

Status of Hydro Electric Projects under Execution for 12th Plan & beyond
(Excluding projects above 25 MW)

As on 31.03.2014

Sl. No	Name of Project Executing Agency Date of CEA clearance / Approval Capacity (MW) Broad Features Cost (original/latest)	State Commng. Schedule (original/ Now Ant.	Broad Present Status	Remarks/issues
A.	Hydro Capacity for benefits during 12th Plan- Under Execution			
	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 H P.House- Underground 103mx 21m x 45.5m. Turbine- Pelton wheel Swyd.- 220 kV Cost: Original:3642.04 Latest: 3642.04	J&K <u>2015-16</u> 2016-17	Diversion Works – River diversion achieved on 21.06.2012. Dam & Intake works: Left bank excavation (295000 cum) completed. HRT: 8410 m excavation completed out of 8491 m by DBM. 14009 m excavation completed out of 14750 m by TBM. Surge Shaft: Excavation sinking from top (99.5m) completed. Pressure Shaft: Upper limb slashing- Completed (233m). Lower limb-pilot- Completed. Power House: Excavation completed. TRT Excavation: Completed.	-Law and order problems viz frequent bandhs and curfew. -Local agitation due to people demanding employment in NHPC.
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 Cost: Original:3919.59 Latest: 5365.70	H.P. <u>2009-10</u> 2016-17 (likely to slip)	Dam & Intake Structure- Concreting (207296 cum) completed. Head Race Tunnel- 26615 m excavation out of 31525m completed Total Overt lining: 17137 m lining out of 31525m completed. Power House: 57506 cum concreting completed out of 64016 cum. Jiwa Nallah Feeder Tunnel: 3945m excavation out of 4560m completed. 442.7m concreting out of 4560m completed. E&M Works: Erection, Testing & Commissioning of one 200 MT Crane completed. Erection of 2nd 200 T EOT crane completed & commissioning is under progress. Unit # 1: Generator Barrel concreting in progress. Assembly of Rotor & Stator built in up in service bay is in progress. Unit # 2: Erection of lower turbine Housing completed and alignment of distributor is in progress. Unit # 3: Erection of Upper Turbine Housing is in progress. Unit # 4: Erection of Lower Housing is in progress. HM Works: Erection of ferrules in Pressure Shafts completed. Erection of Radial Gates is in progress.	Poor geology in HRT especially in Face-4 (TBM-Face). Contract with M/s HJV has been terminated on 09.03.2012 and re-awarded to M/s Gammon-CMC (JV) on 13.8.2013 for TBM portion.& to M/s Valecha Engg. On 21.11.2013 for DBM portion. Jiwa Nallah works affected due to cavity treatment and strike by locals at Sainj site demanding employment. Cash crunch with M/s Patel - SEW & M/s Coastal Project Ltd.
3	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. <u>2010-11</u> 2013-15	All major civil works relating to Commissioning completed. Unit # 1 :-Commissioned on 18.02.2014 Unit # 2 :-Commissioned on 27.02.2014 Unit # 3 :-Commissioned on 15.03.2014 Unit # 4:- Unit spun in March, 2014 but could not be commissioned due to fault in R- Phase of transformer.	-Repair of faulty transformer.
4	Kol Dam NTPC 30.6.2002/Oct.2002 4x200 = 800 MW Broad Features : Dam – 163m High, Rock &	H.P. <u>2008-10</u> 2015-16 (Best effort	Impounding of Reservoir started w.e.f. 19-12-2013, however reservoir emptied due to leakage in diversion tunnel . Corrective measures taken and re-impounding of reservoir done till EL 560m for 30 days in March/April,2014 & reservoir emptied. Re-impounding of reservoir till MDDL/FRL will be done in oct..2014. It will take 245 days to reach MDDL level & 315 days to reach	- Reservoir filling. - 44 ha. land requires FCA clearance by MOEF for impounding beyond 574m. - Power House control room

