



ABSTRACT

Energy Department – Announcement – Tamil Nadu Pumped Storage Projects (PSP) Policy -2024 – Sanctioned – Orders -Issued.

ENERGY (B1) DEPARTMENT

G.O.(Ms)No.82

Dated: 22.08.2024

குரோதி, ஆவணி 6

திருவள்ளூர் ஆண்டு 2055

Read:

From the Chairman and Managing Director/Tamil Nadu Green Energy Corporation Limited, Chennai Letter No.CE/Hydro/SE/PD&C/EE3/AEE2/F.PSPs MOP/D.83, Dated 02.08.2024.

ORDER:-

The Announcement made by Hon'ble Minister of Finance and Human Resources Management for the year 2024-25 on the Floor of Tamil Nadu Legislative Assembly on 26.06.2024 read as follows:-

"Sl.No.10. நீரேற்று புனல் மின் திட்டங்களுக்கான புதிய கொள்கை வகுக்கப்படும்.

புதிய நீரேற்று புனல் மின் திட்டங்களின் வளர்ச்சிக்கு வழிவகுக்கும் வகையில் புதிய கொள்கை வகுக்கப்படும்".

2. Based on the above announcement, in the letter read above, the Chairman Managing Director, Tamil Nadu Green Energy Corporation Limited, Chennai has sent the draft Tamil Nadu Pumped Storage Projects (PSP) Policy - 2024 for approval.

3. The Government, after careful examination, accords approval to the "Tamil Nadu Pumped Storage Projects Policy (PSP) 2024", a copy of which is appended to this order.

(By Order of the Governor)

Pradeep Yadav

Additional Chief Secretary to Government (FAC)

To

The Additional Chief Secretary/Chairman and Managing Director,
Tamil Nadu Generation & Distribution Corporation Limited, Chennai-2.

The Chairman,

Tamil Nadu Green Energy Corporation Limited, Chennai.2

The Finance Department, Chennai-9.

The Water Resources Department, Chennai-9.

The Industries, Investment Promotion & Commerce Department,
Secretariat, Chennai-9.

(P.T.O)

Copy to

The Hon'ble Chief Minister Office, Chennai-9 (C.No.6178/B2/2024).
The Special Private Assistant to Hon'ble Minister
(Finance and Human Resources Management), Chennai-9.
The Special Private Assistant to Hon'ble Minister (WRD),
Chennai-9.
The Senior Principal Private Secretary to the Chief Secretary to
Government, Chennai-9.
The Private Secretary to the Principal Secretary to Government,
Energy Department, Chennai-9.
The National Informatic Centre, Secretariat, Chennai-9
(to upload a copy of this order in Government Website)
All Departments of Secretariat, Chennai-9.
SF/SC.

// Forwarded // By Order //

X m...
22-08-2024
Section Officer

85
22.8.24

(G.O(Ms)No.82, Energy(B1)Department, Dated 22.08.2024)

APPENDIX
ENERGY DEPARTMENT

**Tamil Nadu Pumped Storage Projects (PSP)
Policy -2024**

1. Preamble

As the world moves towards a sustainable future, the transition to renewable energy sources is imperative. Pumped storage projects (PSPs) are crucial in this transition due to their ability to provide reliable and flexible energy storage solutions. Unlike traditional power generation methods, renewable sources such as wind and solar are intermittent, producing energy based on environmental conditions rather than demand. Pumped storage projects play a pivotal role in addressing this intermittency, ensuring a stable and continuous supply of electricity.

One of the significant challenges with renewable energy is its variability. Solar power generation peaks during the day, while wind power is often strongest at night. Pumped storage projects offer a solution by storing excess energy generated during periods of low demand and releasing it during peak demand. This capability allows for better integration of renewable energy into the grid, optimizing the use of green energy and reducing reliance on fossil fuels.

While battery storage has gained prominence as a means to store renewable energy, pumped storage projects present several advantages. Batteries are limited by their storage capacity and lifespan, often requiring replacement every few years. In contrast, pumped storage projects can have a lifespan of several decades with minimal degradation in performance. Additionally, PSPs are capable of storing and generating energy on a much larger scale than current battery technologies, making them more suitable for grid-level applications. Moreover, the environmental impact of battery production and disposal is significant, involving the extraction and processing of materials such as lithium, cobalt and nickel. Pumped storage projects, utilizing water and gravitational energy, present a more environmentally friendly and sustainable option for large-scale energy storage.

Tamil Nadu has been at the forefront of renewable energy adoption in India. Tamil Nadu is a leader in wind energy, with an installed capacity of over 9,000 MW, accounting for a significant portion of India's total wind power capacity. The State has also invested heavily in solar power, with an installed capacity exceeding 7800 MW. Total Installed capacity of renewable projects is 22,628 MW.

