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F 742762

Agreement No. 1/2009-10


This Agreement entered into on this 8th day of January 2010 at Thiruvanthapuram.

BETWEEN


Kerala State Electricity Board (hereinafter referred to as "Buyer" which expression shall, unless repugnant to the subject or context include its successors, legal heirs and /or assignees as well) of the one part,

AND

M/s. ACV Products Private Limited, a company incorporated under Companies Act 1956 having its registered office at No. 177/ B-1, Bharthiyar Road, Ganapathy, Coimbatore – 641 006, Tamilnadu -India (hereinafter referred to as the "Company" which expression shall when the context so admits or implies be deemed to include its successors, legal heirs and/or assignees as well) of the other part.


CHIEF ENGINEER
(Corporate Planning)
KSE Board, Vidyuthi Bhavanam
Pattin, Thiruvananthapuram -4

For M/s. ACV PRODUCTS (P) LTD


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24-9-09

WHEREAS:

- A. In pursuance of the Government of Kerala policy regarding promotion of power generation from non-conventional sources within Kerala, Government has proposed to encourage and facilitate the development of wind projects as captive and independent power projects in Private land to exploit the wind potential and develop low cost generation sources within the State.
- B. Government of Kerala vide its order No. G.O (MS) 23/2004/PD dated 06th November 2004 and the revised G.O vide its order No. G.O (MS) 7/2007/PD dated 11.5.2007 has notified the guidelines for allowing private sector participation in Wind generation in Private Land.
- C. Hon'ble Kerala State Electricity Regulatory Commission has notified regulation No : 1/1/KSERC - 2006/XV namely, KSERC (Power Procurement from Renewable Sources by distribution licensees) Regulations, 2006 on 24th June 2006 in accordance with provisions of clause (e) of Sub-section (1) of Section 86 of Electricity Act. 2003. As per clause 31 of the regulation the Board (deemed distribution licensee) is required to procure at least 2% of the electricity from Wind Energy sources with effect from 1st April 2006.
- D. As per the revised G.O cited, it is required to apply for Technical Clearance from the Nodal Agency ANERT and interconnection permission from KSEBoard. Vide proceedings A.O. No. 1236/2009/WIND dated, Thiruvananthapuram, 21-11-2009 of Director, ANERT technical approval has been accorded to M/s. ACV Products Private Limited, for installation of 1 nos. of 750 KW wind electric generators at Ramakkalmedu area in Karunapuram village of Udumbanchola Taluk, Idukki District. Vide letter no. T2/(d)/912/Rammakkalmedu/ 1184, dated, 23-12-2009 of Chief Engineer, (Transmission South), KSEBoard, interconnection permission has been accorded to the company.
- E. The company is desirous of selling the entire power produced from the Wind Mill of capacity 750 KW located at Ramakkalmedu area at survey no 949, Karunapuram Village, Udumbanchola Taluk, Idukki District, Kerala State and the buyer is now desirous of purchasing the entire power generated from the proposed project.

NOW, IT IS MUTUALLY AGREED BY AND BETWEEN THE PARTIES AS FOLLOWS.


CHIEF ELECTRICIAN
(Corporate Planning)
KSE Board, Vidyuthi Bhavanam
Pattom, Thiruvananthapuram - 4

For M/s. ACV PRODUCTS P. LTD

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ARTICLE 1

DEFINITIONS AND INTERPRETATIONS

1.1 Definitions

Wherever the following terms appear in this Agreement, whether in the singular or in the plural, present or past tense, they shall have the meaning stated below, unless repugnant to the context:

- (a) **"Accounting Year"** means the financial year commencing from 1st April of a calendar year and ending on 31st March of the next calendar year.
- (b) **"Agreement"** means this Agreement including all Schedules and Annexures, together with any amendment thereto as may be made by mutual consent of the parties in writing, herein after referred to as PPA.
- (c) **"ANERT"** means the Agency for Non-Conventional Energy and Rural Technology.
- (d) **"Applicable Laws"** means the existing and future laws enacted by the Parliament or Kerala State Legislature which are in force for the time being including ordinances regulations and rules made there under, and judgments, decrees, or orders of any court, and international treaties and conventions having force of law during the subsistence of this Agreement.
- (e) **"Authorized Agency"** means an agency duly authorized by Government for the purpose.
- (f) **"Auxiliary Consumption"** means the internal consumption of power by the company, which shall be the difference between the number of units (Kwh) generated by the Project as measured at the generator terminals at each generator unit and the number of units (Kwh) as measured at the interconnection point including transformation losses.
- (g) **"Billing Date"** means the 5th day after the Metering Date or the next business day of the buyer.
- (h) **"Billing year"** means the period beginning on the Commercial Operation Date and ending at 12.00 midnight of the following March 31st. Thereafter each successive billing year shall begin on April 1st and end on March 31st of the following year, except that the final billing year shall end on the date of expiry of the term or on termination of this Agreement, whichever is earlier.


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- (i) **"Business Day"** means a day on which the commercial bank and Buyer are open for business in Thiruvanthapuram.
- (j) **"Buyer's supply regulations"** means the regulations notified by Kerala State Electricity Regulatory Commission from time to time with regard to supply of electricity.
- (k) **"Change in Law"** means the occurrence or coming into force of any of the following:
- (i) the enactment of any law or legislation passed by the State Legislature or Parliament.
 - (ii) the repeal, modification or re-enactment of any existing Indian law: Provided that change in law shall not include.
 - (iii) coming into effect after the date of signing this Agreement of any provision of a statute which is already in place as of the date of signing this Agreement or
 - (iv) any new law or any change in existing law under the active consideration of or in the contemplation of any Agreement as of the date of signing of Agreement, which is a matter of public knowledge.
- (l) **"Check Meter"** means any meter and/or metering device of accuracy class equivalent to the Main Meter installed and maintained by the Buyer at the cost of the Company at the interconnecting point to measure the delivery and receipt of energy and power for the purpose of checking the Main Meter.
- (m) **"Clearances"** shall mean the clearances as mentioned in Schedule 4.
- (n) **"Commercial Operation Date (COD)"** with respect to the Project shall mean the date on which the Project is available for commercial operation and such date as specified in a written notice given in advance by the Company to the buyer and in any case, shall not be beyond the Scheduled Date of Completion.
- (o) **"Commission"** means Kerala State Electricity Regulatory Commission (KSERC).
- (p) **"Company"** means a company formed and registered under the companies Act 1956 (1 of 1956) and includes any body corporate under a Central, State or Provincial Act.


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- (q) **"Computer Monitoring System"** (CMS) means the computer based monitoring system comprised of hardware, software, and private communication system extending to each wind turbine, which system gathers, archives and reports turbine operating data.
- (r) **"Cut-in Wind Speed"** means the minimum wind speed at which the Wind Electric Generator's is deliverable to a load.
- (s) **"Cut-out Wind Speed"** means the maximum wind speed at which the Wind Electricity Generators produces energy.
- (t) **"Day"** shall mean 24 (twenty four) hours period beginning at 0.00 Hrs Indian Standard Time and ending at 24.00 Hrs on the same day.
- (u) **"Delivered Energy"** means the total energy delivered and metered at the interconnection point.
- (v) **"Design Energy"** means the energy to be generated by the Project in a year as detailed in the Wind mapping study contained in the Micro survey (siting) Report.
- (w) **"Dispute"** means any dispute, difference or controversy between the Parties arising under or out of, or in relation to, this Agreement and so notified in writing by any party to other party.
- (x) **"Due date of Payment"** means the 10th day after the billing date.
- (y) **"Electricity Act 2003"** or Act 2003 means Electricity Act 2003 as amended from time to time.
- (z) **"Evacuation System"** means transmission facilities built from the pooling substation / Wind Electric Generator at 33 kV up to Kerala grid system.
- (aa) **"Financial Closure"** means the signing of the Financing Documents for Project financing and the fulfillment of all conditions precedent to the initial availability of funds there under and the receipt of commitments for such Equity as required by the Company to satisfy the requirements of the Lenders, provided however that the Company has immediate access to funds (subject to giving the required draw down notices) regarded as adequate by the Company and on terms regarded as satisfactory by the Company and in any case shall be achieved with in 3 months from the date of signing of this Agreement.
- (ab) **"Force Majeure events"** shall have the meaning set forth in Article 14 hereof.
- (ac) **"Government"** means the Government of Kerala.


CHIEF EXECUTIVE OFFICER
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- (ad) **"Generating Unit"** means one set of wind generator and auxiliary equipment and facilities forming part of the project.
- (ae) **"Grid System"** means the Buyer/ State Transmission Utility's network of transmission and distribution through which the Delivered Energy is evacuated and distributed.
- (af) **"Infirm Energy"** means energy generated prior to the date of Commercial Operation Date of each generating unit and metered at the interconnection Point.
- (ag) **"Interconnection Facilities"** means all facilities installed by the Company to enable the Buyer's Grid System to receive the delivered energy from the Project at the interconnection Point including the transformer and the associated equipments, relay and switching equipments, protective devices and safety equipments and transmission lines from the Project to the nearest interconnecting point.
- (ah) **"Inter connection Point"** means gantry point or points in the nearest buyer/State Transmission Utility's Substation.
- (ai) **"Interconnecting substation"** includes facilities located at the nearest substation of the buyer/State Transmission Utility where the project transmission line connects to the Kerala grid.
- (aj) **"Kerala State Electricity Grid code" (KSEGC)** means the State Grid code specified under clause (h) of subsection (1) of section 86 of the Electricity Act 2003 by KSEERC and as amended from time to time.
- (ak) **"Lender"** means financial institutions, bank, fund or trust who provide or refinance the debt component cost of the project (including guarantee, letter of credit, risk participation facility, take out facility and other forms of credit enhancement) and includes subscribers to / trusty for the holders of the debentures / bonds and other securities issued by the developers to meet cost of the project.
- (al) **"Material Adverse Effect"** means a material adverse effect on the ability of Company to exercise any of its rights or perform/discharge any of its duties/obligations under and in accordance with the provisions of this Agreement.
- (am) **"Main Meter"** means the Availability Based Tariff compatible Special Energy Meter of 0.2 class accuracy having import-export registering facility and with applicable IEC/BIS Standards as per Central Electricity Authority (Installation and Operation of Meters) regulations 2006 with its amendments thereupon to record the delivery and receipt of energy at the interconnection point.


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- (an) **"Maintenance Outage"** means an interruption or reduction of the generating capability of the Project for purpose of performing work on specific components which work should not in the reasonable opinion of the company be postponed until the next Scheduled Outage and shall be scheduled and allowed by the Buyer/State Transmission Utility.
- (ao) **"Meters"** shall mean a Main Meter and a Check Meter.
- (ap) **"Metering Date"** for a billing period means the first working day of each calendar month for a scheduled time mutually agreed between the parties.
- (aq) **"Metering Code"** means the regulations notified by Central Electricity Authority as per "Installation and Operations of Meters, Regulations 2006".
- (ar) **"Metering Point"** means the point located at the interconnection point at which the energy delivered is metered.
- (as) **"MVAR"** means Megavars
- (at) **"MW"** means Megawatts
- (au) **"MWh"** means Megawatt hour.
- (av) **"National Electricity Policy"** means Policy notified by the Central Government in compliance with section 3 of Act 2003.
- (aw) **"Operating period"** means the period commencing from COD and ending at the expiry of the term of the agreement specified in this PPA.
- (ax) **"Party"** means a party to this agreement.
- (ay) **"Pooling substation"** means facilities developed by Kerala State Electricity Board/developer so as to pool the wind power in each potential area.
- (az) **"Project"** means the wind power project set up at Ramakkalmedu area Survey No 949 of Karunapuram Village, Udumbanchola Taluk, Idukki District, Kerala State, comprising of 750 KW Capacity, 1no of Wind Turbine as described in schedule 7, ancillary equipment and facilities suitable for generating nominal capacity and includes all Civil & Electrical works, Central Monitoring & Control system, overhead transmission/sub transmission line up to interconnection point/ pooling substation, land, buildings (including staff quarters) and infrastructure and other facilities, ancillary and related establishments, equipments and conveniences.


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KSEB, District, Madhavathi Branch
Palakkad, Thrissur District - 4

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- (aaa) **"Project Facilities"** includes Company's equipment, wind turbines, step-up transformer(s), circuit breakers, necessary evacuation lines from Wind electric generators to the pooling substation/interconnecting substation , protective and associated equipment, communication and data collection equipments for transfer of required real time data to State Load Despatch Centre, improvements, and other tangible and intangible assets , property and access rights and contract rights necessary for the construction, operation and maintenance of the electric wind generating facility to be located at the site specified in schedule 7 that produces energy output sold under this Agreement to the Buyers interconnection point.
- (aab) **"Project substation"** means facilities located at project site which inter connect the project tie line and project transmission line.
- (aac) **"Project Transmission line"** means the transmission line connecting the project substation to the interconnection point/pooling substation.
- (aad) **"Project Site"** shall mean the area of land used by the Company for building, operating and maintaining the project as per the approved Technical proposal and as described in Schedule 7.
- (aae) **"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 Buyer/State Transmission Utility's System, employees, agents and customers from malfunctioning by the Project and to protect the project and company's employees and Agents from malfunctioning by the Kerala grid.
- (aaf) **"Prudent Utility Practices"** means the 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.
- (aag) **"Scheduled Date of Completion"** means the date on which the project is completed in all respect and it shall be with in two years from the date of signing of this Agreement.
- (aah) **"Schedule Outage"** means a planned interruption or reduction of the generating capability of a unit or the power station that is not a Maintenance Outage.


 Director
 M/s. ACV Products (P) Ltd
 K.P. Road, Vellur, Thiruvananthapuram
 Kerala, Thiruvananthapuram - 4

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- c) the words importing singular shall include plural and vice versa, and words denoting natural persons shall include partnerships, firms, companies, corporations, joint ventures, trusts, associations, organisations or other legal entities.
- d) the headings are for convenience of reference only and shall not be used in, and shall not affect, the construction or interpretation of this Agreement.
- e) References to "construction" include investigation, design, engineering, procurement, delivery, transportation, installation, processing, fabrication, testing, commissioning and other activities incidental to the construction.
- f) Any reference to any period of time shall mean a reference to that according to Indian Standard Time.
- g) any reference to day shall mean a reference to a calendar day.
- h) Any reference to month shall mean a reference to a calendar month.
- i) the Annexure and the Schedules to this Agreement form an integral part of this Agreement and will be in full force and effect as though they were expressly set out in the body of this Agreement.
- j) any reference at any time to any Agreement, deed, instrument, or document of any description shall be construed as reference to that Agreement, deed, instrument, or other document as amended, varied, supplemented, modified or suspended at the time of such reference.
- k) references to recitals, Articles, sub-articles, clauses, or Schedules in this Agreement shall, except where the context otherwise requires, be deemed to be references to recitals, Articles, sub-articles, clauses and Schedules of or to this Agreement.
- l) any consent, approval, authorisation, notice, communication, information or report required under or pursuant to this Agreement from or by any party or the Government and/or the Independent Auditor shall be valid and effectual only if it is in writing under the hands of the party or Secretary (Principal) of the concerned Department or Independent Auditor or their duly authorised representative as the case may be, in this behalf and not otherwise.
- m) Unless otherwise stated, any reference to any period commencing "from" a specified day or date and "till" or "until" a specified day or date shall include either such days or dates.

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1.3 Measurements and Arithmetic Conventions

All measurements and calculations shall be in metric system and calculations done to 2 decimal places, with the third digit of 5 or above being rounded up and below 5 being rounded down.

1.4 Ambiguities and Discrepancies

In case of ambiguities or discrepancies within this Agreement, the following shall apply:

- a) between two Articles of this Agreement, the provisions of specific Articles relevant to the issue under consideration shall prevail over those in other Articles.
- b) between the written description of the Drawing and the specifications and standards, the latter shall prevail.
- c) between the dimension scaled from the Drawing and its specific written dimension, the latter shall prevail.
- d) between any value written in numerals and that in words, the latter shall prevail.


CHIEF ENGINEER
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KSE Board, Vidyuthi Bhavanam
Pattom, Thiruvananthapuram - 4

For M/s. ACV PRODUCTS (P) LTD

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ARTICLE 2

TERM OF AGREEMENT AND CONDITIONS PRECEDENT

2.1 Term of Agreement:

This Agreement shall be valid for the entire 20 years from the date of COD of the windmill project. Provided that in the event of Termination, the term of this Agreement shall mean and be limited to the period commencing from date of this Agreement and ending with the Termination Date.

Provided that the project will remain as an independent power producer (IPP) for the entire tenure of agreement.

