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

**(As on 31.03.2022)**

| Sl. No. | Name of Project  Executing Agency  Date of CEA clearance / Approval  Capacity (MW)  Broad Features  Cost (original/latest)  In Rs. Crores. | State  Comm. Sch. (original/ Now Ant. | Broad Present Status / Critical Area | **Remarks/**  **Critical issues** |
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| A | **Central Sector** |  |  |  |
| 1 | **Parbati-II**  NHPC  11.09.2002 4x200 = 800 MW **Broad Features :**  Dam – 85m High, 109. m long at top, concrete gravity type  HRT- 6m x 31.23km  P.House- Surface  23.5mx 39.7mx 123m.  Turbine- Pelton  Swyd.- 13.8/400 kV  **Cost:**  Original:3919.59  Latest**:** 9897.59  (04/20 PL)  **Contractors**  Civil : Gammon / Valecha  HM : Om Metals  E&M : BHEL | H.P.  2009-10  2023-24  (Sep’23) | **CIVIL WORKS**  **Dam & Intake Structure (83.7m high and 3.7m D-shaped intake structure) -** Completed.  **Head Race Tunnel (6m diameter, 31.545Km long) –**  30.61 km **(97.04%)** excavation out of 31.545 km completed.  TBM excavation resumed since 16.10.2015 and 3052.82 m advancement has been made till 28.02.2022. Progress during the month hampered due to frequent derailment of muck cars & loco. Further, accumulation of muck behind the cutter head due to ingress of ground water also hampered the progress of work. Muck removal is being done manually which requires considerable time resulting in longer cycle time for excavation.  The work at DBM front came to stand still on 12.07.2021 due to heavy ingress of water of about 6000-8000 LPM resulting in flooding of tunnel which could not be controlled with existing dewatering arrangement. Dewatering capacity was augmented by deploying additional resources i.e. high capacity pumps, dewatering pipe lines.  After dewatering of tunnel, ingress of water could be channelized on 28.09.2021. Thereafter, Probe drilling & Face treatment carried out & despite of injection of approx. 3 Ton PU grout, no reduction in ingress water is observed. Tunnel detoured on left side at RD 4980 m i.e. 20 m behind the face i.e. RD 5000 m at an angle of 30 degrees. First blast for detouring the tunnel taken on 31.10.2021.  After, moving ahead cautiously with the help of Pre-grouting (microfine/PU) & probe drilling up to 61 m on detoured alignment, ingress of about 100-300 LPM was observed from a rock joint on right hand side during drilling activity on 29th & 30th Nov’21. Subsequently, flow of fine sand & slush material resulted in choking of pumps. As a result, tunnel was flooded with water upto RD 3570 m.  Tunnel could be dewatered on 09.01.2022 and major ingress water channelized from the face RD ±5002 m to RD ±2700 m through 200 mm dia. MS pipe successfully, where a major pumping station has already been set up comprising of multiple dewatering pumps. Gate valves were connected on either side of the T-joint to regulate the water and major ingress of water.  After Silt removal, cavity treatment, rib erection & necessary face treatment, excavation of HRT re-started on 24.01.2022. Further, weak zone encountered on left side resulting in wedge failure on 28.01.2022 along with continued popping sound which strengthened with additional rock anchors and placing SFRS. Excavation with all safety precautions is in progress. However, progress remained very less during the month due to encountering of weak zone in right side of tunnel resulting in continuous loose fall. Further, intermittent popping sound and rock bursting from left side also hampered the progress of HRT excavation. Weak zone is being negotiated with the help of pre-grouting with Cement/Microfine cement grout, Self-Driving Anchors (SDA), Rib support, wire mesh, rock anchors, forepoles, pipe roofing, cement capsule, SFRS and backfill concreting etc.. Pre-grouting with cement /micro-fine cement was attempted on 24/25.02.2022, however, it was observed that pre-grouting was not found effective as not much micro-fine cement could be injected in these pre-grout holes.  **Total Overt lining:**  27.92 km (**88.5%)** lining out of 31.545 km completed.  **Power House (23.5m x 39.7m x 123m size):** Completed.  **Nallah Works -Completed**  **ELECTROMECHANICAL WORKS:**  All the Units were Synchronized with grid at part load using water from Jiwa Nallah. After fire incident on 29.07.2020, generation got suspended. After restoration works, Unit#1 and Unit#2 synchronized with grid on 17.08.20 & 29.08.20 respectively and generation restored. Restoration works of remaining 02 units are in progress.  **HYDROMECHANICAL WORKS**: All the major HM works completed. | - Completion of 932.90 m balance HRT Excavation. |

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| 2 | TapovanVishnugad NTPC  11.08.2004/Nov, 2006  4x130 = 520 MW  **Broad Features :**  Barrage–5 bays of 12m  HRT- 5.4m x 11.97km  P.House- underground  Turbine- V.Pelton  **Cost:** Original: 2978.48  Latest**:**5867.38  **Agencies:**   * Barrage Package: M/s RPPL * HRT Package: M/s HCC * Powerhouse and Penstock Package: Ms Patel Engineering Ltd. * HM Package: Om Metals * E&M Package: BHEL * Switchyard Package: M/s GE T&D India Ltd. * GT Package: ABB Ltd. | Uttarakhand 2012-13  2024-25 U#1- Sep-24  U#2- Oct-24  U#3- Dec-24  U#4- Nov-24) | Barrage: Excavation Completed and Concreting 127628 cum out of 129358 cum completed.  HRT: Excavation of 2.79 km out of 3.81 km by DBM & 5.50km out of 8.27km by TBM completed. 6.61 km concrete lining out of 12.09km completed  PH Cavern: Excavation and concreting completed.  Desilting Chamber & Intake: Excavation and concreting completed.  TRT: Excavation and lining completed.  Surge shaft: Excavation & Lining completed.  Penstock: Excavation and Lining completed.  E&M works: Pit liner erection on all 4 units completed. Turbine housing erection of all 4 units completed.  Unit #1: Boxed up.  Unit #2: Boxed up.  Unit #3: Turbine erection completed.  Unit #4: Turbine erection in progress.  Bus Duct: Erection of all units completed  Critical : HRT  On 07.02.2021, there was a sudden flash flood in Dhauli Ganga river due to an avalanche resulting in part damage to NTPC hydro power plant. A detailed analysis is to be done to assess the extent of physical and financial damage to the project. A team of Expert(TOE) from CWC, CEA, GSI, CSMRS and NTPC have been constituted for preparing action plan for restoration of project. Panel of Experts (PoE) comprising members from CWC, NHPC, NTPC and THDC visited sites on 21-22nd Feb 2021.Further, A Team of Experts (ToE) headed by CWC and members from CEA, CSMRS, GSI and NTPC also visited Site during 16 to 18th March 2021. Work has been further hampered due to heavy rains along with washing out of approach road. Temporary access is restored. The rescue cum restoration works have been taken up in line with their recommendations. Structural integrity testing of concrete structures in barrage is done by SERC Chennai. Structures are repairable and repair work is going on as per methodology provided by SERC.  Consultancy of Hydraulic model study of barrage is given to CWPRS Pune and work is going on  Muck removal from DC basin completed and from HRT, Intake, SFT and Power house is going on.  Slide above TBM portal on 25.07.2021 got portal covered. Work for opening is going on.  Implementation of Automatic Flood Warning System (Level and Velocity sensors at 6 locations at river upstream plus command & control room) commenced in Dec 2021 and is expected to be completed by April’22. | -Completion of HRT./ Barrage  Restoration Works  -Associated Transmission system  **-Due to flash flood in Dhauli Ganga River on 07 Feb 2021 Muck has filled damages occurred to intake, Barrage, DC, SFT, and HRT.** |
