**GOVERNMENT OF ODISHA**
**ENERGY DEPARTMENT**
***

# NOTIFICATION

No. **1018** /En., Bhubaneswar, **dt. 28/01/2025**
ENG-HYD-HYDRO-0032-2024

The Government of Odisha has promulgated the Odisha Renewable Energy Policy, 2022 (OREP, 2022) through Resolution No. 11757-ENG-HYD-HYDRO-0009/2022/En. dated 30th November, 2022 to include the adoption of clean energy alternatives, decarbonisation of the energy sector, and investment in clean energy initiatives such as floating solar photovoltaic (PV) systems.

Now, in accordance with OREP, 2022, Government have been pleased to issue the operational guidelines for Floating Solar Photovoltaic (PV) projects for implementation of floating solar photovoltaic projects on water bodies.

By order of the Governor

28.1.2025

(Nibedita Mishra)
Special Secretary to Government

Memo No. **1019** /En. Dated **28.01.2025**

Copy along with soft copy forwarded to the Director, Printing Stationery and Publication, Odisha, Madhupatna, Cuttack / Deputy Secretary to Govt., Commerce & Transport (Commerce) Department for information and necessary action. He is requested to publish the Notification in the extraordinary issue of Odisha Gazette and supply 100 (hundred) copies to this Department.

28.1.2025

Special Secretary to Government

Memo No. **1020** /En. Dated **28.01.2025**

Copy forwarded to the PS to the Hon'ble Chief Minister, Odisha / PS to the Hon'ble Deputy Chief Minister, Energy / OSD to the Chief Secretary, Odisha / PS to the DC-cum-ACS, Odisha / PS to the Principal Secretary, Energy Department for kind information.

28.1.2025

Special Secretary to Government

Memo No. **1021** /En. Dated **28.01.2025**

Copy along with copy of enclosures forwarded to Board of Revenue/ All Revenue Divisional Commissioners/ All Head of Departments/ All Collectors/ Accountant General (A&E), Odisha for information and necessary action.

28.1.2025

Special Secretary to Government

Memo No. **1022** /En. Dated **28.01.2025**

Copy along with copy of enclosures forwarded to the Additional Secretary. Ministry of New & RE/ Additional Secretary. Ministry of Power, Government of India, New Delhi for kind information.

28.1.2025

Special Secretary to Government

Memo No. **1023** /En. Dated **28.01.2025**

Copy forwarded to CMD, OPTCL/ Chairman and MD, OHPC / Secretary, OERC / EIC(El-cum-PCEI(O) / EIC(P & D), DoWR / MD, GRIDCO/ MD, OMC /MD, OPGC / MD, IPICOL/ MD, IDCO/ CEO, OCPL / CEO, OTPC / CE, OREDA/ CEO, GEDCOL/ CEOs of all DISCOMs / All Departments of Govt. for information and necessary action.

28.1.2025

Special Secretary to Government

Memo No. **1024** /En. Dated **28.01.2025**

Copy along with copy of enclosures forwarded to All Additional Secretaries of Energy Department for kind information.

28.1.2025

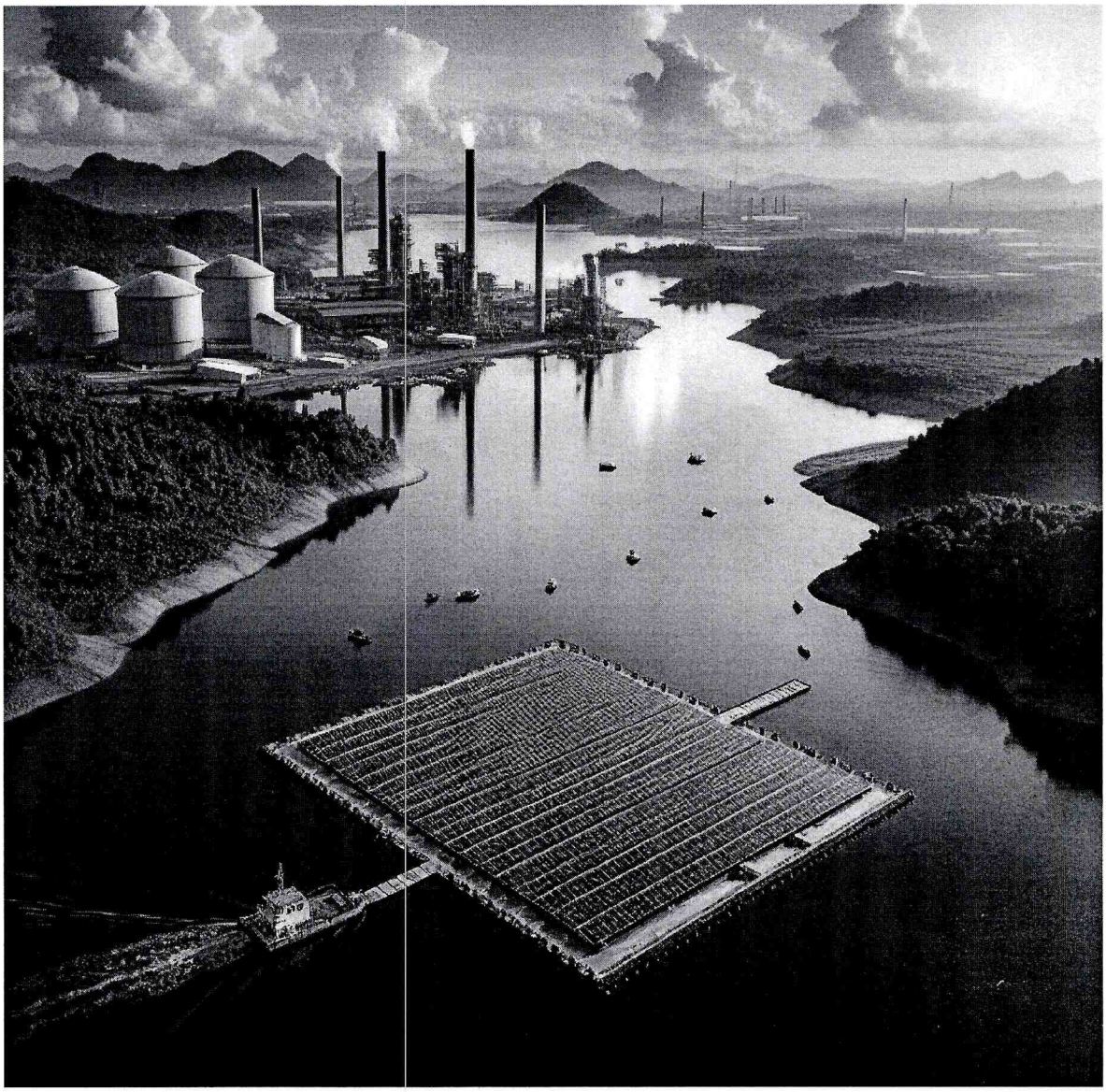
Special Secretary to Government

Memo No. **1025** /En. Dated **28.01.2025**

Copy forwarded to Social Media Consultant, Energy for information with a direction to host the notification in the Energy Department website.

