

## Status of Under Execution Hydro Electric Projects for 12<sup>th</sup> Plan & beyond

| Sl. No.  | Name of Project<br>Executing Agency<br>Date of CEA clearance / Approval<br>Capacity (MW)<br>Broad Features<br>Cost (original/latest)<br>In Rs. Crores.   | <u>State Comm. Sch.</u><br>(original/ Now Ant.                | Broad Present Status / Critical Area   | Remarks/<br>Critical issues  |
|--|--|---|--|--|
| <b>A Hydro Capacity for benefits during 12<sup>th</sup> Plan</b> |  |   |  |  |
| <b>Central Sector</b>  |  |   |  |  |
| 1.   | <b>Kishanganga</b><br>NHPC<br>14.01.2009<br>3x110 = 330 MW<br><b>Broad Features :</b><br>Dam – 77m High, concrete gravity<br>HRT- 5.3m x 24 km long<br>S.Shaft-15m dia x 127m Height<br>P.House- Underground 103mx 21m x 45.5m.<br>Turbine- Pelton wheel<br>Swyd.- 220 kV<br><b>Cost:</b> <u>Original:3642.04</u><br>Latest: 5497.72 | <u>J&amp;K</u><br><br><u>2015-16</u><br>2016-17<br>(Critical) | <b>Dam &amp; Intake works:-</b> Spillway concreting- 25,727 cum completed out of 47000 cum.<br>CFRD Embankment- 1,79,800 Cum completed out of 254000 Cum. Construction of Cut off Wall-2125 Sqm completed out of 2600 Sqm..<br><b>HRT:-</b> Excavation completed by TBM/ DBM. Lining of TBM portion (14.7 km) completed and 4345m lining of DBM portion completed out of 8437m.<br><b>Surge Shaft:-</b> Concreting completed.<br><b>Pressure Shaft liner:-</b> 329 m liner completed out of 1000 m.<br><b>Power House:-</b> 10,751 cum concreting completed out of 12000 cum.<br><b>TRT :</b> -Excavation completed. 630m overt lining out of 849m completed.<br><b>E&amp;M: - Unit # 1:</b> Assembly of Stator & Rotor in Service Bay is in progress. Erection of Turbine housing & Distributor completed.<br><b>Unit # 2 &amp; 3:</b> Erection of Turbine housing & Distributor in Unit#2 completed and in Unit#3 is in progress.<br><br><b>Critical Area: 1) Dam and associated HM works.</b><br><b>2) Filling of reservoir by 20<sup>th</sup> Aug.2016</b><br><b>3) Power evacuation system.</b>   | -Law and order problems viz frequent bandhs and curfew.<br><br>-Local agitation due to people demanding employment in NHPC.<br><br><b>-R&amp;R plan pending with state cabinet for approval needs to be expedited.</b><br><br>-Completion of Power evacuation arrangement. (PGCIL) |
| 2.   | <b>Parbati-II</b><br>NHPC<br>11.09.2002<br>4x200 = 800 MW<br><b>Broad Features :</b><br>Dam – 85m High, 109. m long at top, concrete gravity type<br>HRT- 6m x 31.23km<br>P.House- Surface 23.5mx 39.7mx 123m.<br>Turbine- Pelton<br>Swyd.- 13.8/400 kV<br><b>Cost:</b><br><u>Original:3919.59</u><br>Latest: 7818.68                | <u>H.P.</u><br><br><u>2009-10</u><br>2018-19                  | <b>Dam &amp; Intake Structure-</b> Concreting completed.<br><b>Head Race Tunnel-</b> 26629 m excavation out of 31525m completed<br><b>Total Overt lining:</b> 21103 m lining out of 31525 m completed.<br><b>Power House:</b> Concreting completed.<br><b>Jiwa Nallah Feeder Tunnel:</b><br>4294.5 m excavation out of 4560 m completed.<br>1148 m concreting out of 4560 m completed.<br><b>E&amp;M Works:</b><br><b>Unit # 1:</b> Boxing up of unit is in progress.<br><b>Unit # 2:</b> Stator & Rotor lowered in pit. Installation of MIV & Busduct completed.<br><b>Unit # 3:</b> Stator core building & Rotor rim building is in progress in service bay. Erection of Busduct is in progress. MIV testing in service bay is in progress.<br><b>Unit # 4:</b> MIV lowered & alignment completed.The welding of inlet pipe of MIV with penstock is in progress.<br><br><b>HM Works:</b> Erection of ferrules in both Pressure Shafts completed and testing & commissioning of surge shafts gate completed. Hydraulic support system & Assembly of spillway Radial Gate has been fixed in all the three (3) Bays.<br><br><b>Critical Area : HRT.</b> | Poor geology in HRT especially in Face-4 (TBM-Face). Treatment of Shear Zone is under progress.  |
| 3.   | <b>Tapovan Vishnugad</b><br>NTPC<br>11.08.2004/Nov, 2006<br>4x130 = 520 MW<br><b>Broad Features :</b>  | <u>Uttara khand</u><br><br><u>2012-13</u><br>2018-19          | River diversion achieved on 13.04.2013<br><b>Barrage:</b> Excavation completed and raft concreting is in progress.<br><b>HRT:</b> 7651.5 m excavation completed out of 12087.9 m, TBM struck due to cavity (5.5km completed out of 8.8km )   | - Contract for HRT package terminated on 9 <sup>th</sup> Jan, 2014 due to poor progress.   |

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|---------|---|--|---|--|
|         | Barrage-5 bays of 12m<br>HRT- 5.4m x 11.97km<br>P.House- underground<br>Turbine- V.Pelton<br><b>Cost:</b> <u>Original:</u> 2978.48<br>Latest: 3846.30   |  | <b>PH Cavern:</b> Excavation completed and concreting is in progress.<br><b>Desilting Chamber &amp; Intake:</b> 1.91 lakhs m <sup>3</sup> out of 4.73 lakh m <sup>3</sup> Excavation completed.<br><b>TRT:</b> Excavation completed.<br><b>Surge shaft:</b> Full widening completed. Lining completed.<br><b>Penstock:</b> Excavation completed. Steel liners including Penstock 1-4 449 MT out of 744 MT completed.<br><b>E&amp;M works:</b> Pit liner erection on all 4 units completed. Stator & Rotor assembly for Unit #1 got affected due to flash flood in year 2013. Re-start of works likely to commence shortly.<br><br><b>Critical : HRT</b>   | -HRT package Re-tendered on 15.05.2014 was annulled. Now, the fresh tender is under progress.  |
| 4.      | <b>Teesta Low Dam-IV</b><br>NHPC<br>30.09.2005<br>4x40 = 160 MW<br><b>Broad Features :</b><br>Dam – 45m High, 511m long, concrete gravity<br>P. House- Surface<br>130mx 24mx 63m<br>Turbine- Kaplan<br>SWYD- 11/220 kV<br><b>Cost:</b><br><u>Original:</u> 1061.38<br>Latest: 1929.15 | <u>West Bengal</u><br><br><u>2009-10</u><br><u>2015-17</u><br>(June, 2016) | <b>Civil Works:</b><br><b>Power House:</b> Concreting almost completed.<br><b>Concrete in Power Dam:</b> 76846 cum completed out of 80300 cum.<br><b>RCC Concreting:</b> Completed.<br><b>E&amp;M Works:</b><br><b>Unit#1:</b> Boxing up completed.<br><b>Unit#2:</b> Boxing up completed.<br><b>Unit#3:</b> Runner, Rotor & Stator assembly in progress at Service bay.<br>Erection of Switch Yard is in progress.<br><br><b>HM Works:</b><br>93.4% erection of Radial gates completed. Erection of penstock liner completed. 82% erection of Intake gates completed. 89% erection of silt excluder gates completed. 87% erection of spillway stop log gates completed. 81% erection of Intake stop log gates completed.<br><br><b>Critical : Draft Tube Gates &amp; Switchyard works.</b>   |  |
| 5a.     | <b>Subansiri Lower</b><br>NHPC<br>09.09.2003<br>8x250= 2000 MW<br><b>Broad Features :</b><br>Dam –116m High, concrete gravity<br>HRT- 8 x 9.5m x 1145m<br>Power House- Surface<br>Turbine- Francis<br>SWYD- 16/400 kV<br><b>Cost:</b><br><u>Original:</u> 6285.33<br>Latest: 15300.00 | Arunachal Pradesh<br>Assam<br><br><u>2009-11</u><br><u>2019-21</u>         | <b>Dam:</b><br><b>Excavation-</b> 169441 cum completed out of 173000 cum.<br><b>Concreting:</b> 575426 cum completed out of 1823782 cum.<br><b>Intake Structure:</b> 261377 cum concreting completed out of 279454 cum.<br><b>Head Race Tunnel (I-VIII):</b><br>7050 m heading excavation completed out of 7124m.<br>4279 m benching excavation completed out of 7124 m.<br>3199 m concrete overt lining completed out of 7124 m.<br><b>Surge Tunnels (8 nos.):</b> 3109 m heading excavation completed out of 3545 m.<br><b>Pressure Shaft- Vertical Pressure Shaft Slashing:</b> 199 m excavation out of 384 m completed.<br><b>Surface Power House:</b><br><b>Concreting:</b> 124887 cum out of 302600 cum completed.<br><b>E&amp;M Works:</b><br><b>Unit #1:</b> Elbow erection (1 to 6) and Turbine stay ring and Spiral case erection completed.<br><b>Unit #2:</b> Elbow erection (2 to 6) and Turbine stay ring and Spiral case erection completed.<br><br><b>HM Works:</b><br>Erection of diversion tunnel gates 23% completed.<br>Erection of Intake-5: 2% completed.<br>Erection of Intake 7 & 8 – 20% completed each. | - <b>Signing of MoU with State Government of Assam.</b><br><br>- Issue of Downstream Impact Assessment & demand for stoppage of works by anti dam activists.<br><b>-Since 16.12.2011 works stopped due to agitation by various activists of Assam.</b> |

