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**POWER PURCHASE AGREEMENT  
BETWEEN  
KERALA STATE ELECTRICITY BOARD LIMITED  
AND  
MANKULAM GRAMA PANCHAYAT**

This Power Purchase Agreement entered into on this the 21<sup>st</sup> day of May, Two Thousand Fifteen between **Kerala State Electricity Board Limited**, a company formed and incorporated under the Companies Act, 1956, having its registered office at Vidyuthi Bhavanam, Pattom, Thiruvananthapuram, hereinafter referred to as '**KSEBL**' (which expression shall, unless repugnant to the context or meaning thereof, include its successors and permitted assignees) as a party of the first part, AND **Mankulam Grama Panchayat**, Mankulam Post, Idukki (District), PIN-685565, hereinafter referred to as '**the Developer**' (which expression shall, unless repugnant to the context or meaning thereof, be deemed to include its successors and permitted assignees) as a party of the Second Part. Each of the parties of the first and second above is individually referred to as 'Party' and collectively as 'Parties'.

  
**SHAJI MATHEW**  
President  
Mankulam Grama Panchayat



  
**SUKU. R**  
CHIEF ENGINEER  
(Corporate Planning)  
KSEB Board Ltd., Vidyuthi Bhav  
Pattom, Thiruvananthapuram

  
എൻ. രാമചന്ദ്രൻ  
സ്റ്റാമ്പ് വെണ്ടർ, ദേവികുളം

Rs 300/-  
8/5/2015  
2015



WHEREAS the Mankulam Grama Panchayat (the Developer) has established a 110 kW (2x55 kW) mini hydroelectric power project named **Pambumkayam Mini HEP** at Mankulam, Idukki District, Kerala (hereinafter referred to as 'the Project') to be owned and operated by the Mankulam Grama Panchayat.

AND WHEREAS KSEBL is desirous of purchasing electricity generated from the Project and the Developer is willing to sell electricity generated from the Project to KSEBL from the date of commercial operation of the Project, on mutually agreed terms and conditions mentioned hereunder.

NOW THEREFORE, in consideration of the premises and mutual agreements, covenants and conditions set forth herein, it is hereby agreed by and between the Parties as follows:


### **1.0 Definitions**

The words or expressions used in this agreement, but not defined hereunder shall have the same meaning assigned to them by the Electricity Act, 2003 as amended from time to time, the Rules framed thereunder and the Regulations issued by the Kerala State Electricity Regulatory Commission (KSERC) from time to time. The words or expressions mentioned below shall have the meanings respectively as assigned hereunder:

- |    |                         |  |
|----|-------------------------|--|
| a. | Agreement               | means this agreement including all appendices, exhibits and schedules together with any amendments thereto as may be made by mutual consent of both the parties in writing                               |
| b. | Authority               | means the Central Electricity Authority  |
| c. | Billing Date            | means the 5 <sup>th</sup> working day after the metering date.   |
| d. | Billing month           | shall mean the period beginning on the 00:00 midnight of the 1 <sup>st</sup> day of the calendar month and ends on the 12:00 midnight of the last day of the same calendar month.                        |
| e. | Co-ordination committee | shall mean a committee comprising of two members each from KSEBL and the developer, constituted for co-ordinating the commissioning activities of the project including witnessing the performance tests |

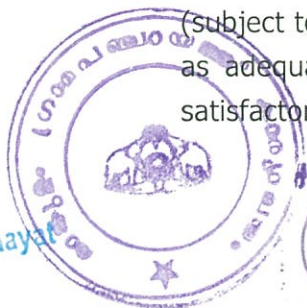
  
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- f. Date of Commercial Operation (CoD) shall mean with respect to each generating unit, the date on which such generating unit marks entry into commercial service and with respect to the Project, the date on which the Project marks commercial operation pursuant to the performance tests demonstrated successfully by the developer before KSEBL, meeting the specified parameters.
- g. Day shall mean 24 (twenty four) hours period beginning at 00.00hrs Indian Standard Time and ending at 24.00 hrs on the same day.
- h. Due date of Payment means the 15<sup>th</sup> day after billing date
- i. Despatch instructions means the instructions from control centre of State Load Despatch Centre in accordance with Prudent Utility Practices and this Agreement, to schedule and control the generation at the Project in order to commence, increase, decrease or cease the energy delivered to the KSEBL's grid system.
- j. Evacuation facilities shall mean transmission facilities built from the interconnection point in the developer's switchyard upto the existing transmission line of KSEBL which will be constructed by the developer and transferred to KSEBL.
- k. Force Majeure any event which is beyond the control of the persons involved which they could not foresee or with a reasonable amount of diligence could not have foreseen or which could not be prevented and which substantially affects the performance by person such being the following including but not limited to:-
- Acts of God, natural phenomena, floods, droughts, earthquakes and epidemics;
  - Enemy acts of any Government domestic or foreign, war declared or undeclared, hostilities, priorities, quarantines, embargoes;
  - Riot or Civil Commotion;
- l. Financial closure means the signing of the Financing documents for project financing and the fulfilment of all conditions precedent to the initial availability of funds thereunder and the receipt of commitments for such equity as required by the developer in order to satisfy the requirements of the lenders, provided however that the developer has immediate access to funds (subject to giving the required draw down notices) regarded as adequate by the developer and on terms regarded as satisfactory by the developer.

