCL 04.05.2011 3x33+3x33+1x8=206 MW **Cost:** Original: 2285.81 Latest 2285.81	Punjab 2017-18 2019-20 (Subject to re-start of works)	Civil works of Main Dam and Hydel Channel awarded and are under construction **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.
32.	**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**:** 3316.35	H.P. 2017-18 2019-20	Excavation & lining of Diversion Tunnel under progress. **HRT:** Excavation of HRT 2170 m out of 8095 m completed. **Surge shaft**: 42m out of 100m pilot hole completed. **Power House:** Benching of Power House cavity is in progress. Works hampered in some portion of HRT due to re-location of Army ammunition depot. Issue is under resolution between Army, GoHP & HPPCL.	-Issues with Army authorities for shifting of ammunition depot.
33.	**Vyasi** UJVNL 25.10.2011 (TEC) 2x60= 120 MW	Uttarakhand 2014-15	**Civil Works:** **Dam :** 2.875 lakh cum / 3.923 lakh cum of Excavation completed. 13023 cum out of 4.417 lakh cum of Concreting completed.	-Dam and E&M works are Critical. -Local issues.

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	Broad Features: Dam: Conc. Gravity H- 86m L-207.2m HRT- Circular, 7m dia, 2.7Km long. Power House- Surface Turbine- VF. Switchyard: 220 Kv. **Cost:** Original: 936.23 Latest**:** 936.23	2018-19	**Diversion Channel : C**ompleted**.** **Head Race Tunnel (2.7 Km):** Excavation of HRT completed. 1058m Overt Lining and 607m Invert Lining out of 2672m has been done. **Pressure Shaft:** 1765cum out of 5000cum Excavation completed. **Surge Shaft :** 5750cum/8000cum excavation completed**.** **E &M works :** Work has been awarded to BHEL. **Power House:** 233000 cum out of 270,000cum Excavation completed.	
34.	**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: 226.40 Latest**:** 379.78	Maha rashtra 2017-18 2019-20 (Subject to active 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.
35.	**Polavaram** Polavaram Project Authority 21.07.2010/ 25.02.2009 12x80= 960 MW **Cost:** Original: 16010.45 Latest**:** 16010.45	Andhra Pradesh 2017-18 2021-22 (Subject to active start of works and award of E&M works)	Pre-construction and Infrastructural works are in progress. **Civil Works:-** Civil works awarded on 01/2012-13, 02.03.2013. **ECRF DAM:** Earth work of 196.32 L.Cum /833.169L.Cum is completed. **SPILLWAY:** Earth work of 237.74 L.Cum / 362.95 L.Cum is completed & embankment of 1.1457 L.Cum / 2.4907 L.Cum is also completed. **POWER HOUSE:** Earth work of 60.3925 L.Cum / 108 L.Cum is completed & embankment of 2.4348 L.Cum / 10 L.Cum is completed. **B) HM & E&M Works:-** Invitations of Bids Tender process & Issue of LoI is in progress & would be completed by Feb-2017. Works will be awarded by 01.03.2017.	- Works under progress, however there is Inter State Issue-Public hearing for construction of protective embankment to be held in Oddisha and Chhattisgarh as desired by MOEF. - Funds Constraint
	Private Sector			
36.	**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	J&K 2017-18 2021-22 (Subject to re-start of works)	EPC Contract for Civil & HM works awarded to M/s GVK Projects & Technical Services Limited on 04.07.2013. 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.	- Presently works are under hold. - Local Issues

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
	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)			
37.	**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 1696.93	H.P. 2017-18 2019-20	**Civil Works:** awarded to M/s Gammon India ltd. on 29.05.2013. **River :** diversion achieved. **HRT and Adits: work** in progress. 4 out of 5 adits excavation completed. **Powerhouse**: Excavation completed and concreting is in progress. **Pressure shaft**: Excavation stared.	-Slow progress of works -Poor approach roads -Transmission Line DPR clearance by HP Govt.
38.	**Chanju-I** M/s IA Energy 24.04.2010 3x12=36 MW **Cost :**Original : 295.09 Latest : 295.09	H.P. 2014-15 2016-17	**Barrage:** All works completed. **Desilting Basin including Flash arrangement:** Excavation & concreting completed. **HRT :** All works completed. **Surge Shaft:** Excavation & Concreting works completed. **Penstock/Pressure Shaft:** Excavation & Concreting completed. **Power House:** All works completed. **TRT (56m):** Completed. **E&M Works:** Unit #1 & #2 Boxed up, #3 will be boxed up shortly by 25th October 2016.	There is leakage in Adit plug & Intake Gate.
39.	**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 Bifucation 441.53 m After bifurcation 25 m & 30 m long P.House-Surface TRT- Open Channal & 78.5 m length. Swityard- Outdoor, 220	Sikkim 2015-16 2016-17	**Barrage**: Excavation & concreting completed. **HRT (Total- 5437m):** Excavation completed. Concreting Invert & Overt completed. **Surge Shaft:** Excavation completed. Concreting lining 25% completed. **Power House:** Concreting completed. **E&M Works:** **Unit # 1 & 2** Runner lowered, MIV installation of completed	- Evacuation of power.