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|         |  |  | 201 m pressure shaft steel liner erected out of total 1594 m.<br><br>Work stopped since 16.12.11 due to agitation launched by various activists against construction of Subansiri Lower HE Project. In this regard, as decided in the tripartite meeting dated 06.12.13, discussions between Expert Group formed at the request of AASU (All Assam Students Union) and Experts of Govt. of India & NHPC was held on 23.12.13. Last meeting between Expert Group of Assam and Experts of Govt. of India was held on 02.06.14 at Guwahati. Thereafter, meetings with Expert Group of Assam on 10.12.2014 and 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) has been constituted vide MoP's OM dated 13.01.2015. 10 meetings of the POC have been held so far. 11 <sup>th</sup> meeting to be held in Nov./Dec.'15 to finalize & submit the report of POC to MoP. |   |
| 6.      | <b>Kameng</b><br>NEEPCO<br>02 12 2004<br>4x150 = 600 MW<br><b>Broad Features:</b><br>Dam :Bichom-75m High, 247.3m long.<br>Tenga – 25.0 High, 103m long.<br>HRT- 6.7m dia, 14.477km.<br>High Pressure Tunnel (HPT)Total length 3.64 km<br>Surge Shaft: 25m dia, 70m Height<br>P.House- semi-U/G<br>Turbine- Francis<br><br><b>Cost:</b> <u>Original:</u> 2496.90<br><u>Latest:</u> 6476.34 | Arunachal Pradesh<br><br><u>2009-10</u><br>2016-17<br>(Critical) | <b>Bichom Dam:</b> Excavation 764383/780000 cum and Concreting 236738/ 404748 cum completed.<br><b>Tenga Dam:</b> Excavation 135775 / 136100 cum and Concreting 76820 / 92850 cum completed.<br><b>HRT:</b> Excavation: 14430 / 14456 RM completed. Lining of 7910 out of 14455m completed.<br><b>Surge Shaft:</b> Orifice concrete Lining completed.<br><b>HPT:</b> Boring of vertical and horizontal portion completed & Open excavation of Surface Penstock including valve house 418136/462504 cum completed.<br><b>Power House &amp; Tail Race:</b> Excavation completed. Concreting 74481 / 75600 cum completed.<br><b>HM Works:</b> Fabrication of penstocks completed and 55% fabrication & erection of gates done.<br><b>Unit erection:</b><br>Unit # 1 & 2: Assembly of stator and Rotor is in progress.<br>Unit # 2 & 3: Erection of spiral case has been completed<br><br><b>Critical:</b><br>1. Dam construction & associated HM works<br>2. HRT lining   | <b>-Dam and HRT is critical.</b><br>- Permission for quarry operation from GoAP (FRA clearance) |
| 7.      | <b>Pare</b><br>NEEPCO<br>4.12.2008<br>2x55 = 110 MW<br>Broad Features:<br>Dam : 78m High, Con. Gravity<br>Spillway – 3 nos. gates<br>Size of gate:<br>10.4m (w)X 12 m(H)<br>Crest Level: 216 m<br>HRT: Dia – 7.5 M<br>Length– 2810.75M<br>Pressure Shaft:<br>Dia: 6.4 M<br>Length: 220M<br>Bifucation Penstock<br>Dia: 4.5 M   | Arunachal Pradesh<br><br><u>2013-14</u><br>2016-17               | <b>Civil Works:</b><br><b>Diversion Tunnel:</b> DT and construction of u/s and d/s coffer dams completed.<br><b>Dam: Excavation</b> - 367358 cum out of 398000 cum completed. Concreting – 38274 cum out of 188500 cum completed.<br><b>Head Race Tunnel:</b> Boring completed. Overt Lining almost completed and Invert Lining is in progress.<br><b>High Pressure Tunnel :</b> Boring completed.<br><b>Surge shaft:</b> Open excavation, boring and lining completed.<br><b>Power House:</b> Excavation in pit completed. Concreting 29838 / 35000 cum completed.<br><br><b>Hydro Mechanical Works:</b><br>Erection of steel liner – 130 out of 274.50 m completed.<br>Erection of DT inlet gate completed.<br><br><b>Unit erection:</b>   | - Concreting of Dam & associated HM works are critical.   |

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|---------|--|--|--|--|
|         | Power House: Surface<br>P.H. Size: 68 mX 25m<br>Type of Turbine: VF<br>TRC: Open channel<br>60.62 M wide 49M long<br>Cost: Original: <u>573.99</u><br>Latest: 1487.49  |  | <b>Unit-1:</b> Rotor assembly completed in service bay. HV test for stator is in progress.<br><b>Unit-2:</b> Erection of spiral casing completed.<br><br><b>Critical:</b><br>1. Dam construction & associated HM works   |  |
| 8.      | <b>Tuirial</b><br>NEEPCO<br>Revised CCEA<br>14.01.2011<br>2x30= 60 MW<br><b>Broad Features:</b><br>Dam: Earthfill,<br>L – 250 M<br>H – 75 M<br>Diversion Tunnel: Partly circular & partly modified horse shoe<br>Diameter Diverted concrete portion 6 M<br>steel liner portion 6M, 5.6 M & 3.6 M<br>Power tunnel: Concrete Portion – 200 M<br>Steel Liner Portion – 140M, 80M & 2.30 M<br><b>Cost:</b> Original: <u>368.72</u><br>Latest: 913.63 | <u>Mizoram</u><br><br><u>2006-07</u><br><u>2016-17</u><br>(Critical) | <b>Diversion Tunnels (2 Nos.):</b> Excavation and lining completed.<br><b>Main Dam:</b> 4.69 lac cum excavation out of 5.19 lacs cum completed & 21.32 lacs cum filling out of 29.13 lacs cum completed.<br><b>Spillway:</b> Excavation almost completed. Concreting 89218 cum out of 116166 cum completed.<br><b>Power House &amp; Switchyard:</b> Excavation almost completed. 7370 cum of Concreting in Power House out of 42075 cum is completed.<br><br><b>Critical:</b><br>1. Power house works  | - Slope failure in Power house area.<br>- Slope stabilization completed.<br>- Poor approach roads. |
|         | <b>State Sector</b>  |  |  |  |
| 9.      | <b>UHI-III</b><br>Beas Valley Power Corporation Ltd.<br>(HPSEB)<br>19.09.02 /<br>(TEC -2x50 MW)<br>3x33.3 =100 MW<br>(Revised vide HPSEB letter dt. 19.01.07.<br><b>Broad Features:</b><br>HRT-4.15m x 8.47 km<br>S.Shaft- 13m x 57m<br>Penstock- 3.4m x 1860m<br>P.House- Surface<br>Turbine- V. Francis<br><b>Cost:</b> Original: <u>431.56</u><br>Latest: 940.84  | <u>H.P.</u><br><br><u>2006-07</u><br><u>2017-18</u>                  | Almost all civil works completed except lining of HRT.<br>4804 m (4360 + 444 Done by earlier contractor) lining of HRT completed out of 8459m.<br><br>E&M:- All units boxed up.<br><br><b>Critical : HRT</b>   | - HRT lining critical.   |
| 10.     | <b>Kashang-I</b><br>H.P. Power Corpn. Ltd.<br>31.07.08<br>65 MW<br><b>Broad Features:</b><br>HRT-3.5m x 4.115, 2 km long<br>S.Shaft- 2.6m dia & 0.5 m backfill and 1346 m long<br>TRT: 335 m combined<br>6/4.5 m D. stream   | <u>H.P.</u><br><br><u>2013-14</u><br><u>2015-16</u>                  | <b>Trench Weir:</b> concreting completed.<br><b>HRT:</b> Excavation and lining completed. Grouting yet to start.<br><b>Pressure Shaft:</b> Ferrule erection in top horizontal portion– 21m / 35m, lower inclined limb – 446m / 528m completed. Ferrule erection upper inclined limb & bottom horizontal portion completed. Ferrule erection at horizontal portion at intermediate adit yet to start. Backfill concreting 1159 m / 1321 m completed.<br><b>E&amp;M works:</b> Unit is expected to be boxed up by Feb, 2016.<br><br>Power House & Transformer hall concreting has been completed. Concrete lining 91 m out of 134 m completed. | - Slow progress of Civil & E&M works.  |