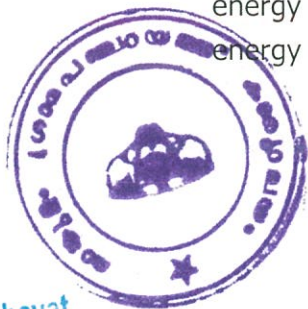
  
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- m. **Generating Unit** an electrical generating unit of 55 kW coupled to a turbine within a power station together with all plant and apparatus at that power station which relates exclusively to the operation of that turbine generator unit.
- n. **Grid Code** means the state grid code specified by the KSERC from time to time.
- o. **Contracted Capacity** means the capacity contracted by KSEBL as defined under Article 3.1 of this agreement
- p. **Infirm Energy** means the energy generated and injected to the grid prior to the date of commercial operation of each generating unit / Project and utilised by KSEBL.
- q. **Interconnection Point** shall mean the point at which interconnection is made between the interconnection facilities of the project and the existing grid system of the KSEBL, which is the input side of 440/11000V transformer.
- r. **Inter connection facility** shall mean all facilities installed by the developer to enable the KSEBL's grid system to receive the delivered energy from the project at the interconnection point including the transformer and the associated equipments, relay, metering and switching equipments, protective devices and safety equipments and transmission lines from the project.
- s. **Maintenance Outage** shall mean an interruption or reduction of the generating capability of the project for the purpose of performing work on specific components of the project, the work which should not, in the reasonable opinion of the developer, be postponed until the next scheduled outage.
- t. **Metering Date** shall mean the first day of each calendar month, at a scheduled time mutually agreed between the parties.
- u. **Metering point** means the point located at the interconnection point at which the energy delivered is metered.
- v. **Main meter and Check meter** meter for measurement and checking of import/export of energy on the outgoing feeders of the station busbars for energy accounting.

  
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- w. Open Access Facility means the non-discriminatory provision for the use of transmission lines or distribution system or associated facilities with such lines or system by any licensee or consumer or a person engaged in generation in accordance with the regulations specified by the appropriate Commission
- x. Prudent Electrical Practices means the use of equipment, practices and methods, as required to comply with applicable codes, standards and regulations in India to protect the electrical system, employees, agents and customers of the KSEBL from malfunctioning by the project and to protect the project and developer's employees and agents from malfunctioning by the grid system of the KSEBL.
- y. Prudent Utility Practices mean those practices, methods, techniques and standards as changed from time to time that are generally accepted internationally for use in electric utility and power generation industries (taking into account conditions in India), and used in prudent electric utility engineering and operations to design, engineer, construct, test, operate and maintain equipments lawfully, safely, efficiently and economically, as applicable to the power station of the size, service and type of the Project and that generally conform to the manufacturer's operation and maintenance guidelines.
- z. Performance tests shall mean the tests specified by the Co-ordination committee as detailed in Schedule-1 hereto.
- aa. Project facilities shall mean buildings, diversion structure, dam/weir, water conductor systems, forebay, powerhouse, switchyard, tailrace, all energy producing equipment and its auxiliary equipment, switchgear, transformer, protection equipment, access road, evacuation line up to delivery point and the like, necessary to deliver the electrical energy of the powerhouse to the KSEBL at the delivery point.
- ab. Reactive Energy means the integral reactive power with respect to time and measured in the unit of Volt Ampere hours Reactive (VARh) or standard multiples thereof.

  
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- ac. Scheduled Outage means a planned interruption or reduction of the generating capability of a unit or the power station for inspection, testing, preventive maintenance, corrective maintenance, repairs, replacement or improvements which has been scheduled by the developer and allowed by the KSEBL.
- ad. Synchronisation Date shall mean the date on which the project starts delivering electric energy generated from the project into the KSEBL system for testing and initial start up.
- ae. State Load Despatch Centre ( SLDC) the Centre established under subsection (1) of Section 31 of the Act.
- af. State Transmission Utility ( STU) KSEBL or the Government Company specified as such by the State Government under sub-section (1) of Section 39 of the Act.
- ag. Termination means the early termination of this Agreement pursuant to the termination notice or otherwise in accordance with the provisions of this Agreement but shall not unless the context otherwise requires include the expiry of this Agreement due to efflux of time in the normal course.
- ah. Termination Date means the date on which the termination occurs, which shall not be less than 60 days from the date of termination notice.

