Abstract

Power Department - Kerala Small Hydro Power Policy 2012 - Approved - Orders issued.

POWER (B) DEPARTMENT


Read:

ORDER

The Government of Kerala have issued several guidelines from time to time, for the development of Small Hydro Power Projects in the State, since 1992, which encouraged private investment to harness 'green energy' from natural resources. With the enactment of Electricity Act 2003 and notification of National Electricity Policy in 2005 and Tariff Policy in 2006, under section 3 of the Electricity Act 2003, it was necessary to formulate a policy for the promotion and development of Small Hydro Power Projects in the State. Accordingly, the Director, Energy Management Centre (EMC) submitted draft “Kerala Small Hydro Policy 2012”, for the consideration and approval of Government. The draft policy was published in the website of EMC for suggestions from the general public and presented before the prospective investors and IPP/CPP allottees of SHPs, in their meeting held at Thiruvananthapuram on 10.04.2012. The draft policy was also reviewed in the meeting held on 26.07.2012, with the

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Representatives of the Departments of Forest and Wild Life, Revenue, Finance, Water Resources, Local Self Government, Law, Chief Electrical Inspectorate and KSEB.

2) The suggestions/ comments proposed in the above meetings were taken into consideration and suitable modifications have been made in the draft policy. Government are now pleased to approve 'Kerala Small Hydro Policy 2012', as appended to this order.

By Order of the Governor,
ELIAS GEORGE,
Additional Chief Secretary to Government.

To.
The Director, Energy Management Centre, Thiruvananthapuram.
The Chairman, KSEB, Pattom, Thiruvananthapuram.
The Director, ANERT, Thiruvananthapuram.
The Chief Electrical Inspector, Thiruvananthapuram.
The Secretary, KSERC, Thiruvananthapuram.
The Secretary, Kerala Legislature Secretariat, Thiruvananthapuram.
The Principal Accountant General (Audit), Kerala, Thiruvananthapuram.
The Accountant General (A&E), Kerala, Thiruvananthapuram.
The General Administration (SC) Department. (Vide item No. 2308 dated 26.09.2012).
The Forest and Wild Life/ Revenue/ Finance/ Water Resources/ Local Self Government Departments.
The Director, Information and Public Relations (for wide publicity). Stock File / Office Copy.

(...)3)
Copy to:

The PS to Chief Minister.
The PS to Minister (Power & Transport).
The CA to Additional Chief Secretary (Power & Transport).
The CA to Additional Secretary (Power & Transport).

Forwarded/ By Order

Section Officer.
KERALA SMALL HYDRO POWER POLICY-2012

1. Preamble

Kerala is endowed with vast small hydro power potential to the tune of about 700 MW. Government of Kerala has issued several guidelines from time to time for the development of small hydro power project since 1992. The measures have encouraged private investment to harness green energy from natural resources. Till the end of December 2011, 19 Small Hydro Power projects with an installed capacity of 145.65 MW have been commissioned in the State. The State needs to evaluate the experience with them and to fine-tune policy so as to speed up investments in the area.

The Central Government has enacted the Electricity Act in 2003, and notified the National Electricity Policy in 2005 and Tariff Policy in 2006 under Section 3 of the Electricity Act, 2003. Both the policies provide for measures to undertake the development of Renewable Energy sources, including Small Hydro Power Projects. The Ministry of New and Renewable Energy (MNRE), Government of India has formulated legal, financial and administrative framework for promotion of investments in this sector and has advised the State Governments to formulate appropriate promotional policies.

Section 3 of the Kerala Irrigation and Water Conservation Act, 2003 (Act 31 of 2003) stipulates that all water courses and all water in such courses throughout the State shall be the property of Government and further as per Section 5 of the said Act no person or local authority shall construct any structure across any water course except with previous sanction of Government. Section 57 of the said enactment, a Dam Safety Authority has been constituted and mandated that all dams would be subjected to its surveillance, inspection and advice.

The Kerala Electricity Regulatory Commission (KSERC) has issued guidelines for purchase of electricity from Renewable Energy sources including SHPs, making it mandatory for the
distribution licensees to source a certain percentage of their power purchases from Renewable Energy sources.