| 3 | **Tehri PSS,**  THDC,  18.7.06  Nov-11 (Revised CCEA)  4x250=1000 MW  **Broad Features :**  Surge Shaft: U/s – 2 nos.  D/s – 2 nos  Power House: U/G  TRT: 2, Dia 9m and Lenghth 1070m & 1160m  Turbine: VF reversible pump turbine  **Cost:** Original: 1657.60  Latest**:**4835.60  (02/2019 PL)  **Contractors**  Turnkey : Alstom, France/ HCC | Uttara khand 2010-11  2022-24  (June’23) | Upstream (Tehri Dam) and Downstream (Koteshwar Dam), intake and Head Race Tunnels (2 Nos.) already completed alongwithTehri Stage-I works.  **Widening of Upstream Surge Shaft-3&4 (Depth 140m each):** Cumulative widening completed in a depth of 138 m in each.  **Downstream Surge Shaft-3&4 (Depth 80.9 m each):** Widening of DSSS-3 & 4 has been completed.  **Butterfly Valve Chamber (BVC 78X10X26m):** Excavation completed.  **Penstock Assembly Chamber (PAC 95X12X19.30 m):** Excavation completed.  **Upper Horizontal Penstocks (UHP):** Excavation is in progress.  **Vertical Penstocks(4 Nos. each of Dia 6.1 m and 135 m depth):**  Excavation completed.  **Power House (203m x 28.20m x 56m size):** Excavation completed and erection of EM equipment is in progress in all 4 units.  **Control Room:** All 9 slabs have been casted. Further, cleaning work is in progress and architectural works are being taken up.  **Tail Race Tunnels- 3 & 4 (2406 m):**  Excavation: -Heading& Benching: Completed 2123 m & 1680 m respectively.  Lining - Invert& Overt: Completed 1641 m & 1049 m respectively.  **E&M Works:** Both EOT cranes have been commissioned in service bay . | - Poor Geology in under ground works of BVC, PAC, TRT, PH Cavern etc.  - Slow progress of works  - Cash flow crisis with M/s. HCC. |
| 4 | **Lata Tapovan,**  NTPC  Aug-2012  3x57= 171 MW  **Broad Features :**  Barrage–14 bays of 11m each  HRT- 7.51 Km, 4.7m dia  P.House- underground  Turbine- V.Francis  **Cost:** Original: 1527.00  Latest: 1801.07  **Contractors**  Civil & HM : L&T  E&M : BHEL | Uttara khand 2017-18  2025-26  (Subject to re-start of works) | Infrastructure works are almost completed. Main works to re-start after clearances from Hon‘ble Supreme Court.  EPC contract for Civil & HM works awarded to M/s L&T on  17-08-2012. E&M package awarded to M/s BHEL on 07.12.12.  MoWR vide letter dated 24.01.2019 to MoEF has communicated that only 7 out of 51 Hydro Projects which are under various stages of construction in Uttarakhand has been recommended for implementation. LataTapovan project is not included in the 7 recommended projects.   * Barrage (29 m high)-Not started yet. * Desilting chamber (135 m L x 33m W x 17.5 m H )--Not started yet. * HRT (4.7 m diameter, 7.51 km long)-Not started yet. * Surge Shaft (7 m diameter 144.8 m height)-Not started yet. * Pressure Shaft (3no. 2.0 m diameter 297 m long )-Not started yet. * Power House (85mx 17mx 40.5m )-Not started yet.   On 08.07.2020, Director /Conservator forest NDNP, submitted report to Chief Conservator forest Dehradun for LTHEPP mentioning that as per revised notification, project is out of ESZ boundaries. | Construction work stopped vide Hon’ble Supreme Court order dated 7.5.14.  Clearance from Hon’ble Supreme Court for resumption of works. |
| 5 | **Vishnugad Pipakoti**  THDC  21.08. 2008  4x111= 444 MW  **Broad Features :**  Dam – 65m High, 89.3m long, concrete gravity  HRT- 13.4 Km, 8.8m dia Horse shoe shape  P. House-Underground 127mx 20.3mx 50m  Turbine- Francis  SWYD- 13.8/420 kV  **Cost:**Original: 2491.58  Latest**:**3860.35  (02/2019 PL)  **Contractors**  Civil &HM : HCC  E&M : BHEL | Uttara khand 2013-14 2024-25 (Jun.’24) | River diverted on 02.04.2018.  Concreting of U/S coffer dam has been completed.  TBM has been commissioned on 24.11.19.  **Desilting Chambers**:-Heading of all 3 De-silting Chambers has been completed and benching 71.48% completed.  **HRT** :Heading excavation of 1075m out of 975m by DBM has been completed.  TBM has been commissioned. During operation of TBM in the RBM zone, big boulders have been encountered, which has hampered TBM operation. To overcome this problem two Approach Adits are being constructed to reach the cutter head.. cutter head of TBM is now free.  **Power House**: In Machine Hall, crown excavation has been completed and strengthening of geologically weak section with steel rib supports is in progress.  Transformer Hall, 124.5m crown excavation completed (out of 140m). Balance work in progress.  **TRT** :- Heading excavation 716.75 m out of 3070m completed.  At TRT outlet area, 85% slope stabilization work has been completed | -Frequent disruption of works by local people.  - Cash flow crisis with M/s. HCC. |
| **6** | **Subansiri Lower**  NHPC  09.09.2003  8x250= 2000 MW  (1000 MW in 12th Plan)  **Broad Features :**  Dam –116m High, concrete gravity  HRT- 8 x 9.5m x 1145m  Power House- Surface  Turbine- Francis  SWYD- 16/400 kV  **Cost:**  Original: 6285.33  Latest**:19992.43**  (04/17 PL)  **Contractors**  Civil : BGS-SGS-Soma JV  HM : Texmaco  E&M : Alstom | Arunachal Pradesh  Assam  2009-11  2022-24  (Unit#1&2 in 2022-23 and Unit#3-8 in 2023-24) | **➢ Dam (116m high and 284m long):- Dam concreting 16.05 lac Cum (78%) out of 20.56 lac Cum & Intake concreting 272940 cum (97.7%) out of 279454 cum completed.**  **➢ HRT (Total length-7102 m, 9.5m diameter):-99.5% heading excavation, 93.5% benching excavation, 81.6 % concrete overt lining and 47.2 % Invert lining completed.**  **➢ Surge Tunnel (8 nos., 9.5 M dia, Horse Shoe):-Heading excavation 90.5% & benching excavation 52.5% completed.**  **➢ Pressure Shaft (8 nos. 9.5/8/7 dia.):- PS liner 681 m (43%) out of 1594m completed.**  **➢ Power House (285m x 61m x 64m size):-Cumulative Power house concrete qty achieved 271991 cum out of 512000 cum (53.12% achieved so far).**  **➢ E&M Works:-**  **Unit-1: Stator in pit, Rotor and Turbine assembly is in progress.**  **Stator: Cleaning of winding is in progress.**  **Rotor: Assembly of lower bracket with hub is completed. Assembly of Lower Bracket with Arms completed. Assembly of brake jack on lower bracket arms completed. Preparations and arrangements for Lifting of Generator lower shaft is in progress.**  **Turbine: Fitting of intermediate bushings on wicket gates completed. Installation of Wicket Gate Upper bush is in progress. (Cumulative progress 06/24)**  **MIV: Erection work of MIV of Unit-1 started and in progress.**  **Erection work at GSU transformer started and in progress.**  **Unit-2:**  **Rotor: Stacking of rim lamination is in progress. (Cumulative progress 908 mm/2336mm). Preparations for 1st press of rim lamination completed.**  **Stator: All segment of Stator frame lowered in pit and assembly completed. Fixing of intermediate key bars is completed. (Cumulative progress 135/135). Measurement of radius of intermediate key bars is in progress.**  **Turbine: Matching of DT part 1 is in progress.**  **Unit-4: Draft Tube installation is in progress.**  **Unit-5: Installation of bracings inside Draft Tube sections completed.**  **Unit-6: Draft Tube Drainage Box of Uni-6 lowered on 06.02.22 and in progress.**  **Other works like Cable laying, Cable tray installation, cooling water pipeline work at Unit-1 & 2, Fire hydrant pipelines work etc. are in progress.**  **➢ HM Works:**  **Erection of Diversion Tunnel Gates: 96.66 % completed.**  **Erection of Intake Gates: 76.48% completed.**  **Fabrication of ferules and erection work of Pressure shaft liner is in progress**  **Out of total 1594m, 681 m pressure shaft steel liner erected. (43% completed)** | Signing of PPA is pending with Govt. of Delhi. |
