

# **Policy for Development of Small Hydro Energy for Power Generation (Upto 10 MW) Government of Jammu & Kashmir 2017**

## **Foreword**

Jammu & Kashmir is blessed with abundance of hydro energy potential but so far only about 15 % of this potential has been harnessed most of which is mainly through medium & large hydroelectric projects. The Government of Jammu & Kashmir has been extending host of incentives to developers through hydel policies of 2003 and 2011. There has been a forward movement but there is huge space for improvement of the hydel policy and consequent development of hydel power. There seems to be a need to incorporate new changes in the existing policy and make it more investor friendly. Meanwhile the GoJK has enhanced the mandate of JAKEDA from 2 to 10 MW. This revision of mandate as well as the need to review the existing policy framework has necessitated the formulation of a new hydel policy. JAKEDA through this policy envisages mainstreaming of small hydel energy in the development plans of the State. The policy lays down very liberal and attractive incentives to attract investment. Based on the experience gained during the currency of this the policy, elements of competition will be introduced in future.

The total identified potential of small hydel projects (upto 25 MW) in the State is about 1500 MW which by no means is exhaustive. As new sites are identified, these will be brought into the ambit of this policy. JAKEDA estimates that the potential in the category of 10 MW & less is about 1000 MW. The motive of this policy is to make it investor friendly to ensure achievement of 1000 MW

installed capacity target in the next 10 years both in the EPC (500 MW) & IPP (500 MW) mode. The EPC Capacity of 500 MW is expected to propel JAKEDA into a 5000 crore company in the next 10 years.

Some salient features of this policy are:

- i. It invites investment from the private sector for following categories of proposals:
  - a. Independent power projects or IPPs (for sale of power to the grid or any other customer within or outside the State)
  - b. Captive cum grid spill over power projects. (i.e., for self-use and sale to utility or any other customer within or outside the State)
  - c. Captive power projects (i.e., for self or dedicated use)
  - d. Isolated grid power projects (i.e., small, stand-alone)
- ii. Except for Category (a) above, these projects will not require any LOI, LOS, or IA from the Government.
- iii. Electricity purchase by State Utilities has been made mandatory. However, the IPP shall be free to sell electricity to any customer within or outside the State
- iv. It permits an investor to generate electricity based on resource at one location and receive an equivalent amount for own use elsewhere on the grid at the investor's own cost of generation plus transmission charges (wheeling).
- v. It allows net metering and billing so that a producer can sell surplus electricity at one time and receive electricity from the grid at another time and settle accounts on net basis. This will directly benefit the

economics of small scale, dispersed generation and optimize capacity utilization of installed systems.

vi. It diligences and deregulates small scale power production through off grid (up to 5 MW) to reduce the transaction costs for such investments. This will be particularly beneficial for micro and mini hydro projects.

vii. It facilitates projects to obtain carbon credits for avoided greenhouse gas emissions, helping improve financial returns and reducing per unit costs for the purchaser. These guidelines are in line with the Government's open door policy for inviting private investment into the State which will go a long way in strengthening and improving the power supply position of the State and help fuel rapid and environmentally sustainable economic growth.

## Contents

<b>1. Introduction.....</b>	<b>7</b>
<b>2. Power Sector Institutions .....</b>	<b>7</b>
<b>3. Renewable Energy Resources in Jammu &amp; Kashmir.....</b>	<b>11</b>
<b>4. Strategic Policy Objectives.....</b>	<b>12</b>
4.1 Energy Security .....	12
4.2 Economic Benefits.....	12
4.3 Social Equity.....	13
<b>5. Policy Goals and Development Strategy .....</b>	<b>13</b>
<b>6. Scope of Policy .....</b>	<b>14</b>
<b>7. Road Map for Policy Development and Implementation .....</b>	<b>15</b>
<b>8. Hydel Power Generation Policy .....</b>	<b>15</b>
8.1 Avenues for Private Sector Participation .....	15
8.2 General Incentives for Power Generators .....	16
8.2.1 Guaranteed Market: Mandatory Purchase of Electricity .....	16
8.2.2 Grid Connection, Off-take Voltage and Interface .....	16
8.2.3 Wheeling .....	17
<b>8.3 Specific Incentives for Grid-Connected RE IPPs.....</b>	<b>17</b>
8.3.3 Carbon Credits .....	17
8.3.4 Security Package .....	18
8.4 Facilities for Captive and Grid Spillover Projects.....	18
8.4.1 Net Purchase and Sales.....	18
8.4.2 Net Metering.....	19
8.4.3 Banking .....	20
8.5 Facilities for Off-grid and Dispersed RE Power Generation .....	21
8.6 Financial and Fiscal Incentives.....	21
8.6.1 Fiscal Incentives.....	22
8.6.2 Financial Incentives.....	22

8.7 Procedure for Setting Up RE IPPs for Sale of All Power to Grid....	23
<b>8.7.1 Process for Unsolicited Proposals.....</b>	<b>23</b>
8.7.1.1 Submission of Unsolicited Proposals.....	24
8.7.1.2 Evaluation of Unsolicited Proposals and Issuance of Letter of Intent .....	25
8.7.1.3 Feasibility Study.....	26
8.7.1.4 Validity of Period of Letter of Intent.....	27
8.7.1.5 Request for Determination of Tariff.....	28
8.7.1.6 Performance Guarantee and Letter of Support .....	28
<b>8.7.2 Process for Solicited Proposals.....</b>	<b>28</b>
8.7.2.1 Request for Proposals .....	30
8.7.2.2 Bid Bond, Letter of Support, and Performance Guarantee .....	30
8.7.3 Process Subsequent to Issuance of LoS .....	31
8.8 Security Package and Risk Cover .....	32
8.9 Fee, and Contractual Arrangements.....	33
8.9.1 Fee Structure.....	33
8.9.2 Enterprise Structure and Licensing Requirements.....	34
8.9.3 Lock-in Period .....	35
8.9.4 Type of Contracts .....	35
8.9.5 Nature of Equipment .....	35
8.10 Determination of Tariff for Grid-Connected IPPs .....	36
8.11 Tariff Options .....	36
8.12 Water Use Charge .....	36
8.13 Evaluation of IPP Tariffs .....	36
8.14 Transparency and Visibility of Calculation of Tariff .....	36
8.15 Transmission and Interconnection.....	36
8.16 Compliance with GoJK Policies.....	37
8.17 Regulatory Authority.....	37
8.18 Due Diligence.....	37
8.19 Power to remove difficulties.....	38