(P.T.O)

2. Objectives of the PSP Policy

2.1. Harnessing PSP Potential by Encouraging Development of Off-River and On-River Sites

- **Encouragement of Self-Identified Sites:** The policy aims to incentivize developers to identify and propose potential sites for Pumped Storage Projects (PSPs). This approach leverages private sector initiative in identification of new sites along with development of already identified sites, leading to a broader and more effective exploration of suitable locations.
- **Classification as Net-Consumer of Electricity:** By treating PSPs as net-consumers of electricity, the policy acknowledges their unique operational nature i.e. consuming energy to pump water during off-peak periods and generating electricity during peak demand. This classification ensures appropriate regulatory and tariff frameworks to support their economic viability.

2.2 Facilitating Development of PSPs to Support Sustainable Energy Demand Growth

- **Sustainable Energy Growth:** PSPs can provide reliable and flexible energy storage, enhancing the stability of the grid and supporting the integration of renewable energy sources, which are inherently variable.
- **Environmental Considerations:** Emphasizing the development of PSPs in an environmentally sustainable manner ensures that energy needs are met without compromising ecological balance.

2.3 Supporting Renewable Purchase Obligation (RPO) Targets

- **Meeting RPO Targets:** The Union Government sets RPO targets to increase the share of renewable energy in the overall energy mix. PSPs can play a crucial role in meeting these targets by storing excess renewable energy generated during periods of low demand and supplying it during peak demand, thereby smoothing out the variability of renewable.
- **Enhancing Renewable Energy Utilization:** By providing a mechanism to store and dispatch renewable energy efficiently, PSPs help maximize the use of renewable resources.

2.4 Attracting Public and Private Investments

- **Investment Facilitation:** The policy aims to create an attractive investment environment for both public and private sector entities. This includes providing clear regulatory frameworks, financial incentives, and streamlined approval processes to reduce the risks and uncertainties associated with PSP investments.

- **Public-Private Partnerships (PPP):** Encouraging PPP models can leverage the strengths and resources of both sectors, facilitating the development of PSPs through shared risks and benefits.

2.5. Encouraging Faster Integration of Renewable Energy into the Grid

- **Renewable Energy Integration:** PSPs act as a bridge between renewable energy generation and consumption. By providing a reliable storage solution, they help integrate renewable energy sources like solar and wind into the grid more effectively, mitigating issues related to their intermittency.
- **Grid Stability and Reliability:** Faster integration of renewables through PSPs enhances the overall stability and reliability of the power grid, ensuring a consistent energy supply even when renewable generation fluctuates.

2.6. Generating Direct and Indirect Job Opportunities

- **Direct Employment:** The construction, operation and maintenance of PSPs create direct employment opportunities for skilled and unskilled labour in the State. This includes jobs in engineering, construction, operations and technical maintenance.
- **Indirect Employment:** PSP projects stimulate the local economy by creating indirect employment opportunities in supporting industries such as manufacturing, supply chain logistics and services. Ancillary businesses such as equipment suppliers, maintenance services and local vendors also get benefited.
- **Skill Development:** PSPs create opportunities for training and skill development programs to equip the local workforce with the necessary skills for PSP-related jobs, further enhancing employment prospects and economic development in the State.

By focusing on these objectives, the PSP policy aims to harness the potential of PSPs to support sustainable energy growth, meet renewable energy targets, attract investments, integrate renewable energy into the grid and create job opportunities, contributing to the overall development and energy security of the state.

3. Operative Period

The Policy shall come into operation with effect from the date of issuance and shall remain in force for five years and to be reviewed after five years. The policy shall be applicable for all PSPs including the projects currently identified by the State Govt./ CEA/ private developers and projects under Surveys and Investigation (S&I) stage in the State of Tamil Nadu.

The Pumped storage Projects installed and commissioned during the Operative Period shall become eligible for the benefits and incentives declared under this policy for a period of 40 years from the date of commissioning, extendable by 10 years.

4. Purpose of Generation by Developer

Any developer setting up PSPs either for Captive/ Group Captive use and/ or for selling of electricity to the utilities within or outside the States or third parties within the State , in accordance with the relevant regulations.

5. Implementation Agency/ Nodal Agency

Tamil Nadu Green Energy Corporation Limited (TNGECL) shall be the State Designated Nodal Agency and shall be implementing this policy. The responsibilities of State Designated Nodal Agency are:

- Identification of PSP projects within the State.
- Allocation of PSPs to CPSUs, State PSUs, or private developers as per Government approval and rules in vogue.
- Facilitating developers interested in developing off-river closed loop PSPs in one-time water allocation, including recoupment on account of evaporation losses, land acquisition, etc.
- Facilitating on best effort basis for obtaining all statutory clearances/ approvals as required by project developers for faster implementation of such projects.