28.1.2025

Special Secretary to Government



# Guidelines for Establishing Floating Solar PV Power Projects on Water Bodies

January 2025

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## Introduction

The Government of Odisha has promulgated the Odisha Renewable Energy Policy2022 (OREP, 2022) through Resolution No. 11757-ENG-HYD-HYDRO-0009/2022/En. dated 30Nov 2022. The policy's overarching goals include the adoption of clean energy alternatives, decarbonisation of the energy sector, and investment in clean energy initiatives such as floating solar photovoltaic (PV) systems. It outlines a range of incentives and support measures, such as assistance with land procurement and fee concessions. Odisha have limited barren land for development of Ground mounted solar plants, whereas Odisha has vast stretches of water bodies including reservoirs those are suitable for setting up large-scale floating solar projects within the state.

clause 15 of OREP, 2022delineates the framework for the development of Floating Solar PV Projects:

*"15 Floating Solar*
*"15.1 Introduction"*

*Odisha receives about 300 sunny days a year. The Government of Odisha recognises the enormous potential of solar energy in the State and the role it can play in achieving the clean energy targets and reduce dependency on fossil fuels.*

*Odisha has vast stretches of water bodies and multiple reservoirs that can be utilised to set up large scale floating solar projects/parks in the State. In the first phase, the state has prepared pre-feasibility report (PFR) for more than 5,000 MW floating solar potential. The Government of Odisha through this Policy aims to facilitate development of floating solar projects. The Nodal agency shall coordinate with the Department of Water Resources to identify suitable sites for development of floating solar projects. The Department of Water Resources shall allow the development of floating solar projects on the water bodies under its administrative control on payment of a nominal annual lease rent / upfront payment. Industries shall also be allowed to set up floating solar plants to meet their captive need.*

*Floating solar offers several benefits over ground-mounted solar like:*

- *Approximately 2% reduction in evaporation resulting in more water availability for irrigation and hydropower generation.*
- *Land not used for erecting ground mounted solar projects may be utilized for other purposes.*

*All potential sites except private water bodies shall be considered as identified projects.*
*"15.2 Bidding Criteria for allocation of identified projects"*

Unless a project is awarded on nomination basis to any SPSU/CPSU or their JV, the Nodal Agency or any other bid coordinator nominated by the State Government shall undertake a transparent competitive bidding process for selecting the developer to develop the identified projects. All private developers/ SPSUs/ CPSUs either on their own or through a JV may participate in the bidding process, subject to meeting the qualification criteria that may be mentioned in the RfP/RfQ.

*The Nodal Agency shall conduct a tariff based competitive bidding for capacities that GRIDCO commits to off-take for meeting energy requirement of DISCOMs. Else, bids shall be invited for revenue shared/unit of net saleable power or quantum of lease rental to be paid by the developer, subject to a minimum threshold as decided by the Nodal Agency below which the bid will be rejected. The Nodal Agency may also specify additional bid parameters the details of which shall be furnished in the RfP/RfQ.*

*"15.2 Sale of Power"*

*GRIDCO may decide to procure requisite capacity at a tariff discovered through Competitive Bidding for meeting the energy requirement of DISCOMs.*

*Considering the additional benefits of floating solar over ground-mounted solar, limited availability of land for development of solar parks and the relative higher cost of floating solar projects, it is desirable to allow GRIDCO to purchase such power at a tariff which is relatively higher than the prevailing tariff of ground mounted solar.*

*For projects for which no off-take of power by GRIDCO is envisaged, the developer shall be free to sell the entire saleable power within or outside the State or use it for meeting captive needs.*

*"15.2 Mode of Operation and Concession Period"*

*All projects are to be developed through Build-Own-Operate (BOO) model. The sites will be awarded for a period of 30 years (covering period of development, construction, PPA and decommissioning) and may be extended by up to 5 more years in line with the prevailing rules and Regulations and with approval of the State Government.*

Further, Odisha Industrial Policy Resolution 2022 also have the provision for incentives towards of setting up Floating Solar PV Projects.

## Scope and Objective

Expression of Interests (EOI) have been received by the Government from various developers towards for the development of Floating Solar Photovoltaic (FSPV) projects in different reservoirs. This guideline is prepared to facilitate FSPV project development, and the allocation of water surface areas in reservoirs.

This guideline is developed to allocate the water surface area for development of FSPV projects to various developers in a transparent manner. Project implementation can be undertaken within a predefined time period without comprising the safety aspects of dams and reservoirs and the socio- ecological conditions.

### Background

OREP-22 sets a target of 10 GW RE capacity addition within the state by 2030. The major RE capacity addition will be in the form of FSPV by utilising the surface area of available reservoirs and Pumped Storage Projects (PSP) projects.

During the field survey for the development of FSPV projects on the water surface area, it was observed that there was no single point of coordination authority for the allocation of surface area for different purposes. It was noted that the Department of Fisheries and Animal Resources Development (ARD) had already allocated some portions of the water body within the reservoir area for cage fishing in a scattered manner. Similarly, other government agencies such as tourism, Fishery, Forest & wildlife etc. have their master plans for the utilisation of water surface area for various purposes.

To establish a single point of coordination for different government stakeholders, a high-level meeting chaired by the Development Commissioner-cum-Additional Chief Secretary, Department of Water Resources (DoWR), was convened on 2 September 2023, 4 September 2023, and 24 January 2024.Inthe meeting, it was agreed that there would be a need of guideline for the allocation of the water surfaces for the development of FSPV projects. Accordingly, this Guideline has been prepared.