8.20 Power to amend.....	38
8.21 Repeal & Savings.....	38
8.22 Third Party Inspection & Monitoring.....	38
8.23 Corporate Social Responsibility.....	39
8.24 Prequalification of Sponsors/bidders.....	39
8.25 Projects evoking no response.....	39
<b>Annexure A: Guidelines for Development of Small Off-grid Projects.....</b>	<b>40</b>
<b>Abbreviations .....</b>	<b>43</b>
<b>Various modes of execution of Projects .....</b>	<b>45</b>

## **1. Introduction**

The rapidly developing economy of the J&K State and changing lifestyles of the people means a proportional increase in consumption of electricity. The energy needs of Jammu & Kashmir are ever increasing. The State, historically a net energy importer, is confronting serious imminent energy shortages as the demand grows and power procurement prices are expected to follow an upward spiral. Thus, the State needs to initiate a sustained, long-term transition towards greater use of renewable energy (RE) mainly through small hydel power—an indigenous, clean, and abundant resource whose considerable potential the State has yet to tap meaningfully. The Government of Jammu & Kashmir (GoJK) intends to pursue this objective of harnessing power from hydel power with the full participation and collaboration of the private sector. This document sets out policies and strategies to exploit the hydel resources and attract investments in electricity generation projects utilizing hydro (up to 10 MW) capacity.

## **2. Power Sector Institutions**

The following institutions are of relevance in facilitating electricity generation, transmission, and distribution in Jammu & Kashmir.

### **2.1 Jammu & Kashmir Power Development Department**

The Jammu and Kashmir Power Development Department (JKPDD) is presently the sole licensee for carrying out the Transmission and Distribution business of electricity in the State of Jammu and Kashmir. The JKPDD is currently discharging the following functions:-

- Procurement of electricity from the Power Development Corporation (PDC), Central Public Sector Undertakings and other agencies.
- Transmission and Distribution of electricity in the State of Jammu & Kashmir as per the requirements of the J&K Electricity Act 2010 and National Electricity Policy.

- Planning and carrying out the works related to transmission and distribution of electricity in the State to make electricity available to all its consumers and promote the efficient use of electricity within the state.

The Government of Jammu & Kashmir, vide Govt. Order no. 264 PDD of 2012 dated September 05, 2012, has ordered unbundling of JKPDD and setting up of one transmission company, two distribution companies (one each for Jammu and Kashmir divisions) and one power trading company. Accordingly the following companies have been incorporated:

- i. Jammu & Kashmir State Power Transmission Company Limited
- ii. Jammu & Kashmir State Power Trading Company Limited
- iii. Jammu Power Distribution Company Limited
- iv. Kashmir Power Distribution Company Limited

The above arrangement is however, yet to be operationalised.

## **2.2 Jammu & Kashmir Science & Technology Department:-**

This department is the executive arm of the State Government inter alia for issues relating to generation of electricity from renewable sources including hydel (upto 10 MW) and exercises its functions through an autonomous agency namely the Jammu & Kashmir Energy Development Agency (JAKEDA).

## **2.3 Jammu & Kashmir State Electricity Regulatory Commission**

The Jammu & Kashmir State Electricity Regulatory Commission (JKSERC) was established under “THE JAMMU AND KASHMIR STATE ELECTRICITY REGULATORY COMMISSION ACT, 2000” also known as the ‘JKSERC Act’) to discharge the following functions, namely:--



- (a) To determine the tariff for electricity, wholesale, bulk, grid or retail, as the case may be;
- (b) To determine the tariff payable for use of the transmission facilities in the manner provided;
- (c) To regulate power purchase and procurement process of the transmission utilities and distribution utilities including the price at which the power shall be procured from the generating companies, generating stations or from other sources for transmission, sale, distribution and supply in the State;
- (d) To promote competition, efficiency and economy in the activities of the electricity industry;

#### **2.4 Jammu & Kashmir State Water Resources Regulation & Management Authority (SWRRA):-**

The Jammu and Kashmir State Water Resources Regulatory Authority has been constituted under the “Jammu & Kashmir Water Resources (Regulation & Management) Act 2010 with the broad mandate to be essentially responsible for regulating water resources within the territorial jurisdiction of the Jammu and Kashmir State, ensuring judicious, equitable and sustainable management, allocation and utilization of these resources, fixing the rates for use of water, and all matters connected therewith or incidental thereto.

#### **2.5 Jammu & Kashmir State Power Development Corporation Limited (JKSPDCL)**

JKSDCL the State Genco was incorporated under the Companies Act as a private limited company in 1995 with the following mandate/functions:-

- Planning, promotion and organizing an integrated and efficient development of Electric Power in all its aspects;

- Investigation, research, design and preparation of preliminary feasibility and detailed project reports;
- Construction, generation, operation and maintenance of power stations and sale of power generated;
- Construction of transmission lines and ancillary works for timely and co-ordinated supply of power;
- Arranging loan and assignment in favour of company for all properties or rights that may be necessary for this purpose.

The Company has 21 Projects with an aggregate installed capacity of about 1211 MW in operation.

## **2.6 Jammu & Kashmir Energy Development Agency (JAKEDA)**

Jammu & Kashmir Energy Development Agency (JAKEDA) wholly owned by J&K Government was registered as a society in 1989 with the mandate to promote and implement renewable projects to meet the energy requirement of the State. These include Solar, Hydel, Wind and other renewable sources of energy. In respect of Hydel Projects the Government of Jammu & Kashmir in 2009 ordered delineation of responsibilities between JAKEDA & JKSPDCL with the former mandated with development of projects upto 2 MW and the latter above 2 MW. This delineation of responsibilities resulted in notification of two hydel policies in 2011; one upto 2 MW (JAKEDA) and the other from 2-100 MW (JKSPDCL). Now the mandate in favour of JAKEDA for hydel projects has been enhanced to 10 MW vide order no10-PDD of 2017 dated 11-01-2017.

### 3. Renewable Energy Resources in Jammu & Kashmir

A brief summary of the available renewable energy potential in Jammu & Kashmir is given in **Exhibit 1**, which also describes the current status of its development in the State.

**Exhibit 1:** Potential and Status of Renewable Energy in Jammu & Kashmir

Resource	Potential	Status (2017)
Hydro	The total hydroelectric potential is conservatively estimated to be 20,000 MW. This consists of all sizes of hydropower plants, including small, medium and high-head schemes on the main rivers as well as the mountainous streams in the State.  <i>The potential from small hydel identified so far is about 1500 MW and increasing as new sites are identified.</i>	In Jammu & Kashmir the installed hydroelectric capacity from all sectors is as under:- State Sector:-1212 MW Central Sector:-2009 MW Private Sector: - 42.5 MW. This amounts to 3263 MW of total capacity, or about 16% of the estimated potential. The potential harnessed in small hydel category (upto 25 Mw) is only about 75 Mw.
Wind	Commercially exploitable wind resources exist in many parts, especially in Bidda	No commercial wind farms in operation. Some wind masts put up in various parts for resource assessment.
Solar: Photovoltaic (PV) and thermal	Much of Jammu & Kashmir, receives abundant solar radiation of the order of over 4.5 to 5 KWh/m <sup>2</sup> on a horizontal surface and 280-300 days of sunshine on an average during a year.	Negligible use in niche applications. No significant marketing of rooftop PV or household and commercial thermal systems.