2.2 Conditions Precedents

The obligations of Buyer and the Company under this Agreement shall become effective except for infirm energy as provided in relevant articles on fulfilment of conditions specified in sub-clauses a and b below:

a) Obligations of the Company:

The Company shall have:

- (i) Achieved COD as per the terms of this agreement.
- (ii) Received all Clearances, statutory or otherwise required to execute and operate the Project; and
- (iii) Obtained approval of the Kerala State Electricity Regulatory Commission (KSERC) for the terms of this Agreement.
- (iv) Achieved financial closure within 3 months from the date of signing of this Agreement.

Note:

The Company shall promptly inform the Buyer the date on which the conditions precedent pursuant to Article 2.2 has been fulfilled.

b) Obligations of the Buyer

The Buyer shall have obtained all approvals, consents and licenses that are required to enable the Buyer to enter into this Agreement.

2.3 Non Fulfillment of Conditions Precedent:

Non-fulfillment of the conditions precedent, or refusal to waive any of the conditions precedent which is not fulfilled, on completion of two years from the date of signing this agreement unless extended by mutual Agreement, are grounds for termination of the Agreement without liability to either party.


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ARTICLE 3

PROJECT DESCRIPTION

(a) **Summary description:**

The Company shall construct operate and maintain the project facilities, including the project transmission line and project substation. The infrastructure development charge fixed by the Government in consultation with Board shall be remitted by the developer to Kerala State Electricity Board/State Transmission Utility. A complete description of the facility, including nominal capacity of the project, identification of number and nominal capacity of the generating units and capacity of wind turbines, other equipment and components that comprise the facility are provided in Annexure I.

(b) **Site:**

The facility shall be located at the area generally described as:

Project Name	:	Ramakkalmedu
Village	:	Karunapuram
Location/ District	:	Udumbanchola / Idukki
Longitude and Latitude	:	77° 13' 18.5"/ 9° 47' 33.5"
State/Country	:	Kerala / India

A scaled map that identifies the location of the project facility, project transmission and substation, interconnection facilities, and significant ancillary facilities including the facilities at point of delivery, is included in Annexure I.

(c) **General Design and Construction of the Project Facility:**

Developer shall construct the project facility constructed in a workmanlike, professional manner according to prudent utility practices. The facility shall be:

- (1) Capable of supplying energy output in compliance with the requirements of power purchase agreement.
- (2) Capable of operating at power levels as specified in the power purchase agreement.
- (3) Equipped with protective devices and generator control systems designed and operating in accordance with the power purchase agreement and prudent utility practices.


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- (4) Equipped with necessary Supervisory Control And Data Acquisition arrangements and communication facilities to provide unit wise injection of MW, MVAR, bus voltage, frequency and isolator status and any other relevant parameters in real time to State Load Despatch Centre in a format compatible to the existing Supervisory Control And Data Acquisition system of State Load Despatch Centre. Any interfacing issues and protocol issues have to be sorted out by the company at their expenditure.


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ARTICLE 4

RESPONSIBILITIES OF THE COMPANY AND THE BUYER

4.1 Responsibilities of Company

- a) The Company shall operate the Project in a safe manner and shall comply with the statutory/regulatory measures taken by the Government of Kerala /Government of India with respect to the operation of the Project.
- b) The Company shall generate power at 690V, stepping to 33KV by unit Transformer and further stepped up to 66KV and transmitted to pooling sub station/ inter connecting sub station at 66KV located at Nedumkandam, which is at a distance of 13 Km from the project switch yard.
- c) The Company shall at its own cost maintain the tie line up to pooling substation/interconnecting substation in accordance with the specifications and requirements as notified to the Company by the Buyer at its own cost and in accordance with Prudent Utility Practices. The tie lines so constructed shall remain as dedicated tie line.
- d) The Company shall at its own cost and expenses subscribe purchase and maintain by due re-instatement or otherwise such insurance as may be necessary till the expiry of this Agreement.
- e) The Company shall operate and maintain the Project during the term of the Agreement, in accordance with:
 1. Prudent Utility Practices;
 2. All applicable laws and directives;
 3. The manuals, instructions and manufacturer's guidelines supplied by construction contractors, manufacturers of equipments/suppliers etc;
- f) The Company shall give three months advance notice to the Buyer intimating the readiness of each generating unit to be electrically synchronised for the first time and connected to the inter- connecting station/ sub station bus bars. In case of developers who are constructing the power evacuation system as per the master plan of Kerala State Electricity Board, the notice period shall be one week.
- g) The Company shall give the buyer 7 days notice before COD of each generation unit/project.


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Palam, Thiruvananthapuram

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- (h) The Company shall ensure that reactive power as per grid requirement specified in real time by State Load Despatch Centre corresponding to active power generation pumped into Kerala State Electricity Board/State Transmission Utility grid system up to a minimum power factor of 0.95 lag. The company agrees to provide sufficient capacity of capacitors, in its Wind Electric Generator, to minimize the drawal of reactive power from the Board's grid and the capacitors should get cut off automatically so that the power factor shall be maintained above 0.95 and to control the voltage regulation within 10% of the rated voltage at the point of supply.
- (i) The Company shall, in case of constraints in the Kerala grid or in Buyer's evacuation system, back down the generation till such time normalcy is restored as directed by State Load Despatch Centre.
- (j) The Company shall intimate the buyer its maintenance schedule within 60 days before each Tariff Year.
- (k) The company shall submit all financing documents to the buyer and Kerala State Electricity Regulatory Commission within 30 days of signing thereof.
- (l) The Company shall maintain accurate and up-to-date operating logs, records and monthly reports regarding the Operation and maintenance of the project which shall include details of power output, other operating data, repairs performed and status of equipment. All such records shall be maintained for a minimum of Twenty Four (24) months after the creation of such records or data and for any additional length of time required by regulatory agencies having jurisdiction over the parties. Upon expiry of the aforesaid period, the Company shall hand over such records to the buyer/State Transmission Utility.
- (m) The company acknowledge that wind turbines have the potential to produce substantial carbon dioxide credits and other environmental air quality credits and related emission reduction credits or Clean Development Mechanism benefits related to the generation of energy after commercial operation. The parties agree that any and all such credits or benefits shall be shared equally between the company and the buyer/State Transmission Utility. In furtherance of the foregoing, company hereby agree to pursue efforts in organizing such credits or benefits.

4.2 Responsibilities of Buyer

- (a) The Buyer shall provide all possible assistance to the Company in its initiatives in obtaining all way-leaves required for construction, installation, operation and maintenance of the Project including the transmission lines.


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- (b) The Buyer shall give the Company 15 days notice regarding the readiness of the interconnection facility at the switching sub station/grid for the full evacuation and utilisation of energy/power from the Project.
- (c) The Buyer shall purchase all the electricity made available by the Company at the interconnection Point subject to system constraints, instructions of state load despatch centre and Force Majeure conditions.

4.3 Mutual Covenants

Each party will duly pay all rents, taxes, cesses, fees, revenues, assessments, duties, other outgoing and other amounts owed by it and will observe all the rules and regulations pertaining to the same, and will not do or omit to do or suffer to be done anything which could reasonably be expected to adversely affect or prejudice the interest and rights of the other party in any manner whatsoever.


CHIEF ENGINEER
KCI
Puducherry, Tamil Nadu

For M/s. ACV PRODUCTS (P) LTD

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ARTICLE 5

COMMISSIONING AND ENTRY INTO COMMERCIAL SERVICE

5.1 Performance Test to establish Entry into Commercial Service

The Company shall conduct the testing of project facilities in accordance with manufacturer's recommendations and in accordance with C-WET/MNRE approved guidelines.

5.2 Certificate of Commercial Operation

The Company shall notify the buyer not less than 7 days prior to the Commercial Operation Date and the authorized representatives of the buyer shall verify that the company has achieved all of the conditions precedent to commercial operation except article 2.2(a)(i) and 2.2(a)(iv) and shall provide the company a written endorsement in this behalf acknowledging the documents, certificates, approvals, clearances etc. provided by the company in this behalf.


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ARTICLE 6

SALE AND PURCHASE OF ENERGY

6.1 The Company agrees to sell and the Buyer agrees to purchase the entire energy made available by the Company at the interconnection point as per the Tariff specified in the Article 9 during the term of this agreement or till the termination date in the event of termination.

6.2 **Tariff for Infirm Energy:**

The Infirm Energy shall be metered at the interconnection Point as per provisions under Article 7, and delivered at the Inter Connection point/grid. The Buyer shall pay for the metered Infirm Energy at the tariff as mentioned in Article 9.2.

6.3 **Carbon Credit**

The benefits accruing on account of carbon credit for the project shall be shared equally between the State Transmission Utility/buyer and the company.


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ARTICLE 7

METERING

- 7.1 The Company shall install a main meter and a check meter at the Interconnection Point and at the high voltage side of the step up transformer installed at the project site and a fall back meter of same specification at the generator end in accordance with Kerala State Electricity Grid Code.
- 7.2 Meters shall be capable of measuring and recording the following parameters for various time/frequency blocks as per Prudent Utility Practices. Meters shall have provision to download and transmit following real time data to State Load Despatch Centre in format and protocol suitable to State Load Despatch Centre.
- Active Energy (kwh) and Reactive Energy (kvarh)
 - Instantaneous voltage, current, power factor
 - Frequency
 - Maximum demand in kva / kw for each demand period and for the total period since the last reset.
 - Kwh / kvarh since last reading
 - Real time and time of day metering and
 - Number of resets
- 7.3 The Parties shall undertake a joint reading of the Meters on the date of synchronisation, on COD, and subsequently on the first working day of every month at pre-appointed time as settled between the Parties.
- 7.4 All Meters shall be jointly inspected, and sealed by authorised representatives on behalf of the Buyer, the Company and State Transmission Utility.
- 7.5 The Meters shall be calibrated annually as specified in metering code/Kerala State Electricity Grid Code and tested for accuracy semi annually and shall be treated as working satisfactorily so long as the errors are within the limits prescribed for meters of the class. The readings of the Main Meters recorded jointly by the parties will form the basis for billing, so long as the results of the half-yearly checks thereof are within the prescribed limits.
- 7.6 In the event that Computer Monitoring System is found to be inaccurate by more than two percent (2%), fall back meter reading may be adopted. If Fall back meter is also faulty, the parties shall estimate the amount of power generation during the period of inaccurate measurements based on the certified power curve of machine and wind data as per wind mast installed at project premises and the actual machine availability achieved.


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- 7.7 All the tests on the Meters shall be conducted jointly by the representatives of both the parties and the results and corrections so arrived at mutually will be recorded in writing and will be applicable and binding on both the parties.
- 7.8 The calibration and the maintenance of the Meters shall be done by the Buyer at the cost of the Company.
- 7.9 If intentional tampering of metering cubicle or Energy Meters at the Company's Power Plant is detected, the Buyer has the option to withdraw from the PPA and also take the action under applicable laws and Buyer's supply regulations.


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ARTICLE 8

PLANT OPERATION AND MAINTENANCE

8.1 Operation of the Project

- a) The Company shall operate and maintain the Project in accordance with the Operation and Maintenance Schedule submitted by the Company and approved by the Buyer under Section 4 (1) of this Agreement.
- b) The Company shall supply the generated electrical energy to the Buyer in accordance with the instructions of the State Load Despatch Centre.
- c) The Company agrees to provide suitable automatic device so that the Wind Electric Generators should get cut off automatically when the grid supply fails.
- d) The Company agrees that the Buyer will not be responsible for any damage to its Wind Electric Generators resulting from parallel operation with the grid and that the Buyer shall not be liable to pay any compensation for any such damage(s).
- e) There should not be any fluctuations or disturbances to the grid or other consumers supplied by the grid due to paralleling of the Wind Electric Generators. The Company shall provide adequate protection as required by the buyer to facilitate safe parallel operation of the Wind Electric Generators with the grid and to prevent disturbances in the grid.
- f) The Company shall make good the losses, if any, due to any damages that may occur to the equipment/lines of the Buyer resulting on account of parallel operation of its Wind Electric Generators.
- g) Pursuant to issuance of a notice for the purposes and conferring reasonable opportunity of hearing, the Buyer may opt for disconnection of the Company's Wind Electric Generators from the Buyer's grid if forced oscillation occurs at any time while the Wind Electric Generators are in operation.
- h) In case of unsymmetrical fault on HV bus, the Company is bound to share the fault current according to impedance in the circuit. To meet such contingency and for safe operation of generator, the Company agrees to provide separate overload relay on such phase and earth fault relay. It is further agreed that under no circumstances, these relays should be bypassed.
- i) Functioning of the relays should be calibrated and tested by competent authorities and report maintained.


K. J. Prasad, Managing Director,
Prestige Infrastructure Development Pvt. Ltd.

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8.2 Procedures to be Determined

The Company shall submit the following to the Buyer 30 days prior to the Scheduled Date of Completion of the first generating unit/Project:

- a. Detailed procedure for the co-ordination of Inter Connection Facility and transmission facilities including inter-tripping schedules
- b. Commissioning and testing arrangements
- c. Procedures for maintenance of records
- d. Emergency plans
- e. Meter reading statement format

8.3 The Operating Procedures shall be consistent with the following, it being clearly understood that in the event of inconsistency between two or more of the following, the order of priority as between them shall be the order in which they are placed, with 'applicable law' being the first:

- (a) Applicable law
- (b) Grid code
- (c) Terms and conditions of this Agreement
- (d) Functional Specifications
- (e) Technical Specifications
- (f) Prudent Utility Practices

8.4 Outages


- (a) The Company shall submit a written schedule to the Buyer/State Load Despatch Centre of its desired Scheduled outage periods, at least 60 days before the commencement of each Tariff year. Within 15 days of the receipt of the same, the Buyer shall notify the Company in writing if the requested Scheduled outage periods are acceptable to the Buyer. If there are any requested Scheduled outage periods that the Buyer cannot accept, the Buyer shall advise the Company of the time period when such proposed Scheduled outage can be rescheduled, which rescheduled time periods shall be of equal duration as the Scheduled outage period proposed by the Company. The Buyer may only request a revision to the Company's proposed Scheduled outage to accommodate the reasonable requirement of the Buyer and the Grid System subject to Prudent Utility Practices and this Agreement, the Company shall use reasonable efforts to accommodate all the reasonable requests of the Buyer. If the Buyer does not notify the Company in writing within 15 days of receipt of the written schedule of desired Scheduled outages, it shall be deemed to have consented to the desired Schedule outage as per the written schedule. A minimum of fifteen day's notice shall be given by the Company to the Buyer prior to taking the shutdown for maintenance of the Project.


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- (b) Either party may, upon written notice given not later than 30 days prior to a Scheduled outage, request the rescheduling of such Scheduled outage. Any rescheduling of a Scheduled Outage in accordance with Section (a) shall be subject to mutual approval of the Parties, which approval shall not be unreasonably withheld or delayed.
- (c) The Company shall use reasonable efforts to give advance notice to the Buyer to the extent feasible of any unscheduled outage and shall provide the Buyer with an estimate of the duration and scope of such outage. Following any unscheduled outage, the Company shall use reasonable efforts to return the equipment of the Unit/Project as soon as reasonably practicable to the level of generation immediately prior to such unscheduled outage.
- (d) Except when the equipment of the station is under forced shutdown or is under Scheduled outage, such equipment or any auxiliaries or works in relation thereto shall not be taken out for maintenance, testing or overhaul resulting in outages or reduced generation unless mutually agreed upon by both the Parties.


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ARTICLE 9

TARIFF

- 9.1 **"Single Part Tariff"**: The Tariff applicable shall be as mentioned in schedule 8.
- 9.2 **"Infirm Energy Rate"**: In respect of the sale of Infirm Energy if any, the Buyer shall pay a tariff of Rs.0.25/Kwh.
- 9.3 In the event of the company drawing more units than the units of energy delivered at the interconnection during a billing month, then the Buyer shall charge the net metered energy delivered at the interconnection point as per the appropriate tariff.
- 9.4 **"Reactive Energy Charges"**: Reactive power at lagging power factor up to 10% of the net active energy generated shall be charged at 25 Ps/kVARh. For drawal of more than 10% of the net active energy 50 Ps/kVARh shall be charged for the total drawal.


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ARTICLE 10

BILLING AND PAYMENTS

10.1 Monthly Bills

The Company shall furnish a bill to the Buyer on Billing Date in such a form as may be mutually agreed by the Buyer and the Company for the billing month. Each bill for a billing month shall be payable by the Buyer on the Due Date of Payment. The tariff invoice shall be

Delivered energy pertaining to the project = $x1 - (x1 \times z\%)$

Where $x1$ is the reading of the energy meter installed at the project site.