**Advantages of the Floating Solar Project:**

Floating solar offers an environmentally friendly method of generating electricity, blending marine and renewable energy technologies. The key advantages of the floating solar projects are as follows:

- Higher CUF (Capacity Utilisation Factor) than Ground Mounted Solar
- Space efficiency
- Water conversation
- Reduced algae growth
- Reduced O&M costs
- Low impact on aquatic life
- Enhanced security and durability

## Allocation of water surface area in dams/reservoirs/water bodies

### Key factors in selecting a 'water body' for a floating solar photovoltaic project.

When allocating the water surfaces, the following key factors shall be considered. Factor-wise high preference and low preference of selecting the water surface are also given below.

| Factor | High Preference | Low preference |
|---|---|---|
| **Location** | • Near load centres<br>• Easily accessible by road<br>• Secured/fenced.<br>• Vicinity to manufacturing facilities. | • Remote locations with high transportation cost |
| **Weather and Climate** | • High solar irradiation<br>• Little wind or storms<br>• Calm waters<br>• Dry region where water conservation is crucial | • High winds and risk of natural disasters such as cyclone.<br>• Seasonal flooding<br>• Drought events that lead to exposure of water body bed |
| **Type of water body** | • Man-made reservoirs of projects – major, medium, and minor<br>• Industrial water bodies, such as cooling ponds<br>• Waste-water treatment facilities<br>• Mine subsidence areas<br>• Irrigation ponds | • Natural lakes<br>• Tourist or recreational sites |
| **Water body ownership** | • Single owner (Government of Odisha) | • Multiple owners<br>• Individual private owners |
| **Underwater terrain and soil conditions** | • Shallow depth in reservoir<br>• Even terrain<br>• Hard ground for anchoring<br>• Water bottom clear of any cables, pipelines, or other obstructions | • Soft mud ground for anchoring |
| **Water Conditions** | • Freshwater with low hardness and salinity | • Salty water<br>• Dirty/corrosive water<br>• Water prone to biofouling |

| Factor | High Preference | Low preference |
|---|---|---|
| **Other site conditions** | • Existing electrical infrastructure, transmission lines<br>• Easy water access<br>• Sufficient land area for deploying and placing electrical equipment. | • Absence of electrical infrastructure<br>• Complicated banks, presence of bund walls<br>• Extensive horizon shading from nearby mountains.<br>• Nearby pollution sources (for example, chimneys, burning crops, and quarries) |
| **Ecology** | • Simple and robust ecology | • Natural habitat of preserved species<br>• Frequent bird activity<br>• Water species that are sensitive to water temperature, dissolved oxygen, and sunlight |

**Development criteria for FSPV projects with regard to dam and reservoir safety:**

1. The floating solar panels shall be installed in compliance to the provisions laid down in IS-9296:2021 "Inspection and Maintenance of Dams and Appurtenant Structures-guidelines".
2. The floating solar panels shall be positioned at a distance of 10H or 100mtr, whichever is greater, from the upstream toe of the dam, where '**H**' is the maximum height of the dam from its deepest level. The energy evacuation arrangement and other ancillary setups shall be installed at 10H or 200mtr, whichever is greater, beyond the toe of the dam& The Proposal shall also comply with other provisions of Dam Safety Act 2021.
3. The stability of the reservoir rim shall not be compromised during the installation of the floating solar panels and ancillary equipment/structures.
4. Water level fluctuations, velocity, and wave action in the reservoir shall be considered by the developer while designing the FSPV plants.
5. The proposed water surface area shall be consistent with go/no-go/restricted area/allocated and demarcated/reserved area for other purposes such as fishery, tourism, etc. and other safety / technical requirements.

**Reservoir Committee**

The 'Reservoir Committee at state level for development of Floating Solar PV Projects in reservoirs of **Major and Medium Irrigation Projects** has been notified vide notification no.11175 dt.23.4.2024 of Department of Water Resources, Government of Odisha ***(Annexure-1).***

The 'District level Reservoir Committee' for development of Floating Solar PV Projects in **reservoirs/tanks of Minor Irrigation Projects** has been notified vide notification no.11189 dt.23.4.2024 of Department of Water Resources, Government of Odisha. ***(Annexure-II).***

**These committee has mandate to study all the reservoirs and finalize the suitable area for FSPV projects excluding No-Go Zones and earmarking certain area for other activities viz fishery and tourism etc.**

Functions of Reservoir Committee/District-level Reservoir Committee:

1. Verify the applications.
2. Verify proposed water surface areas against Go/No-Go/Restricted areas/Allocated and demarcated/reserved areas for other purposes from dam safety and other safety/technical perspectives.
3. Verify guidelines for implementing Wetlands (Conversion and Management) Rules 2017 for reservoirs declared as RAMSAR sites.
4. Suggest modifications, if necessary
5. Recommend to DoWR for issue of NoC for development of FSPV in the proposed water surface area.
6. Recommend to DoWR for allocation of water surface area.

**Process Flow for Water Surface area allocation of Major and Medium reservoirs irrigation projects.**

**Identification of Potential Sites:**

DoWR shall demarcate the GO, NO-GO, restricted water surface area of each reservoir and submit to Reservoir committee at State level. Integrated GIS Map will be finalized by the reservoir committee with consent from other stakeholder's department for development of FSPV projects.

**Application process and Priority:**

Prospectives Developers shall submit the application through Go-Green Portal of RENA.

Priority for allotment of water surface area, shall be based on the end use of the energy which is stated below:

1. For procurement by GRIDCO for State requirement
   - **Any Developer:** Through Tariff-Based Competitive Bidding (TBCB) tender
   - **CPSU/ SPSU:** Through a nomination basis
2. Captive consumption within the State
   - **Private Developers/CPSU/ SPSU:** Selection through competitive bidding process based on quantum lease rental (Upfront premium based).

3. Any other Purpose
    - Allocation based on quantum of free power or concessional power to the state.
    - Independent Power Producers (IPPs) for the sale of power within or outside the State (subject to GRIDCO's right of first refusal).

**Identification and Demarcation of FSPV park**

After receiving the Integrated GIS Map, GRIDCO will demarcate the water surface into sizeable project and prepare a proposal for reserving different area for each category of prospective developers.