<p>Biomass: Bagasse, rice husk, straw, dung, municipal solid waste, etc.</p>	<p>Jammu &amp; Kashmir's large agricultural and livestock sector produces copious amounts of biomass in the form of crop residues and animal waste, such as bagasse, rice husk, and dung, much of which is currently collected and used outside the commercial economy. In addition, municipal solid waste produced by the urban population is presently openly dumped, which could instead be disposed of in proper landfills or incinerated to produce useable methane gas or electricity.</p>	
--	--	--

#### **4. Strategic Policy Objectives**

The four key strategic objectives for developing Jammu & Kashmir's small hydroelectric energy resources include:

##### **4.1 Energy Security**

Mainstreaming of renewable energy particularly small hydro energy and greater use of indigenous resources can help diversify Jammu & Kashmir's energy mix and reduce the State's dependence on import of power, thereby mitigating against supply disruptions.

##### **4.2 Economic Benefits**

When properly assessed for their externalities, renewable energy options can become economically competitive with conventional supplies on a least-cost basis. This is particularly true for the more difficult, remote, and underdeveloped

areas, where RE from small hydel can also have the greatest impact and the avoided costs of conventional energy supplies can be significant. This can thus supplement the pool of energy supply options in Jammu & Kashmir, expediting economic empowerment, improving productivity, and enhancing income generating opportunities—especially for currently marginalized segments of the population. Decentralized systems can also help reduce energy distribution losses and result in system-wide and efficiency gains (e.g., as measured by ‘energy intensity’, or energy use per unit of GDP). A growing renewable energy industry can afford new prospects for employment and business opportunities amongst local manufacturers and service providers.

### **4.3 Social Equity**

Jammu & Kashmir’s present low per-capita consumption of energy can be elevated through greater RE use. Issues relating to social equity—such as equal rights and access for all citizens to modern energy supplies, improved human development indicators, poverty alleviation amongst deprived sections of society, and reduced burden on rural women for biomass fuel collection and use—can also be addressed significantly through widespread renewable energy deployment through small hydel. This can thus facilitate social service delivery and help improve the well-being of the State’s poorest, who presently have little to modern energy services.

## **5. Policy Goals and Development Strategy**

The specific goals of the small hydel energy policy regime to be evolved in order to systematically meet these objectives, of which these guidelines are the first step, would be to:

- i. Increase the deployment of small hydel projects in Jammu & Kashmir.

- ii. Provide additional power supplies to help meet increasing demand.
- iii. Introduce investment-friendly incentives, and facilitate energy markets to attract private sector interest in the hydel projects, help nurture the industry, and gradually lower costs and prices through competition in an increasingly deregulated power sector.
- iv. Devise measures to support the private sector in mobilizing financing and enabling public sector investment in promotional, demonstrative and trend setting hydel projects.
- v. Optimize impact of the deployment of small hydel projects in underdeveloped areas by integrating energy solutions with provision of other social infrastructure, e.g., educational and medical facilities, clean water supply and sanitation, roads and telecommunications, etc., so as to promote greater social welfare, productivity, trade, and economic well being amongst deprived communities.
- vi. Help in broad institutional, technical, and operational capacity building relevant to the renewable energy sector in general and small hydel in particular.
- vii. Facilitate the establishment of a domestic manufacturing base for small hydel technology in the State that can help lower costs, improve service, create employment, and enhance local technical skills.

## **6. Scope of Policy**

The policy shall cover small hydel projects upto 10 MW Capacity.

## **7. Road Map for Policy Development and Implementation**

The small hydel energy development in Jammu & Kashmir is conceived under a phased, evolutionary approach constituting a strategic policy implementation roadmap. The initial short term phase will involve lenient policy measures and incentives in order to attract investment in this relatively new business area, remove existing barriers to project implementation, and ‘hand-hold’ reasonable-sized pioneering projects through to successful commercial operation. As experience, business confidence, and domestic industry capacity grows, it is planned that the policy environment will graduate into a more competitive and deregulated market environment, with significantly expanded scale of activities envisioned in the medium and long terms.

## **8. Hydel Power Generation Policy**

The policy for the development of small hydel projects shall be as follows:

**Public Sector:** A portfolio, consisting of projects situated in far flung areas or that are otherwise not likely to be profitable to the private sector in the foreseeable future, will be identified. These will essentially comprise of sites that are remote, inaccessible, or represent areas characterized by uneconomic levels of power demand. Such projects would be undertaken through public sector financing and/or through community/NGO/donor.

**Private Sector:** The private sector will be encouraged to undertake commercially viable projects. For this purpose, incentives are being offered, as detailed in subsequent paragraphs below:-

### **8.1 Avenues for Private Sector Participation**

The private sector would be welcome to undertake projects falling in any of the following categories:

- i. Independent power projects (IPPs) based on new plants (for sale of power to the grid or any other customer within or outside the State)

- a. Solicited
  - b. Unsolicited
- ii. Captive and grid spill over power projects (i.e., self-use and sale to utility or any other customer within or outside the State)
  - iii. Captive power projects (i.e., for self or dedicated use)
  - iv. Self identified projects
  - v. Isolated grid power projects (i.e., small, stand-alone)
    - a. Solicited
    - b. Unsolicited.

## **8.2 General Incentives for Hydel Power Generators**

The provisions stated below shall be made available to all qualifying hydel projects following under any of the categories defined in **Section 8.1** above.

### ***8.2.1 Guaranteed Market: Mandatory Purchase of Electricity***

It shall be mandatory for the power distribution utilities to buy all the electricity offered to them by the projects established in accordance with the provisions given in **Section 8.2.2**.

### ***8.2.2 Grid Connection, Off-take Voltage and Interface***

Electricity shall be purchased from power producers at a voltage of 220 kV at the outgoing bus bar of the power station if the power station is located within 70 km of an existing 220 kV transmission line, or at 132 kV if it is within 50 km of an existing 132 kV transmission line, or at 33 KV if it is within 10 Km of existing 33 KV transmission line or at 11 kV if it is within 5 km of an existing 11 kV transmission line. The producer may also undertake to lay a new transmission line for connection with



the main electricity grid. The power purchase tariff determination will be adjusted accordingly for each of these options.