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
	KV **Cost :**Original : 465.95 Latest : 465.95			
40.	**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 : 639.57	Sikkim 2017-18 2016-17	**Dam:** Works completed. HRT: Works completed. **Power House:** Excavation & concreting completed. **Pressure Shaft:** Penstock erection is pending at three locations of closing i.e. 12m at bottom, Top bend and 10m at Top horizontal. All these will be completed by the end of October 2016. **Critical:**- Completion of pressure shaft lining.	
41.	**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	Sikkim 2017-18 2019-20 (Sub. 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. **HRT:** Excavation 1123cum out of 64042cum completed. **Surge Shaft:** Excavation 1625cum out of 4948cum completed. Concreting 37/1667 cum done. **Pressure shaft**: Excavation 13759cum out of 46115cum 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.
42.	**Rongnichu** Madhya Bharat Power Corporation Ltd. 01.10.2008 2x48= 96 MW **Cost :** Original : 491.32 Latest : 491.32	Sikkim 2015-16 2019-20	The civil works have been awarded to M/s SEW Infrastructure Ltd. and E&M works to M/s Voith Hydro Power Pvt. Ltd. Award of HM works is likely to be placed by August, 2012. **HRT:** 73% Civil Works completed. **Surge shaft**: 49m excavation out of 88m completed. **Pressure Shaft:** 97% Civil works LHPS & 48% Civil works of VPS completed. **Power House**: 14302 out of 29626.54cum of Excavation completed. 5459/22429 cum Concreting has been completed.	- Land acquisition. - Poor geology.
43.	**Panan** Himagiri Hydro Energy Pvt. Ltd. 07.03.2011	Sikkim 2018-19 2020-21	Civil works awarded on 22.02.2014. Infrastructural works and geological investigations are in progress. Starting of civil construction works in full swing was earlier	- NGT Issue.

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
	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 :2021.90	(Subject to active start & award of E&M works)	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 which is pending in the National Green Tribunal. Since there is no stay, so developer to start works shortly.	
44.	**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	Ar. Pradesh 2017-18 2019-20 (Sub. to active 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**. Construction work Resumed in July, 2016. Barrage: 23400cum excavation out of 1.185 Lakh cum completed. Power House & Switchyard : Open Excavation 68500cum out of 2.15 Lakh cum completed.	-Works awarded on 22.11.2011. However, consent to establish from SPCB was issued on 19.05.2014 -Works stopped since 2nd week of April, 2016 due to fund flow problem with promoter / lenders.

Status of 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 : 2019-20**	**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)	Excavation of Dam 65.31 lac cum out of 70.51 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 completed and concreting is completed. HRT excavation and lining completed. Boring of surge shaft completed in May'2013 and lining completed Pressure shaft excavation is completed and back fill concreting 1147m completed out of 1460m. Power house excavation is completed and construction of service bay also completed TRT excavation completed and 643m overt lining completed out of 1261m. **E&M works:-**Assembly of Stators1,2& 3 are in progress Rotor 2 is completed **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: 2018-19**	**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)	Excavation of dam 31.10Lac cum completed out of 31.19 Lac cum. Adverse geological situation faced at the left bank of the dam. HRT heading excavation 7.13 Km out of 8.5 Km completed. Benching excavation 3.54 Km out of 8.5 Km completed Excavation of surge shaft completed in Dec'2013. Benching upto EL 555 – Completed in PH. On 02-03 March,2016, massive rockfall from the roof of downstream Surge Gallery occurred. TRT Heading Excavation: 2871m out of 3163m completed. **Critical:** Dam is critical. Adverse geological situation faced at the left bank of the dam.
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 P.House-Underground Turbine- Pelton Vertical axis SWYD- 400 kV Commissioning Schedule: Sep '2017 **Anticipated commissioning schedule: June '2018**	**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 EnggPvt.Ltd. on 20.03.2012 **E&M Works:** Package-I: BHEL Ltd. on07.01.2013 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 01.01.2013	**Dam:** Excavation is almost completed. Concreting started in May,15 and 2.48 cum completed out of 4,50,000 cum. 11.53 Km excavation and 1.5 km Overt lining of HRT completed out of 13.52 km. Pressure shaft:92% excavation is completed.30% Ferrule/Steel Liner Erection is completed. Surge Shaft: 40% lining completed . 97% Overt lining of completed. **E&M works:**Laying of earth mats completed in TRT, transformer cavern, Bus duct Tunnels, Service way, TRT manifold(1, 2 &4) and Unit area in PH . Erection of lower pit liner completed in Unit-I ,2 &4 . **Critical:** HRT & Pressure Shaft are critical.