The present Policy is issued against these developments and backdrop. This Policy is directed towards a greater thrust on overall development and promotion of Small Hydro Power Projects.

2. Title and Enforcement
This Policy will be known as Kerala Small Hydro Power Policy, 2012 and will be applicable to projects with installed capacity upto 25 MW. The Policy will come into operation with effect from the date of its publication in the Official Gazette of the State.

This Policy shall supersede all the policy guidelines /instructions issued in this behalf till date. This Policy will be applicable to all the Small Hydro Power Projects in the process of development as per the earlier allotments.

3. Vision
The Vision under this Policy shall be to harness green and clean natural resource in the State for environmental benefits and energy security.

4. Mission
The Mission under this Policy shall be to
1. Enhance the contribution of environmentally benign natural resources to the socio-economic development of the State and to supplement rural energy needs through speedy and expeditious commissioning of Small Hydro Power Projects.
2. Create an environment conducive to public /private /community participation and investment in Small Hydro Power Projects.
3. Enhance the contribution of Small Hydro Power Projects in the total installed capacity of the State from 145 MW to about 295 MW by 2017 through private participation.

Presently Renewable Energy (RE) sources contribute about 556 Mu of energy per annum (2.94%) of the total consumption of 18926 Mu during 2011-12 in the state. The energy consumption anticipated during 2016-17 is 26,584 Mu per annum and the renewable energy purchase obligation shall be 1411 Mu and the additional requirement shall be 855 Mu. Considering average plant load factor of 25% from renewable energy sources, this necessitates an addition of 390 MW by 2017.

This Policy sets a goal of commissioning 150 MW additional capacity from Small Hydro Power Projects by 2017 through private participation.

6. Approvals for Small Hydro Power Projects

6.1 Technical Approval for developing Small Hydro Power Projects in the State shall be given by Government.

6.2 The sanction orders in this regard shall be issued by the Power Department. The Small Hydro Promotion Cell in the Energy Management Centre will be the secretariat for the processing of applications and monitoring of approved projects.

6.3 While according Technical approval, water utilization for the project shall be given after considering the issues germane to the Kerala Irrigation and Water Conservation Act, 2003 (Act 31 of 2003), and particularly that the proposed project(s) does not infringe with the drinking and irrigation rights of the local inhabitants.

6.4 The Small Hydro Promotion Cell, functioning in EMC under the Chairmanship of the Principal Secretary (Power), Govt. of Kerala will assist Government for issuing technical clearance for the projects and administration of implementation agreements executed with Government.

6.5 The Technical Committee shall look into all aspects of development of the projects, evacuation arrangements for the power generated, effective utilization of
natural resources, interference if any with upstream and downstream existing and proposed projects implemented /being implemented by different agencies etc. The cost aspects shall be examined by KSERC while finalizing the tariff.

6.6 All Small Hydro Power Projects identified by Kerala State Electricity Board and not set apart for private participation, including all dam-toe power and cluster power projects of existing dams, and also Small Hydro Power Projects utilizing the controlled release of water from the existing hydro and/ or irrigation projects shall be reserved for development by Kerala State Electricity Board.

6.7 Small Hydro Power Projects below 25 MW will be assigned for development by Government to developers through competitive bidding.

6.8 LSGs will be generally given preference for development of Mini and Micro Projects upto 500 kW

7. Methods of assigning Small Hydro Power Projects for development

7.1 Small Hydro Power Projects identified by the Government or State sponsored agencies such as KSEB, ANERT, Energy Management Centre etc. and not reserved for development by Kerala State Electricity Board shall be assigned to private developers as independent power projects or captive power project only through the competitive bidding route on Build Own Operate Transfer mode for 30 years from date of allotment.

7.1.1 Upon the expiry of BOOT period, the Developer shall transfer the project with its facilities to the Government free of cost.

7.2 Total period of allotment of any project, including period of construction, will be limited to thirty years from the date of allotment,

7.3 Small Hydro Power Projects identified by private persons on their own land will be assigned to the owner of the land subject to payment of the upfront premium specified below.