Z = percentage transmission loss incurred in the transmission line between the project and the interconnection point and shall be

$$Z = \frac{(x1 + x2 + x3 + \dots) - Y}{(x1 + x2 + x3 + \dots)} \times 100$$

Y = reading of the energy meter installed at the interconnecting point.

$x2, x3, x4, \dots$ etc. are the readings of the energy meters installed at the various wind mill projects set up in the area and connected to the interconnecting substation.

10.2 Billing

The monthly bill will be assumed as undisputed unless the Buyer informs the company within 5 working days of receipt that the bill is disputed with the reasons thereof. In any event the Buyer shall pay the Bill on the Due Date of Payment and in the event of resolution of dispute the same shall be resolved in accordance with sub article 10.4. In the event of dispute, the buyer shall pay 90% of the bill amount only and balance will be paid only after the settlement of the dispute.

10.3 Billing for Energy Purchased by the Company

Energy purchased by the Company from the Buyer for consumption or during maintenance / shutdown period of the power plant shall be billed by the buyer on monthly basis as per the appropriate tariff.


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10.4 Supplementary Bill

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.

10.5 Payment

Buyer shall make the payments of the amounts due in Indian Rupees by cheque on or before the due date of payment.

10.6 Penalty for delay in payment

The monthly bill for the energy metered at the interconnecting point shall be paid by the buyer on or before the due date of the payment. If the buyer does not pay the amount due within 60 days from the date of billing, then the buyer shall pay 1.25% interest rate per month for such payment from the date on which the payment was due until the payment is made in full.

10.7 Rebate for Prompt Payment

If the Buyer pays the amount due with in the due date of payment, then a rebate of 2% shall be given to the Buyer by the Company."


K.V. Kumar
Product Development Department

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11.4 Application of Insurance Proceeds

Subject to the provisions of the Financing Documents and unless otherwise provided herein; the proceeds of all insurance policies received shall be promptly applied by the Company towards repair, renovation, restoration or re-instatement of the Project Facilities or any part thereof which may have been damaged or destroyed. The Company may designate the Lenders as the loss payees under the insurance policies or assign the insurance policies in their favor as security for the financial assistance provided by them to the Project. The Company shall carry out such repair, renovation, restoration or re-instatement to the extent possible in such manner that the Project Facilities after such repair, renovation, restoration or re-instatement be as far as possible in the same condition as it were prior to such damage or destruction, except for normal wear and tear.



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ARTICLE 12

PROTECTION SYSTEM

- 12.1 The Company shall be responsible for designing protection system of the entire equipment for safe operation of the Project/Project Facilities as per the Prudent Utility Practices.
- 12.2 The Company shall ensure that the protective relays for the Project Facilities shall be suitably graded and coordinated with the Buyer's relays as may be required by the Buyer. The protection scheme shall be approved by the State Transmission Utility.
- 12.3 The company shall design, construct, test, control, operate and maintain the project in accordance with, Prudent Utility Practices and Prudent Electrical Practices


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ARTICLE 13

REPRESENTATION AND WARRANTIES

13.1 Representation and Warranties of the Company

The Company represents and warrants to the Buyer that:

- (a) the Company 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;
- (b) this Agreement constitutes valid, legal and binding obligation of the Company, enforceable in accordance with the terms hereof, except as enforceability may be limited by applicable bankruptcy, insolvency, reorganisation, moratorium or other similar laws affecting creditor's rights generally to the extent that the remedies of specific performance, injunctive relief and other forms of equitable relief are subject to equitable defences; the discretion of the court before which any proceeding thereof may be brought and the principles of Equity in general;
- (c) there are no actions, suits or proceedings pending or to the Company's knowledge threatened, against or affecting the company before any court or administrative body or arbitral tribunal that might materially adversely affect the ability of the Company to meet and carry out its obligations under this Agreement; and
- (d) the execution and delivery by the Company of this Agreement has been duly authorised by all requisite corporate or partnership action, and will not contravene any provision of, or constitute a default under any other related Agreement or instrument to which it is a party or by which it or its property may be bound.

13.2 Representations and Warranties of Buyer

Buyer represents and warrants to the Company that:

- (a) the Buyer shall be the Board, a statutory body duly constituted under the Electricity (Supply) Act 1948 and continuing as STU and Licensee under section 172(a) of Electricity Act 2003 and has all requisite legal power and authority to execute this Agreement and carry out the terms, conditions and provisions hereof.


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- (b) this Agreement constitutes the valid legal and binding obligation of the Buyer, enforceable in accordance with the terms hereof except as the enforceability may be limited by applicable bankruptcy, insolvency, reorganization, moratorium or other similar laws affecting creditor's rights generally to the extent that the remedies of specific performance, injunctive relief and other forms of equitable relief are subject to equitable defences, discretion of the court before which any proceeding thereof may be brought and the principles of Equity in general.
- (c) There are no actions, suits or proceedings pending or to the Buyer's knowledge threatened, against or affecting the Buyer before any court or administrative body or arbitral tribunal that might materially adversely affect the ability of the Buyer to meet and carry out its obligations under this Agreement and
- (d) the execution and delivery by the Buyer of this Agreement has been duly authorized by all requisite corporate action and will not contravene any provision of, or constitute a default under any other related Agreement or instrument to which it is a party or by which it or its property may be bound.


K. S. Srinivasan
(Executive Director)
KST, Eloor, Vaidyanthapuram
Pattam, Thiruvananthapuram - 4

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ARTICLE 14

FORCE MAJEURE

14.1 Force Majeure Events

Force Majeure Event means any of the Non-Political Events or the Political Events as set out in clauses 2 and 3 of this article including the impact/consequence thereof which:

- (a) is beyond the control of the party claiming to be affected thereby (the "Affected Party"),
- (b) causes a Material Adverse Effect and prevents the Affected party from performing or discharging its obligations under this Agreement and
- (c) the affected party has been unable to overcome or prevent despite exercise of due care and diligence.

14.2 Non-Political Events

Any of the following events which prevents the Affected Party from performing any of its obligations for a continuous period of not less than 7 days from the date of its occurrence, shall constitute a Non-Political Event:

- a) earthquake, flood, inundation, landslide
- b) storm, tempest, hurricane, cyclone, lightning, thunder or other extreme atmospheric disturbances
- c) fire caused by reasons not attributable to the Company or the Contractor or any of the employees or agents of the Company or the Contractor;
- d) acts of terrorism
- e) illegal strikes, boycotts, labour disruptions or any other industrial disturbances not arising on account of the acts or omissions of the Company or the Contractor
- f) war, hostilities (whether war be declared or not)
- g) invasion, act of foreign enemy, rebellion, riots, weapon conflict or military actions, civil war
- h) ionising radiation, contamination by radio activity from nuclear fuel, any nuclear waste, radioactive toxic explosion
- i) volcanic eruptions


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- j) any other events of like nature and
- k) any failure or delay of a contractor caused by any of the aforementioned non-political events, for which no offsetting compensation is payable to the Company by or on behalf of the contractor.

14.3 Political Events


Any of the following event shall constitute a Political Event namely:-

- (a) Change in Law
- (b) any failure or delay of a contractor caused by any of the aforementioned political event for which no offsetting compensation is payable to the company by or on behalf of the contractor.

14.4 Obligations of the Parties

(a) Obligation to Intimate

- (i) As soon as may be practicable and in any case within 7 days of the date of occurrence of a Force Majeure Event or the date of knowledge thereof, the affected party shall intimate the other party of the Force Majeure Event setting out, inter alia, the following in reasonable detail:
 - (ia) the nature and extent of the Force Majeure Event and classification of the same as political/non political;
 - (ib) the estimated Force Majeure period;
 - (ic) the nature of and the extent to which, performance of any of its obligations under this Agreement is affected by the Force Majeure Event;
 - (id) the measures which the affected party has taken or proposes to take to alleviate/mitigate the impact of the Force Majeure Event and to resume performance of such of its obligations affected thereby ; and
 - (ie) any other relevant information concerning the Force Majeure Event, and /or the rights and obligations of the parties under this Agreement.
- (ii) As soon as practicable and in any case within 5 days of intimation by the Affected party in accordance with the preceding sub clause a (i), the parties shall meet, hold discussions in good faith and where necessary conduct physical inspection/survey of the Project / Project Facilities in order to:


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K. S. Srinivasan
Project Engineer

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- (iia) finalise the classification of Force Majeure event mentioned in item (ia) of clause (i) above;
 - (iib) assess the impact of the underlying Force Majeure Event;
 - (iic) to determine the likely duration of Force Majeure Period; and
 - (iid) to formulate damage mitigation measures and steps to be undertaken by the Parties for resumption of obligations the performance of which shall have been affected by the underlying Force Majeure Event.
- (iii) The affected party shall during the Force Majeure Period provide the other party with regular (not less than weekly) reports concerning the matters set out in the preceding sub clause (ii) as also any information, details or document, which the other party may reasonably require.

(a) Performance of Obligations

If the affected party is rendered wholly or partially unable to perform any of its obligations under this Agreement because of a Force Majeure Event (Political/Non Political), it shall be excused from performance of such obligations to the extent to which it is unable to perform the same on account of such Force Majeure Event provided that:-

- (i) the excuse from performance shall be of no greater scope and of no longer duration than is necessitated by the Force Majeure Event;
- (ii) the affected party shall make all reasonable efforts to mitigate or limit damage, if any, caused or is likely to be caused to the Project Facilities as a result of the Force Majeure Event and to restore the Project Facilities, in accordance with the Good Industry Practice and its relative obligations under this Agreement;
- (iii) the affected party shall take all remedial measures including duly prosecuting and exhausting all such remedies available to the affected party under the Applicable Laws;
- (iv) when the affected party is able to resume performance of its obligations under this Agreement, it shall give to the other Party written notice to that effect and shall promptly resume performance of its obligations hereunder:

The affected party shall continue to perform such of its obligations which are not affected by the Force Majeure Event and which are capable of being performed in accordance with this Agreement.


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ARTICLE 15

EVENTS OF DEFAULT AND TERMINATION

15.1 Events of Default

a) Company Event of Default

Any of the following events shall constitute an event of default by the Company ("Company Event of Default") unless such event has occurred as a result of a Buyer Event of Default or a Force Majeure Event.

- (i) If the Project is designed, constructed or completed in a manner that materially deviates from the provisions of the Technical proposal Clearance or in a manner that deviated from Prudent Utility Practices;
- (ii) if the Company wilfully or recklessly fails in material respect to operate and maintain the Project in accordance with Prudent Utility Practices or as per the requirements of this Agreement;
- (iii) if the Company does not comply with Despatch Instructions;
- (iv) Any representation made or warranties given by the Company under this Agreement is found to be false or misleading.
- (v) The Company has otherwise been in Material Breach of any of its other obligations under this Agreement.

(b) Buyer Event of Default

Any of the following events shall constitute an event of default by Buyer ("Buyer Event of Default"), unless caused by a Company Event of Default or a Force Majeure Event:

- (i) Buyer is in breach of any of its obligations under this Agreement except those for which specific remedy has been provided elsewhere, and has failed to cure such breach within 15 (Fifteen) days of receipt of notice thereof issued by the Company;
- (ii) Buyer has repudiated this Agreement or otherwise expressed its intention not to be bound by this Agreement;
- (iii) Buyer has failed to make payment of undisputed amount of the monthly bills of two consecutive operational months (60 days), within the date of payment in respect of the monthly bill for second such consecutive month without any lawful excuse;

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- (iv) Buyer has delayed the payment of Tariff that has fallen due in terms of this Agreement beyond 2 consecutive months without any lawful excuse.

15.2 Termination due to Company Events of Default


(a) Termination

- (i) Without prejudice to any other right or remedy which Buyer may have in respect thereof under this Agreement, upon the occurrence of a Company Event of Default, the Buyer shall be entitled to terminate this Agreement as hereinafter provided, under due intimation to the Government.
- (ii) If the Buyer decides to terminate this Agreement pursuant to preceding sub-clause (i), it shall in the first instance issue Preliminary Notice to the Company. Within 30 days of receipt of the Preliminary Notice, the Company shall submit to the Buyer in sufficient detail, the manner in which it proposes to cure the underlying Event of Default (the "Company's Proposal to Rectify"). In case of non submission of the Company's Proposal to Rectify within the said period of 30 days, the Buyer shall be entitled to terminate this Agreement by issuing Termination Notice.
- (iii) If the Company's Proposal to Rectify is submitted within the period stipulated there fore, the Company shall have further period of 30 days to remedy/ cure the underlying Event of Default. If, however the Company fails to remedy/ cure the underlying Event of Default within such further period allowed, the Buyer shall be entitled to terminate this Agreement by issue of Termination Notice.
- (iv) However if the buyer decides to terminate this agreement the company shall continue to generate power and the buyer shall purchase the power as long as the complete termination of this agreement is made and enforced, and the same terms and conditions set forth in this agreement shall be binding for the buyer and the company, till the termination process is completed.

b. Termination Notice

If Buyer having become entitled to do so decides to terminate this Agreement pursuant to the preceding clause (a), it shall issue Termination Notice setting out:

- (i) In sufficient detail the underlying Event of Default;


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- (ii) the Termination Date which shall be a date occurring not earlier than 60 days from the date of Termination Notice;
- (iii) any other relevant information.
- (iv) In the event the company decides to give an appeal petition to the Kerala State Electricity Regulatory Commission about its grievances, the buyer shall continue to carry out its obligations under this agreement until the final verdict of the Kerala State Electricity Regulatory Commission.

(C) Obligation of Parties

Following issue of Termination Notice by Buyer, the Parties (Company/Buyer) shall promptly take all such steps as may be necessary or required to ensure that;

- (i) until Termination the Parties shall, to the fullest extent possible, discharge their respective obligations so as to maintain the continuity of service to the users of the Project Facilities; and

(d) Withdrawal of Termination Notice

Notwithstanding anything inconsistent contained in this Agreement, if the Company who has been served with the Termination Notice cures the underlying Event of Default to the satisfaction of Buyer at any time before the Termination occurs, the Termination Notice shall be withdrawn by Buyer which had issued the same or the Kerala State Electricity Regulatory Commission verdict shall be final and binding as to the continuance of this agreement.

15.3 Consequence due to Buyer Event of Default

In the event of Buyer event of Default as per clause 15.1(b), the Buyer shall provide a revolving irrevocable Stand by Letter of Credit in the SBT Vidyuthi Bhavanam Branch, Pattom, Thiruvananthapuram, which shall be equal to 1 month bill amount which is arrived as per the provisions in Clause 9.1. The Stand by LC can be operated only in the event of default as per provisions of clause (iii) of sub article 15.1(b).

15.4 Obligations of Buyer on Termination

Buyer shall pay all undisputed outstanding dues of the Company as per the provisions of this agreement.

15.5 Obligations of the Company on Termination

Upon termination of this Agreement, the company shall pay all legitimate dues to the buyer.


CHIEF MANAGER
Kerala State Electricity Regulatory Commission
P.O. Box 10, Thiruvananthapuram
P.O. Box 10, Thiruvananthapuram

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ARTICLE 16

DISPUTE RESOLUTION

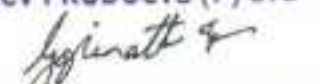
16.1 Amicable Resolution

- (a) Save where expressly stated to the contrary in this Agreement, any dispute, shall in the first instance, be resolved amicably in accordance with the procedure set forth in clause (b) below.
- (b) Either party may require such dispute to be referred to the Chairman, Kerala State Electricity Board and the Chief Executive Officer of the Company, for amicable settlement. Upon such reference, the two shall meet at the earliest mutual convenience and in any case within 15 days of such reference, to discuss and attempt to amicably resolve the dispute. If the dispute is not amicably settled within 30 (thirty) days of such meeting between the two, the dispute may be referred for adjudication by Kerala State Electricity Regulatory Commission in accordance with the provisions of the Electricity Act 2003.



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ARTICLE 17

LIABILITY AND INDEMNITY

17.1 Limitation of Liability

Except as expressly provided in this Agreement, neither the Company nor the Buyer nor their respective officers, directors, agents, employees of Affiliates (or their officers, directors, agents or employees) shall be liable or responsible to the other party or its affiliates, officers, directors, agents, employees, successors or assigns (or their respective insurers) for incidental, indirect or consequential damages, connected with or resulting from performance or non-performance of this Agreement, or anything done in connection herewith, including claims in the nature of lost revenues, income or profits (other than payments expressly required and property due under this Agreement). The Buyer shall have no recourse against any officer, director or shareholder of the Company or any affiliate of the Company or any of its officers, directors or shareholders. The Company shall have no recourse against any officer of the Buyer, or any affiliate of the Buyer or any of its officers:

Provided that under this Article, a party shall be liable to the other party for any additional costs, expenses or loss suffered, arising directly from a willful default of the party obligations under this Agreement.