	Gravell fill Penstock Tunnel: 4nos. 6.45m dia, 1600m long P.House- Surface Turbine- V. Francis Cost: Original: 4527.15 Latest: 6358.91	2014-15: 400 MW)	FRL level.	works are yet to be completed.
5	Ram Pur SJVN 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: 2047.03	<u>H.P.</u> 2011-12 2013-15	Unit # 1 :-Commissioned on 23.03.2014 Unit # 2 :-Commissioned on 21.05.2014 Unit # 5 :-Commissioned on 29.03.2014 Unit # 3:- Boxed up. Unit # 4 :- Boxed up Unit # 6 :- Boxed up..	
6	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	<u>Uttarakhand</u> 2011-12 2016-17 (likely to slip)	River diversion achieved on 13.04.2013 Barrage: Excavation earlier completed and raft concreting is in progress. HRT: excavation 9087 m completed out of 13370 m, TBM struck due to cavity (3.4km balance out of 8.8km) PH Cavern: Excavation completed. Desilting Chamber & Intake: Excavation 68175 m ³ out of 1.87 lakh m ³ completed. TRT: Excavation completed. Surge shaft: Full widening completed. Lining of 81.2 cum out of 152.3 cum completed. Penstock: Excavation completed. E&M works: Erection of EOT crane in Service Bay completed. Pit liner erection on all 4 units completed. Stator & Rotor assembly for Unit #1 is in progress and got affected due to flash flood.	- Delay in HRT work due to late deployment of TBM. - Heavy water ingress in HRT w.e.f. 25.12.2009 and excavation by TBM was affected. - Contract terminated for the package of barrage & desilting chamber for which the fresh award has been placed on 18.07.2012. - Flash flood in June-2013. (Uttarakhand Tragedy) - Contract for HRT package terminated on 9.1.14. Yet to be reawarded.
7	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: 1502.00	<u>West Bengal</u> 2009-10 2015-16 (Best effort 2014-15: 40 MW)	Civil Works: Power House: 121682 cum concreting completed out of 134373 cum. Concrete around the Penstock: 5654 cum completed out of 12000 cum. Power Dam & Intake Structure (upto top level): 55507 cum concreting completed out of 70000 cum. RCC Concreting: 51700 cum completed out of 178000 cum. E&M Works: Erection of EOT crane completed in service Bay. Erection of Spiral case of all Units completed. Unit#1: Turbine, Rotor & Stator assembly erection completed in service bay. Stator lowered. Further work in pit is under progress. Unit#2: Turbine assembly is under progress. Rotor assembly, Runner hub, Turbine shaft & Inner top cover assembly is under progress at service bay, further work in pit is in progress. HM Works: 90.6% erection of Radial gates completed. Erection of penstock liner completed. 77.2% erection of Intake gates completed. 77% erection of silt excluder gates completed. 62.7% erection of spillway stoplog gates completed. 57.9% erection of Intake stoplog gates completed.	Critical: -Dam: Non Overflow Section (RCC Dam). - Civil works were standstill since 20.03.2013 due to financial crunch with HCC. Works re-started from December-2013. - Gorkha Jan Mukti Morcha agitation. - Financial crunch with M/s HCC (Civil Contractor)
8a	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	Arunachal Pradesh Assam 2010-11 2016-18. (likely to slip)	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.	- Signing of MoU with State Government of Assam. - Law & Order problem. - Issue of Downstream Impact Assessment & demand for stoppage of works by anti dam activists. - Since 16.12.2011 works stopped due to agitation by

	<p>P.House- Surface Turbine- Francis SWYD- 16/400 kV Cost: <u>Original: 6285.33</u> Latest: 10667.00</p>		<p>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 is in progress and Turbine stay ring and Spiral case erection completed. Unit #2: Elbow erection is in progress 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.</p> <p>As decided in the tripartite meeting dated 6th December,2013 , discussion between Expert Group formed at the request of AASU (All Assam Students Union) and Experts of Govt of India & NHPC was held on 23rd December,2013.. Subsequently,,a job order has been placed on IIT Guwahati for the Structural Design issues. The next meeting of Experts is expected in April ,2014 and thereafter tripartite meeting will be held held in May/ June-2014.</p>	Anti-dam activists.
9	<p>Kameng NEEPCO 02 12 2004 4x150 = 600 MW Broad Features: Dam :Bichom-75m High, 247.3m long. Tenga – 25.0 High, 103m long. HRT- 6.7m dia, 14.477km. High Pressure Tunnel (HPT)Total length 3.64 km Surge Shaft: 25m dia, 70m H P.House- semi-U/G Turbine- Francis Cost: Original: 2496.90 Latest: 4653.95</p>	<p>Arunachal Pradesh <u>2009-10</u> 2016-17</p>	<p>Bichom Dam: Excavation 744106/761000 cum and Concreting 57511/357490 cum completed. Tenga Dam: Excavation 125615/135000 cum and Concreting 37965/92850 cum completed. HRT: Excavation: 12964/14479.50 RM completed. Surge Shaft: Open excavation and boring completed, Surge Shaft & Orifice concrete Lining: 62/71 RM completed. HPT: Boring of vertical and horizontal portion completed & Open excavation of Surface Penstock including valve house 416151/462504 cum completed. Power House & Tail Race: Excavation completed. Concreting 47880/75600 cum completed. HM Works: Fabrication – 80%, erection – 35% completed including Tenga crossing. Electro-mechanical works: Erection of Draft tube for Unit# I & II completed. Supply of E&M equipment is in progress.</p>	<p>Slow progress in Dam & HRT due to various reasons i.e. Bad geology, heavy seepage, inadequate machinery at site etc.</p> <p>Contractual issues.</p> <p>Works suffered due to flood in Sept., 12.</p> <p>Poor approach Roads.</p>
10	<p>Pare NEEPCO 4.12.2008 2x55 = 110 MW Broad Features: Dam : 78m 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: 573.99 1302.89</p>	<p>Arunachal Pradesh <u>2013-14</u> 2015-16</p>	<p>Diversion Tunnel: DT completed and construction of u/s and d/s coffer dams completed. Dam: Excavation 337430 cum out of 398000 cum completed. Concreting yet to be taken. HRT : Boring 2736M out of 2828 M completed. Lining 763M out of 2828M. High Pressure Tunnel: Boring completed Surge shaft: Open excavation & Boring of surge shaft completed and Lining 50.6/59 Rm completed. . Power House: Excavation 119406/125000 cum completed. Concreting 20057/35000 cum completed.</p> <p>E&M Works: Erection of DT liners of Unit I & II completed. Mechanical erection of EOT crane completed above the crane Girder at Service Bay. HM Works: Fabrication of penstock ferrules and fabrication of trash rack for HRT is in progress. Erection of D/T Intel Gate completed. Installation of 1st and 2nd stage embedded parts of Diversion tunnel Inlet Gate completed.</p>	<p>Poor geology.</p> <p>Poor approach road. Lack of insufficient labour with the contractor.</p> <p>Works suffered due to flood in Sept., 12.</p>