### ***8.2.3 Wheeling***

Power producers shall also be allowed to enter into direct (bilateral) sales contracts with end-use customers. Under this arrangement, they would be allowed to sell all or a part of the power generated by them to their direct customers and the rest to the utility for general distribution.

For direct sales, they shall be required to pay ‘wheeling’ charges for the use of the transmission and/or distribution grid network used to transport the power from the plant to the purchaser. In practical terms, the IPP shall inject electricity into the grid system at one point (subject to the provisions in **Section 8.2.2**) and would be entitled to receive the same amount at any other location (within the same distance from the grid as the distance of the plant from the system) upon payment of a corresponding wheeling charge, to be determined by JKSERC. This wheeling charge will reflect the cost of providing and maintaining the transmission interconnection, including the energy losses suffered *enroute*, as calculated by JKSERC.

## **8.3 Specific Incentives for Grid-Connected IPPs**

Specific incentives are provided under this policy to independent power producers (IPPs) selling all generated electricity (minus auxiliary consumption) to the grid.

### ***8.3.1 Carbon Credits***

It is appropriate that any carbon credits obtained by IPPs be utilized to improve the economic competitiveness of hydel based grid power for both the procurer and the producers. The IPP shall therefore, at the time of submission of tariff petition to JKSERC, incorporate the CER-based revenue stream expected over the term of the project’s Power

Purchase Agreement (PPA). A mechanism and legalized institutional arrangement shall be approved by JKSERC for sharing of the benefits.

### ***8.3.2 Security Package***

The power purchaser shall enter into a specific Power Purchase Agreement (PPA) based on a standard model agreement, with the power producer. The Government of Jammu & Kashmir shall also enter into a payment security agreement which will guarantee the payment obligation of the public sector power purchaser on account of power sales extending over the term of the PPA. The Nodal Agency shall also facilitate the acquisition of CDM Certified Emissions Reduction units(CERs) by qualifying projects, and the sharing of associated revenues under a separate agreement and based on payment-on-delivery terms, subject to verification of the same, between the IPP (as a ‘green’ credit) and the power purchaser (as ‘green tariff’ support).

## **8.4 Facilities for Captive and Grid Spill over Projects**

For other categories of power generators, e.g., captive and grid spill over power projects, wishing to sell surplus power to the utility grid, the following facilities shall be made available. These will be further refined and expanded for the next policy phase based on initial experience gained in the short term.

### ***8.4.1 Net Purchase and Sales***

A power project of capacity set up for self(captive) or dedicated use may supply surplus electricity to the power utility (grid spill over), while at other times drawing electricity from the utility to supplement its own production for local use, subject to the provisions in **Section 8.2.2**. In such cases, the net electricity:-

- a. supplied by the power producer to the utility in a month (i.e., units supplied by the producer minus units received by the producer, if greater than zero), shall be paid for by the utility at a tariff equal to the average energy cost per kWh for hydel power generation (as determined by JKSERC for GENCOs/IPP's over the applicable quarter of the year) less 10%, or
- b. supplied by the utility to the power producer in a month, (i.e., units received by the producer minus units supplied by the producer, if greater than zero), shall be paid for by the producer at the applicable retail tariff (e.g., industrial or commercial rates, depending upon the type of user connection). Such *net purchase and sales*—or net billing—arrangements will involve measurement of the electricity received and supplied to the utility by the power producer using two separate sets of unidirectional meters.

#### **8.4.2 Net Metering**

A power project of capacity up to 10 MW set up for self (captive) or dedicated use may also supply surplus electricity to the power utility while at other times drawing electricity from the utility to supplement its own production for local use subject to provision in **Section 8.2.2**.

In such cases, the net electricity:-

- a. supplied by the power producer to the utility in a month, i.e., units supplied by the producer minus units received by the producer, if greater than zero, or
- b. supplied by the utility to the power producer in a month, i.e., units received by the producer minus units supplied by the producer, if greater than zero shall be paid for by the utility or

the producer, respectively, at the applicable retail tariff (e.g., industrial, commercial, or residential rates). Such *net metering* arrangements may involve separate sets of unidirectional meters for recording the electricity received and supplied to the utility by the power producer, or special bidirectional meters capable of instantaneously recording net power transfers.

### **8.4.3 Banking**

For net billing purposes, a rolling account of energy units will be maintained on the pattern of a bank account (i.e., debit or credit basis). Such banking accounts of net energy units shall be maintained on a monthly basis and final balances will be reconciled at the end of the year at the rates given in **Section 8.4.1**. Under this arrangement, a producer may generate and supply power to the grid at one location and receive an equivalent number of units for self use (say, at a factory) at a different or physically distant location on the grid at a different time *without paying any wheeling charges*, but subject to the distance limits for power input and off take as noted in **Section 8.2.2**. Any additional (net) units consumed by the producer (beyond those supplied to the utility at the plant location) in a given month shall be billed by the utility at the retail tariff applicable to the type of electricity connection obtaining at the consumer's premises. Any excess (net) units supplied by the producer's plant in a given month shall be credited to the producer on a rolling monthly basis (i.e., deducted from the next month's consumption). Any accumulated energy unit credits accruing to the producer at the end of the year shall be paid for by the utility at a tariff equal to the average energy cost per kWh for hydel power generation (as determined by JKSERC for GENCOs/IPP's over the preceding fiscal year) less 10%.

## **8.5 Facilities for Off-grid and Dispersed RE Power Generation:-**

Off-grid power generation wholly for captive or dedicated use—or for supply to a local community through small, isolated distribution lines not connected to the utility grid—shall be greatly deregulated and simplified. For this purpose, new procedural arrangements shall be developed by the relevant agency and these shall be reviewed and further refined for the medium term based on initial implementation results. Small hydropower projects and associated distribution grids (of up to 11 kV) that are not connected to national or regional utility grids may be developed by private corporate entities, public agencies, NGOs, or individuals at any suitable location, subject to prior approval by the local authority. For such projects Environmental clearance shall not be required, provided minimum permitting requirements, as defined, are met. For these projects, the GoJK shall develop a simplified regime separately along the lines specified in **Annexure A.**

During the short term the emphasis shall also be on the design, demonstration, and testing of dispersed off-grid, community, embedded, and standalone systems, including their financing and marketing modalities and integration with other social and physical infrastructure development (e.g., poverty alleviation, rural electrification, etc.). Extensive, widespread funding and deployment will be targeted, based on such initial studies and field evaluation, for the medium term with specific market-wise targets and financing arrangements to be in place starting at the onset of that period.