For the purposes of this Article, "willful default" shall mean-

- i) an intentional or reckless breach / disregard by a party of its obligations under this agreement;
- ii) a failure to remedy a breach resulting from an error of judgment or mistake arising in good faith; or
- iii) a failure to remedy a breach, in accordance with Prudent Industry Practice.

17.2 Indemnification

(a) The Buyer shall bear responsibility for loss of or damage to property, death or injury to person (or any claim against the Company and / or its contractors in respect thereof) and all expenses relating thereto (including without limitation reasonable legal fees) suffered by the Company and/or its contractors in connection with the Project resulting from any negligent act or omission of the Buyer, without recourse to the Company and / or its contractors. The Buyer shall hold the Company and / or its contractors fully indemnified in respect thereof. The indemnity shall not extend to any loss, damage, death or injury (or any claim in respect thereof) or any expenses relating thereto to the extent that it was caused by any act or omission of the Company and / or its contractors to take reasonable steps in mitigation thereof. Provided that nothing in clause 2 (a) of this article, shall apply to any loss, damage, cost or expense in respect of which and to the extent that, the Company and / or its Contractors are compensated pursuant to the terms of any insurance, or other contracts such as the construction contract or the operation and maintenance contract.


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(b) The Company shall bear responsibility for loss of or damage to property, death or injury to person (or any claim against the Buyer and / or its contractors in respect thereof) and all expenses relating thereto (including without limitation reasonable legal fees) suffered by the Buyer in connection with the Project resulting from any negligent act or omission of the Company and / or its contractors, without recourse to the Buyer. The Company shall hold the Buyer fully indemnified in respect thereof. The said indemnity shall not extend to any loss, damage, death or injury (or any claim in respect thereof) or any expenses relating thereto to the extent that it was caused by any act or omission of the Buyer or the failure of the Buyer to take reasonable steps in mitigation thereof. Provided that nothing in this sub article of this Agreement shall apply to any loss, damage, cost or expense in respect of which and to the extent that the Buyer is compensated pursuant to the terms of any insurance, Agreement or through any other means.


(c) In the event such injury or damage results from the joint or concurrent, or negligent or intentional acts of the parties, each shall be liable under this indemnification in proportion to its relative degree of fault.

17.3 Intimation of Proceedings

- (a) Where a party receives a claim from a third party in respect of which it is claimed to be indemnified under clause 2 above, it shall promptly intimate the other party of such claims.
- (b) Neither party shall settle or compromise any claim, action, suit or proceeding with third party in respect of which it is entitled to be indemnified by the other party without the prior written consent of that party, such consent shall not be unreasonably withheld or delayed.

17.4 Defence of Claims

The indemnified party shall have the right to contest, defend, and litigate any claim, action, suit or proceeding by any third party alleged or asserted against such indemnified party in respect of, resulting from, related to or arising out of any matter for which it is entitled to be indemnified hereunder, and the reasonable costs and expenses thereof shall be subject to the indemnification obligations of the indemnifying party hereunder; provided, however, that if the indemnifying party acknowledges in writing its obligations to indemnify the indemnified party in respect of loss to the full extent provided by Article 17.2 of this Agreement, the indemnifying party shall be entitled, at its option to assume and control the defence of such claim, action, suit or proceeding, liabilities, payments and obligations at its expense and through counsel of its choice if it gives prompt notice of its intention to do so to the indemnified party and reimburses the indemnified party for the reasonable costs and expenses incurred by the indemnified party prior to the assumption by the indemnifying party of such defence. The indemnified party shall not be entitled to settle or compromise any such claim, action, suit or proceeding without the prior written consent of the indemnifying party, which consent shall not be unreasonably withheld or delayed.


CHIEF ENGINEER
(Corporate Planning)
KSE Board, Vidyuthi Bhavanam
Pattom, Thiruvananthapuram - 4


For M/s. ACV PRODUCTS (P) LTD
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Further, the indemnified party shall have the right to employ its own counsel and such counsel may participate in such action, but the fees and expenses of such counsel shall be at the expense of such indemnified party, when and as incurred unless,-

- (a) the employment of counsel by such indemnified party has been authorised in writing by the indemnifying party,
- (b) the indemnified party shall have reasonably concluded that there may be a conflict of interest between the indemnifying party and the indemnified party in the conduct of the defence of such action,
- (c) the indemnifying party shall not in fact have employed independent counsel reasonably satisfactory to the indemnified party to assume the defence of such action; and shall have been so intimidated by the indemnified party, or
- (d) the indemnified party shall have reasonably concluded and specifically intimated the indemnifying party either that there may be specific defences available to it which are different from or additional to those available to the indemnifying party or that such claim, action, suit or proceeding involves or could have a material adverse effect upon it beyond the scope of the Agreement.

In order to apply sub-clause (b), (c) or (d) above, the counsel for the indemnified party should have the right to direct defence of such claim, action, suit or proceeding on behalf of the indemnified party and the reasonable fees and disbursements of such counsel shall constitute legal or other expense.

17.5 Assignment and Charges

No party shall assign this Agreement or the rights, benefits and obligations hereunder save and except with prior consent of the other party. Provided that the Company can create/ assign all or any of its rights and benefits under this Agreement as security for indebtedness, in favor of the Lenders and working capital providers for the Project.


CHIEF ENGINEER
(Corporate Planning)
RSE Board, Vidyuthi Bhavanam
Palloor, Thiruvananthapuram - 4

For M/s. ACV PRODUCTS (P) LTD

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ARTICLE 18

MISCELLANEOUS PROVISIONS

- 18.1 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.
- 18.2 The invalidity or unenforceability for any reason of any part of this Agreement shall not prejudice or affect the validity or enforceability of the remainder.
- 18.3 The failure of any party to insist in one or more instances upon the strict performance of any of the provisions of this Agreement or to take advantage of any of its rights hereunder shall not be construed as waiver of any such provision or relinquishment of any such rights but the same shall continue in full force and effect.
- 18.4 Unless the context otherwise requires, every arrangement, procedure or any other matter which is, under any of the provisions of this Agreement, required to be mutually agreed upon between the parties, shall be concluded by a written Agreement between the parties.
- 18.5 The Agreement shall not be interpreted or construed to create an association, joint venture, or partnership between the parties or to impose any partnership obligation or liability upon either party. Neither party shall have any right, power or authority to enter into any Agreement or undertaking for or act on behalf of or to act as or be an agent or representative of or to otherwise bind, the other party.
- 18.6 Cancellation, expiration or earlier termination of the Agreement shall not relieve the parties of obligations that by their nature should survive such cancellation, expiration or termination, including without limitations, warranties, remedies, promises of indemnity and confidentiality; provided, however, that all obligations surviving the cancellation, expiration or early termination of the Agreement shall only survive for a period of 5 (five) years.
- 18.7 The language of the Agreement shall be English. All documents, notices, waivers and all other communication written or otherwise between the parties in connection with the Agreement shall be in English language.
- 18.8 The Agreement and the rights and obligations hereunder shall be interpreted, construed and governed by the Laws of India, as in force, from time to time.



CHIEF ENGINEER
Corporate Planning
XSE Board, Vyduthi-Bilavilam
Palani, Thiruvananthapuram - 4

For M/s. ACV PRODUCTS (P) LTD



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- 18.9 The Schedules (1 to 8) and Annexure (I to VI) attached hereto are intended by the parties as the final expression of their Agreement and are intended also as a complete and exclusive statement. All prior written or oral understandings, offers or other communications of every kind pertaining to the sale or purchase of Electrical output hereunder between the Buyer and the Company are hereby abrogated and withdrawn.
- 18.10 The Agreement shall not confer any right of suit or action, whatsoever, on any third party.
- 18.11 The Company shall obtain and maintain necessary policies of insurance during the term of this agreement consistent with prudent utility practices.
- 18.12 Under no circumstance shall Buyer undertake any contingent liability by way of providing guarantee etc. for the Company for implementing the Project.



CIVIL ENGINEER
Rajeshwar Prasad
RDE Board, Hyderabad - 500008
Patnam, Thiruvananthapuram - 4

For M/s. ACV PRODUCTS (P) LTD.

Authorised Signatory

ARTICLE 19

INTIMATION

- 19.1 Any intimation or communication required to be in writing hereunder shall be given by any of the following means: registered, certified, or first class mail, telex, facsimile or telegram. Such intimation or communication shall be sent to the respective parties at their addresses listed below. Except as expressly provided herein, any intimation shall be deemed to have been given on the seventh day of despatch. Any intimation given by first class mail shall be considered sent at the time of posting. Communications by telex, telecopy, or telegram shall be confirmed by depositing a copy of the same in the post office for transmission by registered, certified or first class mail in an envelope properly addressed as follows:

In the case of the Buyer

To

The Chairman / Chief Engineer, (Corporate Planning)

Vydyuthi Bhavanam, Pattom, Thiruvananthapuram.

Phone : +91 471 2447404 Fax: +91 471 2558340 Email:cccp1g@ksebnet.com

In the case of the Company

To

M/s. ACV Products Private Limited,

No. 177/ B-1, Bharthiyar Road, Ganapathy,

Coimbatore – 641 006, Tamilnadu -India

E Mail:

Phone : +91 04546 269495 Fax: +91 04546 269494 acvppltd@yahoo.com

- 19.2 Any party may, by 15 (fifteen) days' written notice to the other, change the representative or the address to which such notices and communications are to be sent.

19.3 List of schedules and annexure:

The following schedules and annexures shall form an integral part of the Agreement.

- Schedule 1: Project Facilities
- Schedule 2: Technical Limits
- Schedule 3: Electrical system characteristics and functional specifications
- Schedule 4: List of permits and clearances
- Schedule 5: Startup power measuring procedure


CHIEF ENGINEER
KSEB
Pattom, Thiruvananthapuram

For M/s. ACV PRODUCTS (P) LTD

Authorised Signatory

- Schedule 6: Work sheet for Annual Wind energy output
 Schedule 7: Project site particulars
 Schedule 8: Tariff Table
 Annexure I : Project facility description
 Annexure II : Certified power curve and Single line diagram
 Annexure III: Bill meter reading
 Annexure IV: Check meter reading
 Annexure V : Daily generation report
 Annexure VI: Monthly tripping report

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement executed on the day, month and year first above written.

THE COMMON SEAL OF M/s. ACV Products Private Limited, (the Company) was pursuant to a resolution of its Board of Directors passed on that behalf on the 2nd Day of December 2009 hereunto affixed in the presence of:

For M/s. ACV Products Private Limited

[Handwritten Signature]

Authorised Signatory

In the presence of witness:

1. *S. Mohan*
(S. MOHANASUNDARAM)
2. *D. Ramesh*
(D. RAMESH KANNA)

[Handwritten Signature]

AND SIGNED BY:

For and on behalf of the Kerala State Electricity Board

[Handwritten Signature]

In the presence of witness:-

1. Anilkumar P., AEE, O/o CE (CP) *[Signature]*
2. G. Shyjkumar AE O/o the CE (CP) *[Signature]*

CHIEF ENGINEER
 (Corporate Planning)
 KSE Board, Vidyuthi Bhavanam
 Pettom, Thiruvananthapuram-4.

For M/s. ACV PRODUCTS (P) LTD
[Handwritten Signature]
 Authorised Signatory

SCHEDULE 1**Project Facilities**

(Brief provisions of the Technical proposal of the company as approved by ANERT)

SALIENT FEATURES

Table No	Sl No	Description	Particulars
A	General Data		
	1.1	Make of WEG	Vestas
	1.2	Type	NM48/750KW
	1.3	Rated output	750KW
	1.4	Hub height	55m
	1.5	Rotor diameter	48.2m
	1.6	No of blades	3
	1.7	Rotor orientation	Upwind
	1.8	Power regulation	Passive stall
	1.9	Pitch angle for stall regulated machine	0 to -3 degree
	1.10	Cut in wind speed	3m/s
	1.11	Wind speed at rated output	16 to 17m/sec
	1.12	Cut out wind speed	25m/sec
	1.13	Tip speed	55.8m/sec
	1.14	Survival Wind speed	
	A	10 minute average at hub height	42m
	B	2 seconds gust at hub height	59.9m
	1.15	Rated rotor speed	22/15 rpm
	1.16	Maximum designed rotor speed	
	1.17	Nacelle tilt angle	5 degree
	A	Angle of cone	
	1.18	Voltage	3x690 Volt
	1.19	Voltage variation	10% ± 10%
	1.20	Frequency	50 Hz
	1.21	Frequency variation	48 to 51Hz
1.22	Rated current Amps	705/200 Amps	
1.23	Asymmetry variation	2% phase to ground	
1.24	Designed max temperature	45 to 70 degree	
1.25	Noise level	6 to 10 m/sec → 100.5 to 104.5 (dB) 10m above ground level	
1.26	Designated life	20 years	
1.27	Designated turbulence intensity	11 to 15%	


CHIEF ENGINEER
(Corporate Planning)
KSE Board, Vidyuthi Bhavanam
Palton, Thiruvananthapuram - 4

For M/s. ACV PRODUCTS (P) LTD

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Table No	Sl No	Description	Particulars
B		Weight	
	2.1	Rotor	14 ton
	2.2	Nacelle	25 ton
	2.3	Tower	48 ton
	2.4	Total	87 ton

Table No	Sl No	Description	Particulars
C		Gear Box	
	3.1	Make	Winergy
	3.2	Type/Mode	1 step planetary/2 step parallel shaft
	3.3	Gear ratio	1:67.5
	3.4	No of stages	2
	3.5	Max power transmission	807 KW
	3.6	Lubrication system	Oil
	3.7	Type of oil	Mobile 320-synthetic
	3.8	Quantity of oil	90 ltrs
	3.9	Type of cooling	Forced air cooling
3.10	Weight without oil		

Table No	Sl No	Description	Particulars
D		Tower	
	4.1	Make	L&T
	4.2	Height	55m
	4.3	Type	Edged – polygon
	4.4	Material	Welded steel plate
	4.5	No of sections	4 sections
	4.6	Assembling	Bolt joint – fish plate joint
	4.7	Ladder type	Ladder cage
	4.8	Safety system	
	4.9	Surface treatment	ISO/DIS12944:C5I
	4.10	No & type of landing platforms	4 wooden platform
4.11	Type of reptile protection	RAL-7035	


CHIEF ENGINEER
 (Corporate Planning)
 KSE Board, Vidyuthi Bhavanam
 Palloni, Thiruvananthapuram - 4

For M/s. ACV PRODUCTS (P) LTD

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Table No	Sl No	Description	Particulars
E		Generator	
	5.1	Make	Elin / ABB
	5.2	Rated power output (kW) at 0.95 PF	750 kW
	5.3	Type (synchronous / Asynchronous)	Asynchronous
	5.4	Dual speed / Variable speed	Dual speed
	5.5	Voltage	690 Volts
	5.6	Rated rpm	1500 / 1000 rpm
	5.7	Frequency	50 Hz
	5.8	Current	705 Amps
	5.9	No of poles	4 / 6
	5.10	Insulation class	F
	5.11	Protection type	IP54
	5.12	Type of cooling	DM Water cooling mixed with coolant
	5.13	If forced coolant then	
	A	Type & quantity of coolant	Ethylene glycol – DM water
B	Pump rating	30 ltr / min	
C	Motor make & rating	3x400 Grundforce	
D	No of phase	3 phase	
E	Motor duty cycle	Continues	
5.14	kVAR consumption for generator at		
A	No load	NR	
B	25% load	75 KVAR	
C	50% load	150 KVAR	
D	75% load	200 KVAR	
E	100% load	225 KVAR	
5.15	Weight	3.5 ton	

Table No	Sl No	Description	Particulars
F		Yawing system	
	6.1	Make & Type	Borfiglioli
	6.2	Gear ratio	1:2716
	6.3	Rated capacity of yaw motor	0.37 kW
	6.4	No of yaw motors	4
	6.5	Type of yaw brake	Friction
	6.6	No of yaw brake	3 units


CHIEF ENGINEER
 Corporate Planning
 KSE Board, Vidyuthi Bhavanam
 Pattom, Thiruvananthapuram-4

For M/s. ACV PRODUCTS (P) LTD

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Table No	Sl No	Description	Particulars
G		Brake system	
	7.1	Aero dynamic	
	A	Type	Tip control
	B	Control	Hydraulic
	7.2	Mechanical	
	A	Make	SIME
	B	Position	High speed shaft
	C	No of calipers	One
	D	Motor capacity	NA