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|         | Cost: <u>Original: 478.02</u><br>Latest: 478.02   |   | <b>Critical: Transmission Line.</b>   |  |
| 11.     | <b>Kashang-II &amp; III</b><br>H.P. Power Corpn. Ltd.<br>1x65 + 1x65= 130 MW<br>Cost: <u>Original: 601.78</u><br>Latest: 601.78   | <u>H.P.</u><br><u>2013-14</u><br>2018-19                  | Works of Kerang-Kashang link (KK Link) tunnel awarded to M/s Patel Engineering Ltd. Excavation of balancing reservoir – 3 is in progress. Excavation of K-K Link tunnel was in progress, however recently, the works have been stopped by NGT.<br>- E&M works are in progress along with works of Kashang – I works and are in advance stage of completion.   | -Works getting delayed due to continuous agitation by Lippa villagers.<br>-The matter is sub-judice.   |
| 12.     | <b>Sainj</b><br>H.P. Power Corpn. Ltd.<br>2 X50=100 MW<br>29.12.2010<br>Cost:Original <u>784.56</u><br>Latest <u>784.56</u>   | <u>H.P.</u><br><u>2014-15</u><br>2016-17                  | <b>Barrage:</b> Concreting of all 6 bays completed.<br><b>HRT:</b> Excavation completed. Lining almost completed.<br><b>Surge Shaft:</b> Pilot hole completed. 27 m out of 76 m Excavation completed.<br><b>Pressure Shaft:</b> Excavation completed. 76m out of 563 m lining completed.<br><b>Power House:</b> Excavation completed.<br><b>TRT:</b> Excavation and Concreting completed.<br>Unit Erection:<br><b>Unit-1-</b> Stator & Rotor lowered.<br><b>Unit-2-</b> Stator & Rotor works are under progress in service bay. | - Construction of surge shaft & pressure shaft is critical.  |
| 13.     | <b>Swara Kuddu</b><br>H.P. Power Corpn. Ltd.<br>Clearance: 10.11.2004<br>3x37= 111 MW<br><b>Broad Features:</b><br>Diversion Structure:<br>10.45m high Piano Key Weir.<br>HRT- D-Shaped, 5m dia, 11.145Km long.<br>Power House- Under ground<br>Turbine- 500 rpm VF.<br>Switchyard: 220 Kv.<br>Cost: <u>Original: 558.53</u><br>Latest: 1181.90 | <u>H.P.</u><br><u>2010-11</u><br>2018-19                  | <b>HRT:</b> 9873 m out of 11364 m from all faces of HRT excavation completed and 2469 m out of 11364 m concreting is completed.<br><b>Surge Shaft:</b> 70.38 m completed out of 77 m of shaft lining.<br><b>Power House:</b> Excavation completed and concreting almost completed.<br><b>TRT:</b> lining completed.<br><b>Unit # 3 &amp; 2 :</b> Both units boxed up.<br><b>Unit # 1:</b> Erection of Stator & Rotor in progress.<br><br><b>Critical : HRT</b>  | - Works badly suffered due to encounter of poor geology in HRT.<br>- Contractual Issues.<br>-Contract for HRT package terminated on 9.1.14. Re-awarded in Nov' 2014 to M/s. HCC                  |
| 14.     | <b>Nagarajuna Sagar TR</b><br>APGENCO<br>17 01 05<br>2x25=50 MW<br><b>Broad Features:</b><br>Dam –29.5m High<br>Spillway- 21nos gate<br>Penstock- 2x 5.35m<br>P.House- Surface<br>Turbine- V. Kaplan<br>Cost:Original: <u>464.63</u><br>Latest: 958.67  | <u>A.P.</u><br><u>2008-09</u><br>2015-16                  | - All works completed.<br>- Initial spinning for both units completed.<br>- Commissioning held up due to non-availability of water, Units likely to be commissioned on availability of water.   | -Availability of water.  |
| 15.     | <b>Lower Jurala</b><br>TSGENCO,<br>04.12.2008<br>6x40=240 MW (120 MW likely to slip)<br><b>Broad Features:</b><br>Intake: 18 vents (3 vents for each unit)<br>4.7m width,<br>Power House- Surface,  | <u>Telengana</u><br><u>a</u><br><u>2011-13</u><br>2015-17 | <b>Weir:</b> Excavation completed. 218867 / 220049 cum concreting completed.<br><b>Power House:</b> Excavation completed. 221281 cum concreting against total quantity of 225550 cum done.<br><b>Unit Erection:</b><br>The Units 1,2,3 which were completed and units 4,5,6 which are under different stages of erection were completely submerged in water on 30.07.2014 due to sudden gush of water through the upstream gate of Unit No.4. It was dewatered by 03.09.2014.   | - Power House flooded on 30.07.2014 during synchronization process for Unit# 1 to Unit# 3.<br>- Restoration works in power house is under progress.<br>-Availability of water for commissioning. |