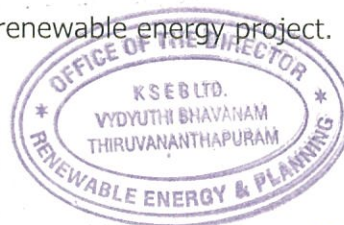
## 2.0 Effective date and Term of Agreement :

This Agreement shall come into force from the date of signing of the Agreement for all purposes and remain operative for a period of thirty five years from the date of commercial operation of the last unit of the station. The terms of the Agreement may be extended for further period by mutual agreement with modification as considered necessary and mutually agreed. In case KSEBL continues to get power from the station, even after expiry of this agreement without further renewal or formal extension thereof, then the provisions of this agreement shall continue to operate till this agreement is formally renewed, extended or replaced.

## 3.0 Installed Capacity :

- 3.1 The capacity of the Pambumkayam Mini HEP is 110 kW at the generator terminal. The contracted capacity to KSEBL is 110 kW at the interconnection point.
- 3.2 The station is being developed as a renewable energy project.

  
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#### 4.0 Plant Operation and Maintenance, Evacuation facilities:

- 4.1 The developer shall construct the project as per the technical standards prescribed by the Central Electricity Authority and operate the project in a safe manner during the term of the agreement in accordance with the despatch instructions issued by State Load Despatch Centre and the Grid code. It shall comply with the statutory/regulatory measures applicable to the construction and operation of the project promulgated by the Government of Kerala /Government of India/Regulatory Commission.
- 4.2 The developer shall be responsible for designing, implementing and maintaining protection system of the entire equipment for safe operation of the project/project facilities as per the prudent utility practices, prudent electrical practices and the Kerala State Electricity Grid Code (KSEGC).
- 4.3 Energy sold from the project, shall be metered at the interconnection point.
- 4.4 The developer shall generate power at 440V and transmit to the interconnecting point at 440V. KSEBL agrees to provide grid availability.
- 4.5 Commercial operation date of the project shall be the date of successful completion of the performance tests which shall be conducted as detailed in Schedule-1.
- 4.6 KSEBL shall declare the CoD, considering the proposal and result of the performance tests furnished by the Co-ordination committee.
- 4.7 The project shall maintain the standards as per CEA Technical Standards of Connectivity to the Grid Regulations, 2007.

#### 5.0 Transmission/wheeling of power

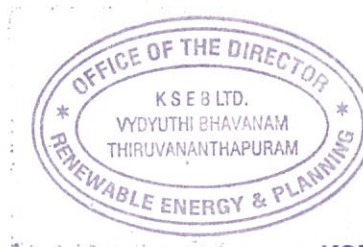
All charges as determined by the KSERC payable to the STU by the distribution utility in connection with evacuation of power from the project up to KSEBL's substation shall be borne by the developer. The STU shall provide transmission/wheeling facilities for evacuation of power from the project.

#### 6.0 Scheduling, Metering, Tariff and Energy Accounting

- 6.1 Discrepancies shall be resolved at appropriate levels for improving the performance, providing more realistic declarations and/or correcting any breach of "Connection Conditions".

The developers shall provide to the SLDC generation summation outputs wherever no automatic transmission of metered data or SCADA equipment exists. The developer shall provide other logged readings, which the SLDC may reasonably require, for monitoring purposes wherever SCADA data is not available.

  
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- 6.2 Metering : The developer shall install a main meter and check meter duly calibrated by KSEBL. Meters shall be of 0.2 S class accuracy. The parties shall undertake a joint reading of the meters on the metering date.

Data shall be downloaded from the meters at regular intervals as decided by SLDC for preparation of energy account. If the main meter or check meter is found to be not working at the time of meter readings or at any other time, the developer shall inform SLDC of the same.

In case of failure of meters, energy accounting for the period shall be as per procedure laid down by KSERC. In case of absence of any procedure the following procedure shall be followed. In case of failure of main meter, readings of check meter for the corresponding period shall be considered for energy accounting. In case of dispute, the decision of KSERC would be final and binding.

Periodic testing of both main and check meters shall be carried out in the presence of representatives of developer and KSEBL as per procedure laid out in CEA (Installation and Operation of Meters) Regulations, 2006. Over any testing and/or replacement, notice of seven days shall be given.

- 6.3 Energy Accounting: Both the parties agree to facilitate issue of energy accounts by 1<sup>st</sup> day of every month. Developer shall prepare and submit bills to KSEBL on the basis of such energy accounts. Energy account issued by SLDC shall be binding on all the parties for billing and payment purposes. Any change in the methodology of energy accounting shall be done only as per the decisions taken in the appropriate forums and both the parties agree to abide by the methodology so finalized.

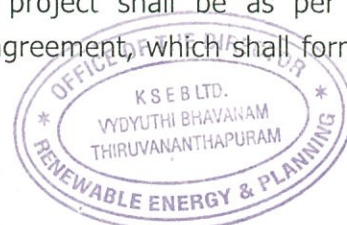
- 6.4 From and after the synchronisation/CoD of the project/generating unit, the developer agrees to sell the contracted energy to KSEBL, and KSEBL agrees to purchase the energy from developer at the interconnection point subject to the terms and conditions of this agreement, during the term of this agreement or till the termination date in the event of termination.