Reservoir committee shall scrutinize the proposals submitted by GRIDCO and recommend to DoWR for issue of No Objection certificate (NOC). Accordingly, DoWR shall issue NOC to GRIDCO.

**Bid process management/ nomination.**

GRIDCO shall manage the bid process for developer selection in following manner:

1. **For State consumption**: Developers are selected through a competitive bidding process (TBCB or EPC)
2. **For Captive Consumption (CPPs)/For IPPs**: Developers are selected based on quantum lease rental (Upfront premium based) through a bidding process.
3. **CPSU/SPSU or their JV:** CPSU/SPSU or their JV is selected based on Nomination basis.

GRIDCO shall submit the tender result/finalisation of Nomination to RESWC/SLSWCA/HLCA for project approval. Following approval, Letter of Intent (LoI) shall be issued by GRIDCO with the selected developer for DPR preparation.

**Detailed project report (DPR)Preparation and Approval**

After obtaining the LOI, the developer shall prepare and submit the DPR to GRIDCO.

The DPR shall include:

1. The feasibility study report from technical point of view.
2. A map of the proposed reservoir surface area duly demarcated excluding the no-go/restricted area/allocated and demarcated /reserved area for other purposes such as fishery, tourism etc.
3. Environmental and Social Impact Assessment (ESIA)/Environmental and Social Management Plan (ESMP).
4. Detailed design and drawings of the proposed project.
5. A detailed estimate of the project proposal.
6. Financial analysis such as cost-benefit ratio and IRR etc.

7. Other relevant details of the proposal.

The DPR and other documents shall be circulated to the chairman and all the members of the Reservoir Committee by GRIDCO through the member convener. The Committee shall meet thrice in a month, on 10th, 20th & 30th date. If a meeting falls on a holiday, it will be rescheduled to the next working day. The committee will then recommend the required water surface area to DoWR for allocation to the applicant.

**Final Allocation of Water Surface Area:**

After getting recommendation from reservoir Committee, DoWR shall allocate the water surface area to the developer for development of Floating Solar PV project.

## Process Flow for Water Surface area allocation in reservoirs/tanks of minor irrigation projects.

**Identification of Potential Sites:**

DoWR shall demarcate the GO, NO-GO, restricted water surface area of each reservoir/tank and submit to District Reservoir committee. Integrated GIS Map will be finalized by the reservoir committee with consent from other stakeholder's department for development of FSPV projects.

**Application process and Priority:**

Prospectives Developers shall submit the application through Go-Green Portal of RENA. Priority for allotment of water surface area, shall be based on the end use of the energy which is stated below:

1. For procurement by GRIDCO for State requirement
   - **Any Developer:** Through Tariff-Based Competitive Bidding (TBCB) tender
   - **CPSU/ SPSU:** Through a nomination basis
2. Captive consumption within the State
   - **Private Developers/CPSU/ SPSU:** Selection through competitive bidding process based on quantum lease rental (Upfront premium based).
3. Any other Purpose
   - Allocation based on quantum of free power or concessional power to the state.
   - Independent Power Producers (IPPs) for the sale of power within or outside the State (subject to GRIDCO's right of first refusal).

**Identification and Demarcation of FSPV park**

After receiving the Integrated GIS Map, GRIDCO will demarcate the water surface into sizeable project and prepare a proposal for reserving different area for each category of prospective developers.

District Reservoir committee shall scrutinize the proposals submitted by GRIDCO and recommend to DoWR for issue of No Objection certificate (NOC)for development of FSPV. Accordingly, DoWR shall issue NOC to GRIDCO.

**Bid process management/ nomination.**

GRIDCO shall manage the bid process for developer selection in following manner:

1. **For State consumption:** Developers are selected through a competitive bidding process (TBCB)
2. **For Captive Consumption (CPPs)/For IPPs**: Developers are selected based on quantum lease rental (Upfront premium based) through a bidding process.
3. **CPSU/ SPSU and their JV:** CPSU/SPSU and their JV is selected based on Nomination basis.

GRIDCO shall submit the tender result/finalisation of Nomination to RESWC/SLSWCA/HLCA for project approval. Following approval, Letter of Intent (LoI) shall be issued by GRIDCO with the selected developer for DPR preparation.

**Detailed project report (DPR) Preparation and Approval**

After obtaining the LOI, the developer shall prepare and submit the DPR to GRIDCO.

The DPR shall include:

1. The feasibility study report from technical point of view
2. A map of the proposed reservoir surface area duly demarcated excluding the no-go/restricted area/allocated and demarcated /reserved area for other purposes such as fishery, tourism etc.
3. Environmental and Social Impact Assessment (ESIA)/Environmental and Social Management Plan (ESMP)
4. Detailed design and drawings of the proposed project
5. A detailed estimate of the project proposal
6. Financial analysis such as cost-benefit ratio and IRR
7. Other relevant details of the proposal.

The DPR and other documents shall be circulated to the chairman and all the members of the Reservoir Committee by GRIDCO through the member convener. The Committee shall meet thrice in a month on 10$^{th}$, 20$^{th}$ & 30$^{th}$ date. If a meeting falls on a holiday, it will be rescheduled to the next working day. The committee will then recommend the required water surface area to DoWR for allocation to the applicant.

**Final Allocation of Water Surface Area:**

District Reservoir Committee after due scrutiny shall recommend to DoWR for allocation of water surface area after due diligence. After getting recommendation from District reservoir

Committee, DoWR shall allocate the water surface area to the developer for development of Floating Solar PV project.

Detailed process flows are captured in the flowchart on the subsequent page.