Table No	Sl No	Description	Particulars
H		Rotor	
	8.1	Blade material	Glass fiber
	8.2	No of blades	3
	8.3	Rotor diameter	48.2m
	8.4	Swept area	1824m sq
	8.5	Length of blade	23.5 m
	8.6	Blade profile	NACA – 63 Series
	8.7	Weight	3.4 ton

Table No	Sl No	Description	Particulars
I		Hub	
	9.1	Make & type	Spherical
	9.2	Material	Cast iron

Table No	Sl No	Description	Particulars
J		Main shaft	
	10.1	Make & type	Forged shaft and flange
	10.2	Material	34CrNiMo6V

Table No	Sl No	Description	Particulars
K		Main bearing	
	11.1	Make	SKF (or) FAG
	11.2	Type	Spherical roller bearing


 CHIEF ENGINEER
 (Corporate Affairs)
 R&D Department
 Pitroda, New Sakinaka, Hyderabad - 4

For M/s. ACV PRODUCTS (P) LTD


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Table No	Sl No	Description	Particulars
M		Coupling	
	12.1	Make	Centaflex
	12.2	Type	Flexible coupling
N		Nacelle	
	13.1	Material	Welded steel plate
	13.2	Type of nacelle bed	
	13.3	Facility of loading and unloading	Hook provided
	13.4	Lightening protection	Lightning attractor grounded to earth
O		Power factor compensation	
	14.1	Capacity	225 kVAR
	14.2	Rated voltage	3x690V
	14.3	Number	9
	14.4	No of steps	4
	14.5	Power factor at different loads after compensation	
	A	No load	NR
	B	25% load	75 KVAR
	C	50% load	150 KVAR
	D	75% load	200 KVAR
	E	100% load	225 KVAR
14.6	Guaranteed kVARh consumption as percentage of annual kwh generation	3%	
P		Power panel	
	15.1	Voltage	3x690V
	15.2	Short circuit level	
	15.3	Rating of main MCCB	1250 Amps
	15.4	Provision for earth fault protection	Surge arrestor


 CHIEF ENGINEER
 TAMIL NADU ELECTRICITY BOARD
 Kil. No. 2, Suburban Road, Chennai
 P.O. No. 13, Anna Nagar, Chennai - 4

For M/s. ACV PRODUCTS (P) LTD

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Table No	Sl No	Description	Particulars
Q		Control panel	
	16.1	Type	List Enclosed
	16.2	List of display	List Enclosed
	16.3	List of error message	List Enclosed
	16.4	List of annunciation	List Enclosed
	16.5	Stop features	List Enclosed
	16.6	Remote control facility	List Enclosed
	16.7	Printer facility	Yes
	16.8	Details of special accessories for retrieval of parameters including power curve data.	Yes

Table No	Sl No	Description	Particulars
R		Control panel	
	17.1	Details of AC-DC-AC Converter / Inverter system	NA

Table No	Sl No	Description	Particulars
S		Sensors	
	18.1	List of sensors	List Enclosed

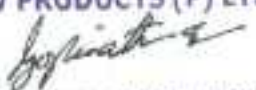
Table No	Sl No	Description	Particulars
T		Power cable	
	19.1	Between generator & power panel	4 runs G / 1 run g
	A	Type & make	EPR Cable
	B	Conductor material	Copper
	C	Conductor size	70Sq. mm
	D	No of core	3 core / each cable
	E	Ref. standard	

Table No	Sl No	Description	Particulars
U		ISO 9000 Certification	
	20.1	Category certification	A-DNV
	20.2	Date of certification	

Table No	Sl No	Description	Particulars
V		Power Evacuation System and Substation details	
	21.1	33KV feeder from Nedumkandam sub station to project switch yard.	



 Chief Engineer
 K. S. Srinivasan
 Project Engineer
 Project No. 12/2011/4

For M/s. ACV PRODUCTS (P) LTD


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LIST OF SENSORS FOR Vestas Wind Systems A/S NM48/750KW WEG

1. Vibration sensor
2. Rotor sensor
3. Generator sensor
4. Yaw sensor
5. Twist stop sensor
6. Anemometer
7. Wind vane
8. Pressure switch
9. Pressure Transmitter
10. Pad wear sensor
11. Emergency relay (Safety Sensor)


Checked by _____
Date: _____
Place: _____

For M/s. ACV PRODUCTS (P) LTD


Authorised Signatory


SCHEDULE 2

TECHNICAL LIMITS

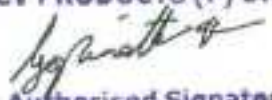
- | | |
|---|--------------------------------------|
| 1. Type of Turbine | : Vestas Wind Systems A/S, NM48/750 |
| 2. Generation Voltage Nominal | : 690V |
| 3. Power factor | : 0.95 lag |
| 4. Frequency Range | : 48.5 Hz to 51.0 Hz |
| 5. Nominal Grid frequency | : 50 Hz |
| 6. Grid Voltage | : 33 KV |
| 7. Load variation during normal operation | : 5% to 15% (Based on wind velocity) |

Note:

1. Even though normal regime of operation shall be $- \%$ to $-\%$ the Company shall operate the Project at a lower load when so required by the State Load Despatch Centre with in guarantee terms as specified by Machine supplier.
2. Each unit shall be capable of generating and delivering reactive power corresponding to a pf as specified in item (3) above
3. Operation of the project outside the nominal voltage with $+10\%$ to -10% variation and pf range as specified above will result in a reduction of pf output consistent with generator capability curves which results in penal charges.


C. K. NEEH
(Rate Planning)
KSE Board, Vidyuthi Bhavanam
Pattom, Thiruvananthapuram - 4


For M/s. ACV PRODUCTS (P) LTD


Authorised Signatory

SCHEDULE 3

ELECTRICAL SYSTEM CHARACTERISTICS AND FUNCTIONAL SPECIFICATIONS

1. Generator Terminal Voltage	: 690Volts
2. Frequency	: 50Hz
3. Speed	: 22 / 15 RPM
4. Power Factor	: 0.95 lag
5. Certified power curve	: Refer Annexure II (Enclosed)
6. Rated Out put	: 0.75MW, 0.78MVA
7. Single line diagram	: Refer Annexure II (Enclosed)
8. Type of Exciter	: NA
9. Exciter Voltage	: NA
10. Exciter	: NA
11. Automatic Voltage Regulator details	: NA
12. Possibility of running the Machine as Synchronous Condenser	: NA
13. kVAR that can be supplied	: NA


MEMBER
(Area Planning)
KSE Board, Vidyuthi Bhavanam
Pattom, Thiruvananthapuram - 4

For M/s. ACV PRODUCTS (P) LTD

Authorised Signatory

SCHEDULE 4

List of Permits and Clearances

Statutory permits and clearances or otherwise as required for execution and operation of Wind Projects. In general the following clearances/pre requisites are required before execution of wind power projects.

1. Technical approval from ANERT
2. Signing of PPA with Kerala State Electricity Board
3. Land Acquisition / out right purchase of private land
4. Approval from State Forest Department/Ministry of Env. & Forests of Govt. of India if required
5. Clearance from the Kerala State Pollution Control Board if required
6. Interconnection permission from Kerala State Electricity Board
7. Any other clearances as may be required by Central/State Govt./Local Body for execution of this project.


CHIEF ENGINEER
State Planning
KSE Board, Vidyuthi Bhavanam
Pulim, Thiruvananthapuram


For M/s. ACV PRODUCTS (P) LTD
Authorised Signatory

SCHEDULE 5

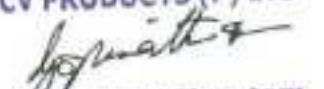
START-UP POWER MEASURING PROCEDURE

Energy required for starting the generation from the Project shall be drawn through Buyer's transmission system and shall be measured by energy meter provided at interconnection Point. The units of such energy drawn from Buyer's transmission system during any billing period shall be deducted from the energy delivered by Company to the Buyer in the same billing period. The bills shall be prepared on net energy basis.



CHIEF ENGINEER
(Corporate Planning)
KSE Board, Vidyuthi Bhavanam
Pattom, Thiruvananthapuram - 4

For M/s. ACV PRODUCTS (P) LTD


Authorised Signatory

SCHEDULE 6

WORK SHEET FOR ESTIMATED ANNUAL WIND ENERGY OUTPUT

Project Capacity:	0.75 MW
Minimum Annual Energy Output Gross:	2,100,000
Please mention the date considered for:	
(power law index):	0.11
Correction factor for air density:	Site specification air density of 1.073kg/m ³ has been issued in the calculation
Array efficiency:	97.5%
Machine availability:	95%
Grid Availability:	95%
Minimum Annual Energy output after correction factors per WEG(s)	: 1,847,868 kWh
Minimum Annual Energy out put from generation unit(s)/ project as the case may be after correction factors and auxiliary consumption	: 1,847,868 kWh


CHIEF ENGINEER
(Corporate Planning)
KSE Board, Vidyuthi Bhavanam
Pattanam, Thiruvananthapuram - 4

For M/s. ACV PRODUCTS (P) LTD

Authorised Signatory

SCHEDULE 7

Project Site Particulars

PROFORMA TO BE SUBMITTED ALONG WITH THE APPLICATION FOR PRIVATE WIND POWER GENERATION

01. Details of the Application

Company/Promoter Name : M/s. ACV Products Private Limited
No. 177/ B-1, Bharthiyar Road, Ganapathy,
Coimbatore – 641 006, Tamilnadu -India

02. Details of Project

1. Location : KUR 949
2. S.F. No. : 949
3. Village : Karanapuram
4. Taluk : Udumbanchola
5. District : Idukki
6. WIND RESOURCES DATA
7. Nearest Wind mast : Kuruvikannam
8. Annual Mean Wind Speed : 22.2 m/sat 30 mtrs Height
9. Unit size of the WEGs proposed : 1 X 750 KW
10. Make of the WEG : Vestas Wind Systems A/S
11. Land requirement and procurement : Copy of ANERT approval
12. Land requirement and procurement : Land Documents enclosed
13. Grid interface arrangement: Through Kerala State Electricity Board
14. Cost of the WEG : 431.25 Lakhs @ (Rs.575 Lakhs/MW)


CHIEF ENGINEER
(Corporate Planning)
KSE Board, Vidyuthi Bhavanam
Pattom, Thiruvananthapuram -4


M/s. ACV PRODUCTS (P) LTD
Authorised Signatory

03	Total Cost of the Project	: Rs. 431.25 Lakhs per WTG of 750 kW
04	Mode of Finance	: 25% internal accrual 75% Term Loan
05	Estimated Annual Energy Output	: 1,847,868 units/annum
1.	Capacity Utilization Factor	: 28.12%
2.	Availability Factor	: 95%
06	Unit Cost of Generation	: Rs.3.14 / Unit
07	Utility of Energy Generated	:
1.	Whether to be sold to KSEB	: YES
08	Expected of Commissioning	:
09	Details of central and state promotional/ Fiscal incentives sought to be availed.	: 40% Depreciation in the year of Installation
A	Customs Duty Concession	: Nil
B	Excise Duty Concession	: Nil
10	Grid Connection	
A	Nearest Sub-Station to KSEB	: NEDUMKANDAM
B	Voltage Ratio of the Substation	: 66/33KV
C	Distance between the Board's Sub-Station and the Wind Mill	: 13KM
D	Voltage at which Grid Connection is Is proposed	: 33 KV
E	Distance from the Step-up Transformer to the nearest grid line Of the KSEB	: 250 metres


CHIEF ENGINEER
 (Corporate Planning)
 KSE Board, Vidyuthi Bhavanam
 Pattom, Thiruvananthapuram-4

For M/s. ACV PRODUCTS (P) LTD

Authorised Signatory

SCHEDULE 8

TARIFF TABLE

Years	1 st	2 nd	3 rd	4 th	5 th	6 th	7 th	8 th	9 th	10 th
Rate/Unit in Rs.	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14
Years	11 th	12 th	13 th	14 th	15 th	16 th	17 th	18 th	19 th	20 th
Rate/Unit in Rs.	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14	3.14


CHIEF ENGINEER
(Corporate Planning)
KSE Board, Vidyuthi Bhavanam
Pattom, Thiruvananthapuram - 4

For M/s. ACV PRODUCTS (P) LTD

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Annexure I

PROJECT FACILITY DESCRIPTION

The facility consists of 1X750KW installed capacity of the Project (KUR949, Vestas Wind Systems A/S, NM48/750KW) wind turbines. Each wind turbine is connected to the next by a 33KV tie line. Wind turbines each spaced approximately 300 meter from the next.

(Further describe the facility) (Enclosed)

(Describe Interconnection facilities) (Line approval)

The following site map indicates the location and layout of the Wind turbines. The following diagram shows that the location of metering devices and other equipment installed at the project substation and pooling substation.



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Pattom, Thiruvananthapuram - 4

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(Placeholder page for revenue map of Wind farm with location and layout of Wind turbines and Sub Station)

ENCLOSED


CHIEF ENGINEER
(Corporate Planning)
KSE Board, Vidyuthi Bhavan
Padam, Thiruvananthapuram

For M/s. ACV PRODUCTS (P) LTD

Authorised Signatory

ANNEXURE II

Certified Power Curve
&
Single Line Diagram of Electrical System

ENCLOSED



CHIEF ENGINEER
(Corporate Planning)
KSE Board, Vidyuthi Bhavanam,
Padom, Thiruvananthapuram - 4

For M/s. ACV PRODUCTS (P) LTD

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WORK SHEET FOR ESTIMATED WIND ENERGY OUTPUT

Wind Speed (M/S)	Electrical Power (KW)	Wind Speed (M/S)	Electrical Power (KW)
1.00	-0.9	10.50	536.1
2.00	-0.8	11.00	571.3
2.50	-0.5	11.50	609.1
3.00	3.0	12.00	641.9
3.50	14.9	12.50	675.2
4.00	27.6	13.00	703.4
4.50	42.4	13.50	721.0
5.00	57.5	14.00	740.6
5.50	76.9	14.50	732.0
6.00	105.7	15.00	750.2
6.50	138.4	15.50	750.4
7.00	180.6	16.00	748.1
7.50	226.1	16.50	725.3
8.00	272.8	17.00	716.1
8.50	324.4	17.50	732.0
9.00	377.1	18.00	713.1
9.50	427.5		
10.00	478.1		


CHIEF ENGINEER
 Corporate Factory
 KRII Road, Hyderabad 500043
 Factory, Guntur, Andhra Pradesh 526004

For M/s. ACV PRODUCTS (P) LTD

Authorised Signatory

Annexure III

BILL METER READINGS

(Reading should be taken on first working day of every month at --- hours)

Name of Generating Company : M/s. ACV Products Private Limited, Karunapuram

C.T.Ratio Available / Connected :
P.T Ratio Available / Connected :
Scale Factor (if any) :NA
Multiplying factor (MF) :
Bill Meter Make/ Number :
Date of Last Meter Reading :NA

Meter Readings:

Export Reading

Import Reading

KWH

Previous Reading
Current Reading
Difference
Difference X Multiplying Factor

KVARH

Previous reading
Current reading
Difference
Difference x multiplying factor

Executive Engineer/Engineer-designate
Nearest Substation/Generating Station of KSEB

Authorized Representative
of company

Date:

Note:

1. Load Despatch Center, Kalamassery shall maintain a daily log book of hourly reading of the main meter intimated from the stations over phone/e mail.
2. The Generating Company shall maintain a daily log to record the hourly generation and supply in kWh along with the schedule given by Load despatch center, Kalamassery.
3. If the meter is changed, the reason/s date, time of meter change and new meter make and number must be recorded by both parties.


CHIEF ENGINEER
KSEB
KSEB Building, P.O. Karunapuram
Pattam, Thiruvananthapuram-4

For M/s. ACV PRODUCTS (P) LTD

Authorized Signatory

Annexure IV

CHECK METER READINGS

(Reading should be taken on first working day of every month at --- hours)

Name of Generating Company: M/s. ACV Products Private Limited

C.T.Ratio Available /

Connected :

P.T Ratio Available / :

Connected

Scale Factor (if any)

Multiplying factor (MF)

Bill Meter Make/ Number

Date of Last Meter Reading

Meter Readings:

Export Reading

Import Reading

KWH

Previous Reading

Current Reading

Difference

Difference X Multiplying
Factor

KVARH

Previous reading

Current reading

Difference

Difference x Multiplying factor

Executive Engineer/Engineer-designate
Nearest Substation/Generating Station of
KSEB

Authorised Representative
of Company

Date:

Note:

1. Load Despatch Center, Kalamassery shall maintain a daily log book of hourly reading of the main meter intimated from the stations over phone/email.
2. The Generating Company shall maintain a daily log to record the hourly generation and supply in kWh along with the schedule given by Load despatch center, Kalamassery.
3. If the meter is changed, the reason/s date, time of meter change and new meter make and number must be recorded by both parties.