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|         | Turbine- Bulb<br>Design Head- 20m<br>SWYD- 220 kV<br>Cost: Original: 908.34<br>Latest: 1969.14  |  | <b>Unit #2: Commissioned on 30.09.2015.</b><br><b>Unit #1: Commissioned on 14.10.2015</b><br><b>Unit # 3&amp;4:</b> Rectification works are in progress.<br><b>Unit # 5:</b> Rotor rim assembly completed<br><b>Unit # 6 :</b> Erection of stay ring and upstream liner completed.   |   |
| 16.     | <b>Pulichintala</b><br>TSGENCO<br>120 MW (4x30 MW)<br>25.04.2007<br><b>Broad Features:</b><br>Design Head: 24 M<br>Power House: Surface<br>Turbine : V. Kaplan<br>Annual Energy: 220 MU<br>Cost: Original: 380.00<br>Latest: 563.49   | <u>Telengana</u><br>a<br><br><u>2009-11</u><br>2016-17 | Dam is under construction by Irrigation Department.<br><b>Power House:</b> The excavation of power house completed and 76596 cum concreting done against 89850 cum..<br><b>E&amp;M Works:</b><br><b>EOT Crane:</b> Erection completed. Available up to Unit #2.<br><b>Unit #1:</b> Turbine erection completed. Stator & Rotor ready for lowering.<br><b>Unit #2:</b> Turbine erection completed.<br><b>Unit #3 &amp; #4:</b> Erection of embedment completed. Further erection will be taken up after availability of EOT crane.   |   |
| 17.     | <b>Pallivasal</b><br>KSEB<br>2x30= 60 MW<br>31.01.2007<br><b>Broad Features:</b><br>HRT: 3.50m X 3396m<br>Surge Shaft: 7.0m X 49m<br>Pressure Shaft: 2.50m X 1019.20m<br>Penstock: 2.nos.,<br>1161.20m each.<br>Power House: Surface<br>Turbine : Pelton<br>S.Yard: 220kV – Single bus<br>Cost: Original: 222.00<br>Latest : 284.69 | <u>Kerala</u><br><br><u>2010-11</u><br>2018-19         | <b>Intake structure:</b> Excavation – 28398/33492 cum completed.<br>Leading channel of Water conductor system replaced by cut & cover/soil tunnel and accordingly intake is shifted.<br><b>HRT:</b> Excavation –2858/3330 m completed.<br>Overt conc. 1634/3330 m completed.<br>Invert Conc.. – 1637/3330 m completed.<br><b>Surge Tank/Forebay:</b> Exc.–7640/13400 cum. Conc.423/843 cum.<br><b>Pressure Shaft:</b> Excavation completed. Fabrication of steel liner completed and erection of 96/1096 m completed.<br><b>Surface penstock:</b> Excavation –105204/122600 cum. Concreting- 11491/11375 cum. Fabrication completed and 1477m out of 2036m erection completed.<br><b>Power House:</b> Excavation completed. Concreting 3980/11225cum.<br><b>Tail race Channel (2 Nos.):</b> Excavation & lining completed.<br><b>E&amp;M Works:</b> 75% supply completed. Erection yet to start. | - Slow progress of civil works.<br>-Poor Geology.<br>-Contractual Issues.<br>-Works stopped by the civil contractor from 28.01.2015.        |
| 18.     | <b>Thottiyar</b><br>KSEB<br>1x30 + 1x10= 40 MW<br>05.06.2008<br><b>Broad Features:</b><br>Weir: 222m Long 11 blocks 7.5m height<br>Tunnel: Circular 2.6m dia 199m long.<br>Power House: Surface<br>Turbine : Vertical Pelton<br>Cost: Original: 136.79<br>Latest: 150.02  | <u>Kerala</u><br><br><u>2012-13</u><br>2018-19         | <b>Civil Works:</b><br><b>Weir:</b> 3258 cum excavation out of total 5850 cum and 1598 Cum concreting out of 8690 Cum completed.<br><b>Approach Channel &amp; Intake:</b> 3184 cum out of 9100 cum done.<br><b>Power Tunnel :</b> Excavation completed.<br><b>Power House, switchyard &amp; allied works:</b> 31390 cum excavation out of 44500 cum and 2376 cum concreting out of 15675 m done.<br><b>E&amp;M and HM Works:</b> Supply of equipment in progress. Erection yet to start.   | -Slow progress of works.<br>-Contractual Issues.  |
| 19.     | <b>New Umtru</b><br>MePGCL,<br>2x20=40<br><b>Broad Features:</b><br>Diversion Structure-<br>Gated structure (FRL-<br>130.1m, MDDL-123.3m)<br>HRT- 5m dia, 750m long<br>P.House- Deep Set<br>SWYD- 132 kV  | <u>Meghalay</u><br>a<br><br><u>2011-12</u><br>2016-17  | <b>Dam:</b> Excavation 86662 cum out of 208685 cum completed. Concreting 56862 cum out of 73488 cum completed.<br><b>Intake:</b> Excavation of 26984 cum out of 30000 cum completed. Concreting done which is more than estimated quantity of 13000 cum.<br><b>HRT:</b> Excavation completed. Concreting 16686 cum out of 20,888 cum completed.<br><b>Pressure Shaft:</b> Completed.<br><b>Surge shaft:</b> Open excavation completed and concreting done which is more than estimated quantity of 6166 cum.<br><b>Power House:</b> Excavation completed & concreting is in progress.<br><b>TRT:</b> Open excavation & tunnel boring completed & lining  | - E&M and HM works are critical.<br>-Due to heavy rains works are hampered.<br>- Drawings of gates of Dam are to be approved by consultant. |

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|---------|--|--|--|--|
|         | <b>Cost:</b> Original: 226.40<br>Latest: 461.27  |  | also almost completed.<br><b>E&amp;M</b> Draft tube erection completed for both units.<br>Turbine erection of embedded of both the units completed.  |  |
|         | <b>Private Sector</b>  |  |  |  |
| 20.     | <b>Sorang</b><br>Himachal Sorang Power corporation Ltd.<br>June, 2006/<br>2x50= 100 MW<br><b>Broad Features:</b><br>HRT- 1.5 km<br>Trench Weir-59 m<br>P.House- underground<br>Turbine- Pelton<br>Gross Head-626 m<br>SWYD- 11/400 kV<br>(GIS)<br><b>Cost:</b> Original: 586.00<br>Latest: 586.00  | <u>H.P.</u><br><br><u>2012-13</u><br>2015-16         | All Civil Works completed.<br><br>Both the units are boxed up. During the filling of water conductor system in 1 <sup>st</sup> 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.   | - Availability of water for commissioning.   |
| 21.     | <b>Tidong-I</b><br>M/s NSL Tidong Power Gen. Ltd.<br>2x50 = 100 MW<br>28.07.2006<br><b>Broad Features:</b><br>HRT-D-3.5m L- 8461 m<br>P.H. Surface<br>Turbine –Vertical Pelton<br><b>Cost:</b> Original 543.15<br>Latest 543.15  | <u>H.P.</u><br><br><u>2013-14</u><br>2017-18         | <b>Barrage:</b> Excavation completed. 31794 cum out of 37647 cum concreting done.<br><b>HRT:</b> Excavation & Concreting completed<br><b>Surge Shaft:</b> open excavation top 19780 cum / 38500 cum completed.<br><b>Pressure Shaft:</b> Excavation completed<br><b>Power house and Tail race channel-</b> 87446 cum out of 92500 cum excavation completed.<br>10080 cum out of 14325 cum concreting completed.  | - Slow progress of works.<br>- Transmission Line critical.   |
| 22.     | <b>Tangnu Romai-I</b><br>M/s Tangnu Romai Power generation<br>2x22= 44 MW<br>30.11.2007 (HPSEB)<br><b>Broad Features:</b><br>Barrage at EL ± 2555 m<br>HRT-3.1m dia & 7.220 km length<br>Surge Shaft- 5m dia, Top Level 2570 m & Bottom Level 2520 m<br>Penstock- 2 m dia & 609.3 m length<br>P.House- Surface<br>Turbine – Vertical Francis<br><b>Cost:</b><br>Original: 255.00<br>Latest: 255.00 | <u>H.P.</u><br><br><u>2014-15</u><br>2018-19         | Civil works awarded on 14.06.2010 to M/s Sai Urja Hydel Project (P) Ltd.<br><b>Diversion Cannel:</b> 26211 cum out of 93800 cum excavation completed.<br><b>Desilting Chambers &amp; SFTPC:</b> Excavation completed. SFT excavation 420 / 450.66 m completed.<br><b>HRT:</b> 2824m out of 6323m excavation completed.<br><b>Power House, Switchyard &amp; Misc. –</b> 60275 m <sup>3</sup> out of 72000 m <sup>3</sup> excavation completed.<br>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.   |
| 23.     | <b>Phata Byung</b><br>M/s Lanco<br>06.10.2008<br>2x38 MW = 76 MW<br>Broad Features:<br>Dam – 26m high<br>HRT- 3.2 m dia & 9.38 km length<br>Turbine – Frances<br><b>Cost:</b> Original: 520.00   | <u>Uttara khand</u><br><br><u>2013-14</u><br>2017-18 | <b>Dam concreting:</b> 17800/18000 cum concreting completed.<br><b>P.H.:</b> Excavation completed & Concreting in progress.<br><b>HRT:</b> Excavation 8474/9228 m completed.<br>Excavation and lining of Intake-I & Intake-II completed.<br><b>Cable tunnel:</b> Completed.<br><b>TRT:</b> Excavation 178/235m completed.<br><b>E&amp;M Works:</b> Pit liner erection of units completed.  | - Works severely affected due to flash floods in June, 2013.<br>- Restoration of Dam complex, main project component and infrastructure works are in progress. |