*Figure 1: Process Flow for Water Surface Area Allocation of Major and Medium reservoirs irrigation projects (Reservoir Committee – state level)*

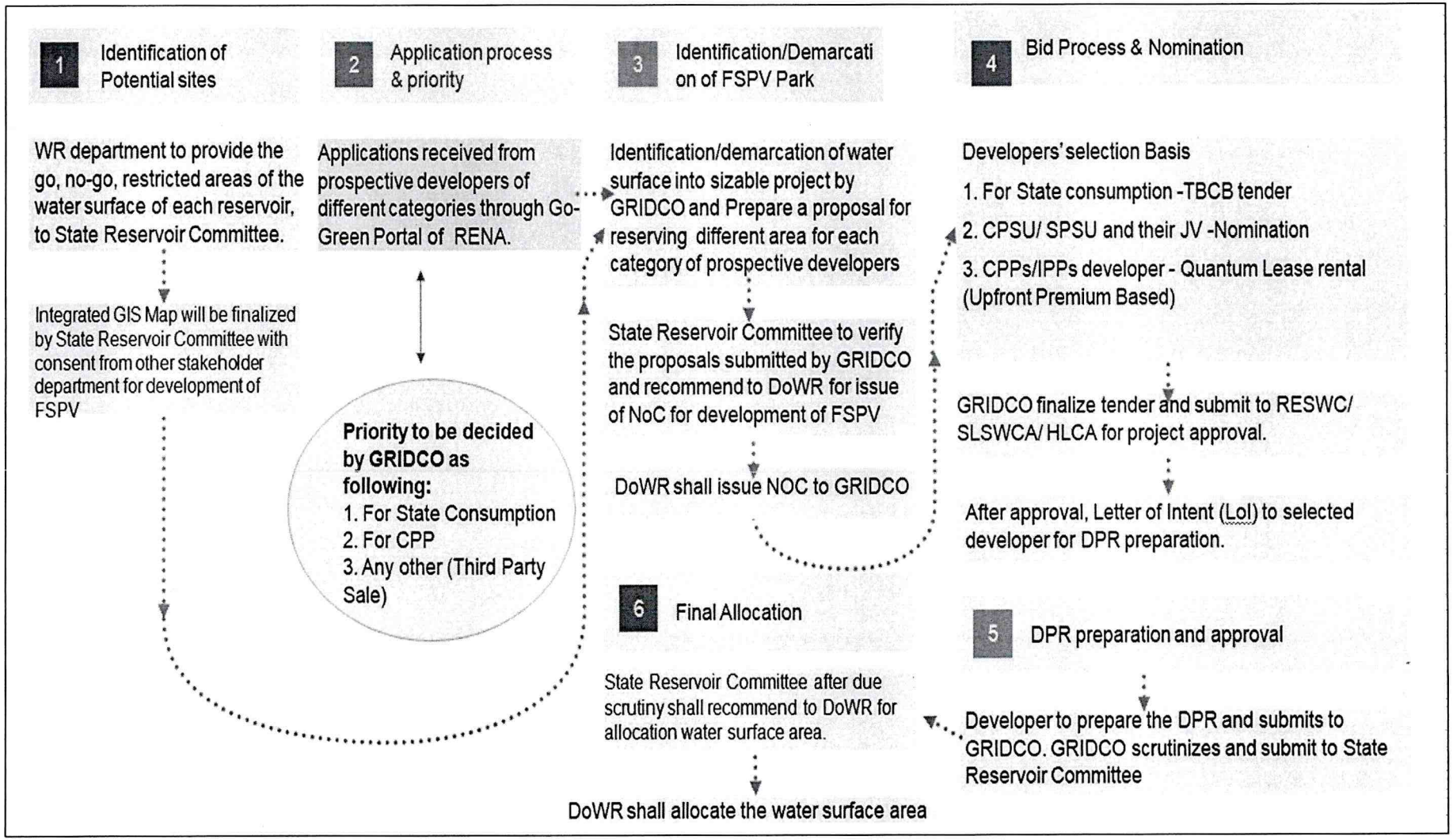
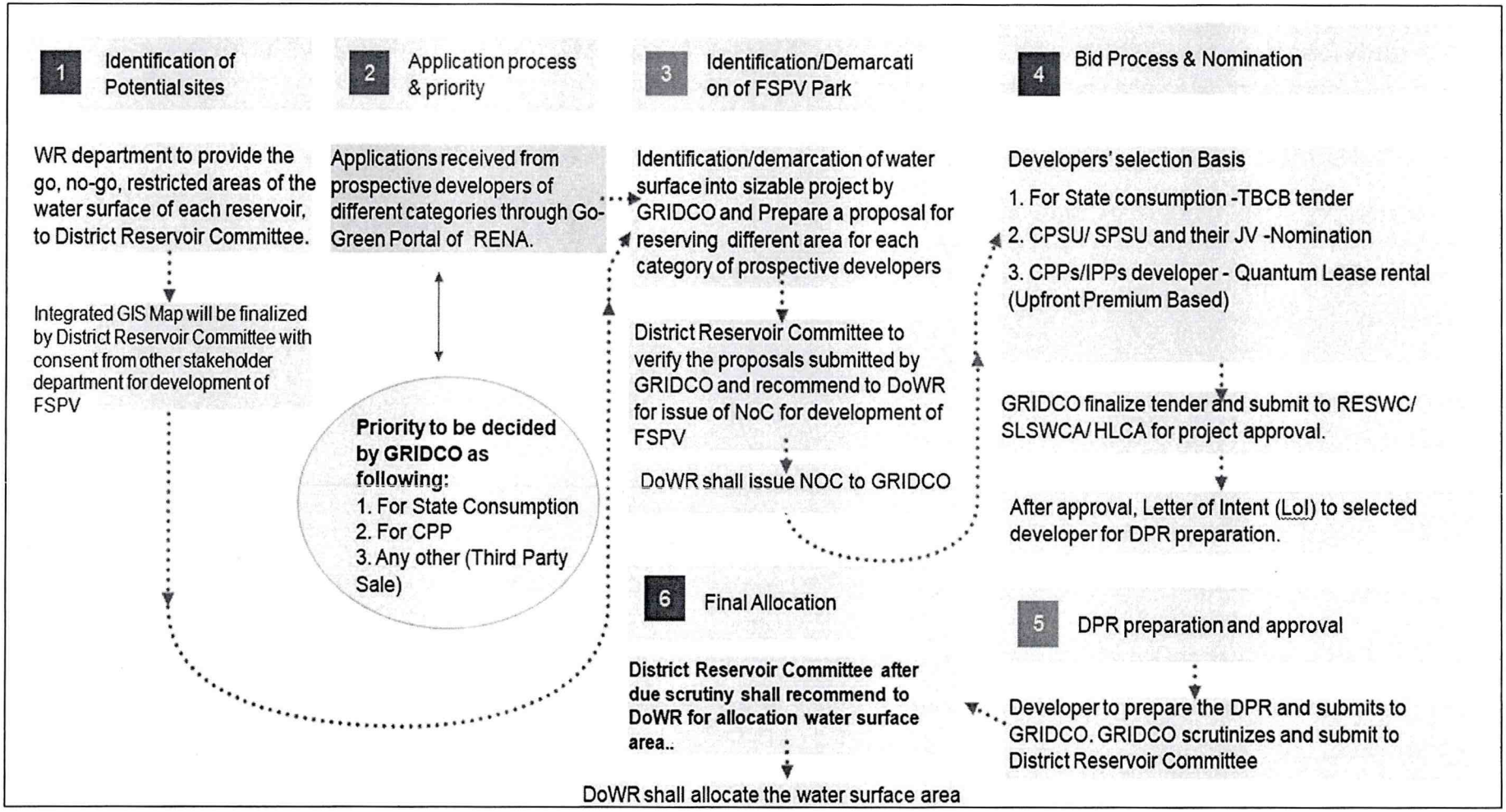


