

STATUS OF PUMPED STORAGE DEVELOPMENT IN INDIA
(Installed Capacity above 25 MW)

As on 31.08.2021

| S.No. | SCHEMES | STATE | INSTALLED CAPACITY | | REMARKS |
|-----------------------------------|------------------------|-------------|------------------------------|----------------|--|
| | | | No. of units x Unit size(MW) | MW | |
| A. SCHEMES CONSTRUCTED | | | | | |
| a) Working in Pumping Mode | | | | | |
| 1 | Nagarjuna Sagar | Telangana | 7x100.80 | 705.60 | |
| 2 | Srisailem LBPH | Telangana | 6x150 | 900 | |
| 3 | Kadamparai | Tamil Nadu | 4x100 | 400 | |
| 4 | Bhira | Maharashtra | 1x150 | 150 | |
| 5 | Ghatgar | Maharashtra | 2x125 | 250 | |
| 6 | Purulia | West Bengal | 4x225 | 900 | |
| | | | Sub Total | 3305.60 | |
| 1 | Kadana | Gujarat | 4x60 | 240 | <p>Two units of the project were commissioned during 1990 & two units in 1998. Machines operated in generation mode till 2004 and trial for pump mode operation was done during 2004-05. However, operation in pumping mode was not taken up subsequently due to vibration problem in the machines. CKD Blanksko (OEM) was contacted by the project authorities and they submitted their offer for rectification of the problem.</p> <p>This offer was discussed in a meeting by GSECL and it's management decided to rectify the problem on their own (through in house expertise) as the offer of CKD Blanksko was costlier.</p> <p>The Kadana unit no 3 was identified as the pilot unit for revival of Pump Mode Operation of KHEP. As per the report of vibration analysis of unit no 3, necessary corrections like replacement of both the bearings, alignment and centering of turbine shaft is completed recently. The stop log gates of Kadana Unit no 3 are removed. The protection testing of Kadana Unit no 3 is completed and found OK. The trial run of unit in generation mode is also completed.</p> <p>Meanwhile, in a meeting, under the chairmanship of Member (Hydro), CEA on 16.08.2021, to discuss operation of Kadana Pumped Storage Project not working in pumping mode, it was deliberated that there are 4 units in Kadana PSP & Rs. 108 Crores /unit has been quoted by OEM for rectification, a total expenditure of about Rs. 450 Crores is required. CE (Hydro), GSECL requested that this fund may be provided by Central Government through some scheme like PSDF, etc.</p> <p>At present, after attending the bearings, the unit no 3 was run in generation mode. The vibration analysis was carried out by Ex BHEL expert in generation mode and found to be working properly. Now the matter will be taken up with Irrigation Department to take permission for reversible mode trial. Along with it, the systems/control loops for reversible mode operations will be checked for healthiness and further actions will be planned accordingly.</p> <p>On successful trial of unit no 3 under pump mode, similar corrections/rectification activities will be replicated in other units also.</p> |
| 2 | Sardar Sarovar Project | Gujarat | 6x200 | 1200 | <p>Sardar Sarovar Pumped Storage Hydro Electric Project(1200 MW) was commissioned during 2004-06. The Generation of SSHEP is shared between Gujarat (16%), Maharashtra (27%) & Madhya Pradesh (57%) States, as per the Narmada Water Disputes Tribunal (NWDt) Award.</p> <p>The entire operations of the Project are based on the directives by Narmada Control Authority (NCA) under Ministry of Jal Shakti, Indore and as per Narmada Water Disputes Tribunal (NWDt) award. There was no mention of pump storage operation of the project in NWDt award.</p> <p>The project was not operating in Pumping mode as the lower reservoir at Garudeshwar weir was not operational and the equipments required to operate it in pumping mode were also not installed. Now, the lower reservoir at Garudeshwar weir has been made operational by Gujarat.</p> <p>Govt. of M.P. and Maharashtra are of the opinion that pumping in the project is not as per NWDt award. Both the states are ready to participate if water sharing, cost apportionment, power distribution, O&M issues, operational methodology and Legal issues are resolved by NCA taking into consideration the NWDt award in the new scenario of pumping mode operation of the project.</p> <p>The issue was discussed recently in NCA's 92nd meeting held on 24.8.2021 and Chairman, NCA has directed Member (Power), NCA to thoroughly examine the matter, taking into consideration all the correspondences that have been made between Govt. of Gujarat, Govt. of M.P. and NCA and prepare a detailed Report.</p> |
| | | | Sub total | 1440 | |
| | | | Grand Total | 4745.60 | |