11	Tuiri 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>368.72</u> 913.63	<u>Mizoram</u> <u>2006-07</u> 2016-17	Diversion Tunnels (2 Nos.) : Excavation and lining completed. Main Dam: Excavation 149632 cum out of 430100 cum completed. Spillway: Excavation 1696113 cum out of 1754801 cum completed. Concreting 10311 cum out of 92500 cum completed. Power House & Switchyard: Excavation almost completed. Fabrication of steel liner – 563 MT out of 1471 MT completed. E&M Works:- Draft tube liner dispatched from BHEL's Bhopal plant. HM Works:- - 1 st stage insertion for stop log gate for diversion tunnel completed. - 2 nd stage embedded parts for stop log gate erected. - 8 nos. of D/T stop log gates have reached site. - Fabrication of spillway stop log Gate in progress.	Works suspended earlier due to local unrest since June, 04, the works re-started on 14.01.2011. Poor approach road. Inadequate mobilization of resources by the contractor. Slope failure in Power house area.
	State Sector			
12	Baglihar-II JKPDC 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: <u>Original: 2113.09</u> Latest: 2113.09	<u>I&K</u> <u>2014-15</u> 2016-17	Baglihar-II H.E. Project was conceived along with Baglihar-I H.E. Project. Works associated with dam and some portion of HRT was completed along with Baglihar Stage-I project. HRT: Excavation completed. Overt lining completed and Invert lining 1878m out of 1888m completed. Surge Shaft: Excavation completed. Penstock: 1699 m erection out of 2355 m completed. PH: Excavation completed. Concrete lining under progress. TRT: 39% overt concrete out of 209 m completed. Unit Erection: Draft tube pit liner for all the three units are in progress.	E & M Works are critical.
13	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: <u>Original: 431.56</u> Latest: 431.56	<u>H.P.</u> <u>2006-07</u> 2015-16	Storage Reservoir: Excavation and concreting completed. HRT: Excavation completed and lining 1273 m is completed out of 8010 m. Surge Shaft: Completed Penstock: Excavation 152775 cum out of 155000 cum is completed and 35132 cum out of 35600 cum concreting completed. Power House and Tail Race: 30988 out of 31350 cum excavation completed and 12212 cum out of 14424 cum concreting completed. E&M: Unit #1: Stator lowered & fixed in position. Unit #2: Assembly of sole plate with upper bracket is in progress. Unit #3: Boxed up.	- Slow Progress of HRT due to poor geology. - Contractual issues.
14	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 and 1346 m long TRT: 335 m combined 6/4.5 m D. stream Cost: <u>Original: 1079.81</u> Latest: <u>1079.81</u> (including Stage-II & III)	<u>H.P.</u> <u>2012-13</u> 2015-16	Trench Weir: 3867.5 cum out of 3978 cum concreting completed. HRT: Excavation completed and 1105 m overt lining from (intake end) & invert lining 826 m completed out of 1113 m. Pressure Shaft: Excavation of valve housetop horizontal pressure shaft completed. 584 m backfill concrete completed out of 1346 m. E&M works: Laying of earth mat is in progress. Model test completed. Power House & Transformer hall concreting is in progress. TRT concrete lining 197 m out of 335 m completed.	Slow progress of Civil & E&M works.
15	Kashang-II & III H.P. Power Corpn. Ltd. 1x65 + 1x65= 130 MW	<u>H.P.</u> <u>2013-14</u> 2015-16	Works of Kerang-Kashang link (KK Link) tunnel awarded to M/s Patel Engineering Ltd. Works getting delayed due to continuous agitation by Lippa villagers. The matter is sub-judice.	-Works getting delayed due to continuous agitation by Lippa villagers. The matter is sub-judice.