*Figure 2: Process Flow for Water Surface Area Allocation of Reservoirs/ Tanks under minor irrigation projects (Reservoir Committee – District Level)*



**Responsibility Matrix**

Following Responsibility Matrix has been prepared for project conceptualization to project commissioning.

| Sl. | Event | Responsibility lies with | Tentative timeline |
|---|---|---|---|
| 1. | Applications received from developers, Demarcation of water surface into sizable project and preparation of proposal for reserving different areas of each category. | State Nodal Agency (SNA) (GRIDCO) | 7 days |
| 2. | Scrutinization of Proposal submitted by SNA, Clearance for RAMSAR site if applicable, Recommendation to DoWR for issue of NoC. | Reservoir Committee/FE&CC | 1 Month |
| 3. | Issuance of NoC by DoWR to SNA | DoWR | |
| 4. | Bid process management | State Nodal Agency (SNA) (GRIDCO) | 45 Days |
| 5. | Project approval from Higher Authority | RE SWC/SLSWCA/HLCA | 1 Month |
| 6. | Issue of LoI to developer for DPR preparation | GRIDCO | |
| 7. | DPR preparation | Developer | 45 days |
| 8. | Statutory Clearances if any | Developer | 1 Month |
| 9 (a) | DPR scrutinization and submit to Reservoir Committee | SNA (GRIDCO) | 13 days |
| 9 (b) | Recommendation to DoWR for water surface allocation | Reservoir Committee | |
| 10 | Final allocation of Water Surface | DoWR | 10 days |
| 11 | Financial closure | Developer | 1 Month |
| 12 | Construction activities, power evacuation, substations, Commercial Operation Date (CoD) | Developer, OPTCL, Electrical Inspector | 18 Months |

## Steps for development of FSPV

### Before allocation

1. Developers selected other than competitive bidding process (TBCB method or EPC method) for supplying power to GRIDCO shall apply for allocation of water surface area with requisite fees in Go-Green portal of RENA.
2. In the event of receipt of multiple EOI for a particular water surface area, GRIDCO would prioritise allocation of water surface area and capacity amongst SPSU/CPSU and private developers (both IPPs & CPPs).
3. Allotment of water surface area to captive/IPP developer's for setting up floating solar power plants shall be available based on a higher quoted rate towards Upfront Premium.

### After allocation

1. For projects awarded either through competitive bidding for procurement of power by GRIDCO or for project awarded for captive consumptions, the developer shall submit a Bank Guarantee (BG) as stipulated in the bid documents.
2. Projects awarded on nomination basis to SPSU/CPSU or their JV, shall submit BG as decided by the GRIDCO.
3. GRIDCO may procure the saleable power from private developers as per OREP 2022 Guidelines as extracted

   *"Nodal Agency can allot FSPV to prospective private developers for captive use provided GRIDCO will have 20% right of refusal."*
4. The signed lease agreement shall be non-transferable, and the allotted water surface area in reservoir shall be utilised solely for the approved project. Upfront premium and Lease rent to be paid by the developer as per the following conditions:
   a. **For State Consumption** - An upfront premium of INR 1 Lakh per acre for water bodies used in FSPV projects, as specified by IPR 2022, and an annual lease rent of INR 100 per acre.
   b. **For CPSU/SPSU or their JV** – An upfront premium of INR 1 Lakh per acre for water bodies used in FSPV projects, as specified by IPR 2022, and an annual lease rent of INR 100 per acre.
   c. **For CPP/IPP developer based on Quantum lease rental model** – The minimum upfront premium will be INR 1 Lakh per acre, and lease rent will be INR 100 per acre per annum. Water surface area will be allocated to CPP/IPP developers who quotes higher rates towards upfront premium fees in the bidding process.
5. The developer shall pay Upfront Premium amount at the time of signing the lease agreement and annual lease rent at the beginning of lease year.

6. After expiry of the lease period (30 years), the developer is obliged to dismantle all equipment, fixtures, balance of plant, etc. from the dam/reservoir within three months and return the site to the Department of Water Resources.
7. The implementation of the proposed action plan shall not adversely affect the natural state of the dam/reservoir, coastal conditions, water/drinking water quality, aquatic flora and fauna, ecology, etc.
8. The operation of floating solar power plants shall not interfere with the functioning of the dam. Should any disruption occur, the developer may be required to relocate the plant at its own expense. The Department of Water Resources, Odisha, will not entertain any claims by developers for additional costs incurred in the shifting and re-establishment of the plant.
9. The entitlement to carbon credit benefits from floating solar power plants shall be governed by the Carbon Credit Trading Scheme Notification 2023 and amendment thereof.
10. Developers shall adhere to the acts, government orders, and instructions concerning natural resources, land, climate, forest, water, air, wildlife, vegetation, environment, ecology, etc., as issued by the executive body, the Honourable High Court, the Honourable Supreme Court, or the National Green Tribunal from time to time.
11. If the developer deviates from the aforementioned conditions and restrictions, the allotment shall be revoked, and the developer shall bear full responsibility for any adverse outcomes or complications that arise. In such eventuality, the developer cannot claim any refund of amount paid towards upfront premium and annual lease rent.

**Cancellation of the Project.**

GRIDCO reserves the right to recommend the cancellation of the lease after providing the developer with an opportunity for a hearing and securing approval from the Reservoir Committee.

- If the developer fails to sign the lease agreement within one month of allotment.
- If the developer fails to commence mobilisation at the site within three months from the date of lease agreement.
- If the developer fails to commence the generation within the defined time period.