7.4 Small Hydro Power Projects will be assigned to the Local Body where the project is located without competitive bidding if there is unanimity among the three tiers of
the Local Bodies regarding the assignment of the project.

7.4.1 However where such projects are taken up for development by an SPV of the Local Body with private sector participation, such private participant in the SPV shall be identified through competitive bidding.

7.5 The Chief Electrical Inspector shall accord necessary permission for the power being developed by the developer to be connected to the State grid duly complying with electrical safety precautions and grid standards.

7.6 Any failure to tap the available power potential as envisaged in the approved DPR is liable for penalization.

8. Statutory Clearances

8.1 Clearances for the Small Hydro Power Project shall be required from (a) Local Body where the project is located, (b) the Revenue Department in case the land involved is Government land, (c) the Forest Department in case forest land is involved, and (d) a No Objection Certificate from Irrigation Department.

8.2 Where the Small Hydro Power Project falls in forest land, the case will be processed and considered by the Kerala Forest Department under the provisions of the Forest Conservation Act, 1980 subject to Ministry of Environment and Forest guidelines.

8.3 Where the Small Hydro Power Project is located on Government land the developer will be given the land on license for 30 years from the date of assignment of project to him subject to payment of license fee as fixed by Government from time to time. Government shall give permissive sanction for utilization of land coming under Kerala Land Conservancy Act 1957 for development of Power by Private Developers.

8.4 Where the development of the Small Hydro Power Project requires land owned by other private individuals, it shall be the responsibility of the developer to accomplish purchase of such land. Such land is also to be transferred to the Government at the end of the BOOT period.
8.4.1 If 75% or more of the land required for the Small Hydro Project has been purchased by the developer, Government may assist the developer through action under the Land Acquisition Act.

8.5 It shall be the responsibility of the developer to secure all the clearances required under the various statutes.

8.6 However, Government will provide all possible assistance for the same including single window clearance functioning in KSIDC under the Kerala State Single Window Clearance Boards and Industrial Township Area Development Act, 1999 for expediting clearances.

9. Eligibility

9.1 Any Company or body Corporate or association or body of individuals, whether incorporated or not, shall be eligible to apply for development of a Small Hydro Power Project through Private participation.

9.2 In case of a Small Hydro Power Project being developed as a captive unit, any person as defined in the Electricity Act, 2003 who intends to setup a captive power plant for its own consumption within the State of Kerala shall be eligible to apply under Captive project.

10. Applicability of Water Cess to Small Hydro Power Projects

As no permanent water extraction from water courses is envisaged in Small Hydro Power Projects, such projects shall not attract levy of water cess under the Kerala Irrigation and Water Conservation Act, 2003 (Act 31 of 2003).

11. Procedure for Allotment

11.1 The allotment process shall be done in two stages. In the first stage, bidders will submit request for qualification (RFQ), which will be evaluated based on their financial strength. In the second stage, the short-listed applicants will be requested
for proposals and bids. For each project, the short-listed applicant will be required to quote for a premium per MW, payable upfront, to the Government.

**Evaluation parameters of Financial Capability (applicable for both IPP&CPP)**

For the purpose of financial qualification, an Applicant and /or Financing members (ie all those consortium members who commit to satisfy the minimum equity share holding requirement in the project company, as stipulated for the lead member) would be required to demonstrate financial capability on the following criteria:

a) Networth at the end of the latest financial year should be at least equal to 15% of the estimated cost of the project applied for. The project cost to be considered for the purpose would be current cost estimated including cost of the evacuation and other infrastructure that the project company would need to incur.

11.2 The minimum threshold premium shall be Rs.15 Lakhs per MW.

11.3 Projects will be allotted to the bidder making highest bids.

11.4 There will not be any preference of CPP bidders over IPP bidders in the allotment of the Project.

11.5 During implementation, transfer of ownership would be permitted if transferee satisfies pre-qualification requirements subject to the prior approval of Government of Kerala.

11.6 Free transfer of shares will be permitted in the developer company as per the procedure laid down in the bid document after project implementation.

**12. Sale of power generated by Small Hydro Power Projects**

12.1 The State Transmission Utility / Kerala State Electricity Board shall have the first right of purchase the power generated by IPPs and surplus of power from CPPs at a tariff and other terms and conditions set forth by the Kerala State Electricity Regulatory Commission.