## **8.6 Financial and Fiscal Incentives**

All power projects covered by this policy will enjoy the following fiscal and financial incentives. These facilities shall be equally applicable to private, public-private, and public sector hydropower projects covered under this policy.

### ***8.6.1 Fiscal Incentives***

- i. No entry tax or sales tax for machinery equipment and spares(including construction machinery, equipment, and specialized vehicles imported on temporary basis) meant for the initial installation or for balancing, modernization, maintenance, replacement, or expansion after commissioning of projects for power generation utilizing small hydro subject to fulfilment of conditions under the relevant SRO.
- ii. Exemption from income tax.
- iii. Repatriation of equity along with dividends freely allowed, subject to rules and regulations prescribed by the Government Jammu& Kashmir.
- iv. Parties may raise local and foreign finance in accordance with regulations applicable to industry in general. GoJK& GoI approval may be required in accordance with such regulations.

### ***8.6.2 Financial Incentives***

- i. Permission for power generation companies to issue corporate registered bonds.
- ii. Permission to issue shares at discounted prices to enable venture capitalists to be provided higher rates of return proportionate to the risk
- iii. Non-residents allowed to purchase securities issued by Jammu & Kashmiri companies without the Government of Jammu& Kashmir's permission, subject to prescribed rules and regulations

## **8.7 Procedure for Setting Up Hydel IPPs for Sale of Power to Grid or any other Customer within or outside the State;**

The following categories of proposals for IPP projects shall be welcomed by the JAKEDA:-

- i. Unsolicited proposals
- ii. Solicited proposals

In the case of unsolicited proposals, a Letter of Intent (LoI) shall be issued to enable the sponsors to carry out a feasibility study and obtain a generation license from the designated agency. Thereafter, a Letter of Support (LoS) shall be issued to assist the sponsors in achieving financial closure for the project.

In the case of solicited proposals; bids shall be invited by JAKEDA from IPPs to participate in a competitive bidding process. The bidding variable shall be upfront premium only. The threshold value of upfront premium shall be Rs 3.0 lacs per MW. The bidders would be required to quote above the threshold premium. After completion of evaluation of bids, LoS shall be issued to the successful bidder quoting the maximum premium per MW to facilitate the project's financial closure. The procedure will be structured in consultation with JKSERC. The tariff shall be determined by JKSERC . These processes are described in detail below:

### ***8.7.1 Process for Unsolicited Proposals***

Potential sponsors of the IPP projects to be connected to the utility grid or for captive use at a location of their choice ('raw site'), subject to the provisions in **Section 8.2.2**, may submit their proposals to the JAKEDA on an unsolicited basis. The schedule of activities leading to

issuance of Letter of Intent (LoI) and/or Letter of Support (LoS) is given in **Exhibit 3** and is explained further in subsequent paragraphs.

#### ***8.7.1.1 Submission of Unsolicited Proposals***

Any sponsor wishing to undertake a project at a raw site would be required to submit a detailed proposal to the JAKEDA which must be in compliance with applicable policy guidelines and include, at a minimum, the following:

- i. Statement of qualification of project sponsors, listing relevant corporate experience, personnel, and financial capacity.
- ii. Project name
- iii. Project location (including geographical or GPS coordinates)
- iv. Proposed net installed capacity (MW) and expected annual energy output (MWh)
- v. Basic outline of plant and structures
- vi. Summary implementation plan, committing milestones for project preparation, implementation and completion date.
- vii. Estimated distance from the nearest 132 kV or 33 KV or 11 kV line or grid station.



**Exhibit 3:** Processing Schedule for Unsolicited Grid-Connected IPPs.

<b>Activity</b>	<b>Typical Allowance (days)</b>
a. Submission of proposal on raw site by sponsors –	-
b. Review of proposal and intimation to sponsors by JAKEDA	30
c. Depositing Upfront Premium.	15
d. issuance of Letter of Intent (LoI) by JAKEDA	7
e. Initial time allowed to carry out feasibility study and term of the LoI	Based on schedule submitted by IPP, subject to maximum of 18 months.
f. Approval of tariff by JKSERC	90
h. Issuance of LoS by JAKEDA	7

***8.7.1.2 Evaluation of Unsolicited Proposals and Issuance of Letter of Intent***

Proposals for unsolicited projects on raw sites will be examined by a Panel of Experts (PoE) appointed by JAKEDA. Proposals approved by the PoE will be processed by the JAKEDA for issuance of a Letter of Intent (LoI) after depositing upfront premium (see **Exhibit 5**). LoIs for raw sites shall include relevant project milestones to enable the JAKEDA to monitor progress, and the sponsors shall commit to meeting the milestones stipulated therein.

### ***8.7.1.3 Feasibility Study***

The sponsors shall enjoy exclusive rights to carry out a feasibility study at a given site during the period of the LoI, as long as they continue to meet the milestones specified in the letter. The feasibility study will be reviewed by a 'Panel of Experts' (POE) appointed by the JAKEDA. If at any time during the feasibility study period, the POE determines that the sponsors have failed to adhere to relevant milestones or rectify such deviation, or are not diligent, the JAKEDA may serve a notice to the IPP to rectify the situation, failing which it shall terminate the LoI. In such a case, the sponsors will have no claim for compensation against the JAKEDA or any other Government agency.

Feasibility studies undertaken by the public sector and donor agencies will be made available to all interested private entrepreneurs by the JAKEDA against a nominal administrative fee. The full cost of the feasibility study (up to a reasonable ceiling and as reflected on the books of the concerned agency as being the actual cost of the feasibility study), shall be indicated in the LoI and charged to the project developer at the time of issuance of the Letter of Support (LoS), and shall be reimbursed to the agency which originally conducted the study, except in the case where such study was conducted under grant financing (e.g., donor funding, etc.). Wherever the GoJK has obtained such a feasibility prepared by the public or private sector, preference would be given to the award of these projects through National competitive bidding (NCB). For studies furnished to the private sector by the JAKEDA or any public sector organization, investors shall be responsible for verifying any or all aspects of the relevant

feasibility study, and would be encouraged to carry out additional or alternative project appraisal of the site on their own for such purposes. In case the feasibility has been completed by the public sector or private sponsor but the unsolicited proposal does not materialize for any reason whatsoever, and the JAKEDA wishes to invite bids using the same feasibility study, then the cost of feasibility study (up to a reasonable ceiling and as per proper audit) will be recovered from the successful subsequent bidder, if any, and be reimbursed to the public sector entity or sponsor who originally paid for, or conducted, the study.