16	Sainj H.P. Power Corpn. Ltd. 100 MW 29.12.2010 Cost: Original 725.24 Latest 725.24	<u>H.P.</u> 2014-15 2015-16	Barrage: Concreting in 2-bays out of 6 bays completed. HRT: 935 m of overt lining completed in Face-I. Entire Boring in Face-II completed (1170 m). Face-III boring 1437 m out of 1903 m completed. Lining is being taken up. Main Access Tunnel to Power House excavation is completed. Power House: Excavation completed. Concreting is in progress. E&M Works: Laying of earth mat – 7616 m is completed out of 10108m. TRT: Excavation and Concreting completed.	- HRT works & barrage works.
17	Swara Kuddu H.P. Power Corpn. Ltd. Clearance: 10.11.2004 3x37= 111 MW Broad Features: Diversión 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: <u>Original: 558.53</u> Latest: 1181.90	<u>H.P.</u> 2010-11 2015-16	HRT: 9722 m out of 11364 m from all faces of HRT excavation completed and 1777 m out of 11364 m concreting is completed. Surge Shaft: 70.38 m completed out of 77 m of shaft lining. Power House: Excavation completed and concreting is in progress. TRT: 346.35 m of 360 m lining completed. E&M Works: Erection of DT liner in P.H. completed and erection of scroll casing & pit liner is in progress.	- Works badly suffered due to encounter of poor geology. - Progress of HRT lining is slow.
18	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	<u>A.P.</u> 2008-09 2014-15	Civil works: Main Dam: Excavation at dam area is completed and 520057/532500 cum Rockfilling/concreting completed. P.H. Civil works: Almost completed. Unit Erection: Unit-1 – Stator & Rotor lowered. Upper guide bearing assembly in progress. Unit-2 – Stator assembly in progress. Runner assembly in progress. H&M works Re-awarded to GTV-PES (JV) on 11.5.2009. Fabrication of all 20 radial gates completed and erection of 4645 MT is completed against 6860 MT.	- Delay in Award of HM works. - Slow progress in Construction of dam and associated HM works. - Floods on 01.10.2009 and 05.09.2011 - The dam works affected due to contractual issues - Dam Works hampered due to floods in July/Aug-2013.
19	Lower Jurala APGENCO, A.P. TEC in July 2007 6x40=240 MW (120 MW likely to slip) Broad Features: Intake: 18 vents (3 vents for each unit) 4.7m width, P.House- Surface, Turbine- Bulb Design Head- 20m SWYD- 220 kV Cost: <u>Original: 908.34</u> Latest: 1474.83	<u>AP</u> 2011-13 2014-16	Excavation for approach channel, Intake pool, Power house pit completed. Weir: 415276/416700 cum excavation done. 172321/219039 cum concreting completed. Power House: Excavation completed. 196634 cum concreting against total quantity of 203000 cum done. Unit Erection: Unit#1: Unit was mechanically spun on 24-12-2013 and synchronized with the grid on 29-12-2013 upto 20 MW load. Unit#2: Unit was mechanically spun on 07-01-2014 and synchronized with the grid on 10-01-2014 upto 10 MW load. Unit#3: Stator assembly completed in service bay and ready for erection. Unit#4: Assembly of Stator & Rotor in service bay completed. Unit#5: Erection of Stay cone completed. Unit#6: Erection of draft tube completed.	- Slow progress of civil works. - Frequent bandh by TJAC for Telangana State. - Weir works hampered due to agitation by villagers. - Flooding in Aug., 2012. - Completion of HM works. - Weir work front inundated with flood water during July-2013. - Unit-1 & 2 could not commissioned in 2013-14 due to less availability of water.
20	Pulichintala APGENCO 120 MW (4x30 MW) 25.04.2007 Broad Features: Design Head: 24 M Power House: Surface Turbine : V. Kaplan Annual Energy: 220 MU Cost: <u>Original: 380</u> Latest: 396	<u>A.P.</u> 2009-11 2015-17	Dam is under construction by Irrigation Department. Power House: The excavation of power house almost completed and 65232 cum concreting done against 89850 cum.. E&M Works: EOT Crane: Erection completed. Testing yet to done. Supply almost completed except some spares.. Unit #1 to 4: Erection of draft tube completed and released for concreting.	- The civil works were hampered from Sept.-11 to May-13 due to contractual issues. Works resumed by the contractor on 16-06-2013. - E&M works were at standstill due to non-availability of civil work front from Apr-11 to May-13 and subsequently E&M erection work contract terminated during August-13 due to higher rates demanded by contractor. Re-tendering process taken