Rajesh K P
Plebery, Thiruvananthapuram - 4

For M/s. ACV PRODUCTS (P) LTD

Authorised Signatory

Annexure VI

MONTHLY AVAILABILITY REPORT

Name and Address of the Generating Company : M/s. ACV Products Private Limited

Installed Generating Capacity : 0.750 MW

Date of First Commissioning (Synchronizing) :

Date of Commercial Operation :

Date of Last Synchronization Progressive days (generation) Days

Tripping on Fault

Sl. No.	Tripping		Relay Operated	Reasons for Tripping			Synchronization		Total Time Lost		Remarks
	Date	Time		Mech	Electrical	Others	Date	Time	Hrs	Min	
		Hrs Min						Hrs Min			

PLANNED & FORCED OUTAGE

SlNo	Outage		Reason for Tripping			Synchronize		Total Time lost		Remarks - To whom attributable
	Date	Time	Mech	Electrical	Other	Date	Time	hrs	Min	
		Hrs min					hrs min			

Progressive Days

Time lost

During Month
Year

Since first commissioning

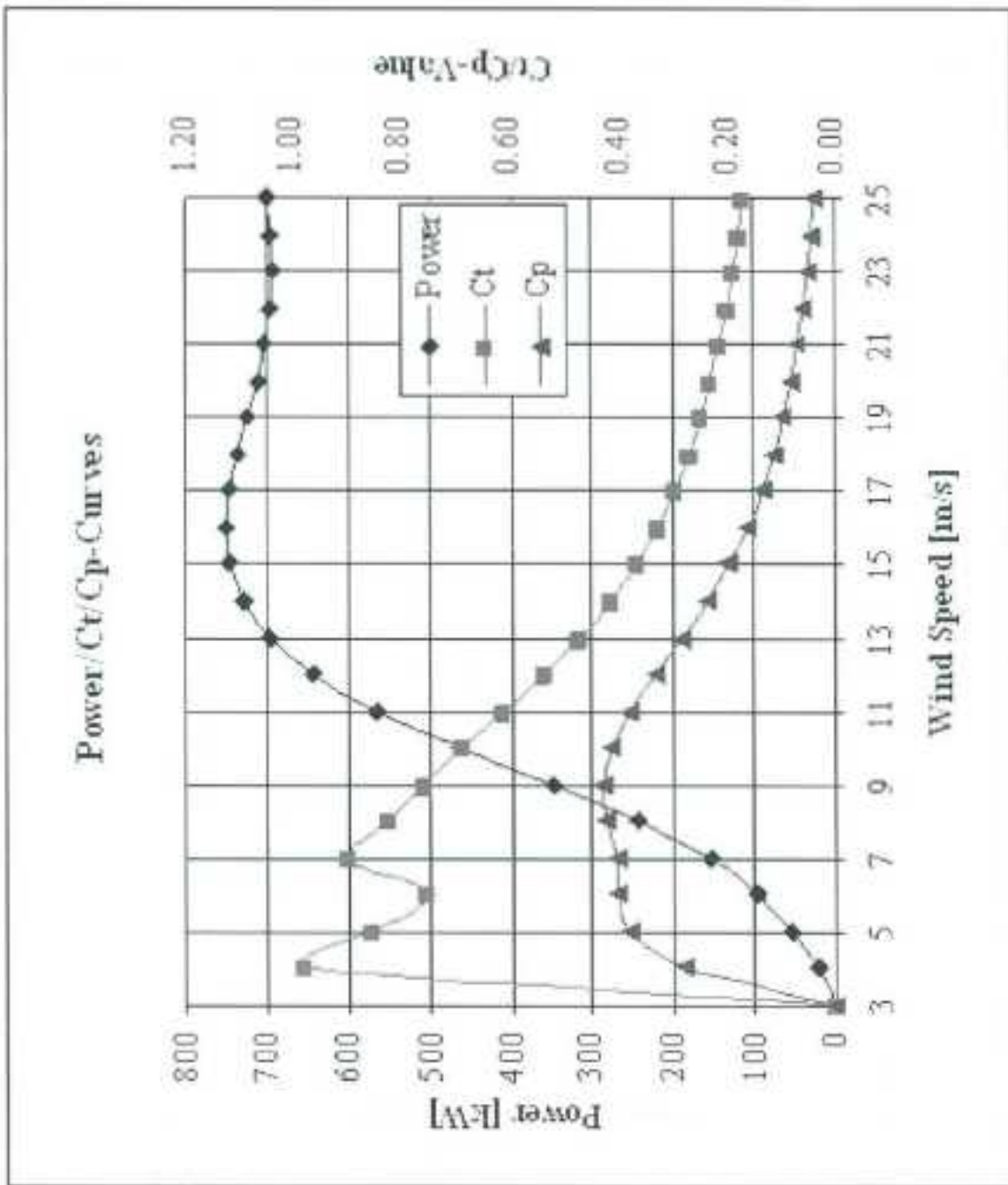
To

- The Deputy Chief Engineer (Load Despatch Center), KSEB, Kalamassery


CHIEF ENGINEER
(Corporate Planning)
KSE Board, Vidyuthi Bhavanam
Pattom, Thiruvananthapuram - 4

For M/s. ACV PRODUCTS (P) LTD

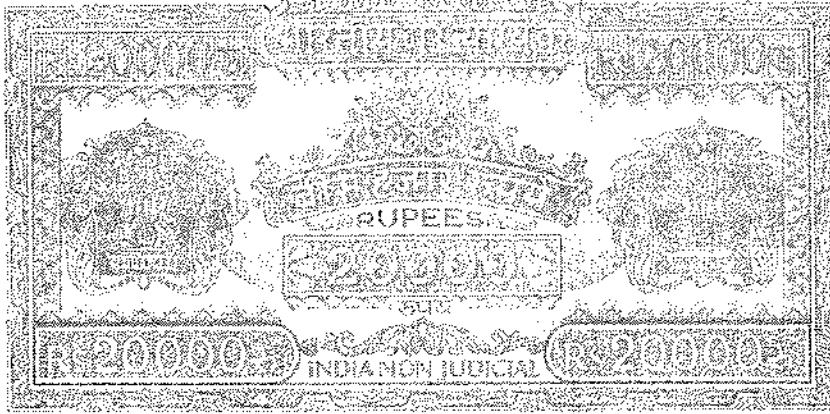
Authorised Signatory




CHIEF ENGINEER
 (Corporate Planning)
 KSE Board, Vidyuthi Bhavanam
 Pattori, Thiruvananthapuram - 4

For M/s. ACV PRODUCTS (P) LTD

Authorised Signatory



കേരളം KERALA

406165

S. BASANT

A.CHANDRASEKARAN

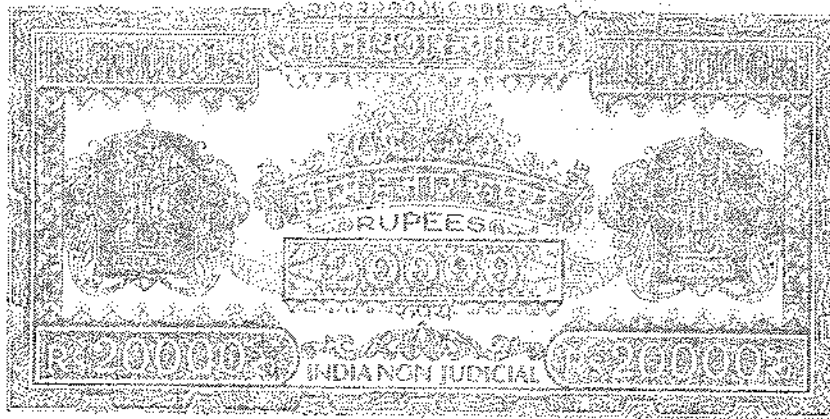


SALE DEED Rs. 4,00,000/-

THIS DEED OF SALE is executed on this the 16th day of September Two Thousand and Nine BY S. BASANT, aged Forty Six years, Business, S/o Kuttappan, residing at Basanth Sadan, Alipra P.O, Pin: 683553, Vengolakasa, Vengola Village, Kunnathunad Taluk, Ernakulam District, Kerala State (hereinafter referred to as 'The Vendor' which expression shall whenever the context so permit mean and include his heirs, executors, administrators and persons deriving title under the said vendor) *IN FAVOUR OF* M/s ACV PRODUCTS PRIVATE LIMITED having its Registered office at 177/B - 1, Bharathiyar Road, Ganapathi, Coimbatore - 641006 and its factory at SF No. 1593/2B, Vadaveeranaickanpatty, Annanji, Theni - 625531 represented by its Director Mr. A. CHANDRASEKARAN aged forty nine years S/o Mr. A. Alwarswamy (hereinafter referred to as 'The Purchasers' which expression shall whenever the context so permits mean and include their successors, executors, administrators and persons claiming title under the said Purchasers).

S. BASANT





കേരളം KERALA

106166

WHEREAS 1 Acre 35 Cents of property and appurtenances thereon in Sy. No.67/1 Re.Sy. No. 949 (1 acre 10 cent) of Karunapuram Village, more particularly described in the schedule below is owned and possessed by the Vendor, by virtue of Sale Deed No. 1750 of 2008 of Book I volume 926 pages from 289 to 292 Udumbanchola Sub Registry Office and 25 cents of property and appurtenances thereon in Sy. No. 67/1 Re.Sy. No. 949 (25 Cents out of 40 Cents) of Karunapuram Village more particularly described in the schedule below is owned and possessed by the Vendor, by virtue of Sale Deed No. 1756 of 2008 of Book I volume 926 pages from 315 to 317 Udumbanchola Sub Registry Office and there by became the absolute owner of the said property in exclusive possession and enjoyment with marketable title.

AND WHEREAS the Vendor assures the Purchasers that the said property more particularly described in the schedule below is in the absolute possession and enjoyment of the vendor with full right of alienation and that the said property is completely free from mortgage, charge, lien, lease, attachment, suit, arrears of taxes and other dues, liabilities and other encumbrances and impediments whatsoever and that the vendor is the absolute and undisputed owner in possession and enjoyment of the said property.

AND WHEREAS the vendor has agreed to sell and the Purchasers have agreed to purchase the aforesaid property more particularly described in the schedule below completely free from encumbrances and other impediments for a total sale consideration of Rs. 4,00,000/- (Rupees Four Lakh Only).

S. BASANT

NOW THIS DEED OF SALE WITNESSES as follows:

In pursuance of the said agreement and in consideration of a sum of Rs. 4,00,000/- (Rupees Four Lakh Only) paid to the vendor by the Purchasers in cash today, the receipt of which the Vendor hereby admit and acknowledge, the entire sale consideration thus FULLY SATISFIED, the vendor hereby transfers, conveys, assigns and delivers possession UNTO the purchasers by way of absolute sale, all estates, rights, titles, interests, claims and privileges in the aforesaid property more particularly described in the schedule hereunder written (hereinafter referred to as the said property) TO HAVE AND TO HOLD the said property with all improvements thereon UNTO AND TO the use of the purchasers absolutely and for ever, with exclusive title, possession and enjoyment and the purchasers shall enter into and upon the said property and take all the yields and profits there from without any let, hindrances or interruption from the vendor or any person claiming under the vendor or in trust for the vendor and hereafter the vendor has no right, interest or claim in the said property.

**THE VENDOR HEREBY ASSURES THE PURCHASERS AND
COVENANTS:**

1. That the Vendor is the absolute and undisputed owner of the said property with possession and enjoyment with absolute right of alienation and to receive the consideration for the sale and that no other person has any right, interest or claim in the said property.
2. That the said property is completely free from mortgage, charge, lien, lease, suretyship, suit, attachment by court or other authorities, arrears of taxes and other dues, claims of workers, employees or other persons of the vendor, proceedings under the Kerala Land Reforms Act, Land Acquisition Act, Revenue Recovery Act, Insolvency Act and other encumbrances and impediments whatsoever.
3. That the vendor shall pay and discharge all taxes and other dues with respect to the said property and its income up to this date irrespective of any delay in passing assessment orders or serving notices and the purchasers shall be liable only to taxes and other dues arising from this date.
4. That the purchasers shall be at full liberty to apply for mutation of names in the records and registers of Land Revenue and Panchayat and other authorities and obtain Transfer of Panchayat assessment, land records and other confirmation of title in the name of the purchasers.

S. BASANT



5. That the vendor or his family does not own or possess lands in excess of the ceiling area fixed by the Kerala Land Reforms Act (Act I of 1964) as amended upto date and that the said property was never treated as excess land under the said Act and in case the Vendor has to surrender any land to the Government or as directed by the Government as being in excess of the ceiling area fixed by the said Act or by any similar or other legislation the vendor shall choose to retain the said property within the area to be kept by his and surrender only his other land.
6. That the vendor shall at all times hereafter at the cost and request of the purchasers execute, do or cause to be executed or done all such further acts, deeds, assurances and things as may be necessary or expedient for the further and better assuring of the said property and vest the same with the Purchasers.
7. That the vendor further covenants and agrees with the purchasers indemnified against all claims, debts, damages, losses, interests costs and expenses incurred or sustained by the purchasers by reason of any recital, averment, covenant, declaration or any of them in these presents contain proving or being found to be incorrect or incomplete or is not performed or observed by the vendor or in any right, privilege or easement herein mentioned is obstructed by the vendor or any person claiming under the vendor.
8. The Photostat copy of the title Deed above mentioned ie, 1750/2008 and 1756/2008 is also handed over to the purchasers along with the execution of this deed.


S. BASANT




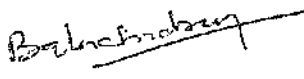
SCHEDULE OF PROPERTY

District	Sub-District	Taluk	Firka	Village	Thavalam	Kara	Panchayat	Sy.No.	Re.Sy. No.	Ares	Square Meter	Description of Property	East	South	West	North	
Idukki	Udumbanchola	Udumbanchola	Vandanmedu	Karunapuram	Combarmettu	Kuruvikkanam	Karunapuram	67/1	949	44	52	All that piece and parcel of land having an extent of Forty Four Ares and Fifty Two square meters in Survey No. 67/1 Re.Sy No. 949 of Karunapuram Village, and Ten Ares and Twelve squares meters in Survey No. 67/1 Re.Sy No. 949 of Karunapuram Village and all improvements and other appurtenances comprised in Sale Deed No. 1750 of 2008 and 1756 of 2008 of Udumbanchola Sub Registry. (1 Acre 35 Cents)	Private Road	Property of Tony Chacko	Property of Basant Land	Kuruvikkanam- Pullipady Road	

INWITNESS WHEREOF the vendor has signed this Deed of Sale on the day, month and year first above written before the following witnesses.