The period shall be added with the extended period granted to developer due to force majeure or any other conditions.

Forfeiture
In case of cancellation of the project at any stage, the amount deposited by the developer towards upfront premium and annual lease rent at the time of lease agreement shall be forfeited by the DoWR, Government of Odisha (GoO).

**Bid parameters.**

1. The qualification criteria for the award for Floating Solar projects to any developer shall be established separately by the State Nodal Agency (SNA).
2. Tariff based bids shall be invited for state procurement by GRIDCO. The lowest tariff proposed by the prospective developer will be the primary criterion for the selection of the developer for the allocation of sites/projects. Additionally, the SNA may opt to conduct an e-reverse auction at its discretion. The method of selection of the Developer shall be communicated to all bidders in advance through the bid document.
3. Besides the aforementioned bidding process, bids may be invited based on maximum upfront premium fees with the Government of Odisha, subject to a minimum threshold determined by the Nodal Agency. Bids falling below this threshold shall be rejected.
4. Tentative key milestones in the bidding process are as follows:

| Sr. | Event | Days |
|---|---|---|
| 1. | Request for Proposal (RFP) issued by SNA | 0 day=T |
| 2. | Pre-bid meeting | T+ 7 days |
| 3. | Corrigendum and amendments to the RFS document | T+ 15 days |
| 4. | Last date for bid submission | T+ 30 days |
| 5. | Opening of techno-commercial bids | T + 30 days |
| 6. | Opening of financial bid | T + 40 days |
| 7. | E-reverse auction conducted | T+ 42 Days |
| 8. | Issuance of Letter of Award (LoA) to successful bidder after due approval | T + 45 Days |

**Road connectivity:**

1. The developer shall create necessary infrastructure at his own expense, including an approach road (if necessary), a small bridge, or any modification to the existing road, etc.
2. Should there be a requirement for any major road or bridge, a mutual decision will be reached between the developer and the Government of Odisha.

**Metering of FSPV**

1. FSPV Developers and DISCOMs/CTU/STU shall comply with the provisions of applicable regulations, standards, and codes as notified by various authorities, such as OERC and CEA, concerning aspects like metering, connectivity, and safety.
2. The metering point and interconnection point shall be the designated point of connection at the CTU/STU substation or DISCOM network, as appropriate, where CTU/STU/ DISCOM grants connectivity for the injection of power from FSPV.
3. Interface metering shall comply with the Central Electricity Authority (Installation and Operation of Meters) Regulations 2014 and any subsequent amendments, as required by CTU/STU/DISCOM.
4. FSPV developers are also required to install a Remote Terminal Unit (RTU) and communication system to facilitate the transfer of real-time data to the concerned Load Dispatch Centre for monitoring purposes.
5. For the purpose of energy accounting, the main meter, check meter, and standby meter shall be installed at the metering point, as per the provisions of applicable order/regulations /codes from time to time.

**Statutory clearances and permissions**

1. The developer shall obtain all statutory and other clearances as required from the State Government or other agencies for the execution of this project.
2. Clearances for the Floating Solar Project shall be required from:
    - The Revenue Department in the event that the land involved is government land.
    - The Forest Department and climate change (FE&CC) if forest land and RAMSAR site is involved.
    - No Objection Certificate/LoI from the DoWR/GRIDCO.
    - Ministry of Defence (MoD), Government of India clearances, if required.
    - Any other clearances as may be necessary to establish and operate the project.

The aforementioned clearances, as applicable to the project, along with allocation of water surface area from DoWR shall be submitted prior to the commissioning of the project. Any of the clearances mentioned above be deemed not applicable for the said project, the FSPV developer shall submit an undertaking to this effect, subject to acceptance by GRIDCO. The FSPV developer will bear any consequences arising from non-compliance with the above stipulations. Furthermore, the FSPV developer shall adhere to all laws, regulations, orders, and procedures promulgated by the appropriate authority, applicable to the establishment and implementation of the project.

The FSPV developer is required to follow the applicable rules concerning project registration with the SNA in accordance with the provisions of the applicable policies/regulations of the Odisha State It is incumbent upon the FSPV developer to remain informed about the applicable charges payable to the SNA and other government authorities under the respective policies.

Tentative timelines for the clearances are as follows:

| Sl. | Particular | Timelines (Months) |
|---|---|---|
| 1 | Local Body/Gram Panchayat clearance | T+1 |
| 2 | Revenue Department in case of government land | T+1 |
| 3 | Forest Department clearance | T+1 |
| 4 | Environmental clearance | T+1 |
| 5 | Irrigation clearance | T+1 |
| 6 | Power Evacuation clearance (STU) | T+1 |
| 7 | Defence clearance (if required) | T+1 |
| 8 | Archaeology Survey of India clearance (if required) | T+1 |
| 9 | Pollution control board clearance | T+1 |
| 10 | Any other regulatory clearance and no dues etc. | T+1 |

*'T' means: Date of Applications by the developer to respective department within 3 days from the date of DPR Submission.*

**Connectivity with grid**

1. The Project should be designed for interconnection with the CTU/STU network or DISCOM in accordance with the prevailing regulations of Appropriate Commission in this regard. For interconnection with the grid and metering, the FSPV developer shall abide by the applicable grid code, grid connectivity standards, regulations on communication system for transmission of electricity, and other regulations/procedures (as amended from time to time) issued by Appropriate Commissions and the Central Electricity Authority (CEA). The minimum voltage level for interconnection at the STU shall be 132 kV, or the minimum voltage level for interconnection at the DISCOM shall be 11 kV.
2. STU connectivity is the sole responsibility of the FSPV developers, and they have to obtain it at their own expense. Given the dynamic nature of transmission system availability, the

bidder shall ensure the actual availability of power injection/evacuation capacity at the STU substation. The transmission of power up to the point of interconnection, where metering is conducted for energy accounting, shall be the responsibility of the FSPV developer, and the cost thereof shall be entirely borne by the FSPV developer. The maintenance of the transmission system up to the interconnection point shall be the responsibility of the FSPV developer and to be undertaken entirely at their cost and expense.