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|---------|---|--|---|--|
|         | Latest : 520.00   |  |   |  |
| 24.     | <b>Singoli Bhatwari</b><br>M/s L&T<br>11.07.2008<br>3x33 MW = 99 MW<br><b>Broad Features:</b><br>Barrage-FRL 1017 m,<br>MDDL 1009 m,<br>Barrage Top 1020m<br>HRT- 4.65m dia &<br>11.870m length<br>Surge Shaft-10 m dia &<br>102.85 m length<br>Pressure Shaft-One,<br>3.80m dia & 358m<br>length<br>Penstock- 3 Nos., 2.20<br>m dia & 34m, 42m, 48m<br>long.<br>P. House-Surface<br>Turbine-Vertical Francis<br>TRT- Open Channel,<br>650m length<br><b>Cost :</b> <u>Original : 666.47</u><br>Latest : 666.47 | <u>Uttara</u><br><u>khand</u><br><br><u>2015-16</u><br>2019-20 | <b>River diversion</b> – Completed.<br><b>Dam &amp; Dykes/Barrage:</b> Excavation 69692/90744 cum and concreting 48156 / 76500 cum completed.<br><b>HRT:</b> Excavation 8961 / 11255 m completed.<br><b>Overt Concrete Lining</b> 1928 / 11255m completed.<br><b>Invert Lining</b> 1828 / 11255m completed.<br><b>Pressure Shaft:</b> Excavation 440.5/558 m completed.<br><b>PH:</b> Excavation completed & concreting 6517/18000 cum completed.<br><b>Surge Tank:</b> Excavation completed.   | - Works severely affected due to flash floods in June, 2013.   |
| 25.     | <b>Maheshwar,</b><br>SMHPCL<br>30 12 96/ 29.9.2006<br>(FC)<br>10x40= 400 MW<br><b>Broad Features:</b><br>Dam-35m High,<br>concrete gravity<br>P.Shaft-10x7.82m x<br>52m<br>P.House - Surface<br>Turbine- Kaplan<br><b>Cost:</b><br><u>Original: 1569.27</u><br>Latest: 4635.00  | <u>M. P.</u><br><br><u>2001-02</u><br>2017-18                  | <b>Civil &amp; HM Works:</b><br>All major civil works completed. All 27 nos radial gates commissioned.<br><b>Unit Erection:</b><br>Unit-10: Initial spinning achieved on 14.10.2011.<br>Unit-9 & 8: Ready for spinning.<br>Unit-7: Guide apparatus trial assembly in progress.<br>Unit-6: Erection of turbine embedded parts & foundation parts completed.<br>Unit-5 to 1: Erection of units is in initial stages.<br><b>Works suspended since Nov-11 due to cash flow problem with developer.</b><br>In this regard, a high level committee under the chairmanship of Additional Chief Secretary(Finance) GoMP, was formed on 16 <sup>th</sup> 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. In this regard, the promoter has submitted a firm offer for equity + debt. The matter is under discussions between various stakeholders. | - Completion of R&R works and E&M works.<br>- Funds constraints with developer.  |
| 26.     | <b>Teesta-III</b><br>Teesta Urja Ltd. (*)<br>12.05.2006<br>6x200=1200 MW<br><b>Broad Features:</b><br>.Dam-Concrete with chute spillway 60m high.<br>HRT- 7.5m dia,<br>13.325Km long.<br>Press. Shaft- 3nos.<br>3.8m dia.<br>Power House- Under ground  | <u>Sikkim</u><br><br><u>2011-12</u><br>2016-17                 | <b>Dam:</b> CFRD, 11.13 lacs cum material placed out of 11.5 lacs cum.<br><b>HRT:</b> Excavation completed. 13653 M overt lining completed out of 13824 M and 12416 M invert lining completed out of 13824 M.<br><b>Surge Shaft:</b> Excavation completed. 79.7m conc. Lining out of 154.5m completed.<br><b>Pressure Shaft-Vertical portion:</b> Erection of steel liner 310.75m out of 659.70m for left pressure shaft and 178.65m out of 659.80m for right pressure shaft completed.<br><b>Power House:</b> Civil works almost completed.<br><b>TRT:</b> Excavation completed. 1315 m overt lining out of 1336 m completed.<br><b>Unit Erection:</b>   | - <b>Work held up since Sept, 2014 due to fund constraints.</b><br><br>- Major works likely to re-start by November, 2015. |



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|---|--|--|--|---|
|   | Turbine- Pelton<br><b>Cost:</b> Original <u>5705.55</u><br>Latest 11382.00   |  | Unit#1, 2, 3 & 6:- Stator & Rotor lowered.<br>Unit# 5: Stator lowered.<br>Unit#4: Stator shifted to service bay, bolting of stator frame completed.  |   |
| (*) w.e.f. 6-8-15, Teesta Urja Ltd. is a Govt. Of Sikkim Enterprise |  |  |  |   |
| 27.   | <b>Teesta-VI</b><br>LANCO<br>27.12.2006<br>4x125= 500 MW<br><b>Broad Features:</b><br>Barrage: 34.27m high<br>HRT- 2nos,13.7km long<br>Pressure shaft: 4nos.<br>5.4m dia. 130m av<br>length,<br>TRT: 4nos 250m av<br>length, 8.5m dia.<br>PH- Under ground<br>Turbine- Francis<br><b>Cost:</b> Original: <u>3283.08</u><br>Latest : 5400.00                    | <u>Sikkim</u><br><br><u>2012-13</u><br>2021-22   | <b>Barrage and Desilting:</b> Excavation completed & concreting 98% of 380003 cum completed.<br><b>HRT:</b> Heading excavation 10650m and benching excavation 4270 m out of total 27505 m completed. Overt lining 1550 m completed.<br><b>Surge Tank:</b> Excavation completed & concreting under progress.<br><b>Pressure Shaft:</b> Underground excavation of 4 no. pressure shaft completed, lining of one no. pressure shaft completed, balance lining under progress.<br><b>HM works :</b> 2 nos. radial gates erection in bay 1&2 completed. Erection of 1 <sup>st</sup> stage embedded parts of radial gates in bay 3&4 under progress.<br><b>Power House :</b> Excavation completed & conc. 21945 / 44578 cum completed. Concreting to Draft Tube Liners for all the 4 nos. Units completed. Erection of spiral casing of Unit #1 completed.<br><b>Transformer Cavern:</b> Excavation completed & concreting 2539/7101 cum completed.<br><b>TRT:</b> Excavation & Lining almost completed. | - Financial crunch with the developer.  |
| 28.   | <b>Rangit-IV</b><br>Jal Power corp. Ltd.<br>06.07.2007<br>3x40= 120 MW<br><b>Broad Features:</b><br>Dam: Concrte 44m high<br>.HRT : D- 6.4m L-<br>6.5km<br>Power House : Surface<br>Turbine: Francis<br>Power House- Under<br>ground<br>Turbine- Francis<br><b>Cost:</b> Original: <u>726.17</u><br>Latest : 1600.37   | <u>Sikkim</u><br><br><u>2012-13</u><br>2018-19   | <b>Dam &amp; Intake works:</b> Excavation 409184 / 492775 cum completed and concreting 61045 cum out of 173229 cum completed. Excavation of road diversion tunnel has been completed.<br><b>HRT:</b> Excavation in progress and 3794 m out of 6488 m completed.<br><b>Surge Shaft:</b> Excavation has been completed & concreting yet to start.<br><b>Power House:</b> Excavation in Power House completed.<br><b>Desilting chamber:</b> Excavation 2143 m out of 3360 m completed.  | - <b>Financial crunch with the developer.</b><br><br>- <b>Work held up since Oct, 2013 due to fund constraints.</b> |
| 29.   | <b>Bhasmey</b><br>Gati Infrastructure<br>3x17= 51 MW<br><b>Broad Features :</b><br>Dam-33.2m High,<br>Symmetrical gravity<br>HRT-5.3m dia &5.132<br>km length , Circular.<br>Surge Shaft- 89.8m<br>Hight & 14m dia.<br>P.House-Outdoor<br>Turbine-VF<br>TRT-2 Nos, L- 50m<br>each.<br>Swityard- 132/11 KV<br><b>Cost :Original : 408.50</b><br>Latest : 408.50 | <u>Sikkim</u><br><br><u>2012-13</u><br>2019-20   | Project is in initial stage of construction.<br><b>Barrage:</b> 12377 cum out of 217531 cum excavation completed.<br><b>HRT:</b> 65m out of 4552 m excavation completed.<br><b>PH:</b> Excavation 22% completed.   | - Slow progress of works<br>-Financial crunch with the developer.   |