6. Allocation of PSP sites:

PSP sites under this policy shall be allocated as per the following process:

- 6.1 For on-river PSP sites (at least one reservoir is located on river stream) or atleast one reservoir is owned by any of the Department of Government or PSU or any other organization where Government of Tamil Nadu has significant equity or investment or any reservoir owned by any of the agencies of the Government, Government department or Government directly or indirectly.

The State Designated Nodal agency may allot such sites to developers in the following Two Modes:

6.1.1 MODE – A - To CPSUs and State PSUs:

PSP sites may be allotted to Joint ventures with Central Public Sector Undertakings (CPSU) where State Government or any of its PSUs have equity. The sites may also be allotted to Joint Ventures (JVs) between CPSUs and/or State PSUs for development of such PSPs. The equity share of JV to be decided on case to case basis by TNGECL. Further, award of contracts for the supply of equipment and construction of the project is to be done based on competitive bidding by such JV of CPSU/State PSU. The Tariff for such projects will be determined by the CERC or TNERC as the case may be. 100% of output power from PSP project to be allocated to the State. Moreover option will be given to the State to supply input power. If the primary source is unavailable, the input power can be sourced from exchanges or outside the State. Also, the State will give consent for purchase of input power in situation when it is not able to supply the power by itself.

6.1.2 MODE-B – Public Private Partnership (PPP) mode:

State designated Nodal Agency from time-to-time invite proposals from interested parties for development of on-river PSP sites under PPP mode. The State designated Nodal Agency will conduct a competitive bidding for identified on-stream sites for allocating the projects to private Developers. The CPSUs and State PSUs can also participate in the bidding. All the activities of carrying out Survey & Investigations (S&I) are to be undertaken by the successful bidder after issue of Letter of Intent (LoI). In case of projects identified by the State designated Nodal Agency, the charges incurred towards survey and investigations, preparation of Pre-feasibility Report (PFR), Detailed Project Report (DPR) are to be reimbursed by the developer on mutually agreed basis.

6.2 MODE - C – PROJECT PROPONENT MODE (PPM) - PRIVATE

The projects which are not covered under the above Two modes i.e. which are off-river Closed Loop PSP sites wherein both reservoirs (Upper and Lower) are NOT located on any river or owned by the State Government, State departments, Local Bodies, PSU, State Government agencies or companies with financial stakes from State Government will be allotted in the following manner:

The State Designated Nodal Agency will invite Expression of Interest (EOI) from developers from time to time.

- The developer can identify and apply to the State Designated Nodal Agency along with project details.
- If only one developer qualifies in EOI for the project, then MOU will be signed with the developer.
- In case there are more than one developer interested in a particular site, then the project will be allotted through a competitive bidding process.
- The developer to strive to procure and consume power within Tamil Nadu.
- Charges upto Rs.0.25 /KWhr for all the power bought from outside the State and upto Rs.0.50 / KWhr for output power sold outside the State are to be paid by the developer to TNGECL.
- For the Sites that are pre-identified by State Government or any of its agencies, cost incurred by State agency for site investigations, preparation of Pre-feasibility Reports (PFR) or Detailed Projects Report (DPR), etc., are to be reimbursed by the developer.

7. Land Facilitation to the Developer:

7.1 Government Land:

Government land if available, to be provided to the developers as per the existing policy or as per the policy in force at the time of approval.

7.2 Forest land:

Developer to apply for diversion of the forest land as per procedures/guidelines laid by respective Departments and by paying applicable charges in full, if any.

7.3 Private land:

State Designated Nodal Agency to facilitate acquisition of private land either on lease basis or acquisition.

If project involves taking up of private land on lease, the lease agreement to be made with the private landowner with mandatory provisions for takeover of such lands on lease by the State Designated Nodal Agency at the end of concession period.

If land is purchased, such land is also to be transferred as part of the project to the State Designated Nodal Agency at the end of concession period.

8. Charges to be paid by the Project Developers:

Facilitation charges:

One time facilitation charges as determined by SDNA from time to time and annual charges upto Rs.20000/MW are to be paid to the State Designated Nodal Agency by the developer.

Water Charges (One-time and annual recoupment):

Necessary water charges for one time filling and annual recoupment upto 50% of the rate as per G.O. (Ms.) No. 253, dated 28.09.2018 (the present rate is Rs. 1.50 per 1000 litres) and any revision from time to time , other conditions if any are to be paid by the developer to Water Resources Department.