#### ***8.7.1.4 Validity Period of Letter of Intent***

For issuance of the LoI, sponsors will be required to first pay upfront premium (see **Exhibit 5**) in favour of the JAKEDA based on the project's estimated installed capacity.. The initial validity of the LoI shall be up to 18 calendar months, depending on the size of the project and the schedule committed to by the IPP. A one-time extension to the LoI of upto a maximum period of 180 calendar days may be granted by the JAKEDA if the Panel of Experts (POE) deems the sponsors' progress on the feasibility study to be otherwise satisfactory and its completion imminent. However, grant of additional time shall be subject to posting of a Bank Guarantee valued at Rs 1 lac per MW which will be valid for the period of 30 days plus the extended period. In case the sponsor still does not complete the feasibility studies inspite of grant of extension, the LoI will be terminated and the bank guarantee will be encashed.

#### ***8.7.1.5 Request for Determination of Tariff***

Upon completion, the feasibility study will be reviewed by the POE, and if approved, the project sponsors will be expected to apply to JKSERC and SWRRA for determination of tariff and grant of generation license and other approvals within a period not exceeding three calendar months from the date of said approval. Details of guidelines of determination of tariff are available on the website of JKSERC.

#### ***8.7.1.6 Performance Guarantee and Letter of Support***

Subsequent to determination of tariff by JKSERC, and posting of Performance Guarantee and Letter of Support (LoS) shall be issued to the project sponsor by the JAKEDA to enable the project to achieve financial close. Until financial close is achieved, the LoS shall govern the project and supersede all other documents and agreements.

#### ***8.7.2 Process for Solicited Proposals***

Proposals for grid-connected hydel power generation projects at preselected sites may be solicited by JAKEDA through public advertisement. These may include sites/projects for which feasibility studies have already been completed in the public sector, as well as 'raw sites' not yet fully investigated. Such projects will be processed according to the steps and schedule given in **Exhibit 4**.

#### **Exhibit 4: Processing Schedule for Solicited Projects**

<b>Activity</b>	<b>Typical Allowance (Days)</b>
a. Requests for proposals (RFPs) from prequalified bidders	-

b. Submission of bids to the JAKEDA together with bid bond and evaluation fee	30
c. Evaluation of bids by the JAKEDA, including preliminary tariff determination, and notification of successful bidder	30
d. Depositing of upfront premium	07
e. Issue of letter of intent	15
f. Feasibility Study	18 calendar months (This is the time for Raw sites. In case of projects where Feasibility reports are ready, this timeline shall be significantly shorter as the IPP will only validate/verify the feasibility study.)
g. Determination of tariff by JKSERC	30
h. Posting of Performance Guarantee	7
h. Issuance of Letter of Support (LoS) by the JAKEDA after determination of final tariff by JKSERC	7

For **raw project sites**, the relevant project location, and other preliminary information will be made available to investors and Request for Proposal sought.

For sites for which feasibility studies may have been completed prior to bid solicitation, the Pre Feasibility Report shall be shared with the investors.

For both the type of sites, the bids shall be on the basis of upfront premium. The successful bidder shall be awarded a LoS to help achieve financial close. The schedule of activities leading to issuance of LoS is also given in **Exhibit 4**.

#### ***8.7.2.1 Request for Proposals***

The RFP for solicited projects shall contain all project specifications, components, and requisite details necessary for the preparation of a proper technical and commercial bid. The documents will also explain the evaluation criteria to be employed in scoring the bids. If necessary, a pre-bid conference may be held by the JAKEDA to facilitate exchange of information with qualified sponsors, giving equal and adequate opportunity to all prospective bidders to seek clarification on project requirements.

#### ***8.7.2.2 Bid Bond, Upfront Premium ,Performance guarantee and Letter of Support***

A Bid Bond based on the project's installed generation capacity shall be required from each bidder at the time of submission of bids. After selection of the successful bidder, the bid bonds of all bidders other than the sponsors of the successful bid shall be returned, and the successful bidder will be required to make payment of upfront premium based on project capacity in favour of JAKEDA for issuance of a Letter of Intent (LoI). After payment of the upfront premium by the successful bidder, the Bid Bond shall be returned and the LoI issued. After

preparation/validation of PFR and determination of tariff and posting of performance guarantee for successful completion of the project, LOS shall be issued to enable the project to achieve financial close. Until financial close is achieved, the LoS shall govern the project and supersede all other documents and agreements.

The Upfront premium will secure the successful bidder's obligations to execute the IA, PPA, and other relevant agreements and achieve financial closure within the specified time period. In addition, the sponsor may also be required to reimburse the cost of feasibility study utilized (if so indicated in the bidding documents).

### ***8.7.3 Process Subsequent to Issuance of LoS***

After the issuance of the LoS to sponsors of unsolicited or solicited IPP projects, the sponsors will be expected to carry out the following activities:

- i. Sign the Implementation Agreement (IA)
- ii. Achieve financial close (as defined in the IA or PPA)
- iii. Achieve construction start (as defined in the IA or PPA)
- iv. Execute and commission the project according to major milestones established in the LoS.

In case of default or departure from agreed milestones by project sponsors, the JAKEDA shall have the right to terminate the LoS and encash the sponsors' Performance Guarantee upon issuance of due notice assigning reasons for such action and after provision of sufficient opportunity for the redressal of such default. However, if the

delay is caused by actions of the power purchaser or by the government, then the IPP shall not be penalized. Upon financial close, the security agreements (IA and PPA) will supersede the LoS and all other documents and agreements. If the LoS expires, the IA and PPA and all other agreements with any governmental entity shall automatically terminate.

The investor, after receiving the LoS, will be required to submit to JAKEDA, on a format specified by the agency, a mutually acceptable implementation schedule with specific milestones for progress monitoring. The JAKEDA shall execute the project's Implementation Agreement (IA) on behalf of the Government of Jammu & Kashmir, whereas the Power Purchase Agreement (PPA) will be executed between the IPP and the buyer.

### **8.8 Security Package and Risk Cover:**

The security package for grid-connected IPPs will comprise of the following:

- i. Implementation Agreement (IA), Power Purchase Agreement(PPA)
- ii. GoJK guarantee on payment obligations of public sector entities/departments. If some or all of the utilities are restructured or privatized during the term of various agreements, appropriate safeguards shall be built in the privatization agreements so that the IPP contracts are wholly securitized over their respective full terms.
- iii. Provide protection against changes in the tax and duty regime.



## 8.9 Fee, Performance Guarantee and Contractual Arrangements

### 8.9.1 Fee Structure

Fees are to be paid by sponsors of grid-connected projects to the JAKEDA as indicated in **Exhibit 5** below. All fees are subject to revision from time to time.