| 7 | **Teesta-VI**  NHPC  08.3.2019  4x125= 500 MW  **Broad Features:**  Barrage: 26.5m high  HRT- 2nos,27.52km long  Pressure shaft: 4nos. 5.4m dia. 151m to 198m length,  TRT: 4nos 247m each length, 7.5x7.0m D-shapped.  PH- Under ground  Turbine- Francis  **Cost:** Original: 3283.08  Latest : 5748.04  (07/2018 PL)  **Contractors**  Civil : JAL & Gammon  E&M : Alstom | Sikkim  2012-13  2023-24  (Mar’24) | **(A) Civil works:**  **Barrage (31.5 high and 105 m long)**  **Excavation 7.62 lac cum (78%) out of 9.83 lac cum completed**  **Concreting 1.27 lac cum (51%) out of 2.51 lac cum completed**  **HRT (9.8m diameter)**  **Heading excavation of approx.11.22 km (41%) executed out of total 27.51 km, benching excavation of approx.3.08 km (11%) , Overt Lining of approx.1.55 km (5.63%), Invert lining of approx 0.14 km (0.01%) has been completed.**  **Desilting Basin**  **Surface Excavation of approx. 2.50 lac cum (73%) executed out of 3.42 lac cum, underground excavation of Approx 1.4 thousand cum (20.65%) executed out of 6.78 thousand cum, concreeting of 0.56 lac cum (22%) executed out of 2.5 lac cum.**  **Surge Shaft (2 nos., 16 M dia, 89.3 M height): Excavation 67 % & concreting 59% completed**  **Pressure Shaft (2 nos. steel lined 5.4 internal dia.): Excavation 100 % & Backfill concrete 29% completed**  **Power House (142m x 18.5m x 52.44m size): Excavation 100 %, cumulative concrete qty achieved 44944 cum out of 52289 cum (86%).**  **MIV Cavern: Excavation of MIV cavern is completed.**  **Downstream Surge Chamber: Excavation of Adit has been completed; however concrete lining is still to be taken up.**  **Tail Race Tunnel: Excavation of all four tail race tunnel (TRT-I, TRT-II, TRT-III &, TRT-IV) have been completed leaving the required plugs of 20m length at the river end. The concrete lining of all four TRT’s are completed leaving a small patch near the junction as per the excavation plan.**  **(B) HM works:**  **(a) Barrage Radial Gates:**  **i. Erection of Barrage Radial Gate No. 1 and 2 without flap has been completed and gate is in dogged position without rubber Seals.**  **ii. All major component of Radial gate No. 3 & 4 with flap has been supplied at site.**  **(b) Barrage Stoplogs:**  **i. Upstream stop logs: 4 sets of upstream stop logs fabricated.**  **ii. Downstream Stoplogs: 3 sets of downstream stop logs out of 4 found fabricated.**  **(c) Gantry Crane & Lifting Beam for Barrage Stop log: Upstream stop logs: One stop log gantry crane for upstream stop logs is installed with lifting beam which require repairs to be made operational.**  **(d) Installation of ferrules in vertical section of 1 no. Pressure shaft has been completed.**  **(e) Supply of four Radial gates and Stop logs (First Stage & Second Stage Embedded Parts, Gate Parts and Hoists) for the Barrage received at Site. Most of the materials for Pressure Shaft Liners received at Site from which fabrication of ferrules have been completed.**  **(C) E & M works:**  **Erection of Spiral Casing–Unit 1 is completed; 2 no. 200 MT. EOT cranes have been installed and refurbishment for the same is under progress; Earth Mat laying work has been completed; Cooling Water System embedded piping is completed; Most of the materials of Major T-G Package-EM-I (Turbine, Generator, MIV, Governing System, Excitation System, Control & Monitoring System and Protection System has already been supplied by M/s GE Power.** | The progresses of works have been hampered on account of 1st, 2nd & 3rd wave of Covid-19 and have been subjected to series of lockdowns and restrictions imposed by Central/ State Govt. However LTHPL is making efforts to expedite the balance works to the extent possible. |

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| **8** | **Rammam-III**  NTPC Hydro Ltd.  10.09.14  3x40 = 120 MW  **Broad Features :**  Run of the River Scheme  **Cost :**Original: 1381.84  Latest : 1592.34  **Contractors**   * Barrage and Part HRT Package: M/s Simplex Infrastructures Ltd & M/s Apex-Encon Project Pvt Ltd (JV))- * Power-House and Part HRT Package: M/s SEW Infra Ltd. – * EM Package: M/S BHEL- | West Bengal  2019-20  2024-25  (Dec’24) | * **Barrage (27m height and 122.5 m length):** - First stage river diversion done in Mar’2016. Excavation of 62105 cum (out of 1, 59,000 cum) and concreting of 37232 cum (out of 1, 22,750 cum) have been completed. 2nd Stage River diversion done in 27th Mar’ 2022. * **De-silting chamber (U/G, 2 nos. each of 140 m length x 7.5 m width x 12.55 m depth):-** Excavation of both De-silting chamber completed, DC-1 lining completed (140 m/140 m).Approach tunnel from DC-1 to DC-2 excavation work under progress, 20m/25m excavation completed. DC-2 kerb concreting work is in progress for lining. * **SFT excavation: -** Out of 360m of SFT, 74m i.e., 21% has been completed. * **HRT (3.5 m diameter, 8.2 km long): -** As of now, 1794 m HRT have been excavated (650 m from Adit-1 and 1144 m from Adit-3). * **Adit-2 excavation: -** 319 m/800 m have been done. Cavity encountered rectification WIP. Muck removal work, Rib installation and backfilling completed from RD 310-317.0 m. At present from RD 317.0 m – 318.5 m Fore polling is in progress for further rib installation. * **Intake tunnel, Branch tunnel and Adit-1 to GOC –DC: -** excavation completed. (Completed 100%). * **Surge Shaft (14.50 m diameter 53.75 m height): -** Surge Shaft well excavation is completed. RD 17.00-33.50 m, raft & both side wall final lift completed. From RD 33.50 m to 36.0 m, raft completed & both side wall casting 1st lift completed, right side 2nd lift completed, left side 2nd lift shuttering is in progress. Orifice slab casting by Apr’ 22. * **Vertical Pressure Shaft (2.7m diameter 1526 m long): –** Out of 74m of Vertical pressure shaft, excavation of 52m (70%) has been completed. * **Powerhouse (73.50m x 22.40 m x 41.60 m): -** Out of 1,56,099 cum of excavation, 1,46,099 cum (94%) has already been excavated. Slope Stabilization work under progress. * **Switchyard: -**Tower foundation & equipment foundation work completed & handed over to EM agency for erection. * **TRC (657m): -** Excavation & Concreting completed. * **EM Works:** - Tower and AC kiosk installation completed. Beam & Switchyard Equipment Erection work is under progress completion by Jun’22. | * **Signing of PPA/ATS: -** Clearance for signing of PPA by West Bengal Govt. awaited. * **Power Evacuation Line:** Power Evacuation line/ ATS also not getting finalized due to pending decision for PPA. Meeting of Eastern Region Standing Committee on Transmission held on 05.07.2019 at Siliguri. After deliberations, CEA suggested that NTPC and West Bengal may resolve the matter of PPA bilaterally. Further, PPA, if refused by Govt. of WB, the issue may be discussed in forthcoming meeting of ERSCT. * **Acquisition of supplementary Land:** -NTPC Board approved direct purchase of additionally required 14.75 acre of private land on 22.03.2017. Received NOC from Ministry of Power, GoI on 23.04.2019.   For 1st&2ndPhase land acquisition (7.864acre+ 1.87 acre), cabinet approval & GTA purchase committee gazette notification has been done in Jan’2021.  District land purchase committee meeting held on 20.07.2021.  Demand amount of Rs 5.64 Cr dt 02.09.2021 against 9.739 acre land deposited to Spl LA office on 02.02.2022.  Notice to the concerned 29 nos. owner was issued by the Land department on 25.02.2022.  The registration of deed between Land Department and 27 nos. landowners was completed on 25.03.2022. Two nos. owners were not available for the registration.  As communicated, the land department will hand over the same to NTPC within next few days and subsequently NTPC Ltd. will apply for mutation of the said land.  **Homestead Shifting:** Balance 10 Homesteads & 01 School to be shifted out of 72 Homesteads.  02 nos homestead (payment  taken) to be shifted and 8 nos. not accepting (revised) award and not shifted.  Individual letters were also served to homesteads on 30.11.2021 & 04.12.2021. Letter was submitted to DM, SDO, and BDO on 08.12.2021 regarding vacating houses and dispute resolution of plots. A meeting was also held between Senior official of NTPC and DM (Darjeeling) & Spl LA on 08.12.2021. Request letters were given on 24.01.2022 to DM, ADM, SDO, BDO for vacating houses. Matter is being followed up with local administration for early resolution. |
| 9 | **Naitwar Mori**  SJVN Limited  16.10.2017  2x30=60 MW  Broad Features :  Barrage: 30.5m height  HRT: 5.6m horse shoe, 4330m long  Pressure shaft: 4m dia, 109m long  Surge shaft: 18m dia, 51.65m height  **Cost :** Original: 648.33 (10/2016 PL)  Latest : 947.89 (12/2020 PL) under apprroval  **Contractors**  Civil : JP Associates  HM : GMW  E&M : Voith | Uttara khand 2021-22  2022-23  (Jan’-23) | * **Barrage (30.5m high above deepest foundation, Length at top 48.9m ):-** Barrage excavation 1,37,875cum (98%) out of 1,40,000cum completed. Concreting:41931 cum (97%) out of 43065 cum completed. Desilting tank excavation completed. Concreting: 54111 cum (92%) out of 59000 cum completed. * **Diversion channel completed.** * **HRT- (5.6m modified Horse Shoe Shape, 4329 m long):-** Excavation of HRT completed, Overt Lining: 3455 m (80%) completed and invert Lining started * **Surge Shaft (18m dia, 50.28m height):**- Excavation completed and Lining in progress. * **Pressure shaft (4.0m dia, 97.50 m long):**-95.50 m (98%) excavation completed. Excavation completed and Lining in progress. * **Power House (Underground 57.70m x 18.60m x 33.07m size):-**Excavation of Power House cavern: 53185 cum (98.04%) out of 54250 cum completed. Concrete works in progress * **Tail Race Tunnel (D-shaped, 8.0m (W) x 8m(H), 235.62m long, TRC-6.0m(W)x5.75m(H), 60.39m long):**- Outfall structure completed. Tail race channel work is in progress. * **E&M works:** Erection of E&M components of both units are in progress. EOT crane is operational. | * Completion of Powerhouse/ Barrage * Completion of transmission line |