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|---|---|--|--|--|
| <b>B. Hydro Capacity for benefits beyond 12<sup>th</sup> Plan</b> |   |  |  |  |
| <b>Central Sector</b>   |   |  |  |  |
| 1.  | <b>Tehri PSS,</b><br>THDC,<br>18.7.06<br>Nov-11 (Revised<br>CCEA)<br>4x250=1000 MW<br><b>Broad Features :</b><br>Surge Shaft: U/s – 2<br>nos.<br>D/s – 2 nos<br>Power House: U/G<br>TRT: 2, Dia 9m and<br>Length 1070m +<br>1160m<br>Turbine: VF reversible<br>pump turbine<br><b>Cost: Original: 1657.60</b><br>Latest: 2978.86          | <u>Uttara<br/>khand</u><br><br><u>2010-11</u><br>2018-19 | EPC contract has been awarded on 23.06.11 with commencement date from 27.07.11.<br>Upstream (Tehri Dam) and Downstream (Koteshwar Dam), intake and Head Race Tunnels (2 Nos.) already completed alongwith Tehri Stage-I works.<br><b>Surge Shafts upstream (2nos- 140m):</b> Crown slashing for shaft -1, 1.1 Th cum out of 3.85 Th cum done and for shaft – 2, 2.76 Th. Cum out of 3.85 Th. Cum completed.<br><b>Butterfly Valve Chamber (BVC):</b> Crown slashing with steel ribs completed. Benching work and additional stabilization work i.e. rock bolting and cable anchoring is in progress.<br><b>Penstock Assembly Chamber (PAC):</b> Crown slashing with steel ribs completed. Benching will start after two benches of BVC.<br><b>PH:</b> Underground excavation of PH 130257 Cum out of 143 Th. Cum completed.<br><b>Surge Shafts downstream (2nos):</b> Pilot shaft excavation for both the shafts completed. Excavation of drainage gallery around surge also completed.<br><b>TRT (2 Nos- 1070m &amp; 1160m):</b> Heading in 458 m and drift in 48.8m out of 1070m in TRT-1 and Heading in 443.5m and drift in 98.4m out of 1160 RM in TRT-2 has been achieved.<br><b>E&amp;M Works:</b> Manufacturing & supplies are in progress. | - Poor Geology in under ground works of BVC & PSAC, TRT, PH Cavern etc.<br>- Due to poor geology encountered during investigation, it was decided to shift service bay at other end of machine hall and accordingly power house layout has been revised.<br>- Poor preparedness of contractor w.r.t. finalization of design & drawing, inadequate deployment of resources at project works.<br>- Ban on mining activities in Asena Quarry since 01-4-2013.<br>-Diversion of land for dumping area at village chopra. |
| 2.  | <b>Lata Tapovan,</b><br>NTPC<br>Aug-2012<br>3x57= 171 MW<br><b>Broad Features :</b><br>Barrage–14 bays of<br>11m each<br>HRT- 7.51 Km, 4.7m dia<br>P.House- underground<br>Turbine- V.Francis<br><b>Cost: Original: 1527.00</b><br>Latest: 1527.00  | <u>Uttara<br/>khand</u><br><u>2017-18</u><br>2021-22     | Pre-construction activities & infrastructure works are in progress.<br>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.<br><br>-Construction work stopped vide Hon'ble Supreme Court order dated 7.5.14.   |
| 3.  | <b>Vishnugad Pipakoti</b><br>THDC<br>21.08. 2008<br>4x111= 444 MW<br><b>Broad Features :</b><br>Dam – 65m High,<br>89.3m long, concrete<br>gravity<br>HRT- 13.4 Km, 8.8m dia<br>Horse shoe shape<br>P. House-Underground<br>127mx 20.3mx 50m<br>Turbine- Francis<br>SWYD- 13.8/420 kV<br><b>Cost:Original: 2491.58</b><br>Latest: 3745.08 | <u>Uttara<br/>khand</u><br><u>2013-14</u><br>2019-20     | Civil and HM works awarded on 17.01.2014. E&M works awarded on 18.11.2014.<br>Heading excavation for Diversion Tunnel (494m) completed.<br>Benching excavation in progress.<br>Pilot Tunnel excavation for desilting chamber 1 & 2 is in progress.<br>Construction of Adits and infrastructure works are under progress.   | -Disruption of works by local people.  |
| 4.  | <b>Polavaram</b><br>Polavaram Project<br>Authority<br>12x80= 960 MW   | Andhra<br><u>Pradesh</u><br>13 <sup>th</sup> Plan        | Pre-construction and Infrastructural works are in progress.<br><b>Civil Works:-</b> Civil works awarded on 01/2012-13, 02.03.2013.<br><b>ECRF DAM:</b> Earth work of 73.668 L.Cum of total 829.451 L.Cum is completed.<br><b>SPILLWAY:</b> Earth work of 51.4273 L.Cum of total 162.9584   | Works under progress, however there is Inter State Issue-Public hearing for construction of protective embankment to be held   |

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|---------|--|---|---|--|
|         |  |   | L.Cum is completed & embankment of 1.345 L.Cum of total 2.4907 L.Cum is also completed.<br><b>POWER HOUSE:</b> Earth work of 37.2413 L.Cum of total 111.7206 L.Cum is completed & embankment of .9022 L.Cum of total 30.3694 L.Cum is completed.<br><b>B) HM &amp; E&amp;M Works:-</b> H.M & E&M works are yet to be awarded.   | in Oddisha and Chhattisgarh as desired by MOEF.  |
| 5b.     | <b>Subansiri Lower</b><br>NHPC<br>09.09.2003<br>8x250= 2000 MW<br><br><b>Broad Features :</b><br>Dam –116m High,<br>concrete gravity<br>HRT- 8 x 9.5m x 1145m<br>Power House- Surface<br>Turbine- Francis<br>SWYD- 16/400 kV<br><b>Cost:</b><br><u>Original: 6285.33</u><br>Latest: 15300.00 | Arunachal<br><u>Pradesh</u><br>Assam<br><br><u>2009-11</u><br>2019-21 | <b>Dam:</b><br><b>Excavation-</b> 169441 cum completed out of 173000 cum.<br><b>Concreting:</b> 575426 cum completed out of 1823782 cum.<br><b>Intake Structure:</b> 261377 cum concreting completed out of 279454 cum.<br><b>Head Race Tunnel (I-VIII):</b><br>7050 m heading excavation completed out of 7124m.<br>4279 m benching excavation completed out of 7124 m.<br>3199 m concrete overt lining completed out of 7124 m.<br><b>Surge Tunnels (8 nos.):</b> 3109 m heading excavation completed out of 3545 m.<br><b>Pressure Shaft-</b><br><b>Vertical Pressure Shaft Slashing:</b> 199 m excavation out of 384 m completed.<br><b>Surface Power House:</b><br><b>Concreting:</b> 124887 cum out of 302600 cum completed.<br><b>E&amp;M Works:</b><br><b>Unit #1:</b> Elbow erection (1 to 6) and Turbine stay ring and Spiral case erection completed.<br><b>Unit #2:</b> Elbow erection (2 to 6) and Turbine stay ring and Spiral case erection completed.<br><br><b>HM Works:</b><br>Erection of diversion tunnel gates 23% completed.<br>Erection of Intake-5: 2% completed.<br>Erection of Intake 7 & 8 – 20% completed each.<br>201 m pressure shaft steel liner erected out of total 1594 m.<br><br>Work stopped since 16.12.11 due to agitation launched by various activists against construction of Subansiri Lower HE Project. In this regard, as decided in the tripartite meeting dated 06.12.13, discussions between Expert Group formed at the request of AASU (All Assam Students Union) and Experts of Govt. of India & NHPC was held on 23.12.13. Last meeting between Expert Group of Assam and Experts of Govt. of India was held on 02.06.14 at Guwahati. Thereafter, meetings with Expert Group of Assam on 10.12.2014 and 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) has been constituted vide MoP's OM dated 13.01.2015. 10 meetings of the POC have been held so far. 11 <sup>th</sup> meeting to be held in Nov./Dec.'15 to finalize & submit the report of POC to MoP. | - <b>Signing of MoU with State Government of Assam.</b><br><br>- Issue of Downstream Impact Assessment & demand for stoppage of works by anti dam activists.<br><b>-Since 16.12.2011 works stopped due to agitation by various activists of Assam.</b> |
| 5.      | <b>Ramam-III</b><br>NTPC Hydro Ltd.<br>10.09.14<br>3x40 = 120 MW<br><b>Broad Features :</b><br>Run of the River  | <u>West Bengal</u><br><br><u>2019-20</u><br>2019-20                   | Infrastructure works are in progress.<br>Civil & HM works of Barrage including Part HRT Package awarded to M/s Simplex –Apex JV on 10.09.14.<br>Civil & HM works of Power House including Part HRT awarded to M/s SEW Infrastructure Ltd. on 12.12.2014.<br>Electro-Mechanical (EM) Package awarded to M/s BHEL in  |  |