12.2 If KSEB or it successor entity is not intending to purchase the power, Kerala
State Electricity Regulatory Commission will permit non-discriminatory open access within the State of Kerala to sell the power to any entity within Kerala. Kerala State Electricity Regulatory Commission may permit open access for sale of power outside Kerala duly complying with the Section 11 of EA 2003.

12.3 For open access, the Rules framed by KSERC shall be applicable.

**13. Technical Clearance:** Government will form a technical committee to recommend technical clearance of TEFR (Techno-Economic Feasibility Report) as well as to address all matters related with sanctioning of TEFR and quality control and monitoring of the implementation of the project by the Private developer. The Committee shall include eminent Engineers in the field of Hydro power development either in service or accredited hydro power consultant, KSEB representative, Government Officials and Director, EMC as Convener. Based on the recommendation of Technical Clearance Committee, Government shall accord Technical Clearance.

**14. Fee for Technical Approval**

14.1 The fees payable for scrutiny and approval of technical clearance will be as follows:

14.1.1 For projects less than 1 MW developed by Private agencies in private land and Projects developed by Local Bodies - An application fee of Rs.10,000/- to give clearance for proceeding with the project and then Rs.50 per kW for scrutiny and approval of DPR and for technical clearance.

14.1.2 For project of 1 MW or greater than 1 MW capacity identified and developed by private agencies - Technical scrutiny fee of Rs. 100 per kW will be charged subject to a minimum of Rs. 1 lakh.

14.1.3 Separate fee will be chargeable for the technical services rendered by KSEB such as load flow studies, scrutiny of drawings, power potential study, relays and protection system etc.
15. Evacuation Arrangement

15.1 The transmission facilities upto the inter-connection point shall be constructed by the developer through STU/KSEB as a deposit work at the cost and responsibility of the developer.

15.2 Interfacing including transformers, panels, protection, metering, as well as maintenance shall be undertaken by developer as per the specification and requirement of KSEB for which the developer shall bear the entire cost.

15.3 Any modification / up-gradation of the substation of the KSEB, which draws power from the project and line strengthening beyond inter – connection point, shall be carried out by the KSEB at the cost of the developer and can be considered towards the project cost.

15.4 The line constructed by the developer up to sub-station shall be vested with KSEB to transmit power through this transmission line.

16. Banking Facilities: KSEB will permit banking facility during a financial year subject to availability of Grid and the rights for banking the energy with the KSEB and charges applicable for the same shall be determined by the regulation in force from time to time.

17. Milestones for development of Project by Private Developers

17.1 It is mandatory for the developer to complete the project in all respects and Commission the project with grid synchronization within a period of 60 months from the date of allotment. The developer shall execute an implementation agreement with the Government after furnishing necessary implementation guarantee as specified in 17.12 below.

17.2 The Developer shall furnish a scheme for the project with broad details such as location of weir, water conductor system, power house including reduced levels and submergence details and get it approved by Government before conducting detailed survey for the preparation of DPR.

17.3 The Developer shall submit DPR as per CBIP guidelines for SHP Development
within 18 months incorporating all the salient levels, layouts, location and installed
capacity after allotment after taking gauge observation for a minimum period of 12
months and power potential studies for a minimum period of five years. If DPR is
not submitted, allotment shall be cancelled.
17.3.1 The maximum grace period for submission of DPR will be 3 months if the
developer submits valid reasons for the delay.
17.4 The developer shall take up investigation and preparation of DPR on their own
by engaging consultants in the private sector or through Government agencies. In
the case of investigation and preparation of DPR by Government agencies, the
developer should meet the cost. The data considered by the developer shall be
based on the survey conducted by them through their consultant. Government will
not take any responsibility for the data considered by the developer while
formulating DPR.
17.5 On getting DPR technically approved, the developer shall obtain the clearance
within 6 months through Single Window clearance mechanism.
17.6 A further 6 months will be given to the developer for achieving financial closure.
17.7 The projects shall be made operational within 36 months from the date of
financial closure.
17.8 If the project is not commenced within 9 months after obtaining all clearances,
the allotment shall be cancelled and forfeiture of Implementation guarantee.
17.9 Failure to reach any of the two milestones in 17.3 and 17.5 above result in
forfeiture of implementation guarantee and cancellation of allotment. No
compensation would be payable to the IPPs or CPPs in such instance.
17.10 Failure to reach the milestone as in 17.7 above would make the developer liable
to liquidated damages.
17.11 The developer may surrender the allotment back to Government if on
completion of DPR within the time frame the developer and Government are
convinced that the project is techno-economically unviable. However, the DPR
prepared by developer will become property of the Government.
17.12 The developer shall furnish a bank guarantee from a scheduled bank in favour of Government valid up to the date of commercial operation of the Small Hydro Power Project as a token of his earnestness in implementing the project.