| 10 | **Pakal Dul**  CVPPL  03.10.2006  4x250 = 1000 MW  **Broad Features :**  Dam – 167m High, Width-305m), CFRD,  HRT- 2 nos. 7.2m dia 1000m long  S.Shaft-16m dia  200m Height  P.House- Underground  (157mx20.20mx49m)  TRT- 5.5m dia, 125m long.  **Cost:** Original:8112.12  Latest**:** 8112.12  **Contractors**  Civil : Afcons – JAL – JV L&T,JAL  HM: PES  E&M : Voith Hydro Ltd | J&K  2020-21  2025-26  (July.’25) | Infrastructure works are in progress.   * **Dam Package (CFRD 167m high and 305m width)**.- LoA issued to M/s Jaiprakash Associates on 21.6.2018 at a cost of Rs.2853 crores. Construction activities at the site are in progress access adit to HRT-1 & 2 have been completed of a total of 698.2 m and 686m respectively. 2272.5m excavation of HRT- 1 & 2 have been completed out of a total of 4117m.   **Diversion Tunnel (1 no, diameter 11 m, length 851 m)**.**):** .. Works of Diversion Tunnel completed. River Diversion achieved on **01.11.2021** and the same was e-inaugurated by Hon'ble Minister of Power & NRE in presence of senior officers from GoI, GoJK, NHPC and CVPPPL.  **Construction of upstream and downstream coffer dam is in progress.**   * **HRT-TBM Package (HRT 2Nos., 7.2m dia, 9.6 km long each (7.3 Km through TBM))**- LoA issued to M/s L&T Ltd on 3.7.2020 at a cost of Rs.2575.63 crores. Contract agreement signed on 14.08.2020. Construction of TBM Adit Portal, development of platform and associated infrastructure works are in progress. Detail Engineering of TBM completed. Detail Engineering of TBM completed. Factory Acceptance Test of TBM-1 completed successfully in Germany between 7-15, November, 2021 and same for TBM-2 completed between 17-21 January, 2022. **TBM-1 has been dispatched on 14.02.2022 and expected to reach at site by mid of April, 2022** * **Hydro Mechanical Package**- LoA issued to M/s PES Engineers Pvt. Limited on 26.08.2019 at a cost of Rs 286.58 Crs.Detailed Engineering/manufacturing as well as supply of HM components are in progress. **Commencement of Erection of Steel Liner at PS-1B through MIV Cavern started on 09.02.2022** * **Electro Mechanical Package**-Letter of Award issued to M/s Voith Hydro Limited on 2.1.2019 at a cost of Rs.689.76crores. Detailed Engineering of E&M equipment’s including submission/checking of drawings, layout plan etc and equipment manufacturing/inspection/supply at site are in progress. . **260 T EOT crane successfully Erected in Powerhouse Cavern.** * **Power House Package ( PH Cavern 166m (L) x 20.2 m(W) x 50.5 m(H))**- LoA issued to M/s Afcon –JP Associates JV on 21.2.2018 at a cost of Rs. 1051 crores. Construction work at the site is in progress. UG Excavation of Power House Cavern is completed. Excavation of 4nos pit for draft tube is in progress (unit-1 and unit-2 completed)   **Surge Shaft (16m diameter 200m height) Construction of access road to SS top from TBM** platform completed. Adit to surge shaft bottom 1 & 2 completed **. Pilot Hole and service hole drilling of SS-I and 2 Completed.**  **Pressure Shaft (Pressure Shaft-6.0 m dia- 423.45m (Horizontal); 3.9 m dia- 1528.7m (Horizontal & Vertical):** Excavation of adi**t to Pressure Shaft bottom & top has b**een completed. Excavation of Penstock Bottom Horizontal Portion (From MIV to PH side) is completed.  **Raise Borer for boring of pilot hole of vertical PS of 291m (PS-4) has been placed successfully on 10.07.2021 and work at PS-4 nad Ps-2 is in progress.**  **Transformer Hall:** UG Excavation Transformer Cavern – 98% work completed. Concreting Works started.  MIV - UG Excavation MIV Cavern - 95% work completed. Concreting of MIV cavern started | HRT & Dam works are critical. |
| 11 | **Kiru**  CVPPL  13.06.2016  4x156=624 MW  **Broad Features :**  Dam – 135m High, Width-193m), Concrete gravity,  Penstock 4nos., 5.5m dia.  P.House- Underground  (182mx23.6mx51.2m)  TRT- 4 nos., 7.0m dia, 165 to 190m long.  **Cost:** Original:4287.59  Latest**:** 4287.59  **Contractors**  Civil : Patel Engg.  HM: PES Engineers  E&M : Andritz Hydro | J&K  2023-24  2024-25  (Aug.’24) |  Construction of approach roads for Dam top (215m), DT inlet (1.6Km) & outlet (1.2Km) completed.   Dam (135mhigh and 193m width):  Civil works Package-Letter of Award issued to M/s Patel Engg. Limited on 24.02.2020 at a cost of Rs.2240.27 crores. Construction of Coffer Dam, PH Cavern, TH Cavern, Adit to Pressure Shaft top & bottom is in progress. Further dam abutment stripping works are in progress.. Dam abutment stripping and Sam excavation below river bed is in progress.  Diversion Tunnel (1 no, diameter 9 m, length 666 m): DT works completed and River Diversion achieved on 31.12.2021.   Hydro Mechanical Package-Letter of Award issued to M/s PES Engineers Pvt. Limited on 24.02.2020 at a cost of Rs.202.10 crores. Contract agreement signed on 11.06.2020. Detailed Design Engineering/manufacturing of HM components is in progress.   Electro Mechanical Package-Letter of Award issued to M/s Andritz HydroPvt. Limited on 24.02.2020 at a cost of Rs.552.52 crores. Contract agreement signed on 22.06.2020. Detailed Design Engineering/manufacturing of E&M equipment is in progress.   Pressure Shaft ( 4 Nos., Internal Diameter : 5.5m , 316.0m to 322.0m Length) Excavation of Adit to Pressure Shaft top is in progress and progress of 330m against total length of 370m. Excavation of Adit to PS bottom completed and excavation of Bottom horizontal PS-1 is also completed.  • Power House (182m (L)x 23.6m(W) x 51.2m(H))– Power House Pilot Excavation (182m) is completed. PH Cvaren crown widening is in progress (98% complete)  • Transformer Hall Cavern – TC pilot excavation (137 m) is completed. TH Cavern Crown widening is in progress. ( 66% complete) | The project is in initial stage of construction. |
| 12 | **Ratle**  Ratle Hydro Electric Project Pvt. Ltd. / NHPC  19.12.2012  4x205+1x30= 850 MW  **Broad Features :**  Dam Height-133m  Length-194.8m  Spillway-Radia Gate-(5)  Size-10.75x1420 m  Diversion Tunnel:2 Nos., Circular (Right back)  Pressure Tunnel:11m dia each.  Pressure Shaft : 6.6 m each steel lined.  P.House-Underground  Turbine- Francis  Average Gross Head-100.39m  Addl. Unit(30MW) Housed in Main P.H. Cavity)  Rated Head-98.9m  **Cost :**  Original: Rs 5281.94 Crore  Latest   Rs. 5281.94 Crore  **Contractors**  Civil & HM : GVK  E&M : Alstom | J&K  2017-18  2025-26 (Feb’26) | * Govt of India and Govt of UT of J&K decided to execute the Ratle HE Project through a Joint Venture between NHPC & JKSPDC. A Tripartite Memorandum of Understanding (MoU) was signed on 03.02.2019 and further a supplementary MoU was signed on 03.01.2021 for formation and incorporation of a Joint Venture Company (JVC) between NHPC and JKSPDC with equity contribution of 51% & 49%, respectively. * The Promoters agreement between NHPC & JKSPDC was signed on 13.04.2021 for the formation of JV. * The JV has been incorporated as **Ratle Hydroelectric Power Corporation Limited** on 01.06.2021. * JV Board approved the proposal for entrusting NHPC to undertake EPC (Single Package Turnkey mode) Tendering for execution of Ratle HEP in its meeting held on 05.07.2021. * EPC Single Package (Turnkey) tender for execution of 850 MW Ratle HE Project has been uploaded on cppp portal by NHPC on behalf of RHPCL on 22.07.2021.   **Project Background- Works done by Previous Developer:**   * The Project was previously allotted by Government of Jammu & Kashmir (GoJK) to M/s GVK Ratle Hydroelectric Project Pvt. Ltd. in May 2010. The Detailed Project Report (DPR) prepared by M/s GVK Ratle Hydroelectric Project Pvt. Ltd. was appraised by Central Electricity Authority (CEA) vide O.M dated 19.12.2012. * The preliminary works, such as, construction of access roads, bridges and diversion tunnel were started in 2013. But work was stopped in July 2014 due to various issues between M/s GVK &GoJK. * GoJK terminated award of the project/PPA with M/s GVK Ratle Hydroelectric Project Pvt. Ltd vide its Letter dt. 09.02.2017. Further, state Govt. decided to develop the project through JKSPDC.   **Civil works (executed earlier by GVK):**   * Upstream bridge completed. * Upstream roads, Downstream access roads and road from upstream to downstream have been completed. * Diversion Tunnel (2 nos. Each of 11m dia, 472m & 552m long):- Excavation of DT1 298m (63%) out of 472m and DT2 192m (35%) out of 552m completed. * Dam (133m high ):- Not started * Pressure Shaft (4nos. 6.6m diameter 211m, 197m, 184m, 172m long for main units, 1 no., 3m dia, 162m long for aux. unit):- Not started * Power House (168m x 24.5m x 49m size):- Not started   **Present Status of Works**  • Govt of India and Govt of UT of J&K decided to execute the Ratle HE Project through a Joint Venture between NHPC & JKSPDC. A Tripartite Memorandum of Understanding (MoU) was signed on 03.02.2019 and further a supplementary MoU was signed on 03.01.2021 for formation and incorporation of a Joint Venture Company (JVC) between NHPC and JKSPDC with equity contribution of 51% & 49%, respectively.  • The Promoters agreement between NHPC & JKSPDC was signed on 13.04.2021 for the formation of JV.  • The JV has been incorporated as Ratle Hydroelectric Power Corporation Limited on 01.06.2021.  • JV Board approved the proposal for entrusting NHPC to undertake EPC (Single Package Turnkey mode) Tendering for execution of Ratle HEP in its meeting held on 05.07.2021.  • EPC Single Package (Turnkey) tender for execution of 850 MW Ratle HE Project has been uploaded on CPP portal by NHPC on behalf of RHPCL on 22.07.2021. •EPC contract awarded to M/s Megha Engineering and Infrastructure Limited on 18/01/2022.• Contractor has started initial mobilization. Infrastructure works, repair and improvement of Road Network and bridges are in progress. | Works recently awarded.  Issues:   * Land for the project has been acquired in the name of JKSPDC and approval of Government of UT of J&K is required for transfer of land to the JV. On request of RHPC, JKSPDC has processed the land transfer case file to Govt of J&K. * RHPC has submitted revised estimates for R&R Plan to JKSPDC/GoJK as per Kishanganga R&R Plan rates as per MoU provision. The Process of approval of R&R Plan is underway. |
| 13 | **Rangit-IV**  Jal Power corp. Ltd. 06.07.2007  3x40= 120 MW  **Broad Features:**  Dam: Concrte 44m high .HRT : D- 6.4m L- 6.5km  Power House : Surface  Turbine: Francis  **Cost:** Original:726.17  Latest : 938.29 (10/19 PL)  **Contractors**  Civil : Ritwik (27.08.2021)  HM : PES (28.06.2021)  E&M : Andritz (08.07.2021) | Sikkim  2011-12  2024-25  (May’24) | **CIVIL WORKS:**  ** Dam (44 m high and 135.35 m long)**  **Excavation 4.09 lac cum (83.04%) out of 4.92 lac cum completed**  **Concreting 0.66 lac cum (38.10%) out of 1.73 lac cum completed**  **Removal/ clearance of material deposited due to flooding in working area. 0.49 lac cum (24.56%) out of 2.0 lac cum completed.**  ** HRT (6.4 m diameter)**  **Heading excavation of approx.3.87 km (59.65%) executed out of total 6.48 km, benching excavation of approx.3.70 km (57.09%) has been completed.**  ** Desilting Chamber (3 nos. each of 120 m length x 13m width x 15 m depth)**  **2183m (64.97%) excavation out of 3360 m is completed.**  ** Surge Shaft (1 nos., 18 M dia., 56 M height): Excavation 100% completed**  ** Pressure Shaft (1 no. 5.5m dia., 206m length) : Excavation 89.77% completed**  ** Surface Power House (75.3m (L) x 20.20m (W) x 41.35 m (H): Excavation 96.88% & concreting 43.91% has been completed.**  **ELECROMECHANICAL WORKS: 76% Supplies of E&M Package-I and 17% supplies of Package-II have been received at site**  **HM Package: For Execution of balance works, HM package LOT-II awarded on 28.06.2021.**  **E&M Package (7 Packages): For execution of balance works,**  **Status of Award of various packages:**  **1. EM -1 (i) & 1 (ii) – Tender cancelled on 26.11.2021 and re tendering is in process.**  **2. EM -1 (ii) – awarded on 31.01.2022.**  **3. E&M 2 - awarded BOP items on 08.07.2021.**  **4. E&M 3 - Work is being done through PGCIL.**  **5. E&M 4 - awarded on 09.12.2021**  **6. E&M 5 - awarded on 09.12.2021**  **7. E&M 6 - awarded on 24.01.2022.**  **Civil Package: For execution of balance civil works, Civil Package Lot-I awarded on 27.08.2021** | Works recently awarded. |
| 14 | **Luhri Stage-1**  SJVN Ltd.  01.05.2018  2x80+2x25=210 MW  **Broad Features**:  Dam: 86 m high  HRT: 9m dia 38 km length  Power House:Underground  Turbine: Francis  **Cost: Original -1810.56(05/2020)**  **Contractor :**  Civil: Luhri Hydro Power Consortium dt. 24.11.2020  E&M works: Voith Hydro dt. 16.7.2021 | Himachal Pradesh  2025-26  2025-26  (Jan’26) | Investment approval accorded on 20.11.2020.  Civil & Hydro-mechanical Works awarded on 24.11.2020. Electro-mechanical package awarded on 16.07.2021.   * **Diversion Tunnel (617 m): Heading & Benching excavation completed. Concreting inprogress.** * **Dam:** 125460 cum (46%) out of total 272242 cum stripping of Dam right bank abutment completed **.** * **Power House:** 113450 cum (36%) out of total 311114 cum stripping of power house area completed * **Tail race channel: 228100 cum (44%) out of total 519806 cum stripping completed.** * **Construction of Bailey bridge completed on 06.05.2021.** * **Construction of approach roads: Approach road from Bailey bridge to Batching plant completed.**   **Realignment of NH is under progress.** |  |
| **15** | **Dhaulasidh Hydro Electric ProjectSJVN Ltd**  **(2x33 MW = 66 MW)**  **Cost:**  Original: Rs. 687.97 Cr  Civil & HM works: M/s Rithwik Projects Pvt. Ltd. dt. 6.5.2021  EM works: M/s Voith Hydro dt. 19.1.2022 | Himachal Pradesh  2025-26  2025-26 (Nov ’25) | Investment approval accorded on 1.10.2020.   * **Diversion tunnel (253 m),**  River Diversion achieved on 15.02.2022 * **Dam: Stripping; Right Bank 94190 cum (54%) out of** total **174024 and Left Bank 30700 cum (73%) out of total 42101 cum completed.** * **Power house stripping:** 23500 cum (34%) out of total 70000 cum completed * Road to Power House in progress. |  |
| **B** | **State Sector** |  |  |  |

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| **16** | Parnai JKSPDC  21.10.2013  3x12.5= 37.5 MW  **Broad Features:**  Barrage: 107m Long, 11.7m High  HRT: D Shape, 9236m long, 3.2m dia  Surge Shaft: 3.2m Dia  Power House- Surface- 60x12x28  **Cost:** Original: 640.86  Latest 640.86  **Contractors**  Civil : Patel & Alstom  E&M : Andritz | J&K  2017-18  2023-24  (Dec,23) | The implementation of the project has been undertaken by awarding the EPC contract in favour of M/s. Patel Engg. Ltd. in 2013.  **Barrage:-** Excavation 41402cum out of total 46364 cum completed. Concreting 27416 cum out of 34589 cum completed.  **HRT (D-shaped, 3.2m diameter, 9.236km long):-**5142.50m out of 9236m excavation completed.  **Pressure shaft (1no. 2mdia, 1733mlong)**:  Excavation 15723 cum out of total 34560 cum completed. 693 cum out of 7212 cum concreting has been completed..  **Power house:** excavation 49641 Cum excavation out of 60000 Cum has been completed. | * Slow progress of works * Contractual Issues. |
| 17 | Lower Kalnai JKSPDC  16.08.2013  2x24= 48 MW  **Broad Features:**  Dam: 110m Span, 49m High  HRT: D Shape, 3960m long, 4m dia  Surge Shaft: 14m Dia  Power House- 55x23.45x32.4  **Cost:** Original: 576.87  Latest 576.87  **Contractors**  Civil : Coastal  E&M : GE | J&K  2017-18  2025-26  (Subject to re-start of works) | EPC contract awarded to M/s. CPL in Sept., 2013.  Diversion tunnel has been completed and river diversion made on 30.11.2016.  Work on coffer dams has been started  **Dam:-** Excavation work completed for right abutment of the dam bridge. Excavation of left abutment completed upto 50%.  **HRT:-**Adit excavation is in progress.  .  'Works on all fronts at Dam and Power House site are stalled since 24.01.2018 due to payment dispute with subcontractors and due to non-settlement of extension of time of the contract by the JKSPDC .The contract with M/s. Coastal Projects Ltd. has been terminated and The Balance Work stands tendered out by JKSPDC in EPC mode vide E-NIT No 01 on 24-03-2022. | * Project stalled * Re-award of works |