				up and PO issued to another firm on 17.02.2014
21	Pallivasal KSEB 2x30= 60 MW 31.01.2007 Broad Features: HRT: 3.50m X 3396m Surge Shaft: 7.0m X 49m Pressure Shaft: 2.50m X 1019.20m Penstock: 2.00mX1161.20m Power House: Surface Turbine : Pelton S.Yard: 220kV – Single bus Cost: Original: <u>268.02</u> 268.02	<u>Kerala</u> <u>2010-11</u> 2015-16	Intake structure: Excavation – 28398/33492 cum completed. 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. Surface penstock : Excavation –103450/122600 cum. Concreting-8349/11375 cum. Fabrication completed and 1438m out of 2036m erection completed. Power House: Excavation completed. Concreting 3811/11225cum. Tail race Channel (2 Nos.): Excavation & lining completed. E&M Works: 75% supply completed. Pit liner erection, erection of distributor pipe and MIV for both the units completed. Barrel completed for both the units.	- Land acquisition problem. - Slow progress of civil works. -Poor Geology.
22	Thottiyar KSEB 1x30 + 1x10= 40 MW 05.06.2008 Broad Features: Weir: 222m Long 11 blocks 7.5m height Tunnel: Circular 2.6m dia 199m long. Power House: Surface Turbine : Vertical Pelton Cost: Original: <u>136.79</u> Latest: 150.02	<u>Kerala</u> <u>2013-14</u> 2015-16	Civil Works: Weir: 3258 cum excavation out of total 5850 cum completed. Approach Channel & Intake: 3184 cum out of 9100 cum done. Power Tunnel : 892.71cum excavation out of 2300 cum completed. Power House, switchyard & allied works: 31390 cum excavation out of 44500 cum and 961 cum concreting out of 15675 m done. E&M and HM Works: Supply of equipment in progress.	The works of weir & approach channel were hampered since 2010 due to land acquisition issues by local people and injunction order by Hon'ble municif court.The works resumed on 9-4-13.
23	New Umtru MeECL, 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>226.40</u> 226.40	<u>Meghalaya</u> <u>2011-12</u> 2015-16	Dam: Excavation 61998 cum out of 208685 cum completed. Concreting 13505 cum out of 73488 cum completed. Intake: Excavation of 26984 cum out of 30000 cum completed. Concreting done which is more than estimated quantity of 13000 cum. HRT: Excavation completed. Erection of steel support completed. Lining done which is more than the estimated quantity of 14000 cum. Pressure Shaft: Completed. Surge shaft: Open excavation completed and concreting also completed. Power House: Excavation completed & concreting is in progress. TRT: Open excavation & tunnel boring completed & lining is in progress. E&M Draft tube erection completed for both units. Alignment of stay ring of both the units are in progress.	Slow progress of civil works due to financial crunch.
	Private Sector			
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	<u>H.P.</u> <u>2012-13</u> 2015-16	Almost all Civil Works completed. Transmission line stringing between tower no. 6&7 is yet to be 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. Remedial measures are yet to be finalized.	- Completion of Transmission line works. - Failure of penstock during filling.

25	Tidong-I M/s NSL Tidong Power Gen. Ltd. 2x50 = 100 MW HRT – D- 3.5m L- 8461 m P.H. Surface Turbine – Vertical Pelton Cost: <u>Original</u> 543.15 Latest 543.15	<u>H.P.</u> <u>2013-14</u> 2016-17	Barrage: Excavation completed. 4735 cum out of 4865 cum concreting done. HRT: 6.1 km out of 8.6 km excavation completed. Surge Shaft: open excavation top 1124 cum/38500 cum completed. Underground excavation 90m/110m completed. Pressure Shaft: Excavation completed except upper inclined portion, which is in progress.	Slow progress of works
26	Tangu Romai-I M/s Tangu 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: <u>Original:</u> 255.00 Latest: 255.00	<u>H.P.</u> <u>2014-15</u> 2015-16	Civil works awarded on 14.06.2010 to M/s Sai Urja Hydel Project (P) Ltd. Diversión Cannel: Slope cutting channel 17630 cum out of 28000 cum completed and excavation 1270 cum out of 62000 cum completed. Desilting Chambers & SFTPC: Excavation completed. SFT excavation 403.25 m/432 m completed. HRT – 2582 m out of 6323m excavation completed and lining is in progress. Power House, Switchyard & Misc. – 60275 m ³ out of 72000 m ³ excavation completed.	Slow progress of works
27	Shrinagar AHPC Ltd., FC 14/06/2000/ 4x82.5=330 Broad Features: Dam –66.5m High, concrete gravity HRT- 13m x 889m Penstock-4x 5.6m x 114m P.House- Surface Turbine- Francis Cost: <u>Original:</u> 1699.12 Latest: 2069.00	<u>Uttarakhand</u> <u>d</u> 2005-06 2015-16 (Best efforts in 2014-15: 165 MW)	Civil Works nearing completion. Unit Erection: Unit # 1, 2 & 3 are in advance stage of erection/Boxing up. ;	- MOEF its order dated 30.06.2011 has stated that no construction works other than safety & electricity works upto 200 MW. Supreme Court in its Judgement passed on 13 th August, 2013 has disposed off civil appeals and transferred cases. - Issues involved were submergence of Dhari Devi temple. - Flash Flood in June, 2013. (Uttarakhand Tragedy)
28	Phata Byung M/s Lanco 06.10.2008 2x38 MW = 76 MW Broad Features: Dam – 26m high HRT- 3.2 m dia & 9.38 km length Turbine – Frances Cost: <u>Original:</u> 720.00 Latest: 720.00	<u>Uttarakhand</u> <u>d</u> <u>2013-14</u> 2015-16	Diversión Tunnel: River diverted. Dam concreting: 17800/18000 cum concreting completed. P.H.: Excavation completed & Concreting in progress. HRT: Excavation 8474/9228 m completed. Excavation and lining of Intake-I & Intake-II completed. Cable tunnel: Completed. TRT: Excavation 178/235m completed. E&M Works: Works under progress.	- Poor geology in HRT. - Power evacuation system. - Flash flood in June-2013. (Uttarakhand Tragedy) - Works yet to commence after floods.
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	<u>Uttarakhand</u> <u>d</u> <u>2015-16</u> 2015-16	River diversion – Completed. Dam & Dykes/Barrage: Excavation 68842/90744 cum and concreting 46981/76500 cum completed. HRT: Excavation 8300/11255 m completed. Pressure Shaft: Excavation 440.5/485 m completed. PH: Excavation completed & concreting 6517/18000 cum completed. Surge Tank: Excavation completed.	- Poor geology in HRT. - Agitation by Local people. - Flash flood in June-2013. (Uttarakhand Tragedy)