**Project completion**

1. Commissioning of the Project shall be carried out by the FSPV developer in line with the procedure defined. A Commissioning Certificate shall be issued by State Nodal Agency (SNA) after successful commissioning.
2. The Scheduled Commissioning Date (SCD) for commissioning of the full capacity of the project shall be the date as on 18 months from the date of financial closure.
3. The maximum time period allowed for commissioning of the full project capacity, with applicable liquidated damages, shall be limited to the date as on 270 days from the SCD or the extended SCD (if applicable).
4. If the commissioning of the project be delayed beyond the aforementioned date, the capacity shall be reduced/amended to the Project Capacity commissioned, and the for the balance capacity will be terminated and shall be deducted from the selected project capacity.

**Disclaimer**

In the event of any amendments or introduction of new regulations or guidelines by the Government of India or Government of Odisha subsequent to the notification of this guideline, such regulations/guidelines shall prevail, superseding any conflicting provisions herein.

## Glossary

| Particulars | Description |
|---|---|
| ARD | Shall mean Fisheries and Animal Resource Development Department. |
| BOO | Shall mean Build Own Operate |
| CPP | Shall mean Captive Power Producers |
| CPSU | Shall mean Central Public Sector Undertaking |
| CTU | Shall mean Central Transmission Utility |
| CUF | Shall mean Capacity Utilisation Factor |
| DISCOM | Shall mean Distributions Companies |
| DoWR | Shall mean Department of Water resource |
| DPR | Shall mean Detailed Project report |
| EoI | Shall mean Expression of Interest |
| EPC | Shall mean Engineering, Procurement and Construction |
| ESIA | Shall mean Environmental and Social Impact Assessment |
| ESMP | Shall mean Environmental and Social Management Plan |
| FE&CC | Shall mean Forest, Environment and Climate Change Department. |
| FSPV | Shall mean Floating Solar Photo Voltaic |
| GIS | Shall mean Geographic Information System |
| GoO | Shall mean Government of Odisha |
| HLCA | Shall mean High Level Clerance Authority chaired by Chief Minister of Odisha. |
| IPICOL | Shall Mean Industrial Promotion and Investment Corporation of Odisha Ltd. |
| IPP | Shall mean Independent Power Producer |
| Lease Period | Shall mean 30 years |
| LoA | Shall mean Letter of Award |
| LoI | Shall mean Letter of Intent |
| MNRE | Shall mean Ministry of New and Renewable Energy |
| MoD | Shall mean Ministry of Defence |

| | |
|---|---|
| NOC | Shall mean No Objection Certificate |
| OREP | Shall mean Odisha Renewable Energy Policy |
| PFR | Shall mean Pre-Feasibility Report |
| PPA | Shall mean Power Purchase Agreement |
| PSP | Shall mean Pumped Storage Project |
| RAMSAR | Shall mean a wetland site designated of international importance especially as Waterfowl Habitat under the Ramsar Convention, an intergovernmental environment treaty established in 1975 by UNESCO, coming into force in 1975. |
| RENA | Shall mean Renewable Energy Nodal Agency |
| RESWC | Shall mean Renewable Energy Single Window Clerance chaired by Principal Secretary, Energy Department of Odisha. |
| RFP | Shall mean Request for Proposal |
| RFQ | Shall mean Request for Qualification |
| RTU | Shall mean Remote Terminal Unit |
| SLSWCA | Shall mean State Level Single Window Clerance Authority chaired by Chief-Secretary, Odisha |
| SNA | Shall mean State Nodal Agency. |
| SPSU | Shall mean State Public Sector Undertaking. |
| STU | Shall mean State Transmission Utility. |
| TBCB | Shall mean Tariff Based Competitive Bidding. |

## Annexure -I – Reservoir Committee at State Level

**Government of Odisha**
**Department of Water Resources**

No.-WR-MAJII-WRC-0135-2023 11175 /WR, Bhubaneswar dated 23/4/2024

**NOTIFICATION**

**Subject:** Reservoir Committee for Development of Floating Solar PV Projects in reservoirs of Major and Medium Irrigation Projects.

A Reservoir Committee is hereby constituted with the following members for Development of FSPV Projects in reservoirs of Major and Medium Irrigation Projects.

1) Engineer-in-Chief, Planning & Design, DoWR. - Chairman
2) Chief Engineer & Basin Manager/ Chief Engineer/Chief Construction Engineer of concerned reservoir projects - Member Convenor
3) Director, F & CA (GRIDCO) - Member
4) Director Operation, OPTCL - Member
5) Additional Secretary, Industry Department - Member
6) Additional Secretary, Fisheries & AR Deptt - Member
7) Additional Secretary, Forest, Environment & Climate Change Deptt. - Member
8) Additional Secretary, Tourism Department - Member

The Committee shall study all the major/medium Dams and finalize suitable area for FSPV Projects excluding no-go zones and earmarking certain areas for other activities viz. fishery & tourism etc.

This shall come into force with immediate effect.

**ORDER**

Ordered that this Notification be published in an extraordinary issue of Odisha Gazette.

BY ORDER OF GOVERNOR

**Additional Chief Secretary to Govt.**

P.T.O.

## Annexure-II-District Reservoir Committee

**Government of Odisha**
**Department of Water Resources**

No.-WR-MAJII-WRC-0135-2023 11189 /WR, Bhubaneswar dated 23/4/2024

**NOTIFICATION**

**Subject:** District level Reservoir Committee for Development of Floating Solar PV Projects in reservoirs of Major and Medium Irrigation Projects.

District Level Reservoir Committee is hereby constituted with the following members for Development of FSPV Projects in reservoirs/tanks of Minor Irrigation Projects.

1) District Collector -Chairman
2) Superintending Engineer/Executive Engineer -Member Convenor
3) Senior Manager of concerned area of OPTCL - Member
4) Senior Manager of concerned area of GRIDCO - Member
5) DFO Territorial /Wild Life of concerned area. -Member
6) General Manager, DIC of the concerned District - Member
7) District Fisheries Officer of the concerned District - Member
8) District Tourism Officer of the concerned District - Member

The Committee shall study all the reservoirs/tanks of Minor Irrigation Projects and finalize suitable area for FSPV Projects excluding no-go zones and earmarking certain areas for other activities viz. fishery & tourism etc.

This shall come into force with immediate effect.

**ORDER**

Ordered that this Notification be published in an extraordinary issue of Odisha Gazette.

BY ORDER OF GOVERNOR

**Additional Chief Secretary to Govt.**

**P.T.O.**