| 18 | Shahpurkandi Irrigation Deptt. &PSPCL  04.05.2011  3x33+3x33+1x8=206  MW  **Cost:** Original: 1835.50  Latest 1938.74  (Power Component)  **Contractors**  Civil & HM for Main Dam with two Head Regulators : Soma – BUREYA JV  Power Houses : M/s OMIL JV  E&M : BHEL | Punjab  2015-16  2024-25  (Aug.24) | **Main Dam:** Overall 67% work of Main Dam portion has been completed. Hydro Mechanical work for dam, fabrication work is completed by 94.41 % and 27.62 % of erection work.  **Hydel Channel:** Excavation / concreting is in advance stage of completion at Shahpurkandi Channel and on Ravi Canal Hydel Channel work is yet to be started.  Works of Dam stopped since 29.08.2014 due to inter-state dispute between states of J&K & Punjab on sharing of waters of river Ravi & tariff. An agreement was signed on 8.9.2018 between Chief Secretary, Govt. of Jammu & Kashmir and Chief Secretary, Govt. of Punjab. The Punjab Cabinet ratified the above agreement. Zero date of the project is 1st November, 2018. NIT for Civil works of Power House was floated and work is awarded to M/s OMIL JV on 24.02.2021 for both power houses. The civil work for both power houses has been started. E&M contract work earlier accorded to BHEL has been revived, Project is programmed for Commission by August,2024. |  |
| 19 | 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 68.8m  Penstock- 3.4m x 1851.946 m (main)  P.House- Surface  Turbine- V. Francis  **Cost:** Original: 431.56  Latest**:**1281.52  **Contractors**  Civil : Continental / Abir HM : PES  E&M : BHEL | H.P. 2006-07  2023-24  (Dec’23) | All works completed in July, 2018. During Hydro Static pressure Test (HST) of Penstock, some leakage was observed. Repair of penstock & HST completed by March, 2020.  On 17.05.2020 after Trial run of Unit-1, during synchronisation to grid transmission load rejection was done but the penstock ruptured along penstock ferrule # 345 which is about 110m upstream of surface power house. The restoration of the Penstock by replacing/recladding the SAILMA 550HI steel  and that of power House is to be carried out. Tender for restoration of Penstock was floated and four bidders have been participated after **Techno-Commercial Evaluation by the Tender evaluation committee and after approval from BOD of BVPCL, works awarded to M/S P&R InfraprojectsPvt Ltd on November 06, 2021.**  **The entire work of restoration work of penstock and allied civil works is accessed to be completed within 23 months after the award of work.** |  |
| 20 | Shongtong Karcham H.P. Power Corpn. Ltd.  Clearance: 16.08.2012  3x150= 450 MW  **Broad Features:**  Intake Tunnel: 4 Nos. Horse shoe 6.4m dia 192 to 280m length  HRT- Circular, 10.5m dia, 8096m long.  Power House- Under ground  Turbine- VF.  Switchyard: 400 Kv.  **Cost:** Original: 2807.83  Latest**:**2807.83  **Contractors**  Civil & HM : Patel  E&M : Andritz | H.P. 2016-17  2024-25  (Mar’25) | River Diversion achieved on 10.02.2017.  **Barrage:** Downstream Coffer Dam completed. Upstream Coffer Dam 84% completed.  **HRT:**Heading excavation 7344 m out of 7712.7m completed. Benching excavation 2721.93 m completed  **Surge shaft**: Pilot hole excavation completed.  **Power House:-** 100% excavation of Powerhouse Cavern, 100% excavation of Transformer hall completed. Concreting of EOT crane beam completed.  . |  |
| 21 | Vyasi UJVNL  25.10.2011 (TEC)  2x60= 120 MW  **Broad Features:**  Dam: Conc. Gravity  H- 86m L-207.2m  HRT- Circular, 7m dia, 2.7Km long.  Power House- Surface  Turbine- VF.  Switchyard: 220 Kv.  **Cost:** Original: 936.23  Latest**:**1581.01  **Contractors**  Civil : Gammon / MPCC  E&M : BHEL | Uttarakhand 2014-15  2022-23  (May,22) | All civil works have been completed. Now the R&R issues have been resolved. The transmission line is ready. GIS fault rectification is under progress. | -Dam and E&M works are Critical.  -Local issues regarding compensation under R&R package. |
| 22 | **Koyna Left Bank PSS**  WRD, Mah.  20.02.2004  2x40 = 80 MW  **Broad Features:**  Water from the existing ShivajiSagar Lake  (Koyna reservoir)  is to be utilized for generation.  Intake Tunnel: Dia – 7.20 M  Length – 235.5 M  (including Lake tap)  HRT: Dia – 7.20 M  Length – 80 M  Penstock – 2 nos ,Dia – 2.9M  Length – 10 M each  P.House – Underground  Turbine – Reversible  **Cost:** Original: 245.02  Latest**:**1403.77  **Contractors**  Civil &HM : BT Patil – Malaxmi JV / Patel  E&M : LitostrojSlovania&Koncar, Croatia | Maharashtra  2014-15  2025-26  (Subject to re-start of works) | **Civil Works:**  Excavation of intake structure 4781 cum out of 14105 cum and lining 2485 cum out of 3381 cum completed.  Excavation of Switchyard completed. Excavation of Approach tunnel & Ventilation tunnel is in progress.  **Tail surge shaft :**Excavation in soft strata completed. Excavation for inclined / vertical / lateral shafts in hard rock 6448 / 9223 cum completed.  **TRT** : 364 / 24003 cum excavation completed.  **Machine Hall :** Underground Excavation is under progress. 31500 cum excavation out of 55050 cum completed.  **E&M works:**  The contract for details engineering manufacturing supply, supervision erection, testing and commissioning of pump turbine, generator motor and associated equipment 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.  Tail surge shaft: Excavation for inclined/vertical/lateral shafts in hard rock 6448 cum out of 9223 completed. Excavation in soft strata completed. | 'Project stalled since July, 2015. The current expenditure on the project has already reached to almost original administrative approved cost level. The preparation of draft of Expression of Interest is in process for completing the balance Civil and Electro- Mechanical works of the project by Govt. of Maharashtra. |
| 23 | **Polavaram**  APGENCO / Irrigation Deptt., A.P.  21.07.2010/ 25.02.2009  12x80= 960 MW  **Broad Features:**  ECRF Dam- L-2454 m, H-57.9m,  Spillway- L-1128m,  Spill gate -48 Nos.  Approach channel-175m.  Intake tunnel: Ø 9m, L-130m (12 Nos)  Power House- Surface type,  Turbine- Vertical Kaplan  Tail Race Channel- 1130m.  **Cost:**  Original: 4956.39  Latest**:**5338.95  (Power Component)  **Contractors**  Civil :Navyug contract terminated and awarded to M/s Megha Engineering and Infrastructure Ltd. (MEIL) (EPC contractor)  E&M : BHEL | Andhra Pradesh  2017-18  2024-26   |  |  |  | | --- | --- | --- | |  |  |  | | **A) Spillway, Earth cum Rockfill Dam, Power House Foundations Works awarded in March, 2013 to M/s. Transtroy- JSC EC UES JV**.  **ECRF DAM:**Earth work of 508.06 L.Cum /833.169L.Cum is completed.  **Diaphragm Wall** concreting – completed.  **SPILLWAY:** Excavation-838.80 L Cum out of 1115.59 L Cum completed. Concreting 9.60 L Cum out of 36.79 L cum completed.  **Gates:** RadialGate fabrication – 11010 MT completed out of 18000 MT (61.17%)**.**  **Power House:** Earth work of 112.20 L Cum / 114 L.Cum is completed & embankment of 9.79 L.Cum / 10 L.Cum is completed.  'Works stalled since 19.07.2019 as APGENCO asked contractor M/s Navayuga Engineering Company Ltd. (NECL) to stop all works and termination of contract issued on 14.08.2019. The writ petition filed by NECL was disposed by Hon'ble High Court on 14.12.2020. Final Contract concluded with new contractor M/s MEIL for execution of PHEP works on 30.03.2021..Effective zero date of project is 30.03.2021. The Engineering Designs & Drawings for various components of Project are under progress and the witnessing of the Turbine Model Test was 14.07.2021. The price break up schedule of Civil and Hydro Mechanical work approved on 22.10.2021.Power house excavation work is under progress. |  |