Signed by **S. BASANT** 

Witnesses: 1. A.M Ibrahimkutty S/o Moideenkutty,
Edathil (H), Allapra P.O, Perumbavoor 

2. Balachandren S/o Kumaran,
Kalarickal (H), Ramakkalmedu P.O 

Document prepared by P.M Muhammed Basheer, Licence No. IDA - 129, Parambil (H), Mundiyeruma. This Document is Computer Print Out. Corrections: Nil

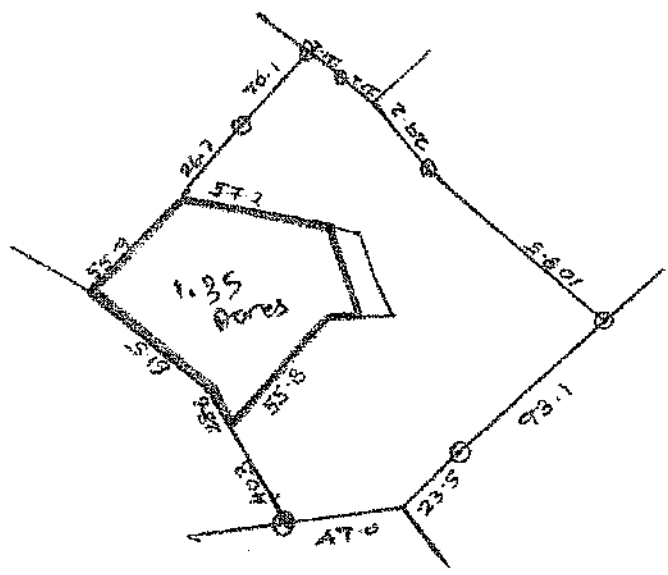
S. BASANT 

DISTRICT : IDUKKI

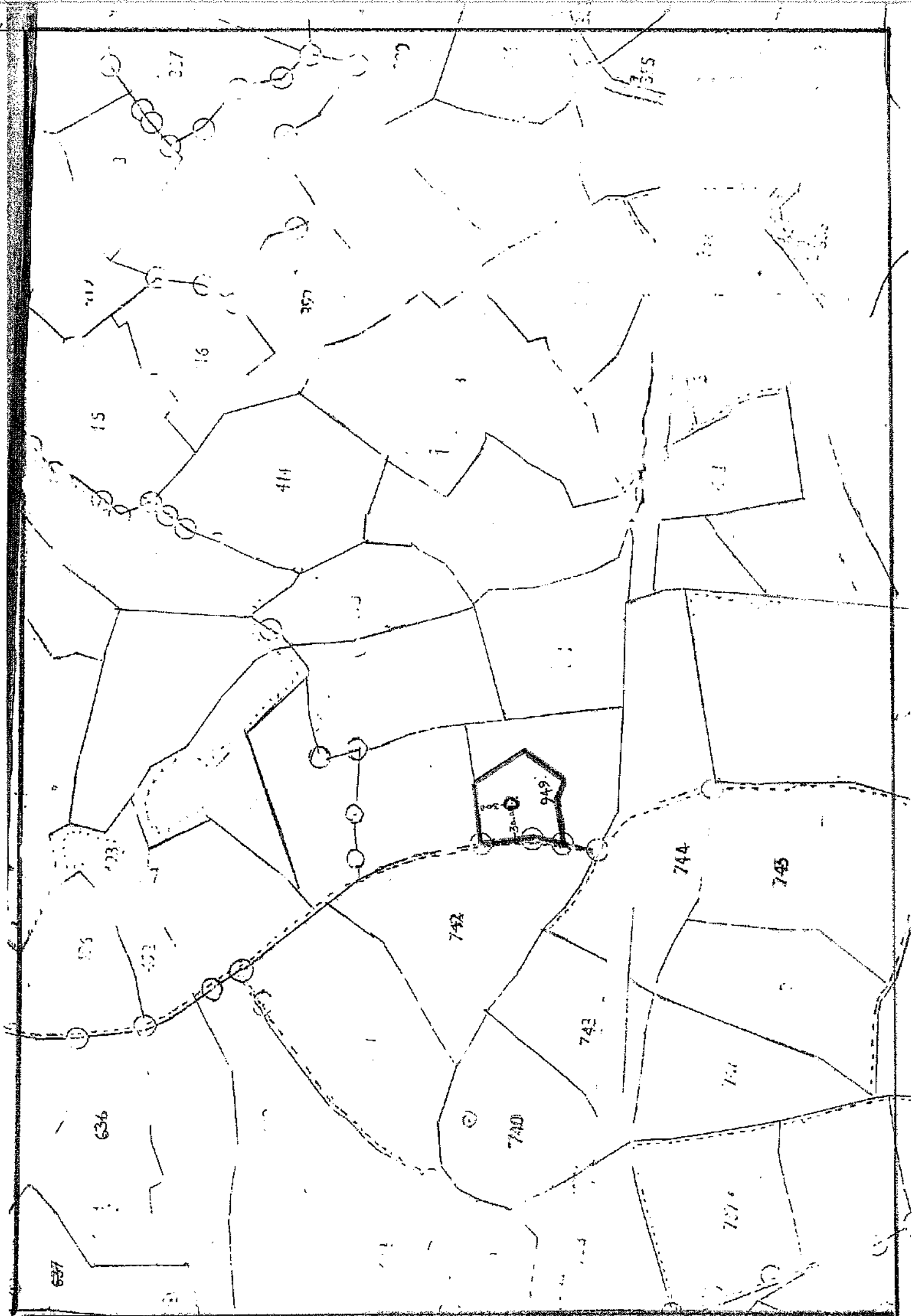
VILLAGE : KARUNAPURAM

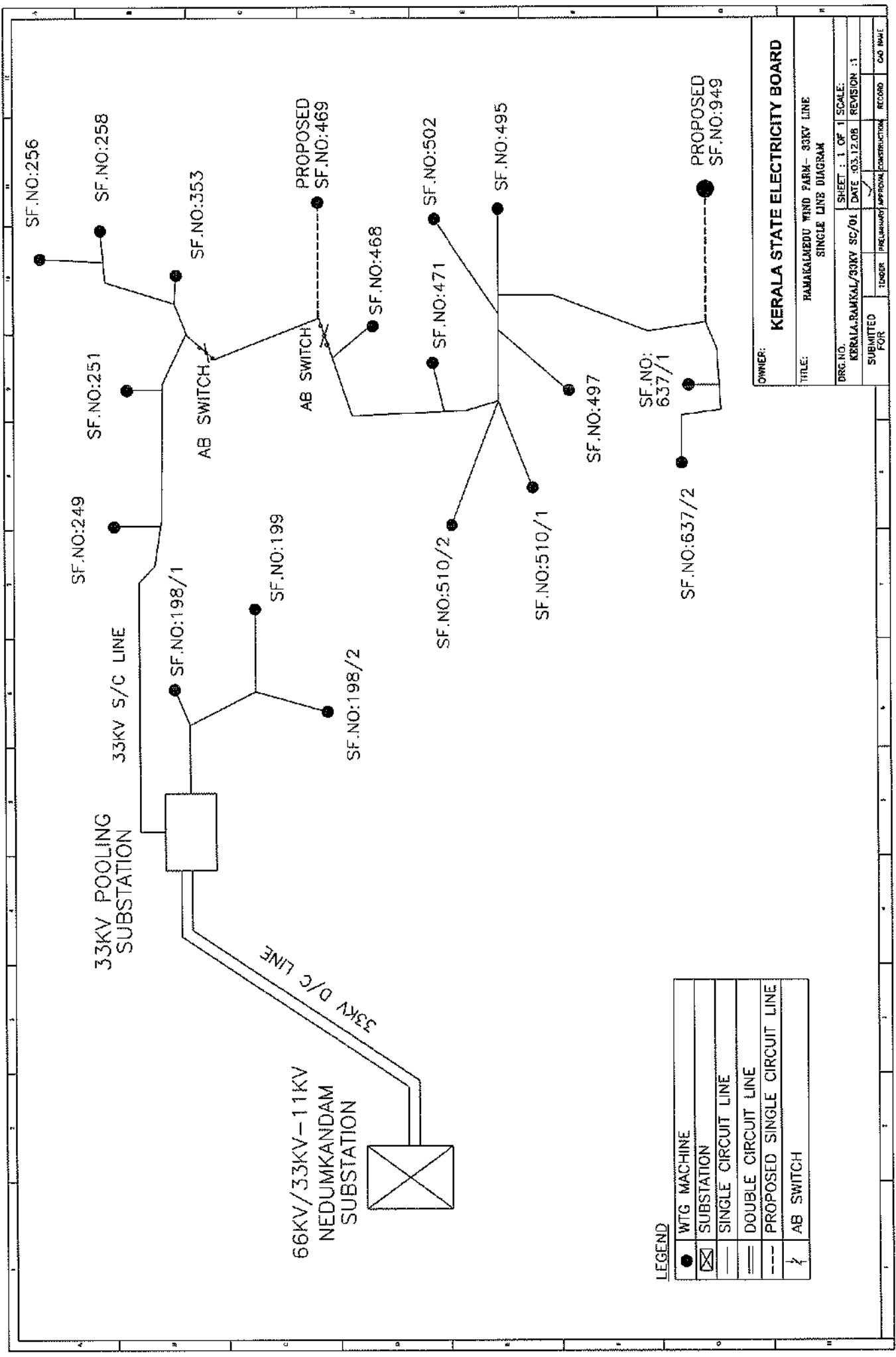
TALUK : VOUMBAN CHOLA

S.F. NO. 949.



TOMB AREA - 1.85 Acres





OWNER: KERALA STATE ELECTRICITY BOARD

TITLE: RAMAKALIEDU WIND FARM - 33KV LINE
SINGLE LINE DIAGRAM

DRG. NO. KERALA/RAJKAL/33KV SC/01

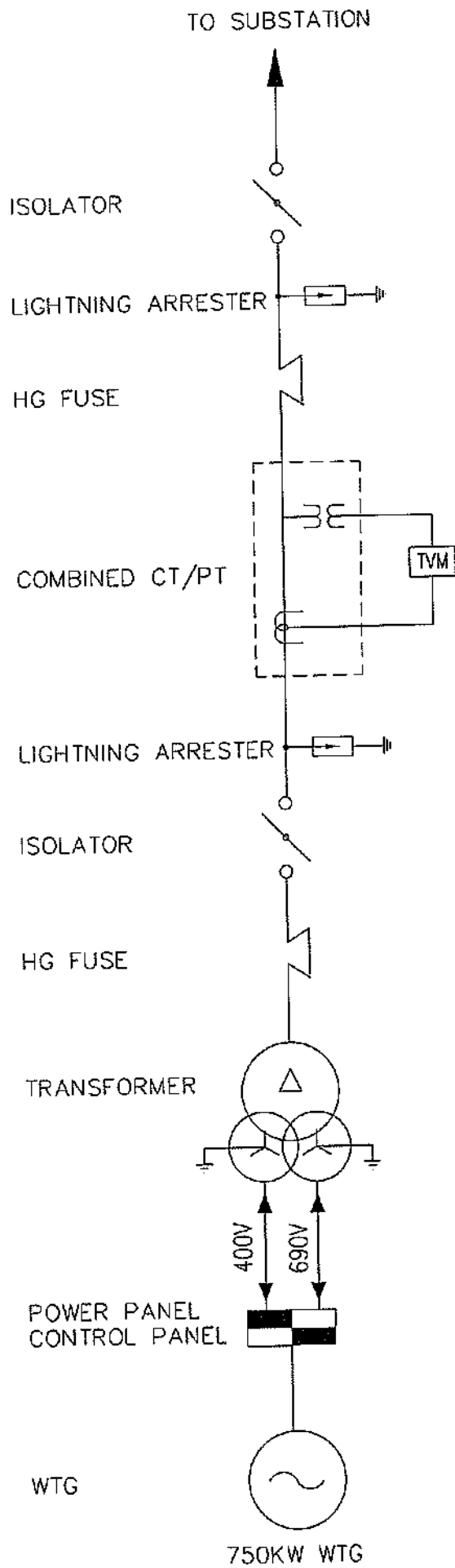
SHEET : 1 OF 1 SCALE: DATE :03.12.05 REVISION : 1

NO.	REVISION	DATE	BY	CHKD	APP'D	RECORD	DATE
1							

LEGEND

●	WTG MACHINE
⊠	SUBSTATION
—	SINGLE CIRCUIT LINE
==	DOUBLE CIRCUIT LINE
---	PROPOSED SINGLE CIRCUIT LINE
⚡	AB SWITCH

SINGLE LINE DIAGRAM



KERALA STATE ELECTRICITY BOARD

Abstract

Infrastructure Development works at Pushpakandam and Nedumkandam (Phase - I Works) being implemented by M/s. Vestas Wind Technology India Private Limited in connection with the evacuation of power from WEGs at Ramakkalmedu - Estimate - Sanctioned - Orders issued.

TRANSMISSION PROFIT CENTRE

B.O. (FM) No.135/2008 (TPC3/24/2007). Dated, Thiruvananthapuram, 09.01.2008.

- Read:-
- (1) G.O. (MS) No.7/2007/PD dated 11.05.2007.
 - (2) B.O. (FM) No.1522/2007 (CP/IPC-147/Wind) dated 03.07.2007.
 - (3) Note No.T2(d)/912/Ramakkalmedu/728 dated 15.09.2007 of the Chief Engineer (Transmission-South).
 - (4) This office letter of even No. dated 25.09.2007 addressed to the Chief Engineer (Transmission-South).
 - (5) Note No.Tender.II/185/07-08 dated 25.09.2007 of the Financial Adviser.
 - (6) Letter No.T2(d)/912/Ramakkalmedu/806 dated 28.09.2007 of the Chief Engineer (Transmission-South) addressed to M/s. Vestas Wind Technology India Private Limited.
 - (7) Note No.T2(d)/912/Ramakkalmedu/813 dated 29.09.2007 of the Chief Engineer (Transmission-South).
 - (8) Note to the Full Time Members dated 15.10.2007.
 - (9) Note No.T2(d)/912/Ramakkalmedu dated 04.01.2008 of the Deputy Chief Engineer-In-charge of Chief Engineer (Transmission-South).

ORDER

Government has issued guidelines for the development of Wind Farm in private land in Kerala vide Government Order read as 1st paper.

As per the guideline, KSE Board/STU shall develop the evacuation facility according to a master plan prepared in consultation with ANERT to evacuate the total power from each of the wind potential areas. The plan shall include construction of pooling station, transmission/sub-transmission line from pooling station to KSE Board/STU substation and augmentation/up-gradation required for existing substations and grid for further evacuation. KSE Board/STU shall also prepare an estimate for such evacuation facility beyond and including pooling station. The estimate shall also include supervision charges payable to KSE Board/STU.

Further, Government in consultation with KSE Board/STU will fix a development charge from time to time on a per Mega Watt (MW) basis and the developers shall remit the charges to KSE Board/STU. The development charge (IDC) is tentatively fixed as Rs.20 Lakhs per MW, which will be finalized by Government in consultation with KSE Board and the difference, if any, will be settled between the developer and KSE Board/STU. KSE Board/STU shall issue permission for interconnection to the grid on a first come first served basis based on payment of the development charge.

The construction and maintenance of evacuation lines from WEGs to the pooling station shall be at developers cost and responsibility. In case of developers willing to undertake development of evacuation facility, KSE Board/STU may permit such requests upon satisfaction of developers technical and financial qualifications. The developer shall develop the evacuation facility as per the master plan in full or part as per KSE Board/STU design. KSE Board/STU will reimburse the cost as per the sanctioned estimate for the work after deducting the supervision charges. Developer shall be eligible for adjustment of IDC in the estimated cost.

It was identified by ANERT a wind potential of nearly 100 MW at Ramakkalmedu. M/s. Vestas Wind Technology India Private Limited has proposed to generate 15 MW power at Ramakkalmedu as an initial stage. They have informed their willingness to execute the infrastructure development works under Phase - I and requested approval for the estimate for

this work. The Chief Engineer (Transmission-South) has also recommended to implement the works under Phase - I by M/s. Vestas Wind Technology India Private Limited and to accord sanction to estimate for early completion of the works.

Having considered the recommendation of the Chief Engineer (Transmission-South) and Financial Adviser, sanction is accorded for an estimate amounting to Rs.398.09 Lakhs as stated in Annexure for implementation of the works under Phase - I, as detailed below in connection with the evacuation of 15 MW Wind Energy at Ramakkalmedu.

- a. Construction of a pooling Substation at Pushpakandom.
- b. Construction of 33 KV DC line 8 Kms. from Pushpakandom to Nedumkandom.
- c. Installation of 66/33 KV, 20 MVA transformer and its terminal equipments at Nedumkandom.

Board further orders that M/s. Vestas may be permitted to carry out the works as envisaged in the Phase - I programme of the Master Plan and on completing the works, this shall be handed over to KSE Board and the transmission lines including the pooling stations will be the property of KSE Board.

An undertaking shall also be obtained from the developer on the following:-

- a) The work shall be done under Board's supervision and supervision charges can be deducted from the estimate cost of reimbursement.
- b) The IDC charges is tentatively fixed as Rs.20 Lakhs per MW, which may vary after approving the Master Plan. The extra amount, if any, the developer has incurred for the development work over the IDC charges for 15 MW can be reimbursed to the developer by KSE Board when interconnection permission has been given to all the WEGs. The IDC charge payments by WEGs to KSE Board for getting interconnection permission will be adjusted against the payment due to the developer upto a maximum amount equal to estimated cost deducting supervision charges or memo of cost submitted by the firm whichever is less. The developer has to submit statement of accounts and proof of expenditure incurred duly certified by the concerned field engineer.
- c) Final settlement shall be based on actual quantities valued at the KSE Board's rate for purchase as well as labour or Memo of Cost submitted by the firm whichever is less.

By Order of the Board,
Sd/-
M. SUBAIR,
SECRETARY.


To

The Chief Engineer (Transmission-South), KSE Board, Thiruvananthapuram.
The Chief Engineer (Transmission-North), KSE Board, Kozhikode.
The Chief Engineer (Corporate Planning), KSE Board, Thiruvananthapuram.

Copy to:

The Financial Adviser/The Chief Internal Auditor.
The Deputy Chief Engineer, Transmission Circle, Pooventhuruthu/Palakkad.
The Director (MIS).
The RAO/The RAO.
The TA to Chairman/Member (Distn. & Gen.)/Member (Trans.)/Chief of Generation.
The PA to Member (Finance)/Secretary.
The Fair Copy Superintendent.
Library/Stock file.