18. **Regulatory Matters**: The following facilities will be extended to all the SHPs developed as per this policy.

18.1 **Renewable Energy Obligation**: All distribution licensees and KSEB shall follow the renewable energy purchase obligation as decided by the Kerala State Electricity Regulatory Commission.

18.2 **Feed in Tariff**: KSEB and other Distribution licensee may procure power from the Small Hydro Power Projects at the tariff fixed by the KSERC.

18.3 **Transmission & Wheeling Charges of Electricity**: Wheeling charges as per the rate fixed by KSERC from time to time will be levied from the developer. T&D losses in the Transmission & wheeling of energy from generating station to the consumption point for captive producers shall be fixed by KSERC and governed by the regulation in force from time to time.

18.4 **Metering**: Necessary Main and Check meters having import–export registering facility and allied equipments as prescribed by KSEB shall be installed at the inter-connection point at the cost of the developer. All the meters will be under the custody of KSEB. Cost of installing and maintaining meters, CT, PT protective equipments etc. including their replacements / repair whenever necessary shall be borne by the developer.

18.5 **Power Purchase Agreement**: In the case the KSEB/ Distribution Licensee intending to purchase power, the power producer has to execute PPA with the KSEB in a time-bound manner as approved by KSERC. The tariff shall be determined by KSERC in accordance with provisions of the Electricity Act, 2003. All dispute arising shall be settled by the KSERC.

18.6 **Settlements**: All transactions related to the procurement of power by
KSEB/Distribution licenses from the Developer Company shall be settled on monthly basis.

18.7 All the directions/ controls/ regulations/ rectifications issued by CERC/ CEA/ Central Bodies/Southern Regional Electricity Power Committee / SLDC from time to time as adopted by Government / KSERC shall be binding on the developer.

18.8 Relief on Maximum Demand Charges:

KSEB will provide a relief in demand charges to HT/EHT captive consumers for continuously operating their captive power plant for a minimum of 15 days during a month limited to 50% of the value arrived as per the formula given below.

The maximum relief in KVA

\[ \text{= 50\% of } \text{Units of energy fed into the KSEB grid in a month} \]

\[ 24 \times 30 \times \text{kWh recorded in the month / kVArh recorded in the month} \]

where 24 is the number of hours in a day and 30 is the number of days in a month. The readings recorded by the meters installed at the generation stations of the company shall be taken for the purpose of the above calculations. The number of days shall be taken as 30 for all the months for working out the relief in maximum demand. The relief so granted shall not exceed the recorded maximum demand of the company in all its factories and their associates or 50% of the contract demand whichever is higher. The company shall generate power continuously but due to unavoidable reasons, if there is no generation in any day, such days shall be excluded to work out the maximum demand relief. However if there is no generation continuously for a period exceeding 15 days, no relief in maximum demand for that month shall be granted.

During the period of power cut and/or other restrictions, if there is any cut and/or restriction in maximum demand, the quota of maximum demand for the
company and their associates shall be worked out on the same principles as applicable to other consumers during such periods and the maximum demand quota from the KSEB grid allotted accordingly. The company and their associates shall be permitted to utilise the maximum demand in excess of the quota limiting to the maximum demand by virtue of its contribution of power generation and supply to KSEB grid which will be worked out on the formula indicated above. Any further additionality shall be supplied subject to availability and terms applicable to other consumers during such periods. No relief in maximum demand shall be permitted during such occasions.