| 24 | **Pallivasal**  KSEB  2x30= 60 MW  31.01.2007  **Broad Features:**  HRT: 3.50m X 3396m  Surge Shaft: 7.0m X 49m  Pressure Shaft: 2.50m X 1019.20m  Penstock: 2.nos., 1161.20m each.  Power House: Surface  Turbine: Pelton  S. Yard: 220kV – Single bus  **Cost:** Original: 222.00  Latest: 550.00  **Contractors**  Single Package (Except Intake & balance Tunneling works)  ESSAR – DEC – CPPL JV  -M/s Bumi-Zillion JV  (for Intake works & balance Tunneling works)  -M/s Anchor structure-PSE-SSIPCJV, M/s. Shri Sarvasana Industries Pvt. Ltd. | Kerala 2010-11  2022-23  (Mar’23) | Contract for Civil &HM works has been terminated w.e.f. 13.09.18. Balance work has been re-tendered on the risk & cost of Contract, Subsequently balance works have been awarded to M/s. Sri Sarvasna Industries Pvt. Ltd. and M/s. DSE Anchor Structure.  **Intake structure:** Excavationcompleted.  Leading channel of Water conductor system replaced by cut & cover/soil tunnel and accordingly intake is shifted.  **HRT:** Excavation **–**3388/3347 m completed.  Overt conc. 2941/3347 m completed.  Invert Conc.. – 2400/3347 m completed.  **SurgeTank / Forebay:** Excavationcompleted. Concreting.650/843 m3 completed.  **Pressure Shaft:** Excavation completed. Fabrication of steel liner completed and erection of 1096/1096 m completed.  **Surface penstock:** Excavation **–**12000/122600 m3. Concreting- 122800/12850 m3 and 1986m out of 2036m erection completed.  **Power House:** Excavation & Concreting completed.Balance work from FACE II tunnel to Power HouseContractor- M/s. Anchor Structurals  **Tail race Channel (2 Nos.):** Excavation & lining completed.  **E&M Works:** 75% supply completed, balance of E&M works –Tendering finalized.  **The overall progress achieved :- 88.67%.** |  |
| 25 | **Thottiyar**  KSEB  1x30 + 1x10= 40 MW  05.06.2008  **Broad Features:**  Weir: 222m Long 11 blocks 7.5m height  Tunnel: Circular 2.6m dia 199m long.  Power House: Surface  Turbine : Vertical Pelton  **Cost:** Original: 136.79  Latest**:**  280  **Contractors**  Civil & HM : PRIL- Sri Sarvana Industries | Kerala2012-13 2022-23  (Mar’23) | Original contract for Civil & HM works foreclosed without risk & cost of Contractor M/s. Coastal Project Ltd.  -Civil & HM works re-awarded to M/s PRIL-Sri Sarvana Industries Pvt. Ltd. on 05.01.2018.  KSEB decided to execute E&M works departmentally & tendering was awarded to M/s Fitwell.  **Civil Works**:  **Weir:** 70% completed 9 out of 11 block completed.  **Approach Channel & Intake**: 4011 m3 excavation out of 9584 m3. done.  **Power Tunnel**: Excavation & Concreting completed. Steel line fabrication and erection completed.  **Penstock, Anchor, Rocker support:** - Excavation 32932 m3 out of 37839.37 m,3. concreting 6138 m3 out of 12082 m3 completed, Fabrication of penstock 1953 MT out of 2286.32MT completed and erection 1544 out of 2341 MT completed.  **Power House, switchyard & allied works**: 40283/43690 m3 excavation and 9670 /16209 m3 concreting completed.  **E&M Works:** Tender for erection of supplied Electro/ Hydro Mechanical equipment for power house was awarded to M/s Fitwell. Work commenced on 10.07.2020 and at present 54% work have been completed. | Lok down imposed to prevent spread of Covid-19 pandemic has affected the achievement of the target progress. Due to restriction ,Civil Contractor failed to the arrange the work in separate shift and also the arrangements round the clock and hnce the work at several work fronts was delayed |
| 26 | **Kundah Pumped storage (Phase-I, Phase-II & Phase-III)**  TANGEDCO  4x125= 500 MW  **Broad Features:**  HRT: Ø 8.5mX1247.33m.  Surge Shaft: Ø (28m/16m/10m) x68m depth.  Pressure Shaft: 2 Nos. Ø 5.50m X 463.38 m (each)  Penstock: 4.nos. Ø 3.9m x45.4m each.  Power House: Under Ground.  Tail race surge chamber: 10m(W);52m(L):48m(H)  Tail Race Tunnel:  Ø 8.5mx895m  Turbine: Francis reversible turbine.  **Cost:** Original: 1216.59  Revised**:**  1831.29  EPC cost: Rs. 2424.09 crore (capital cost under revision by TANGEDCO)  **Contractors**  Civil &HM : Patel / Kundah PSP  E&M: MEIL | Tamil Nadu2022-23 2023-24  (March’24) | Civil & H&M Works: - Phase-I, Package I & II (Civil and HM works), LOI issued for package - I to M/s Patel engineering, and for package - II M/s Kundah PSP Consortium on 15.02.2018. The site was handed over on 05.03.2018. Electro-Mechanical works was awarded to M/s Megha Engg. & Infrastructure Ltd. on 28.11.2019    **HRT:** Excavation completed and Benching under progress (887 M completed)  **Pressure Shaft**: : excavation of Lower Horizontal Portion of Pressure Shafts PS1 & PS2 Completed. Pilot tunnel excavation in Inclined portion completed and shaft widening is under progress..  **Head race Surge Shaft:** excavation completed.  **Tail Race Surge Chamber:** excavation completed  **Power House**: Mining completed upto El+1928m from crown level El+1952m. Further benching below 1923m under progress. To be completed upto El+1908m, 4 Nos. Bus ducts completed**. Transformer Cavern:** Mining completed. Excavation for Draft tube Gate shafts under progress.  **TRT:** Mining completed and Concrete lining under progress.  **E&M Works**: - Virtual Model Test Completed , Design and Engineering works are under progress. |  |
| 27 | Lower Kopli APGCL  2x55+2x2.5+1x5= 120 MW  **Broad Features:**  Dam: Conc. Gravity  HRT- Circular, 7m dia, 3.64Km long.  Power House- Surface  Turbine- VF.  Switchyard: 220 Kv.  **Cost:** Original:1115.91  Latest**:**1847.07  **Contractors**  Civil : L&T | Assam 2023-24  2024-25  (Jun,24) | At present detailed survey work, geotechnical investigation work etc. are being carried out by M/s L&T. Civil work preliminary survey and geo technical investigations going on at site .  Overall Physical progress - 21%  Overall financial progress - 26%  HM work – not yet started  E&M works – contract awarded to M/S Andritz Hydro Pvt. Ltd on 09.09.21 |  |
| C | **Private Sector** |  |  |  |
| 28 | **Tangnu Romai-I**  M/s Tangnu Romai Power generation  2x22= 44 MW  30.11.2007 (TEC by HPSEB)  **Broad Features:**  Barrage at EL + 2555 m  HRT-3.1m dia& 7.220 km length  Surge Shaft- 5m dia, Top Level 2570 m & Bottom Level 2520 m  Penstock- 2 m dia& 609.3 m length  P.House- Surface  Turbine – Vertical Francis  **Cost:**  Original**:**255.00  Latest**:**641.89  **Contractors**  Civil & HM : Sai Urja  E&M : Andritz | H.P.  2014-15  2024-25  (Subject to re-start of works) | Civil works awarded on 14.06.2010 to M/s Sai Urja Hydel Project (P) Ltd.  **Barrage and Diversion Cannel:** 26211 cum out of 93800 cum excavation completed.  **Desilting Chambers & SFTPC:** Excavation completed. SFT excavation 420 / 450.66 m completed.  **HRT**: 2826m out of 6300m excavation completed.  **Power House**, **Switchyard & Misc.**: 60275 m3 out of 72000 m3 excavation completed.  In February-2015, due to land slide the steel bridge on Pabbar River, connecting Project components has been completely damaged. The restoration works are completed. | * Works are stalled since Jan, 2015 due to finance issues.   Developer has earlier initiated the sale of project and in the process of negotiating with potential buyers to enable the project implementation. |
| 29 | **Tidong-I**  M/s Statkraft India Pvt. Ltd.  2x50 = 100 MW  28.07.2006  **Broad Features:**  HRT–D-3.5m L- 8461 m  P.H. Surface  Turbine –Vertical Pelton  **Cost:** Original543.15  Latest 1472  **Contractors**  Civil &HM : SCL Infratech / Himalaya  E&M : Alstom | H.P.  2013-14  2022-24  (April-23) | **Barrage& River Diversion Works:** Common Excavation completed and 71700.84/73409.00 open cut rock excavation completed. 32144 cum out of 37159 cum concreting done.  **Head Regulator & Desilting arrangement:** Common excavation completed. 9763 cum open cut rock excavation out of 10,000 cum completed.  **HRT (8409m):** Excavation completed and 7925/8409 m lining concreting has been completed.  **Surge Shaft:** Excavation completed. Full steel lining remaining.  **Pressure Shaft:** Excavation completed. 80% lining remaining.  **Power house and Tail race channel**- 87709 cum out of 92500 cum excavation completed.  11237 cum out of 16156 cum concreting completed.  Overall 92 % of Powerhouse civil works completed.  E&M works Supply 97% completed and erection 90% Mechanical works and 50% Electrical works completed.  The work of transmission line is critical due to forest land clearance for 17 towers out of 54 towers due to realignment of the transmission line.  M/s Statkraft India Pvt Ltd has acquired the 100% equity of the project on 04.09.2018 | * Transmission Line critical. |