KSEBL reserves the right of first refusal of power made available by the developer. In case KSEBL refuses to absorb the entire quantum of power made available by the developer, KSEBL shall provide open access facility to the developer to transmit the power through its network subject to the regulations issued by KSERC/CERC as the case may be, as amended from time to time.

During the period between synchronisation and commercial operation, the power is infirm and will be treated separately as decided by the KSERC.

- 6.5 Tariff for power generated from the project shall be as per the order dated 04.09.2014 of KSERC, annexed to the agreement, which shall form an integral part of the agreement.

  
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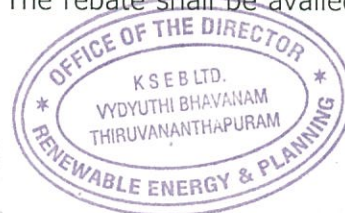


- 6.6 Infirm electricity: Sale of electricity prior to commercial operation of the plant will be charged at the rate of infirm power approved by KSERC vide order dated 04.09.2014, annexed to the agreement.
- 6.7 The charges for power drawn by the developer from KSEBL grid during construction period, testing and pre-commissioning period, maintenance/shutdown period of the power plant shall be billed by KSEBL on monthly basis at the tariff decided by KSERC.
- 6.8 The developer shall ensure reactive power generation/absorption as per the terms laid out in Kerala State Electricity Grid Code (KSEGC). In the event of any conditions not specified in KSEGC, the relevant clauses of Indian Electricity Grid Code shall be applicable. Reactive power transaction shall be billed as per the KSERC regulations.
- 6.9 Benefits, if any offered for the renewable power project, tax holiday benefits, benefits accruing on account of carbon credit etc. may be shared between the developer and KSEBL as per the KSERC norms amended from time to time on prorata basis to the power absorbed by KSEBL.

## 7.0 Billing and Payment

- 7.1 The developer shall furnish a bill to KSEBL on the billing date in such form as may be mutually agreed by KSEBL and the developer for the billing month. Each bill for a billing month shall be payable by KSEBL on or before the due date of payment, in Indian Rupees by transferring credit/cheque to the account of developer with Union Bank of India at Adimali. If the due date is a holiday next working day both for the bank and KSEBL shall be the due date. Payment on or before the due date as stated above can be accepted for availing rebate.
- 7.2 In any event KSEBL shall pay the bill on the due date of payment and in case of any dispute, 90% of the total bill amount shall be paid and in the event of resolution of dispute the balance amount shall be released/recovered with interest (at SBI PLR) if it exceeds 60 days of time.
- 7.3 The developer shall submit to KSEBL a separate bill for infirm energy metered at the interconnecting point within 15 (fifteen) days from CoD of the project and fixation of the tariff for infirm energy by the KSERC.
- 7.4 The adjustments, if any, on account of any additional claims or errors in the billing for a month shall be made through supplementary bills and shall also be paid / adjusted with the next month's bill.
- 7.5 If KSEBL pays the amount due within the due date of payment then a rebate of 2% shall be given to KSEBL by the developer. The rebate shall be availed in advance at the time of payment.

  
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7.6 If KSEBL does not pay the amount due within 60 days from the date of billing, then KSEBL shall pay interest at the rate of 1.25% per month for such payment from the date such payment was due until the payment is made in full.

## 8.0 Force Majeure

Neither party shall be liable for any claim for any loss or damage whatsoever arising out of failure to carry out the terms of the agreement to the extent that such a failure is due to force majeure events such as war, rebellion, mutiny, civil commotion, riot, strike, lock-out, forces of nature, accident, act of God or any other such reason beyond the control of concerned party. Any party claiming the benefit of this clause shall reasonably satisfy the other party of the existence of such an event and give written notice within a reasonable time to the other party to this effect. Generation/ drawal of power shall be started as soon as practicable by the parties concerned after such eventuality has come to an end or ceased to exist.

## 9.0 Dispute Resolution

All differences or disputes between the parties arising out of or in connection with this agreement shall be mutually discussed and amicably resolved within 90 days. In the event that the parties are unable to resolve any dispute, controversy or claim relating to or arising under this agreement as stated above, the same shall be dealt as per the provisions of the Electricity Act, 2003. The place of dispute resolution shall be at Thiruvananthapuram.

## 10.0 Successors and Permitted Assigns

In case the functions of KSEBL are reorganised and/or this PPA is assigned to other organisation(s) / agency(ies) / entity(ies), partly or wholly, the agreement shall be binding mutatis mutandis upon the successor Distribution/ Trading organisation(s) / agency(ies) / entity(ies) and shall continue to remain valid with respect to the obligations of the successor organisation(s) / agency(ies) / entity(ies) provided that the successor organisation(s) / agency(ies) / entity(ies) is/are owned or controlled by the Government of Kerala.

## 11.0 Termination

In the event of a continuing default by way of violations of the terms and conditions of the agreement by either party lasting for more than 60 days, except in force majeure conditions, the other party shall issue a termination notice to the defaulting party. If the defaulting party does not cure the default within 30 days from the date of termination notice, the other party shall have the right to seek termination of the agreement on a date, which shall not be less than 60 days from the date of termination notice.