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|---------|--|---|---|---|
|         | Scheme<br>Cost : Original: 1381.84<br>Latest : 1381.84   |   | Feb-2015.   |   |
|         | <b>State Sector</b>  |   |   |   |
| 6.      | <b>Shahpurkandi</b><br>Irrigation Deptt.<br>&PSPCL<br>04.05.2011<br>3x33+3x33+1x8=206<br>MW<br>Cost: Original: 2285.81<br>Latest 2285.81   | <u>Punjab</u><br><br>2017-18<br>2018-19           | Civil works of Main Dam and Hydel Channel awarded and are under construction<br><b>Main Dam:</b> 1286552 cum Excavation out of 1981500 cum and 89286 cum concreting out of 1135295 cum completed.<br><b>Hydel Channel:</b> 2674210 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.   |
| 7.      | <b>Shongtong Karcham</b><br>H.P. Power Corpn. Ltd.<br>Clearance: 16.08.2012<br>3x150= 450 MW<br><b>Broad Features:</b><br>Intake Tunnel: 4 Nos.<br>Horse shoe 6.4m dia<br>192 to 280m length<br>HRT- Circular, 10.5m dia, 8096m long.<br>Power House- Under ground<br>Turbine- VF.<br>Switchyard: 400 Kv.<br>Cost: Original: 2807.83<br>Latest: 3316.35  | <u>H.P.</u><br><br>2017-18<br>2018-19             | Excavation of Diversion Tunnel and Adits (4No.s) to HRT is under progress. Benching of Power House cavity is in progress.<br><br>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.                                     |
| 8.      | <b>Koyna Left Bank PSS</b><br>WRD, Mah.<br>20.02.2004<br>2x40 = 80 MW<br><b>Broad Features:</b><br>Water from the existing Shivaji Sagar Lake (Koyna reservoir) is to be utilized for generation.<br>Intake Tunnel: Dia – 7.20 M<br>Length – 235.5 M (including Lake tap)<br>HRT: Dia – 7.20 M<br>Length – 80 M<br>Penstock – 2 nos ,<br>Dia – 2.9M<br>Length – 10 M each<br>P.House – Underground<br>Turbine – Reversible<br>Cost: Original: 226.40<br>Latest: 379.78 | <u>Maha<br/>rashtra</u><br><br>2017-18<br>2018-19 | <b>Civil Works:</b><br>Excavation of intake structure 4903 cum out of 14105 cum and lining 2485 cum out of 3381 cum completed.<br>Excavation of Switchyard completed. Excavation of Approach tunnel & Ventilation tunnel is in progress.<br><b>Tail surge shaft :</b> Excavation in soft strata completed.<br>Excavation for inclined / vertical / lateral shafts in hard rock 5959 / 53932 cum completed.<br><b>TRT :</b> 364 / 24003 cum excavation completed.<br><b>Machine Hall :</b> Underground Excavation is under progress. 22600 cum excavation out of 55050 cum completed.<br><b>E&amp;M works:</b><br>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:<br>Turbine/Pump: M/s Litosroj Power, Slovenia (European Union)<br>Generator/Motor: M/s Koncar Power, Plant & Electric Traction Engineering, Croatia (European Union).<br>EOT Crane :- Works awarded to M/s Pedvak Cranes Private Limited Hyderabad on 12.04.2013. | -Slow progress of works.<br>-Funds constraints due to increase in Project cost. RCE under approval. |
| 9.      | <b>Vyasi</b><br>UJVNL<br>25.10.2011 (TEC)<br>2x60= 120 MW<br><b>Broad Features:</b><br>Dam: Conc. Gravity<br>H- 86m L-207.2m<br>HRT- Circular, 7m dia,<br>2.7Km long.  | <u>Uttarakha<br/>nd</u><br><br>2018-19<br>2018-19 | <b>Civil Works:</b><br><b>Dam :</b> Excavation of Dam block nos. 1,2,3,4,11,12,13 have been completed, support system work is in progress. Galleries excavation is in progress.<br><b>Diversion Channel :</b> Excavation of Channel completed and Construction of 230 m out of 370 m has been completed.<br><b>Head Race Tunnel (2.7 Km):</b> Excavation of HRT completed. 48 m Overt lining of HRT has been completed.<br><b>Pressure Shaft &amp; Pressure Shaft :</b> 20m Excavation in   |   |

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|---------|---|---|---|---------------------------------|
|         | Power House- Surface<br>Turbine- VF.<br>Switchyard: 220 Kv.<br><b>Cost:</b> <u>Original:</u> 936.23<br>Latest: 936.23   |   | pressure shaft no.1 and 16m excavation in Pressure shaft no. 2 completed.Excavation of Surge shaft is in progress.<br><b>E &amp; M works</b><br>Works has been awarded to BHEL. .   |                                 |
|         | <b>Private Sector</b>   |   |   |                                 |
| 10.     | <b>Ratle</b><br>Ratle Hydro Electric<br>Project Pvt. Ltd.<br>19.12.2012<br>4x205+1x30= 850 MW<br><b>Broad Features :</b><br>Dam Height-133m<br>Length-194.8m<br>Spillway-Radia Gate-(5)<br>Size-10.75x1420 m<br>Diversion Tunnel:2<br>Nos., Circular (Right<br>back)<br>Pressure Tunnel:11m<br>dia each.<br>Pressure Shaft : 6.6 m<br>each steel lined.<br>P.House-Underground<br>Turbine- Francis<br>Average Gross Head-<br>100.39m<br>Addl. Unit(30MW)<br>Housed in Main P.H.<br>Cavity)<br>Rated Head-98.9m<br><b>Cost :</b><br><u>Original:</u> 5517.02<br>Latest : 5517.02 | <u>J&amp;K</u><br><u>2017-18</u><br><u>2021-22</u>  | 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.  | Presently works are under hold. |
| 11.     | <b>Bajoli Holi</b><br>M/s GMR Bajoli Holi<br>Hydro Power Pvt.<br>Limited<br>31.12.2011<br>3x60= 180 MW<br><b>Broad Features</b><br>Dam Height-66 M<br>Dam Length-178 M<br>Desilting Chamber- 2<br>Nos.<br>240 Mx14.5 MX 10.8 M<br>HRT- Length-15.538<br>Km., 5.6 M dia<br>P.H. –Surface<br><b>Cost:</b> <u>Original</u> 1696.93<br>Latest 1696.93   | <u>H.P.</u><br><u>2017-18</u><br><u>2019-20</u>   | -Civil Works awarded to M/s Gammon India ltd. on 29.05.2013.<br>-Excavation & lining of diversion tunnel has been completed.<br>-HRT and Audits work are in progress.<br>-73% excavation of powerhouse completed.<br>-Excavation of pressure shaft just started.  | -Slow progress of works         |
| 12.     | <b>Chanju-I</b><br>M/s IA Energy<br>24.04.2010<br>3x12=36 MW<br><b>Cost :</b> <u>Original :</u> 295.09<br>Latest : 295.09   | <u>H.P.</u><br><u>2017-18</u><br><u>2017-18</u><br>(Likely to<br>advance<br>to 2016-<br>17) | <b>Barrage:</b> 275000 cum excavation out of 287700 cum has been completed. Concreting 15470 cum out of 35150cum completed.<br><b>Desilting Basin including Flash arrangement:</b> 3300 cum concreting out of 3510 cum completed.<br><b>HRT:</b> Excavation 4515 m out of 4615 m completed.1648m /5335m concreting completed.<br><b>Surge Shaft:</b> Excavation completed (532 m) |                                 |