9. Timeline for Completion of Project:

- Preparation of Detailed Project Report (DPR) and obtaining of clearances/ approvals – Within Two (2) years from date of award of PSP site by State Designated Nodal Agency.
- Start of Construction - Within Three (3) years from the date of award of PSP site by State Designated Nodal Agency.
- Completion and commissioning of the project – Within seven (7) years from the date of award of PSP site by State Designated Nodal Agency.
- The failure to reach any of the execution milestones mentioned in bid/ allotment conditions before start of the project construction except due to uncontrollable factors such as force majeure, local or public agitation, change in law etc., subject to the satisfaction of State Govt., will result in automatic cancellation of the allotment of the site, and forfeiture of any up-front amounts paid. No compensation would be payable to the Developers in such an instance.
- If the construction is not commenced by the Developer within above timeline, allotment of the project site will be cancelled by the State. However, relaxation of 1 year may be granted to those projects where delay in start of construction is attributable to pending Environment Clearance (EC) and Forest Clearance (FC), provided that the applications are submitted to concerned authorities within timelines agreed at the time of award of the project.

(P.T.O)

10. Statutory clearances

- All statutory clearances that are required from Central and State Governments are to be obtained by the developer. The State Designated Nodal Agency will extend necessary support to get the clearances on best effort basis.

State Designated Nodal Agency shall not bear liability of any kind on part of Developer.

11. Period of Allocation:

- The Pumped Storage Projects will ordinarily be offered for a period of forty (40) years from the date of allotment and to be extendable further for a period of ten (10) years on mutually agreed terms, as per the decision of the State Designated Nodal Agency.

12. Power Evacuation

- PSPs will be allowed to export power to other States by connecting to State Transmission Utility (STU) or to the existing Central Transmission Utility (CTU) Network. All liabilities on account of connecting to STU/CTU shall be the responsibility of the Developer.
- For sale of power to utilities outside the State through CTU network, transmission charges are to be paid by the developer.

13. Input Power

- In case, the Developer is interested to set up captive solar/wind power plant for the purpose of meeting input power requirement for PSP, the State Designated Nodal Agency shall facilitate allotment of project as per the prevailing terms under 'Renewable energy Policies (Wind Power Policy, Solar Power Policy, etc).
- Energy banking facility shall be extended for such captive solar/wind power plants as per the policy in force.

14. Transfer of Allotment:

Unless the project is developed completely in all respects and commissioned as per committed Commercial Operation Date (CoD), the transfer of project is not permitted.

15. Incentives:

- PSP projects developed under this policy are eligible for availing benefits provided as per National Framework for Promoting Energy Storage, provided State is not contemplating any project for such incentive. The priority shall be for state projects.

(P.T.O)

- Single Window Clearance will be made available for obtaining time bound statutory clearances for PSPs from the State Govt. Authorities.
 - PSPs are eligible upto 50% concession on stamp duty and registration fees.
 - Exemption in Electricity Taxes on final consumption of electricity within the State for a period of 10 years from CoD.
 - Water allotment to the allotted PSP developer within 6 months from the date of allotment subject to the availability of water.
 - No water cess will be levied on PSPs.
16. The IDC of Industries Department will decide on any concession arising as part of the policy.
17. **Other conditions**
- 17.1 **Impoundment of Water:**
- The Pumped Storage Project will not be allowed to impound more water than the absolute minimum required quantum to run the project.
 - Necessary provision to be made to allow the excess rain water to flow into the existing natural system.
 - The developer will be encouraged to start construction of dam immediately, so as to impound the rainwater.
 - Government of Tamil Nadu reserves the right to insist the developer to release water for drinking purposes in case of emergency situation.

17.2 **Operation:**

The developer has to operate the station as per the grid operation guidelines. In case the generation is to be regulated due to constraints in the power system, the generation from the scheme will have to be regulated /stopped as directed by the Load Dispatch Centre. The developer will not be compensated for the shortfall in revenue due to intervention by SLDC. In extraordinary circumstances arising out of threat to security of the State, public order or a natural calamity or such circumstances arising out of the public interest, the developer will have to operate the generating station in accordance with the directives of the State Government. In case of shutdown, no claim on account of loss of generation will be entertained.

18. **Interim Review**

The State Government of Tamil Nadu may undertake interim review of this policy as and when need arises in view of any technological breakthroughs or to remove any inconsistency with Electricity Act 2003 or any other Government of India policy.

19. Power to Remove Difficulties

In case any difficulty arises in giving effect to this policy, State Government of Tamil Nadu (Energy department) may issue clarifications as well as interpretation to such provisions, as may appear to be necessary for removing the difficulty either on its own motion or after hearing those parties who have represented for change in any provision.

Pradeep Yadav
Additional Chief Secretary to Government (FAC)

//True Copy //

[Handwritten Signature]
22.08.2024
Section Officer

[Handwritten Initials]
22.8.24