  
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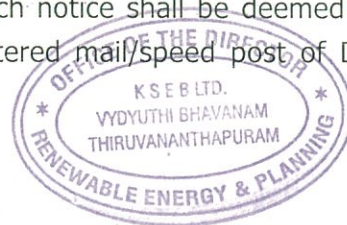


  
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## 12.0 Miscellaneous Provisions

- 12.1 The obligations of the developer under this agreement shall become effective on fulfillment of conditions specified below and on due intimation to KSEBL:
- (i) Received all clearances, statutory or otherwise required to execute and operate the project.
  - (ii) Obtained approval of KSERC for the terms and conditions of this agreement.
- 12.2. Procurement of power from the project shall be as per the applicable KSERC regulation.
- 12.3. The developer represents and warrants to KSEBL that the developer is duly organised and validly existing under laws of India and has all requisite legal power and authority to execute this agreement and carry out the terms, conditions and provisions hereof.
- 12.4 In case of change in law or restriction imposed by Regulator (Central or State) and Appellate Tribunal on any aspect for purchase of power, the same shall be binding on both the parties.
- 12.5 The developer shall at its cost and expense, purchase and maintain by re-instatement or otherwise, during the operations period insurance against any loss, damage or destruction of the project facilities, at replacement value; the developer's general liability arising out of the license; liability to third parties; fire protection coverage insurance; and any other insurance that may be necessary to protect the developer, its employees and its assets against loss, damage, destruction, business interruption or loss of profit including insurance against all force majeure events that are insurable.
- 12.6 Under no circumstances shall KSEBL undertake any contingent liability by way of providing guarantee etc. for developer for implementing the project.
- 12.7 This agreement shall be governed by the laws of India. The courts at Thiruvananthapuram shall have jurisdiction over all matters arising out of or relating to this agreement.
- 12.8 Any variation, waiver or modification of any of the terms of this agreement shall be valid only if communicated in writing and agreed and signed by/or on behalf of the parties hereto.
- 12.9 All notices required or referred to under this agreement shall be in writing and signed by the respective authorised signatories of the parties mentioned herein above, unless otherwise notified. Each such notice shall be deemed to have been duly given if delivered or served by registered mail/speed post, of Department of

  
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Posts with an acknowledgement due to the other party in terms of implementation of the agreement.

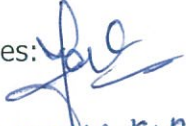
IN WITNESS whereof the duly authorized representatives of the Parties have signed at Thiruvananthapuram on the day and year first hereinbefore written.



For and on behalf of  
**Mankulam Grama Panchayat**

For and on behalf of  
**Kerala State Electricity Board Limited**



  
.....  
(Signature with seal)  
**SHAJI MATHEW**  
**President**  
**Mankulam Grama Panchayat**

Witnesses:

1.   
N. ANAND KUMAR, K.P  
YADAKKA VILLOL  
N.C.Y.A. ZENKARA
- 2.

  
  
**SUKU. R**  
**CHIEF ENGINEER**  
(Corporate Planning)  
(Signature with seal)  
**KSEB Board Ltd., Vidyuthi Bhavanam**  
**Pattom, Thiruvananthapuram-4**

Witnesses:

1.   
BIPIN SANKAR PYCE  
KSEB PATTOM
2.   
PADMAKUMAR A  
E.E, KSEB. Pattom

**PERFORMANCE TEST PROCEDURE**

1. Before initial synchronization, not later than ninety (90) days before the date of completion, the company shall supply the following documents to the KSEBL for approval:
  - a) Final single line electric diagram of the Project;
  - b) Electrical protection study report;
  - c) Start-up procedure and on-grid testing program; and
  - d) Operating procedure and other agreements.
2. Before conducting performance tests, the developer shall supply the following documents to KSEBL for approval;
  - a) Report of completion of on-grid testing program
  - b) Copies of insurance policies covering the project
3. The developer shall give seven (7) days notice to KSEBL/authorized agency before starting the performance tests. KSEBL/authorized agency may depute an Engineer to witness the performance tests.
4. Scope of Performance Test
  - 1) During each performance test, the project shall be operated in a manner similar to normal commercial operation with all auxiliary loads and losses associated.
  - 2) The performance tests will be considered successful if the project operates for a period of fourteen days with a minimum of one day's continuous operation at or above 90% of its nominal capacity of operation within the technical limits specified by KSEBL.
5. Test Report

The Test Report shall include the following:

  - (1) kilowatt-hour and kilo watt meter readings at inter connection point to verify the net output. Reproduced copies of actual log sheets are preferred wherever possible.
  - (2) For turbine unit(s), a curve of net capability, with test result noted on the graph.
  - (3) Calculation of tested capacity inclusive of notes explaining reason for any failure to achieve nominal capacity, and intended date and means of correcting the deficiency or re-rating the unit capability.
  - (4) Test report and settings of all relays should be intimated to KSEBL before commercial operation.