Forwarded / By Order


Assistant Executive Engineer.

ANNEXURE TO THE B.O. (FM) NO. 135/2008 (FIN.)
 ANNEXURE -
 dtd 9-1-2008

**Estimate for constructing 8 Km 33 kV DC line from Pushpakandam to Nedumkandam
 & installation of 20 MVA, 66/33 kV Transformer at Nedumkandam Substation**

Sl.No	Description	Quantity	Rate	Total Value
Part A				
1	Main equipment			
	Power Transformer 20 MVA, ONAN, 66/33kV, YNynO with OLTC Tap range +5% to -15% in steps of 1.25%	1 ✓	8250000.00	8250000.00
A 66 kV side				
i	110 kV, 1250 A, 31.5 kA Double Break Isolator manual operated without Earth switch	1	174990.24	174990.24
ii	66 kV, 600-300/1-1-1-1A, Single Phase Current Transformer	3	86482.00	259446.00
	Core 1: CL 0.2, 20 VA			
	Core 2: SP20, 20VA			
	Core 3: CL PS			
	Core 4: CL PS			
iii	60 kV, 10 kA, Lightning Arrestor CL:3	3 ✓	23861.00	71583.00
iv	145 kV, 1250, A, 31.5 kA SF6 CB	1 ✓	882390.00	882390.00
B 33kV side				
i	33kV, 1250 A, 31.5 kA Double Break Isolator manual operated with out Earth Switch	1 ✓	65000.00	65000.00
ii	33kV, 800 A, 31.5 kA Double Break Isolator manual operated with out earth switch	2	63052.00	126104.00
iii	33kV, 800 A, 31.5 kA Double Break Isolator manual operated with earth switch	2 ✓	73492.00	146984.00
iv	33 kV/ $\sqrt{3}/110\text{v}/\sqrt{3}$, single Potential Transformer	3 ✓	26463.00	79389.00
	Core 1: CL 0.2, 50 VA			
	Core 2: CL 3P, 100 VA			
v	33kV, 600-300-150/1-1-1-1 A, single Phase current Transformer	9 ✓	41549.00	373941.00
	Core 1. CL 0.2, 20 A			
	Core 2: 5P 20, 20 VA.			
	Core 3: CL Ps			
	Core 4: CL PS			
vi	30 kV, 10 kA Station Class: 3 Lightning Arrestor	9 ✓	8277.00	74493.00
vii	33kV, 1250 A, 25 kA VCB	3 ✓	290392.00	871176.00
viii	33 kV Post Insulator	12	1250.00	15000.00
2 Clamps and Connectors				
Power connectors				
	66 kV side	LOT		25000.00
	33 kV side	LOT		40000.00
3 Equipment connectors				
	66 kV side	LOT		25000.00
	33kV side	LOT		40000.00
4 Bus Bar Materials				
i	Zebra ACSR Conductor	200 mtrs	300.00	60000.00
ii	2" IPS Aluminium tube - Sch.80	50 mtr	350.00	17500.00
5 Insulator				
Disc Insulator For 33 kV				
	Tension String Disc Insulator Assembly comprising of 3 Nos, 11 kV Normal type Disc insulator with EMS of 120 kN and minimum creepage distance of 350 mm per disc with tension clamp and hardware to suit ZEBRA ACSR	54	302.22	16319.88
6	STEEL STRUCTURE WEIGHT	20	58000.00	1160000.00

	CONTROL & RELAY PANEL			
	66 KV/33 KV Tr. C & R Panel HV & LV with	1	564624.00	564624.00
	Numerical relays	1	312334.00	312334.00
	33 KV Twin Feeder C & R Panel	1 lot	LS	500000.00
	EARTHING	1 lot	LS	1500000.00
	1.1KV PVC Ar. Stranded CU/AL CABLES	1 lot	LS	100000.00
	Single compression cable glands for copper conductors	1 lot	CS	150000.00
	Cable trays and support			
	JUNCTION BOX			
	CT Junction Box	4	5000.00	20000.00
	PT junction Box	1	5000.00	5000.00
	GI Pipes / Channels	1 lot	LS	20000.00
	Rubber mat (2m x 1m x 12mm thk)		500.00	1000.00
	66 KV Danger board		333.33	333.33
	33KV Danger board	1	1500.00	1500.00
	Safety materials for switchyard	1 lot	LS	150000.00
	Fire extinguishers			1510174.00
	SUBTOTAL			2550000.00
	Lump sum total			406628.00
	Additional 3 % spares (excluding LS)			36510902.33
	PART A-TOTAL			
	Part B			
	Civil works for equipment foundation, cable trenches and transformer foundations, pedestals levelling and fencing etc.		LS	3200000.00
	PART C			
	Transportation & Insurance @ 10 % of part A (excluding LS & spares)			125542.00
	erection charges @ 10 % of part A excluding LS & spares			
	Contingencies @ 3.75 % of part A excluding LS & spares			509285.25
	Overhead charges @ 10 % of Part A excluding LS & spares			1355427.41
	Part C Total			4574567.51
	TOTAL (Part A + Part B + Part C)			24285469.85
	Unforeseen expenses			4530.15
	TOTAL			24290000.00
	Part D - 33KV OH line			
	Line materials , Labour charges including way leave for 1km = 13 lakhs	3 Km	1300000.00	10400000.00
	Part E			
	Cost for construction of Pooling Station at Pushpakandam			
	33 KV ODC (C-1 - 4 nos. @ 2 nos.)	2 Nos.		
	33 KV Bus Isolator	2 Nos.		1500000.00
	33 KV Line Isolators	2 Nos.		
	33 KV LA - 12 Nos.	9 Nos.		
	Total of Part A + B + C + D + E			36190000.00
	Supervision charges (10%)			3619000.00
	TOTAL ESTIMATE AMOUNT			39809000.00

(Rupees Three Crores Ninety Eight Lakhs and Nine Thousand only)

MEMBER TRANSMISSION



ANERT

Agency for Non-conventional Energy & Rural Technology
(Established by Government of Kerala)

PROCEEDINGS OF THE DIRECTOR

Abstract: - Technical Approval for Installation of WEGs in private land at Ramakkalmedu accorded to M/s Vestas Wind Technology India Private Ltd- Permission for transfer of Technical Approval for one WEG to M/s ACV Products Pvt Ltd, Coimbatore- Orders Issued.

A.O. No. 1236/2009/WIND

Dated, Thiruvananthapuram 21-~~09~~¹¹-2009

Ref:

1. A.O. No. 172/WPC/ANERT/09 dt. 18-02-2009.
2. GO (MS) No. 23/2004/PD dt.06/11/2004
3. GO (MS) No. 7/2007/PD dt. 11/05/2007
4. Transfer application of M/s Vestas Wind Technology India Pvt Ltd dt. 28/09/2009 and No.Vestas Wind Systems A/S/PD32/09-10.
5. Application of M/s ACV Products Pvt Ltd dt. 22/10/2009
6. Undertaking submitted by M/s ACV Products Pvt Ltd.
7. Decision taken by the Evaluation Committee for Scrutiny of Technical Proposals for establishment of Wind Farms in Private Land at the Evaluation Committee meeting held on 17-09-2009.

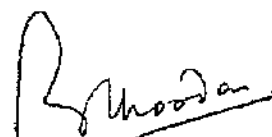
ORDER

Vide Ref: 1, Technical Approval as per reference 2 and 3 was accorded to M/s Vestas Wind Technology India Pvt Ltd (formerly M/s NEG Micon India Pvt Ltd) having registered office at 298, Old Mahabalipuram Road, Sholinganallur, Chennai, 600 119 for installation of 2 (two) numbers of Wind Electric Generators (WEGs) at specified locations at Ramakkalmedu area in Udumbanchola Taluk, Idukki District based on Technical proposal submitted by them subject to the terms and conditions mentioned therein. M/s Vestas Wind Technology India Pvt Ltd has requested transfer of Technical Approval obtained by them for WEG KUR 949 to M/s ACV Products Pvt Ltd, Coimbatore. The necessary documents including the undertaking on stamp paper by the transferee have been submitted along with the required transfer fee of Rs.one lac (@ Rs.1 lac per transfer of one WEG) . The Evaluation Committee for scrutiny of Technical Proposals for establishment of Wind Farms in private lands has approved this proposal in the Evaluation Committee Meeting held on 17-09-2009 at the chamber of the Principal Secretary, Power Department, Secretariat, Thiruvananthapuram. Therefore M/s Vestas Wind Technology India Pvt Ltd is permitted as per clause 3.12 of ref. 3 to transfer the technical approval accorded to them for installation of one 750 kW WEG of Vestas make at a location of the following details to M/s ACV Products Pvt Ltd, No.177/B-1,

Bharathiyar Road, Ganapathy, Coimbatore- 641 006, on the condition that M/s ACV Products Pvt Ltd is ready to abide by the terms and conditions of the original Technical Approval.

Identificat -ion No.	Survey No.	Village	Latitude (N)	Longitude (E)	Machine Registration Number
KUR 949	949	Karunapu ram	09 ⁰ 47' 33.5"	77 ⁰ 13' 18.5"	KL-2009- 001

The transfer will be deemed to have taken place on the date of this order.



**Director
ANERT**

Copy to

1. M/s Vestas Wind Technology India Pvt Ltd, Chennai.
2. M/s ACV products Pvt Ltd.
3. The Chairman, KSEB.
4. The Chief Engineer (Corporate Planning), KSEB.
5. Member, Transmission, KSEB
6. The CA to the Director.



ANERT

Agency for Non-conventional Energy & Rural Technology
(Established by Government of Kerala)

No.4431/WRA/ANERT/2009

Dated: 20-11-2009

From

Director
ANERT

To

M/s Vestas Wind Technology India, Pvt. Ltd,
No. 298, Old Mahabalipuram Road,
Sholinganallur, Chennai - 600 119.
Tamilnadu State
Tel: 044 - 2450 5100

Sir,

Sub: Transfer of Technical Approval - Proceedings of the Director, ANERT -
Forwarding of -Reg

Ref: (i) Letter dt. 22-10-2009 from M/s A.C.V Products Pvt. Ltd.

(ii) Application from M/s Vestas Wind Technology India Pvt. Ltd, No.
Vestas Wind Systems A/S/PD/32/09-10 dt. 28-09-09

(iii) A.O No.1236/2009/WIND dt. 21-¹¹09-2009

I invite your attention to the reference cited. In this respect I am forwarding the Proceedings of the Director, ANERT regarding the Technical Approval for the transfer of one Wind Electric Generator (WEG: KUR 949 with Machine Reg. No. KL-2009-001) to M/s ACV Products Pvt. Ltd, Coimbatore, as requested by M/s Vestas Wind Technology India Pvt. Ltd., Chennai.

Yours faithfully,



DIRECTOR

Copy to: M/s ACV Products Pvt. Ltd, Coimbatore.

KERALA STATE ELECTRICITY REGULATORY COMMISSION

C.V.Raman Pillai Road
Vellayambalam
Thiruvananthapuram 695 010
Telephone: 0471-273 5544
Fax: 0471273 5599
Email: kserc@erckerala.org
Website: erckerala.org

No.KSERC/III/Wind Energy/2009 | 1088

December 16, 2009

To

M/s. ACV Products Private Ltd
177/B-1 Bharathiar Road
Ganapathy, Coimbatore

Sir,

Sub: Approval of Tariff for Wind Project – Survey No. 949 of Karunapuram
Village, Udumbanchola Taluk, Idukki District, Kerala
Ref: Your Petition dated 23.11.2009

M/s. ACV Products Private Ltd vide reference cited above has filed a petition for determination of tariff for Wind Power Project with Identification No. KUR 949, Karunapuram as approved by ANERT vide Order No. A.O.No. 1236/2009/WIND dated 21.11.2009.

The Tariff for the project is approved as Rs. 3.14/Unit, in the meeting of the Commission held on 11.12.2009, for period of 20 years as per Kerala State Electricity Regulatory Commission (Power Procurement from Renewable Sources by Distribution Licensee) Regulations, 2006.

Yours faithfully,


(K.S.PREMACHANDRA KURUP)
SECRETARY

Pgs

M/E

KERALA STATE ELECTRICITY BOARD

Chief Engineer (Transmission-South),
Vydyuthi Bhavanam, Pattom
Thiruvananthapuram-695 004



Telephone: +91-471-2446471
Fax: +91-471-2514460
Email: cets@ksebnnet.com

No.T2 (d)/912/Ramakkalmedu / 1184

Dated:- 23-12-2009

To

M/s Vestas Wind Technology India Private Limited,
298, Old Mahabalipuram Road, Sholinganallur,
Chennai – 600 119

Sir,

Sub: - Evacuation of 15 MW wind power from M/s.Vestas Wind Farms
located at Ramakkalmedu – Interconnection approval-reg.

Ref: - 1. Letter No. TCTPA/Wind Power Projects/09-10/668 dated
21-12-2009.
2. B.O(FM) No. 1522/2007(CP/IPC-147/wind) dated 3-7-2007

Sanction is hereby accorded for the interconnection of one No. 750 kW,
WEG in the name of ACV Products Private Limited at survey No. 949 of
Kuruvikkanam Village, with KSEB Grid through Pushpakandam pooling station.

This is issued as per the power envisaged in the board order cited (2)
above.

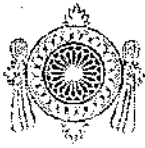
The commissioning date of the WEG may be intimated.

Yours faithfully,


Chief Engineer (Transmission South)

Copy to: -

1. The Chief Engineer(Corporate Planning), K.S.E. Board, TVPM
2. The TA to Member(Transmission).
3. The Deputy Chief Engineer, Transmission Circle, Thodupuzha
/Poovanthuruthu.
4. The Executive Engineer, Transmission Division, Thodupuzha- you or
your authorized representative may witness the commissioning of
WEG and collect the commissioning documents.



ACV PRODUCTS PRIVATE LIMITED

(Govt. Recognised Export House)
SA 8000 Certified



FACTORY : S.F. No. 1593/2 B, VADAPUDHUPATTI, THENI - 625 531
Ph : 04546 - 269495, Tele Fax : 269494
E-mail : acv1@vsnl.com acvck@yahoo.com

CERTIFIED TRUE COPY OF THE RESOLUTION PASSED AT THE MEETING OF THE BOARD OF DIRECTORS OF ACV PRODUCTS PRIVATE LIMITED, HELD ON 02.12.2009 AT IT'S CORPORATE OFFICE SITUATED AT 177-B-1, BHARATHIYAR ROAD, GANAPATHY, COIMBATORE - 641 006, T.NADU.

"RESOLVED that the company do execute Power Purchase Agreement with Kerala State Electricity Board in respect of 750 KW Wind Power Project at Karunapuram Village, Udumbanchola Taluk, Idukki District, Kerala State.

"FURTHER RESOLVED that, Mr. Gopinath K, Working as a Assistant Manager and Mr. A.V Hariharan, Working as a Executive in Vestas Wind Technology India Private Limited, Office at No.298, Old Mahabalipuram Road, Sholinganallur, Chennai-600 119, to be and is here by empowered to sign, execute agreement with ANERT, Power Purchase Agreement (PPA) with Kerala State Electricity Board and Kerala State Electricity Regulation Commission as may be required from time to time and do all such acts and things as are necessary for setting up Wind farms in the State of Kerala.

"FURTHER RESOLVED that the Common Seal of the company be affixed to Power Purchase Agreement and such other agreements that are required to be executed under the Common Seal of the company in the presence of the Mr.A. Chandrasekaran, Director of the company who shall sign the same as token of acceptance in terms of the Articles of Association of the Company.

(Specimen Signature of Mr. Gopinath K)

(Specimen Signature of Mr. A.V Hariharan)

/ CERTIFIED TRUE COPY

M/s. ACV Products Private Limited

Director



केरल KERALA

989200

This is to state that **Mr.K.Gopinath, S/o.Mr.Krishnan, Asst.Manager**, aged about 30 years employed in our Project Development Department has been authorized by one of our customer namely

1. M/s. ACV Products Private Limited, Coimbatore, Tamilnadu

To sign all documents, applications etc with ANERT, KSEB, KSERC and other governmental agencies in connection with the installation of their 750 Kw Wind Electric Generator in Idukki District of Kerala through their Board Resolution/Power of Attorney. We certify that Mr.K.Gopinath, Asst.Manager, Project Development is authorized to sign such documents on behalf of the above said companies including the PPA.

//Certified True Copy//
For **VESTAS WIND TECHNOLOGY INDIA PRIVATE LIMITED**

Specimen Signature of **Mr.K.Gopinath**

K.Kalaivendan
Director- Project Development

Attested by

K.Kalaivendan
Director- Project Development

29 MAY 2008