	Penstock- 3 Nos., 2.20 m dia & 34m, 42m, 48m long respectively. P. House-Surface Turbine-Vertical Francis TRT- Open Channel, 650m length Cost : Original : 666.47 Latest : 666.47			
30	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: <u>Original: 1569.27</u> Latest: 2449.20	<u>M. P.</u> <u>2001-02</u> 2015-17 (Best efforts in 2014-15: 120 MW)	Civil & HM Works: All major civil works completed. Civil works in power house area is progressing as per erection of various units. 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 are in initial stages. Works suspended since Nov-11 due to cash flow problem with developer.	Cash flow problem. R&R issues.
31	Teesta-III Teesta Urja Ltd. (TUL) 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 5705.55.	<u>Sikkim</u> <u>2011-13</u> 2014-16	Dam: CFRD, 11.13 lacs cum material placed out of 11.5 lacs cum. HRT: Excavation completed. 13137 M overt lining completed out of 13824 M and 3727 M invert lining completed out of 13824 M. Excavation of all the access tunnels to the Machine Hall, GIS hall & TRT completed. Surge Shaft: 158 m shaft excavated by shaft sinking method. 3185 cum of concreting has been completed out of 8994 cum. Pressure shaft excavation: Excavation completed & concreting & ferrules erection under progress. Erection of steel liners is in progress. Power House: Excavation completed. Excavation of Transformer cavern also completed. EOT crane commissioned in the Power House. Erection of E&M equipments are under progress. TRT: Excavation completed. 1315 m overt lining out of 1336 m completed.	- Earthquake in Sikkim in September., 11 - Completion of balance works after Earthquake - Reconstruction of Bridge to carry Heavy Packages. - Financial crunch with the developer.
32	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 : 3283.08	<u>Sikkim</u> <u>2012-13</u> 2015-16	Barrage and Desilting: Excavation completed & concreting 97% of 380003 cum completed. HRT: Heading excavation 10045m 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. Excavation of Main access Tunnel, ventilation Tunnel, Adit to Transformer cavern, cable tunnel and Adit to BFV chamber completed, Concreting under progress. TRT – 4 no. TRT completed. P.H.: Excav. completed & conc. 21945/44578 cum completed Transformer Cavern: Excavation completed & concreting 2539/7101 cum completed. TRT: Excav.completed. Lining 24837/43725 cum completed. Cable Tunnel & Trenches: Excavation completed.	- Poor geology in HRT - Contractual issues. - Land acquisition.
33	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 Power House- Under ground Turbine- Francis Cost: Original:726.17	<u>Sikkim</u> <u>2012-13</u> 2016-17	Dam & Intake works: Excavation 290733/519887 cum completed and concreting 61008.5 cum out of 145413 cum completed. Excavation of road diversion tunnel has been completed. HRT: Excavation in progress and 3557 m out of 6488 m completed. Surge Shaft: Excavation has been completed & concreting is in progress. Power House: The work of approach road to power house completed. Excavation in Power House is in progress. Desilting chamber: Excavation 2121 m out of 3360 m completed.	- Work hampered due to earthquake in September, 2011. - Poor geology in HRT. - Right bank slope failure at Dam site.