**KERALA STATE ELECTRICITY REGULATORY COMMISSION  
THIRUVANANTHAPURAM**

**O.P. No. 23 of 2013**

**In the matter of approval of PPA to be signed with KSEB for drawal of  
power from their 2x55kW mini hydel project**

**Petitioner** : The Secretary,  
Mankulam Grama Panchayat, Idukki District.

**Respondent** : K.S.E.B.Ltd.

**Present** : **Shri T. M. Manoharan, Chairman**  
**Shri Mathew George, Member**

**Order dated 04.09.2014**

**Back ground :-**

1. A mini hydel project at Pampumkayam near Mankulam Ward was conceived by the Munnar Panchayat in Idukki District during 2001 for harnessing the hydel potential of Melessery stream near Pampumkayam falls. After the formation of Mankulam Grama Panchayat, bifurcating the ward from Munnar Panchayat, implementation of project was taken up by Mankulam Grama Panchayat under the guidance of Energy Management Centre (EMC), Kerala. The project with 2 x 55kW machines was originally envisaged as a stand-alone generating station un-connected to the distribution grid of KSEB Limited. This stand-alone project was commissioned during the month of October 2004. As Mankulam Panchayat was not electrified, they were operating the project in a "stand-alone mode", catering about 300 consumers in the Panchayat, as a community project by the people.

2. During 2006, K.S.E.B.Ltd.had constructed distribution lines from Chithirapuram to Mankulam under the RGGVY scheme. Since the consumers in Mankulam Panchayat wanted the better quality and stable supply, the consumers opted for supply from KSEB Limited. The generating units of the Pampumkayam mini hydel station did not have the

technical standards for synchronizing with the KSEB grid. Therefore the generation from the said unit had to be discontinued. Subsequently the distribution network owned by the Mankulam Grama Panchayat were taken over by KSEB Ltd., on mutually agreed terms and conditions. The power plant remained idle for some period due to various reasons, including issues relating to connectivity to KSEB grid. The Panchayat, with the technical support of EMC, renovated the station by replacing the generator and modifying the control equipment, so that it could be synchronized to KSEB grid. The formal inauguration of the renovated project was held on 10.05.2012. The generated power is to be purchased by the Respondent as per Renewable Energy Purchase Obligation (RPO) at the rates fixed by the Commission. Presently the power is being fed to KSEB grid as infirm power @ Rs. 2/ unit, as stated by the Petitioner.

3. The Secretary, Mankulam Grama Panchayat has filed petition for approval of Power Purchase Agreement (PPA) to be executed with the Respondent K.S.E.B.Ltd., for the drawal of power from this project to KSEB grid. The petitioner has remitted a petition fee of Rs. 10,000/-, as specially approved by the Commission. The petition was admitted as OP 23/13.

### Hearing

4. Hearing was held on 10.7.2013, 30.10.2013 and 29.08.2014. Both the Petitioner and the Respondent were directed to initial the PPA and submit the same for approval of the Commission. As per interim order dated 1/11/2013, the Commission had directed the Respondent to complete all the tests and install all the metering equipments in terms of the draft PPA, so that commercial operation can be declared as stated in the letter no. C.P./Plg.III/Mankulam/2012/303 dated 20.9.2012 of KSEB Limited, addressed to the Director, Energy Management Centre. The relevant portions of the said letter is extracted below:

*Quote:*

*".....The existing policy guidelines for the development of small/mini hydel projects are as follows:*

*1. The developer has to execute an implementation agreement with the Government of Kerala for implementing the project on build, own, operate and transfer (BOOT) basis. Upon the expiry of the BOOT period, the developer should transfer the project with its facilities to the Government free of cost.*

2. *After completing all the work of the project, the machines have to undergo performance test for showing its capacity, which is precondition for declaring the commercial operation of the project.....”*

*Unquote:*

5. The Respondent, K.S.E.B.Ltd. has submitted that the draft PPA in respect of the 110 kW Mankulam project is duly initialed by both the parties. All the terms and conditions of the same have been agreed to. The tariff has to be fixed based on the declared date of commercial operation.

6. The Petitioner submitted that this Mini Hydel Project has been executed by the Mankulam Grama Panchayat and the revenue earned from the project is to be utilised for the development of the Panchayat itself. The Panchayat is situated in a remote hilly terrain, surrounded by forests. He has submitted that considering the fact that such small run off the river projects would be able to operate in optimal capacity only during rainy seasons and the plant load factor would be very low, promotional tariff may be allowed while approving the power purchase agreement.

7. In the hearing on 30.10.13, K.S.E.B.Ltd. has submitted that the project has not so far been commissioned, as there were some more tests to be completed and metering equipment had to be installed. The Commission instructed the Respondent to submit the details of successful completion of all the mandatory tests, so that the commercial operation of the project can be declared. In response to this, the Respondent has submitted on 07.05.2014, that the commercial operation has been declared by KSEB Limited with effect from 03.08.2012, the date on which the initial reading was taken by the Assistant Engineer of KSEB Limited. The Commission sought further clarifications from KSEB on the following issues:

1. Who is the authority to declare commercial operation
2. What are the pre-requisites for declaring the commercial operation
3. Was the commercial operation declared by the competent authority after completing the prescribed tests and satisfying about the performance parameters.