A separate agreement in this regard has to be executed by the captive consumer with KSEB’.

19. Financial Incentives

19.1 Government of India Incentives: The various concession and incentives allowed by MNRE/Government of India for detailed survey & investigation /detailed project report preparation, generation based incentive etc. will continue to be passed on by the State Government to the developer through ANERT. AHEC (Roorkee) is mandated for performance testing to avail capital subsidy from MNRE.

20 Safety Measures: The developer shall be responsible for the quality, soundness, durability, safety and other project requirements notwithstanding the appointment by it of consultants/ contractor(s) to implement and /or operate and maintain the project facilities.

20.1 Technical Committee shall have the right to ensure the quality and to insist on compliance with the designs as per standard specification. The broad details of layout and the detailed design and drawing of the hydraulic structures shall be approved by Technical Committee. Design safety Certificate shall be given by the Design Consultant of the Developer to the Technical Committee /Government and quality standards shall
be certified by the agency supervising the works and countersigned by the Developer.

21 Development of appropriate standards and design for Small Hydro Power Projects: Government will facilitate through its agencies as well as through approved consultants of the Ministry of New & Renewable Energy, such as the Alternate Hydro Energy Centre (AHEC) of IIT Roorkee, the development of appropriate standards and design for Small Hydro Power Projects and cost-effective designs to obtain power from such natural resources and by cluster-based development of sites with standardized Electro-mechanical equipments.

22 Facilitation: SHP Cell functioning in EMC under Power Department will be facilitating agency for the promotion of this policy. SHP Cell will develop the data base on potential Small Hydro sites in the State and also create development models to harness the targeted capacities during the ensuing years.

23 Environmental Issues: The SHP developer has to make suitable financial provisions for mitigation of adverse impacts as per the approved environmental impact assessment plan. Environment Management Plan, measures for mitigation of degradation of environment, watershed area management, Afforestation, and soil moisture conservation due to disturbance of eco-system, and rehabilitation & resettlement package, should be incorporated in the project cost. Adequate care should be exercised in dealing with environmental-related issues such as disposal of blasting muck and soil.

24 Corporate Social Responsibility and Local Area Development: Developers will be expected to adopt Corporate Social responsibility (CSR) in project implementation. They will be urged to provide funds to adopt local people to provide job-oriented training programmes available in the locality and to provide funds for furnishing government educational and other institutions. The Government may constitute a Local Area Development Committee to provide assistance to the developer for speedy implementation and to monitor CSR.
25 Monitoring: A high level inter-departmental review committee will be constituted to regularly monitor implementation of all provision of this policy. This Committee will also ensure issue of necessary Government Orders by various departments in relation to this policy without loss of any time for mid-course correction, if required for the smooth implementation of the policy.

26 Cancellation and takeover of assigned project

26.1 In case the developer leaves the project incomplete, or closes the industry or abandons the project, or violates any conditions of allotment, the Government reserves the right to take over the project without any compensation and free from encumbrances.

26.2 On completion of BOOT period, the entire project components including land and transmission system shall be transferred by the developer to the Government in proper working condition, free of cost and free of all encumbrances.

26.3 The Government will not have any liability to take over the employees engaged in the project by the developer.

26.4 In case the Government does not extend the BOOT period and the developer does not transfer the project components as specified above, the Government/Board on being authorized by the Government, shall have the right to recover the property with all the project components.

26.5 In case, there is any subsisting liability the developer shall be personally liable for the same.

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

28 **Inspection by Dam Safety authorities:** The Dam Safety Authority may inspect the dam site of all commissioned projects and examine the operation and maintenance of the dam and other appurtenant structures and may suggest remedial measures to improve the general condition of the dams and other appurtenant structures from the point of view of safety. Safety monitoring as well as safety aspects of the structures shall be made transparent. Safety audit shall be compulsory for all commissioned projects to ensure periodical evaluation and prescribe the corrective measures.

29 **Amendments /Relaxation / Interpretation of Policy:** Government of Kerala will have powers to amend /relax/interpret any of the provisions under this Policy.