	Latest : 726.17			
34	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: 403.00 Latest : 403.00	<u>Sikkim</u> 2013-14 2014-15	HRT: Excavation 6765 m/6866 m completed. Barrage : All major civil works are completed. Surge Shaft: Excavation completed and lining upto EL 366.00 (55 m) completed. Chipping of gate grooves was also completed. Concreting in surge shaft bottom slab and installation of gate are under progress. Pressure Shaft: Excavation completed. Power House: Excavation completed. Concreting is nearing completion. Tail Race Channel: Excavation & Concreting completed. E&M works: Unit-1 & 2: Spiral casing completed & Hydraulic pressure test completed. Erection & concreting of draft tube for both the units completed. The erection, testing & commissioning of EOT crane rail covering the total PH area has been completed. Turbine shaft main assembly for U-1 completed. Turbine shaft main assembly for U-1 completed. HM Works: Fabrication of all penstock ferrules for all portions has been completed. Both Under Sluice service gates are erected. The service gate hoisting system erection completed. Erection of intake stoplog has been completed. Erection of surge shaft gates are under progress. Penstock erection, alignment & welding of ferrules are under progress. Testing of 5 nos. service gate has been done.	- Poor geology in HRT.
35	Bhasmey Gati Infrastructure 3x17= 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 each. Swityard- 132/11 KV Cost :Original : 408.5 Latest : 408.5	<u>Sikkim</u> 2014-15 2015-16	Diversion tunnel completed. HRT: Adits 309.85 Rm/781.97 Rm completed. Power House: Excavation 181117/216147 cum completed. Pressure Tunnel/Shaft: Excavation 40Rm out of 559.84 Rm completed.	Slow progress of works
B.	Hydro Capacity for benefits beyond 12th Plan- Under Execution			
	Central Sector			
36	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	<u>Uttarakhan</u> <u>d</u> 2011-12 2017-18	EPC contract has been awarded on 23.06.11 with commencement date from 27.07.11. Butterfly Valve Chamber (BVC): 8.5 RM out of 78 RM crown slashing with steel ribs completed/ Penstock Assembly Chamber: Crown slashing in a length of 26.5RM out of total 95 RM completed. PH: Crown slashing of Power House cavern (203m) completed. Benching upto crane beam level completed. 88 RM out of 178 RM Excavation of new adit to service bay completed. Surge Shafts downstream (2nos): Pilot shaft excavation for both the shafts completed. Excavation of drainage gallery around surge shaft is in progress. TRT (2 Nos- 1070m & 1160m): 262.5 RM Out of 1070 RM in TRT-1 and 151.5 RM Out of 1160 RM in TRT-2 Heading has been achieved. E&M Works: Manufacturing & supplies are in progress.	- Poor Geology in under ground works of BVC & PSAC, TRT, PH Cavern etc. - Due to poor geology encountered during investigation, it has been decided to shift service bay at other end of machine hall and accordingly power house layout has been revised. - Stoppage of works at Asena Quarry by locals. - Poor preparedness of contractor w.r.t. finalization of design & drawing, inadequate deployment of resources at project works.
37	Lata Tapovan, NTPC Aug-2012 3x57= 171 MW Broad Features : Barrage–14 bays of 11m	<u>Uttarakhan</u> <u>d</u> 2017-18 2018-19	Pre-construction activities & infrastructure works are in progress. 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.	- Flash flood in June-2013. (Uttarakhand Tragedy) - Works of barrage & HRT yet to start due to protest by villagers.

	each HRT- 7.51 Km, 4.7m dia P.House- underground Turbine- V.Francis Cost: Original: 792.00 Latest: 792.00			
38	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: <u>Original: 2491.58</u> Latest: 3745.08	<u>Uttarakhand</u> d <u>2018-19</u> 2018-19	Civil and HM works awarded on 17.01.2014. Geological investigation completed. Infrastructure works are under progress..	
8b	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 P.House- Surface Turbine- Francis SWYD- 16/400 kV Cost: <u>Original: 6285.33</u> Latest: 10667.00	Arunachal Pradesh Assam <u>2010-11</u> 2016-18 (1000 MW in 12 th Plan and 1000 MW in 13 th Plan)	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 is in progress and Turbine stay ring and Spiral case erection completed. Unit #2: Elbow erection is in progress 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. As decided in the tripartite meeting dated 6 th December,2013 , discussion between Expert Group formed at the request of AASU (All Assam Students Union) and Experts of Govt of India & NHPC was held on 23 rd December,2013.. Subsequently,,a job order has been placed on IIT Guwahati for the Structural Design issues. The next meeting of Experts is expected in April ,2014 and thereafter tripartite meeting will be held in May/ June-2014.	- Signing of MoU with State Government of Assam. - Law & Order problem. - Issue of Downstream Impact Assessment & demand for stoppage of works by anti dam activists. - Since 16.12.2011 works stopped due to agitation by Anti-dam activists.
	State Sector			
39	Shahpurkandi Irrigation Deptt. &PSPCL 04.05.2011 3x33+3x33+1x8=206 MW Cost: Original: 2285.81 Latest 2285.81	<u>Punjab</u> <u>2017-18</u> 2017-18	Civil works of Main Dam and Hydel Channel awarded and are under construction	Works are in initial stages of construction