**Exhibit 5:** Fee and Financial Charges for Grid-Connected IPPs.

Activity	Fee (INR)	Remarks
a. Registration	5000	JAKEDA will provide an information package upon registration
b. Prequalification fee including cost of prequalification Documents	25000	
c. Cost of RFP documents	25000	The RFP by prequalified bidders shall also include the feasibility study, where relevant, and standard, IA, PPA, etc., as applicable
d. Project facilitation and evaluation expenses for projects registered with JAKEDA Government		
d.1 $\leq 5$ MW	25,000	
d.2 $> 5$ MW to 10 MW	50,000	
e. Depositing for Upfront Premium for issuance of Letter of Intent (LoI) by JAKEDA		
e.1 Solicited projects	As determined through bidding process	Threshold value shall be Rs 3.0 lac /MW

e.2 Unsolicited projects	Average of the upfront premium determined through bidding process or threshold premium of 3.0 lac per MW whichever is higher	
f. Reimbursement of public sector feasibility study cost ,if applicable  Reimbursement of private sector feasibility cost, if applicable	As determined by JAKEDA as per relevant accounts	Payable prior to issuance of LoS ,based on actual costs incurred, up to maximum ceiling
g. Performance Guarantee for successful commissioning of the project before issuance of Letter of Support (LoS) by JAKEDA	5,00,000/MW capacity	Payable upon approval of power purchase tariff by JKSERC
Solicited projects		
Unsolicited projects	5,00,000/MW capacity	
h. Legal/processing fees	1,00,000	

### ***8.9.2 Enterprise Structure and Licensing Requirements***

Each IPP setting up a plant meant only for supplying power to the utility grid will be required to form a company in accordance with the laws of Jammu & Kashmir and the Companies Act for the specific purpose of power generation and obtain a generation license from Regulator. However, producers who wish to establish plants which are not exclusively for sale to

power utility (e.g., captive or dedicated plants with or without grid spill over provision) may not form such a special purpose company. Small producers of installed capacity less than or equal to 5 MW not connected to the grid (i.e., standalone captive or isolated local distribution) shall not be required to form a special purpose company but would be required to register with the JAKEDA and obtain consent from the local administration as per prescribed procedure (see **Annexure A**).

### ***8.9.3 Lock-in Period***

The ‘Main Sponsor’ (defined as the individual or group holding at least 26% equity in the IPP project), together with other initial project shareholders, must hold 51% of the project equity for a period up to the project’s Commercial Operations Date (COD). After COD free transfer of shares shall be permitted.

### ***8.9.4 Type of Contracts***

IPP projects for sale of all power to the grid system may be implemented through either ‘Build, Own and Operate’ (BOO) and ‘Build, Own, Operate, and Transfer’ (BOOT) contracts between the parties concerned, valid for a period of not less than 35 years. For the other type of projects, no such contracts shall be required. Instead, for captive, dedicated, or grid spill over projects, or projects availing of ‘net billing’, ‘wheeling’ or ‘banking’ facilities, separate contractual arrangements will be required between the parties dealing with matters such as metering, maintenance of interconnection, system protection, and billing of net sales and purchase, wheeling, and banking charges/tariffs, etc.

### ***8.9.5 Nature of Equipment***

Projects which are meant for generating electricity for the sole purpose of supply to the utility grid system, i.e., grid connected IPPs will be required

to use new equipment. There shall be no such restriction on other producers.

### **8.10 Determination of Tariff for Grid-Connected IPPs**

The guidelines issued/amended by JKSERC for determination of tariff for hydro power projects from time to time shall be applicable.

### **8.11 Tariff Options**

In the short term phase, JAKEDA will invite bids only on the basis of upfront premium. Tariff shall be determined by JKSERC as per tariff regulations (for both solicited as well as unsolicited proposals)

### **8.12 Water Use Charge**

The Projects awarded under this policy will be exempted from water usage charges.

### **8.13 Evaluation of IPP Tariffs**

Based upon regulations, detailed power purchase tariff tables will be prepared by JKSERC. The tariff will be evaluated on the basis of the cost plus basis suitably front-loaded in the form of advance against depreciation to cater to the project's debt servicing requirements.

### **8.14 Transparency and Visibility of Calculation of Tariff**

JKSERC shall provide complete soft and hard copies of its assumptions, inputs and methodology used in the determination of IPP tariffs, along with the complete tariff computation and model, to the IPPs as well as the public domain. This would enable better understanding of tariff precisions by all concerned.

### **8.15 Transmission and Interconnection**

The interconnection point shall be specified by the Transmission & Distribution utility. The construction of transmission lines for evacuation of power from IPPs set up for connection to the utility grid shall be the responsibility of the Procurer

Utility unless the IPP, of its own choice, undertakes to install such infrastructure on a mutually agreed upon transmission charge with the power purchaser subject to the provisions of **Section 8.2.2**.

### **8.16 Compliance with GoJK Policies**

IPP shall comply with the policies and guidelines of the Government of Jammu & Kashmir as issued, modified, supplemented, and revised from time to time by the Government.

### **8.17 REGULATORY AUTHORITY**

Aspects of this policy that require Regulatory approvals from the concerned regulatory aspects of this policy would be subject to such approvals being given and would apply in the manner approved by the J&K State Electricity Regulatory Commission. Any safety requirements of the plant will be governed as per the rules, regulations, and directives in place by the Central Electricity Authority.

### **8.18 DUE DILIGENCES**

**8.18.1** The developers shall be responsible for carrying out due diligence with regard to their compliance responsibilities under various applicable Central/State/other laws, rules and regulations, and ensure compliance with the same.

**8.18.2** Since potential sites would be notified on the basis of preliminary reconnaissance and PFRs only, the IPPs are expected to verify various project related parameters viz. discharge, head, water availability, habitation, etc. The information contained in the PFR is only indicative and JAKEDA shall not be responsible for the accuracy of the information contained therein. IPPs shall also ensure that the Project components do not fall in wild life sanctuaries, National parks, eco protection zones, etc. and also do not interfere / overlap with the existing/ ongoing Hydel Projects.

**8.18.3** The IPPs will ensure that no damage is caused to the Environment during the Project execution including the survey & Investigation and all the safeguards are put in place as per requirement and law of the Land.

### **8.19 POWER TO REMOVE DIFFICULTIES**

In the event of a dispute, the interpretation of these guidelines made by the Government of J&K shall be final. In all such matters, to the extent practicable, an opportunity shall be given to affected stakeholders to be heard before the Government takes any decision.