8. For the above queries KSEB submitted that ,

*“ K.S.E.B. or any other independent agency authorised by Govt. has to issue a certificate of completion of the project, pursuant to the performance tests demonstrated by the company, before such agency. Such performance test will be considered successful, if the project operates for a period of 14 days with minimum one day continuous operation at*



*90% nominal capacity or above. If the tests could not be conducted by the company, due to non-availability of water, K.S.E.B. Ltd. shall issue a provisional certificate for carrying out the possible tests, with the available water. It is also submitted by the K.S.E.B.Ltd. that normally performance tests are conducted along with the first time synchronisation of the machines. In the instant case, synchronisation was done without formal notice for doing the performance tests. It is further submitted that on different dates on or after synchronisation, officials of K.S.E.B.Ltd. have inspected the plant and ensured safe operation of the project. As the machines are in satisfactory continuous operation from 03.08.12 till date, it was felt that another test to verify the performance was totally unnecessary. "*

9. The Full Time Directors of K.S.E.B.Ltd. in their meeting on 28.03.2014 has decided to consider 03.08.12, the date from which the machines have been on continuous operation, as the deemed Date of Commercial Operation (CoD). The following aspects were also seen discussed in the Board Order.

*"... As the required meters were not readily available in the market, replacement of the meters could be done only on 04.11.2013. The initial reading (on the non- standard metering system) was taken by the concerned Asst. Engineer on 03.08.2012 and further readings taken regularly. The team of Engineers designated for authorising connectivity (viz., Dy. Chief Engineers, Electrical. Circle, Thodupuzha and System Operation Circle, Kalamassery of K.S.E.B.Ltd. and a representative of Energy Management Centre) in their sitting on 26.02.14, has recommended to consider 03.08.12 as the CoD."*

### **Analysis and Decision of the Commission:**

10. Mankulam mini hydel project has been constructed by the Petitioner Grama Panchayat in a very remote forest area. The prayer in the petition is for approval of the PPA, for which the tariff applicable to the project has to be determined by the Commission. Barring, a few corrections to be made, the terms and conditions in the draft PPA are accepted and initialed by both the parties.

11. The Commission has issued the following regulations determining terms and conditions for procurement from renewable energy sources. The tariff applicable to small hydroelectric projects with installed capacity less than 5MW are given below:

Name of Regulation	Date of effect	Tariff Rs./unit
KSERC(Power Procurement from Renewable Sources by Distribution Licensee) Regulations, 2006	04.07.2006	2.44
KSERC(Power Procurement from Renewable Sources by Distribution Licensee)(2 <sup>nd</sup> Amendment) Regulations, 2010	22.11.2010	2.94
KSERC(Power Procurement from Renewable Sources by Distribution Licensee) Regulations, 2013	01.01.2013	4.88

As per Clause 5(2) of KSERC (Power Procurement from Renewable Sources by Distribution Licensee) Regulations, 2013 the tariff of Rs.4.88/Kwh shall be applicable only for the projects commissioned or synchronised on or after 01.01.13. Thus the tariff applicable to Mankulam mini hydroelectric project is dependent on the date of commercial operation.

12. As per sub clause (g) of Clause 1.0 of KSERC (Power procurement from Renewable Sources (distribution licensees) Regulations, 2013,

*"Date of Commercial Operation (CoD) shall mean with respect to each generating unit, the date on which such generating unit marks entry into commercial service and with respect to the project, the date on which the project marks commercial operation pursuant to the performance tests demonstrated successfully by the developer before the Board, meeting the specified parameters."*

13. It is submitted by the Respondent that the machine had been synchronised on 03.08.2012 with the technical support of EMC. Normally, the performance tests are done at the time of synchronisation of the machines with the grid. On 12.10.2012, the Chief Engineer (Corporate Planning), K.S.E.B.Ltd. convened a meeting to sort out the issues related with the synchronisation of the project. The Dy. Chief Engineer, Electrical Circle, Thodupuzha and the Executive Engineer, TMR Division, Pallom were instructed to replace the existing non-standard metering equipment with a standard one. It was also directed that a team comprising of Dy. Chief Engineer, System Operation Circle, Kalamassery, Dy. Chief Engineer, Electrical Circle, Thodupuzha, Executive Engineer, TMR Dn. Pallom and a representative of EMC shall visit the Project and make a recommendation to the Board for authorising connectivity.

14. The Respondent had further submitted that, *"as the required meters were not readily available in the market, the replacement of the metering system could be*

*accomplished only on 4.11.2013. However, the initial meter reading (on the non-standard metering system) was taken by the Asst. Engineer, Chithirapuram and the meter was sealed on 3.8.2012. From this date onwards energy is being continuously made available from the project and monthly readings taken regularly.”* The team of officers as mentioned in para 13 above in their meeting on 26.02.2014 had recommended to consider 03.08.2012 as the Commercial Operation Date.