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|--|----------------------------|----------------|------------------------------|--------------|---|
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| B. SCHEMES UNDER CONSTRUCTION | | | | | |
| a) Under Active Construction | | | | | |
| 1 | Tehri St.-II | Uttarakhand | 4x250 | 1000 | Likely commissioning by 2022-23 (Dec.'22) |
| 2 | Kundah (Stage I,II,III&IV) | Tamil Nadu | 4x125 | 500 | Likely commissioning by 2023-24 (Apr. 2023) |
| | | | Total | 1500 | |
| b) On which Construction is held up | | | | | |
| 1 | Koyna Left Bank | Maharashtra | 2x40 | 80 | Likely commissioning by 2025-26* |
| | | | Total | 80 | |
| | | | Grand Total | 1580 | |
| C. DPR CONCURED BY CEA | | | | | |
| 1 | Turga | West Bengal | 4x250 | 1000 | EC & FC-I obtained. FC-II is awaited. |
| | | | Total | 1000 | |
| D. SCHEME UNDER EXAMINATION IN CEA | | | | | |
| 1 | Pinnapuram | Andhra Pradesh | 4x240+2x120 | 1200 | Off-River project; Both Reservoirs to be constructed |
| | | | Total | 1200 | |
| E. SCHEMES UNDER SURVEY & INVESTIGATION | | | | | |
| 1 | Upper Indravati | Odisha | 4x150 | 600 | Upper Reservoir existing; Lower Reservoir to be constructed; Target date for preparation of DPR – 12/2021 |
| 2 | Upper Kolab | Odisha | 2x160 | 320 | Upper Reservoir existing; Lower Reservoir to be constructed; Target date for preparation of DPR – 12/2022 |
| 3 | Balimela | Odisha | 2x250 | 500 | Upper Reservoir existing; Lower Reservoir to be constructed; Target date for preparation of DPR – 08/2022 |
| 4 | Upper Sileru | Andhra Pradesh | 9x150 | 1350 | Both Reservoirs existing; Target date for preparation of DPR – 09/2021 |
| 5 | Kodayar | Tamil Nadu | 4x125 | 500 | Both Reservoirs existing; Target date for preparation of DPR – 12/2021 |
| 6 | Sillahalla St.-I | Tamil Nadu | 4x250 | 1000 | Upper Reservoir & Lower Reservoir to be constructed; Target date for preparation of DPR – 02/2022 |
| 7 | Sharavathy | Karnataka | 8x250 | 2000 | Both Reservoirs existing; Target date for preparation of DPR – 12/2021 |
| 8 | Saundatti | Karnataka | 4x252+2x126 | 1260 | Lower Reservoir existing; Upper Reservoir to be constructed; Target date for preparation of DPR – 09/2021 |
| 9 | MP30 Gandhi Sagar | Madhya Pradesh | 5x240+2x120 | 1440 | Upper Reservoir-Off the river, Lower Reservoir-Chambal |
| 10 | Warasgaon | Maharashtra | 4x300 | 1200 | Upper Reservoir-Mose, Lower Reservoir-Kal |
| | | | Total | 10170 | |
| F. SCHEMES UNDER PRE-FEASIBILITY REPORT PREPARATION (PFR) | | | | | |
| 1 | Gandikota | Andhra Pradesh | | 600 | |
| 2 | Chitravathi | Andhra Pradesh | | 500 | |
| 3 | Somsila | Andhra Pradesh | | 1200 | |
| 4 | Owk reservoir | Andhra Pradesh | | 800 | |
| 5 | Kurukutti | Andhra Pradesh | | 1200 | |
| 6 | Yerravaram | Andhra Pradesh | | 1000 | |
| 7 | Karrivalasa | Andhra Pradesh | | 1000 | |
| 8 | Velimalai | Tamil Nadu | | 200 | |
| 9 | Bandhu | West Bengal | | 900 | |
| | | | Total | 7400 | |

* Subject to re-start of work in immediate future.