40	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	<u>H.P.</u> <u>2017-18</u> 2017-18	Works awarded on 30.06.2012. CEA, concurrence accorded on 16.08.2012. HRT: The first blast of Adit-II taken on 27.2.13 and 94 M out of 907 M completed. Works of Approach Road to Adit-3 commenced. Excavation of Adit-4 started and 7 M out of 403 M completed. E&M: Not yet awarded.	Issue of construction activities outside the notified area is under sub-judice.
41	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: 379.78 Latest: 379.78	<u>Maharashtra</u> <u>2017-18</u> 2017-18	Civil Works: Excavation of Switchyard completed. Excavation of Approach tunnel & Ventilation tunnel is in progress. 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.
	Private Sector			
42	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 No. 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 : 5517.02	<u>I&K</u> <u>2017-18</u> 2017-18	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 is under progress and erection of upstream Bridge completed & downstream Bridge is in progress.	Works are in initial stages of construction

43	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	<u>H.P.</u> <u>2017-18</u> 2017-18	Civil Works awarded to M/s Gammon India Ltd. on 29.05.2013.	Works are in initial stages of construction
44	Chanju-I M/s IA Energy 24.04.2010 3x12=36 MW Cost :Original : 295.09 Latest : 295.09	<u>H.P.</u> <u>2017-18</u> 2017-18	Barrage: 253000 cum excavation out of 287700 cum has been completed. Desilting Basin including Flash arrangement: 17790 cum excavation out of 20800 cum has been completed. 1265 cum concreting out of 3510 cum completed. HRT: Excavation/Boring completed (5376 m). Lining is being started shortly. Surge Shaft: Excavation completed (532 m) Penstock/Pressure Shaft: 15 m excavation out of 720 m has been completed. Power House: 125760 cum excavation out of 152147 cum completed. E&M Works: Awarded.	
45	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 KV Cost :Original : 465.95 Latest : 465.95	<u>Sikkim</u> <u>2013-14</u> 2017-18	HRT (Total- 5437m): Excavation on Face-1: 1151.20 m, Face-2 : 765.00 m, Face-3: 1181.48 m, Face-4: 816.00 m. Surge Shaft: Surface preparation for Adit to Surge Shaft has been completed. E&M Works: The contract for E & M works was awarded to M/s ALSTOM Projects India Ltd. M/s ALSTOM Projects India Ltd. has submitted the model test report and same has been accepted. Power House: Reinforced cement concrete of pre-excavation anchor beam at El 732.00 m is 89% completed. Cladding wall concreting of 95% has been completed. Surface Excavation work completed. Shotcreting work completed.	- Poor geology. - Local issues.
46	Dikchu Sneha Kinetic Power Projects Pvt. Ltd. 21.10.2011 3x32= 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	<u>Sikkim</u> <u>2015-16</u> 2017-18	Dam: Excavation 54000 cum out of 86762 cum completed. HRT: Excavation 72 RM out of 5456 RM completed. Power House: Excavation 22317 cum out of 43570 cum completed. TH: Excavation 8914 cum out of 9177 cum completed. TRT: Excavation 195 Rm out of 295 Rm completed. Main Access Tunnel: Excavation completed.	Slow progress of works

47	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 : 497.17 Latest : 497.17	<u>Sikkim</u> <u>2016-17</u> 2017-18	EPC contract awarded to M/s Coastal in February, 2012. Works of approach roads and excavation of adits are in progress. Protection wall works under progress. Adit to HRT: Underground excavation is in progress. Diversión Tunnel: Excavation is under progress. Surge Shaft: Excavation is under progress. Power House: Excavation of surface power house is being taken up.	Slow progress of works
48	Rongnichu Madhya Bharat Power Corporation Ltd. 01.10.2008 2x48= 96 MW	<u>Sikkim</u> <u>2015-16</u> 2017-18	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. Pre-construction activities and excavation of adits are in progress. The power house excavation is likely to be started in October-2012. Boring about 1 km out of about 14 km tunnel has been completed.	- Land acquisition. - Poor geology.
49	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 high. P.House-Surface Turbine- Vertical Francis Cost : Original: 1833.00 Latest : 1833.00	<u>Sikkim</u> <u>2017-18</u> 2017-18	Civil works awarded on 22.02.2014. Infrastructural works and geological investigations are in progress.	