15. The Commission has examined all the aspects in detail. In the hearing on 30.10.13, the Respondent had taken a position that the project was not so far commissioned as there were some more tests to be completed and standard metering equipment were to be installed. It could be seen that only after the directions contained in the daily order of the Commission dated 01.11.2013, the team of officers had met and made their recommendation to consider an anterior date as CoD. Subsequently the Respondent changed their stand and informed the Commission about their decision to deem 03.08.2012 as CoD making the Petitioner eligible only for the lower tariff of Rs. 2.94 per unit.

16. KSEB itself in their letter no. CP/Plg.III/Mankulam/2012/303 dt..20.9.2012, addressed to the Director, Energy Management Centre had made it abundantly clear that performance test for showing its capacity is a precondition for declaring the commercial operation of the project. Admittedly by the KSEB Limited, the required performance test which were pre-conditions for the declaration of commercial operation of the project had not been conducted even as on the date of hearing on 30.10.2013. The directive of the Commission in the interim order dated 1/11/2013 to complete all the required tests necessary for declaring the CoD was given in the light of this position taken by the KSEB Limited. During the earlier hearings held on 10/7/2013 and 30/10/2013 KSEB Ltd. had not taken a stand that the project was already Commissioned and the date of commercial operation is to be taken as 03.08.2012. As admitted by the respondent, the metering system was replaced only on 04.11.2013. Further the Chief Engineer (Corporate Planning), K.S.E.B. Ltd. convened a meeting on 12.10.12 wherein it was directed that a team comprising of Dy. Chief Engineer, System Operations Circle, Kalamassery, Dy. Chief Engineer, Electrical Circle, Thodupuzha, Executive Engineer, TMR Division, Pallom and a representative of EMC shall visit the project and make a recommendation to the KSEB Limited for authorising connectivity. This Committee had its meeting only on

26.02.2014 after a delay of more than one year. It is not clear, whether or not this team has ever visited the project or carried out the performance tests at any time. KSEB Limited in their submission dated 24.07.2014 has stated that "on different dates on or after the synchronization, KSEB Limited officials have checked and ensured the safe operation of the project. As the machines have been in satisfactory continuous operation from 03.08.2012 till date another test to verify its performance was totally unnecessary". Thus the meeting of the designated team without visiting the project and its recommendation without conducting the performance test to deem the CoD as 03.08.2012 appears to be only an attempt to obtain a decision favourable to the Licensee. It is stated in the Order No. B.O. (FTD) No.1060/2014 (CP/Plg.III/Mankulam/2013-14)dated 28/3/2014 of KSEB Limited that "to declare the CoD after the tests and installation of proper metering system, has the consequence that if the CoD falls on any date after 1.1.2013 shall automatic accredit the project for a tariff of Rs.4.88". In this regard it is pertinent to note that the committee of officers to conduct performance test and to recommend on connectivity to the grid of KSEB Limited was unilaterally fixed by the Chief Engineer (Corporate Planning) of KSEB Limited and the said committee had no representative from the project developer namely Mankulam Grama Panchayat. Usually the commercial operation is declared by the project developer after successful conduct of performance test and demonstration of declared capacities. The performance test and demonstration of capacities have to be jointly witnessed by both the parties. Here the KSEB Limited in the capacity of purchaser of energy, has constituted a team of their own technical officers and decided to declare commercial operation of the project of Mankulam Grama Panchayat from an anterior date, contrary to the stand taken by KSEB Limited on earlier occasions in writing and during the hearing before the Commission.From this it is clear that the decision of the Licensee to ante date the CoD is only for depriving the Mankulam Grama Panchayat of the promotional tariff applicable to the projects of which CoD is on or after 01.01.2013.Hence the Commission views that the declaration of the CoD can only be on or after 26.02.2014, the date of recommendation by the designated team.

17. As the draft of the agreement is prepared before the re-vesting of the assets and liabilities of the erstwhile KSEB in the newly formed company namely K.S.E.B.Ltd, changes have to be made in the PPA to suit the present legal status of KSEB Limited. As

per Article 4.7 in the draft PPA, "*KSERC shall declare the CoD, considering the proposal and result of the performance test furnished by the co-ordination committee.*" Since KSERC is not the authority to declare commercial operation of the project, Article 4.7 of the draft PPA has to be modified in view of the observations and decision of the Commission in para 16.

### **Orders of the Commission**

1. The tariff for the Mankulam mini HEP shall be Rs.4.88 as specified in KSERC (Power Procurement from Renewable Sources by Distribution Licensee) Regulations, 2013 in view of the findings in paragraphs 16 and 17 above.
2. The period of PPA shall be 35 years as specified in Regulation 6 of KSERC (Power Procurement from Renewable Sources by Distribution Licensee) Regulations, 2013.
3. The draft PPA in respect of Mankulam mini HEP, submitted by the Petitioner Mankulam Grama Panchayat duly initialed by KSEB Limited is approved subject to the observations and modifications in this order.
4. Petition is disposed of accordingly.

**Mathew George**  
**Member**

**T.M.Manoharan**  
**Chairman**