### **8.20 POWER TO AMEND**

As things become obsolete with time to time this policy may be updated & amended as per the future requirement.

### **8.21 REPEAL & SAVING**

The Policy for 2 MW notified in 2011 is hereby repealed. Notwithstanding the repeal, all actions taken, acts done, approvals given, orders made and proceedings initiated under the repealed policy shall be deemed to have been validly done, given, made & initiated Power projects, if any processed under the repealed policy shall continue to be governed there-under, unless opted and transferred under this new Policy.

### **8.22 THIRD PARTY INSPECTION & MONITORING:-**

JAKEDA shall be at liberty to put in place a third part inspection mechanism to monitor the execution of projects with respect to set milestones. This Third Party monitoring also ensure adherence to safety standards and environment protection measures. The third party engaged by JAKEDA shall be a reputable consulting agency in the relevant field.

### **8.23 Corporate Social Responsibility (CSR)**

The IPPs are expected to contribute to the social upliftment of the project affected area in the field of education, health, poverty alleviation and skill development as part of their Corporate Social Responsibility. Moreover, as far as possible the IPPs shall give preference to the locals both skilled and unskilled in execution and O&M of the projects subject to their suitability and availability.

**8.24 Prequalification of Sponsors/bidders:** - There shall be a prior empanellement / prequalification of Sponsors/ developers/ contractors for IPP or EPC Projects (in terms of MW Capacity) based on their financial/technical eligibility, criteria for which shall be specified in the Prequalification/empanellement documents. This shall be a onetime process for these sponsors/developers/contractors unless otherwise they themselves apply for upgradation . This empanelment will be reviewed every three years if otherwise the sponsor is not blacklisted or debarred during this 03 year period. Only prequalified/empanelled parties shall be eligible to participate in the Request for Proposal (Financial bid).

The prequalification shall be a continuous process, any new sponsor wishing to be empanelled but has missed the opportunity before shall be free to submit application for empanelment to JAKEDA as and when he desires.

### **8.25 Projects evoking no response:-**

Any project for which proposal has been solicited but has evoked no response even after being advertised twice shall be free for unsolicited proposal and will be processed in accordance with the process enumerated above for unsolicited proposal.

## **Annexure A: Guidelines for Development of Small Off-grid hydel Projects**

The general rules, procedures, fees, and power sales provisions defined for grid-connected hydel projects in **Sections 8.7 to 8.10** and specific tariff guidelines for grid-connected small hydro projects defined above will *not* apply to off-grid small hydro projects. The Government shall separately develop a simplified regime for such projects along the following lines:

- i. Off-grid hydropower plants of installed capacity up to 5 MW may be established at any suitable location, subject to approval of site and water use rights by the concerned local agencies. Only those projects will be considered for approval that registers with the designated local government representative in the prescribed manner.
- ii. The plant's power sales agreement will be based on a bilateral contract between the project owner and the electricity consumer(s) or their collective representative, on terms, conditions, and rates, to be determined solely between the relevant parties to the contract. JKSERC, the utility, or any external government agency will not be involved in these negotiations, nor guarantee payments or contract compliance by the parties concerned.
- iii. Community contribution to such schemes may be in the form of labour('sweat equity'), land, cash, etc., which shall be fully reflected in the bilateral agreement arrived at before initiation of project development.
- iv. The final project agreement and power sales contract, terms, and rates for the project shall be registered with the JAKEDA by the local government representative when issuing approval to the project, so that



all such schemes are properly registered. In case of disputes, the registered agreement, along with any subsequent amendments duly certified by the parties concerned, shall prevail.

- v. The Ministry of New & Renewable Energy, GoI may provide, to qualifying registered off grid small hydro projects, a one-time capital subsidy based on the plant's rated installed capacity. This grant may be disbursed through JAKEDA in instalments, subject to project milestones being met. Terms and conditions for the implementation and management of the grant fund and subsidy payments will be as per relevant MN&RE, GoI scheme.
- vi. Regulatory consents and processing requirements for such plants shall be simplified to the extent possible so as to enable and expedite the development of off-grid projects and enable small communities and investors to participate fully in such schemes. Template application forms, contracts, agreements, and approval requests will be developed by the JAKEDA, in consultation with the government, in both English and Urdu. Completion and acceptance of these documents, through the designated local government representative, shall constitute the entire approval process required for initiating the project. A single, small registration and processing fee may be payable for this purpose.
- vii. There will be no requirement of Environment Clearance for off grid projects of up to 5 MW capacity; however, a basic environmental compliance and impact checklist will be developed by the concerned department required to be completed by all projects as part of the registration process, primarily to ensure that water rights, flows, and community interests are not unduly infringed upon. For purposes of establishing plant ownership and the legal validity of associated agreements, the developer will also provide, during registration,

verification of plant ownership and financing as well as site and water use rights, while the power purchaser shall also form a legally recognised entity e.g., a CBO (cooperative). The projects shall certify how proper design, engineering, construction and safety criteria will be addressed before construction approval is granted.

- viii. The Governments, NGOs, may further facilitate, where possible, the identification, development, and operation of such schemes through technical, financial, and other institutional support to the developers and target communities, as well in the provision of concessional financing, grants, equipment, and carbon credits, where available either individually or through clustering arrangements.
- ix. The additional cost of power distribution to the end-consumer, including household wiring, shall be the responsibility of the developer and/or communities involved, and should be reflected in the applicable power service charges.

## **Abbreviations**

BOO Build, Own, and Operate

BOOT Build, Own, Operate and Transfer

CBO Community-based Organization

CDM Clean Development Mechanism

CER Certified Emissions Reduction

COD Commercial Operations Date

GDP Gross Domestic Product

GENCO Generation Company

GoJK Government of Jammu & Kashmir

IA Implementation Agreement

IPP Independent Power Producer

JAKEDA Jammu & Kashmir Energy Development Agency

JKPDD Jammu & Kashmir Power Development Department

JKSERC Jammu & Kashmir State Electricity Regulatory Commission.

kV Kilovolt

kWh Kilowatt-hour

LoI Letter of Intent

LoS Letter of Support

MN&RE Ministry of New & Renewable Energy, GoI

MW Megawatt

MWh Megawatt-hour

NGO Non-governmental Organization

O&M Operations and Maintenance

POE Panel of Experts

PPA Power Purchase Agreement

PV Photovoltaic

RE Renewable Energy

RET Renewable Energy Technology

RFP Request for Proposals

ROE Return on Equity

ROW Right-of-Way

S&T Science and Technology

SWRRA State Water Resources Regulatory Authority

VAT Value-Added Tax

## Various modes of Execution of Projects