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|---------|---|--|--|--|
|         |   |  | <p><b>Penstock/Pressure Shaft:</b> Excavation completed. Concreting just started.</p> <p><b>Power House:</b> Excavation completed. 5559 cum/6640 cum concreting completed.</p> <p><b>E&amp;M Works:</b> Awarded.</p> <p><b>TRT:</b> 51m out of 56m excavation completed and 48m concreting completed.</p>  |  |
| 13.     | <p><b>Tashiding</b><br/>M/s Shiga Energy Pvt. Ltd.<br/>28.03.2011<br/>2x48.5 = 97 MW<br/><b>Broad Features :</b><br/>Barrage-EL 917m<br/>HRT-4.5 m dia &amp; 5.437 km length ,<br/>Surge Shaft- 61.058m Height &amp; 8.5m dia.<br/>Penstock- Length upto Bifucation 441.53 m<br/>After bifurcation 25 m &amp; 30 m long<br/>P.House-Surface<br/>TRT- Open Channal &amp; 78.5 m length.<br/>Swityard- Outdoor, 220 KV<br/><b>Cost :Original : 465.95</b><br/>Latest : 465.95</p> | <p><u>Sikkim</u><br/><br/><u>2017-18</u><br/>2017-18</p> | <p>River Diversion achieved on 06/01/2015.</p> <p><b>Barrage:</b> Excavation of Barrage body completed including left &amp; right bank excavation. Concreting in upstream apron as well as main barrage body raft including CC blocks also completed.</p> <p><b>Diversion Tunnel:</b> Excavation completed.</p> <p><b>HRT (Total- 5437m):</b> Excavation completed. Concreting is under progress.</p> <p><b>Surge Shaft:</b> Surge Shaft portal is ready and underground excavation of Adit to Surge Shaft top was completed on 28.05.2015. Leveling of concreting of Penstock Tunnel also completed.</p> <p><b>Penstock:</b> Underground excavation completed.</p> <p><b>E&amp;M Works:</b> The contract for E &amp; M works was awarded to M/s ALSTOM Projects India Ltd. on turnkey basis. M/s ALSTOM Projects India Ltd. has submitted the model test report and same has been accepted.</p> <p><b>Power House:</b> Power House open excavation along with slope protection was completed in the month of Feb' 2014. Thereafter, 1<sup>st</sup> stage concreting of both the units completed. Up to EL 682.50m. 2<sup>nd</sup> stage concreting of both the units completed up to EL682.50m. Raft concreting upto 685.60m completed.Draft tube Liner of both Unit # 1 &amp; #2 has been placed in position &amp; its alignment &amp; concreting completed.</p> | <p>- Poor geology.<br/>- Local issues.</p> |
| 14.     | <p><b>Dikchu</b><br/>Sneha Kinetic Power Projects Pvt. Ltd.<br/>21.10.2011<br/>3x32= 96 MW<br/><b>Broad Features :</b><br/>Dam-35m High,<br/>Concrete Gravity<br/>HRT-4m dia &amp;4.6 km length<br/>Circular.<br/>Surge Shaft- 65m High &amp; 9m dia.<br/>P.House-Underground<br/>Turbine-Vertical<br/>Francis<br/>TRT-4m dia &amp; 1000m length<br/>Swityard- 60mx30m size<br/><b>Cost : Original :639.57</b><br/>Latest : 639.57</p>  | <p><u>Sikkim</u><br/><br/><u>2017-18</u><br/>2019-20</p> | <p><b>Dam:</b> Excavation 54000 cum out of 86762 cum completed.<br/><b>HRT:</b> Excavation 72 RM out of 5456 RM completed.<br/><b>Power House:</b> Excavation 22317 cum out of 43570 cum completed.<br/><b>TH:</b> Excavation 8914 cum out of 9177 cum completed.<br/><b>TRT:</b> Excavation 195 Rm out of 295 Rm completed.<br/><b>Main Access Tunnel:</b> Excavation completed.</p>  | <p>Slow progress of works</p>              |
| 15.     | <p><b>Rangit-II</b><br/>Sikkim Hydro Power Limited<br/>10.02.2010<br/>2x33= 66 MW<br/><b>Broad Features :</b><br/>Dam-47m High,<br/>Concrete Gravity</p>  | <p><u>Sikkim</u><br/><br/><u>2017-18</u><br/>2019-20</p> | <p>EPC contract awarded to M/s Coastal in February, 2012. Works of approach roads and excavation of adits are in progress.<br/>Protection wall works under progress.<br/><b>Adit to HRT:</b> Underground excavation is in progress.<br/><b>Diversion Tunnel:</b> Excavation is under progress.<br/><b>Surge Shaft:</b> Excavation is under progress.<br/><b>Power House:</b> Excavation of surface power house is being</p>  | <p>Slow progress of works</p>              |

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|---------|--|--|---|--|
|         | HRT-3.9m dia & 4.745 km length ,<br>Surge Shaft- 65.5m High & 10m dia.<br>Underground Pressure Shaft : 1.7 m dia & 2.5 km length.<br>P.House-Outdoor<br>Turbine- Pelton Vertical<br>Swityard- GIS,<br>132/11KV<br><b>Cost : Original : 498.00</b><br>Latest : 498.00   |  | taken up.   |  |
| 16.     | <b>Rongnichu</b><br>Madhya Bharat Power Corporation Ltd.<br>01.10.2008<br>2x48= 96 MW<br><b>Cost : Original : 491.32</b><br>Latest : 491.32  | <u>Sikkim</u><br><br><u>2015-16</u><br>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. Pre-construction activities and excavation of adits are in progress.  | - Land acquisition.<br>- Poor geology.   |
| 17.     | <b>Panan</b><br>Himagiri Hydro Energy Pvt. Ltd.<br>07.03.2011<br>4x75= 300 MW<br><b>Broad Features :</b><br>Dam-115m from deepest foundation level<br>Desilting Chambers :<br>Underground, 2<br>Size (14Lx22Wx2.5H)<br>HRT- modified horse shoe, 6 m dia & 9549m length ,<br>Surge Shaft- 102 m High & 15m dia.<br>Pressure Shaft : 2/4,<br>3.4/2.4m dia,<br>707.4 m-Height<br>P.House-Surface<br>Turbine-Vertical Francis<br><b>Cost : Original: 1833.05</b><br>Latest :1833.05 | <u>Sikkim</u><br><br><u>2018-19</u><br>2020-21   | Civil works awarded on 22.02.2014. Infrastructural works and geological investigations are in progress.<br><br>Starting of civil construction works in full swing is held up for want of the National Wild Life Board clearance. Application is already submitted through Sikkim Govt. in July 2010. MoEF, GOI web hosted in Eco-sensitive zone from KNP on 14/10/2014. Clearance is awaited.<br>Civil works to be taken up in full swing once clearance is received from the National Wild Life Board. | -Clearance from NWLB.  |
| 18.     | <b>Gongri</b><br>Dirang Energy Pvt. Ltd.<br>04.02.13<br>2x72= 144 MW<br><b>Broad Features :</b><br>Barrage-H-29m, L-216.5m MDDL- EL 1447m<br>Spillway-2nos.<br>Radial Gates; 2 Nos.<br>10.5m x 13m<br>Intake: EL1438m<br>Desilting Chambers : 2 nos.<br>(260Lx13Wx16H)<br>HRT- modified horse  | Ar.<br>Pradesh<br><br><u>2017-18</u><br>2020-21  | 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. <b>Consent to establish from State Pollution Control Board was issued on 19-05-2014.</b><br><br>Construction of 3 nos. of Bailey bridges for connecting the banks of the Gongri river is in progress.  | -works awarded on 22.11.2011. However, consent to establish from SPCB was issued on 19.05.2014 |

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|---------|---|--|--------------------------------------|-----------------------------|
|         | shoe, 5.8 m dia &<br>7137m length ,<br>Surge Shaft- 92 m High<br>& 13m dia.<br>Pressure Shaft : 4.4m<br>dia, 647.26m length<br>bifurcating into 3.1m dia<br>& 28.51m & 34.5m<br>length<br>P.House-Surface<br>Turbine- Vertical Francis<br><br><b>Cost : Original: 1436.27</b><br><b>Latest :1436.27</b> |  |                                      |                             |