| 30 | **Kutehr**  M/s JSW Energy (Kutehr) Ltd.  3x80 = 240 MW  31.08.2010  **Broad Features:**  **Cost:** Original: 1798.13  Latest : 1798.13  **Contractors**  Civil &HM : M/s Angelique – PCC consortium, M/s MF BumiGeotech Pvt. Ltd. & M/s. PES Engineers Pvt. Ltd.  E&M : M/s Andritz Hydro Pvt Ltd. | H.P.  2024-25  2025-26  (Nov’25) | Civil works, HM works and E&M works awarded on 20.10.2019, 19.09.2019 and 13.02.2020 respectively. River diversion achieved on 25.01.2020.  **Barrage (27m high):** Barrage excavation (left bank) completed to the tune of 146631 Cum out of 158696 Cum. Barrage excavation (right bank) completed to the tune of 9072 Cum out of 52101 Cum  **HRT :** Five out of Six Construction Adits to HRT completed (i.e. 1453.5 m out of 1612 m completed). 9385m out of 14538 m of Head Race Tunnel excavation completed. |  |
| 31 | Phata Byung M/s Lanco  06.10.2008  2x38 MW = 76 MW  Broad Features:  Dam – 26m high  HRT- 3.2 m dia&  9.38 km length  Turbine – Frances  **Cost:** Original: 520.00  Latest : 1133  **Contractors**  Civil : Lanco  HM : Cimmco  E&M : Alstom | Uttara khand  2012-13  2024-25  (Subject to re-start of works) | **Dam concreting:** 17800/18000 cum concreting completed.  **P.H.:** Excavation completed & Concreting in progress.  **HRT:** Excavation almost completed. 1400 m Lining has been completed.  Excavation and lining of Intake-I & Intake-II completed.  **Pressure shaft:** Excavation completed & lining is under progress.  **TR**T: Excacation 178/235m completed.  **E&M Works**: Pit liner erection of units completed. EOT Crane installed and Commissioned.  Ferrule Fabrication work is in progress.  Work progress is stalled since July’17 on account of main EPC contractor and holding Company M/s LancoInfratech Limited (LITL) being referred to NCLT under the Corporate Insolvency Resolution Process (CIRP) and subsequently, the initiation of liquidation proceeding as per NCLT Liquidation order in August 2018. However, the preservation works of Project are being carried out regularly at site by the Company, LancoMandakini Hydro Energy Private Limited (LMHEPL).  Presently, the company is undergoing a corporate insolvency resolution process initiated under IBC for resolution and revival of the project since June 2020. Under this process, the resolution professional appointed by the NCLT has initiated the process for inviting prospective investors for the project. | * Works severely affected due to flash floods in June, 2013. * Works are stalled since July, 2017 due to Funds constraints with the developer. * Presently, the company is undergoing corporate insolvency resolution process initiated under IBC for resolution and revival of the project. |
| 32 | **Maheshwar,**  SMHPCL  30 12 96/ 29.9.2006 (FC)  10x40= 400 MW  **Broad Features:**  Dam-35m High, concrete gravity  P.Shaft-10x7.82m x 52m  P.House - Surface  Turbine- Kaplan  **Cost:**  Original: 1569.27  Latest**:** 8121.00  **Contractors**  Civil & HM : Sew  E&M : BHEL | M. P.  2001-02  2023-24  (Subject to re-start of works) | **Civil & HM Works:**  All major civil works completed. All 27 nos radial gates commissioned.  **Unit Erection:**  Unit-10: Initial spinning achieved on 14.10.2011.  Unit-9 & 8: Ready for spinning.  Unit-7: Guide apparatus trial assembly in progress.  Unit-6: Erection of turbine embedded parts & foundation parts completed.  Unit-5 to 1: Erection of units is in initial stages.  **Works suspended since Nov-11 due to cash flow problem with developer.**  **M.P. Power Management Company Ltd. has terminated the Power Purchase Agreement, R&R Agreement & Escrow Agreement with SMHPCL on 18.04.2020 &20.04.2020respectively .** | * Completion of R&R works and E&M works. * Works held up due to Fund constraints with developer. * Sub - Judice in NCLT. |
| 33 | **Bhasmey**  Gati Infrastructure  2x25.5= 51 MW  **Broad Features :**  Dam-33.2m High,  Symmetrical gravity  HRT-5.3m dia&5.132 km length , Circular.  Surge Shaft- 89.8m Hight& 14m dia.  P.House-Outdoor  Turbine-VF  TRT-2 Nos, L- 50m  Swityard-132/11 KV  **Cost :**Original : 408.50  Latest  :746.01  **Contractors**  Civil : Simplex  E&M : Voith | Sikkim  2012-13  2024-25  (Subject to re-start of works) | Project is in initial stage of construction. River diversion achieved.  **Barrage:** 61555cum/194600cumexcavation completed.  **HRT:** 1670m/4460m excavation completed.  **PH:** 136105 cum/185937cum excavation completed.  **Surge Shaft** : 8567cum / 22000cum Surface excavation completed.  Overall Physical progress: 38% . | - Slow progress of works  - Works stalled since Sept., 2016 due to paucity of funds.  -No investor showing interest for executing the project. |
| 34 | **Rangit-II**  Sikkim Hydro Power Limited  10.02.2010  2x33= 66 MW  **Broad Features :**  Dam-47m High,  Concrete Gravity  HRT-3.9m dia&4.745 km length ,  Surge Shaft- 65.5m High & 10m dia.  Underground Pressure Shaft : 1.7 m dia& 2.5 km length.  P.House-Outdoor  Turbine- Pelton Vertical  Swityard- GIS, 132/11KV  **Cost :**Original : 496.44  Latest  : 496.44  **Contractors**  Civil &HM : Coastal  E&M : Gammon | Sikkim  2015-16  2024-25  (Subject to re-start of works) | EPC contract awarded to M/s Coastal in February, 2012. **Diversion Tunnel:** River diversion through diversion tunnel has been achieved.  **Dam :**Excavation 53100cum out of 85000cum completed.  **HRT:** Excavation 623m out of 4745m completed.  **Surge Shaft:** Excavation completed. Concreting 37/1667 cum done.  **Pressure shaft**: Excavation of pressure shaft I - 25m out of 128m and pressure shaft II - 154m out of 377m completed  **Power House:** Excavation of surface power house is being taken up.  Overall Physical progress: 40% . | Works are stalled due to non releasing of funds by lenders because of Power evacuation and land acquisition issues.  Works restarted. A meeting with financers were held on 23.09.2016 for release of funds. The developer was asked to submit certain document for release of funds.  Works are stalled since December, 2017 due to funds constraints with developer.  Project is in NCLT since 30.07.2020. |
| 35 | **Panan**  Himagiri Hydro Energy Pvt. Ltd.  07.03.2011  4x75= 300 MW  **Broad Features :**  Dam-115m from deepest foundation level  Desilting Chambers : Underground, 2  Size (14Lx22Wx2.5H)  HRT- modified horse shoe, 6 m dia& 9549m length ,  Surge Shaft- 102 m High & 15m dia.  Pressure Shaft : 2/4, 3.4/2.4m dia,  707.4 m- Long  P.House-Surface  Turbine-Vertical Francis  **Cost :**Original: 1833.05  Latest  :2675.00  **Contractors**  Civil : Essar | Sikkim  2018-19  2025-26  (Subject to re- start of works) | Civil works awarded on 22.02.2014. Infrastructural works and geological investigations are in progress.  Starting of civil construction works was held up for want of the National Board of Wild Life (NBWL) clearance. On dismissal of the case in NGT on 21.08.17, the developer has made an application to PCCF cum-Secretary, Forests, Environment & Wild Life Management Department for grant of NOC, in National Board for Wildlife (NBWL) angle. Now, the NoC in regard to NBWL has been received vide state Govt letter dated 4.10.2019. In view of the new hydro policy announced by Ministry of Power, GOI, which will help in convincing the investors to release the funds to start the project works.  An artificial lake (Mantham Lake) created in August 2016 due to heavy landslide resulting no accessibility for several years to the Upper Dzongu/ Dam site, which are beyond the control of the company/ force majeure. It is being understood that now Road and Bridge Department of Govt of Sikkim started erecting 60 Tonne Bridge, but work may progress in full stretch only after this rainy season i.e. of year 2022 and the construction work is likely to be completed by 4th quarter of 2022 then the project work will re-start. The project is likely to be commissioned in 2025-26, subject to restart of works.  Overall Physical progress: NIL | -Works was stalled for want of NOC from State Govt. from NBWL angle and now it is received.  - Issue of Mantham Lake.  - Some of the infrastructure works developed earlier to be redone. |

**Grand Total : 35 nos. – 12,483.5 MW**