

# DEENDAYAL PORT TRUST

An ISO 9001 : 2008 & ISO 14001 : 2004 Certified Port



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No.: EL/AC/Windfarm\_O&M/

Date: 01/10/2021

## EXPRESSION OF INTEREST [EOI] for

**“Comprehensive Operation and Maintenance contract for 6MW Inox Make Wind Farm of DPT at Village Sukhpur, Taluka: Babra, Bhavnagar Road, District: Amreli, Gujarat for 18years”**

Executive Engineer (Electrical), DPT invites Expression of Interest for the work of “Comprehensive Operation and Maintenance contract for 6MW Inox Make Wind Farm of DPT at Village Sukhpur, Taluka: Babra, Bhavnagar Road, District: Amreli, Gujarat for 18years” from the reputed firms from those who have executed similar work in Government/public sectors and other leading private organizations. The Expression of Interest (EOI) documents containing details of Scope of Work and technical specifications are enclosed herewith.

The interested firms are requested to submit budgetary quotation for the said work in format enclosed at Annexure I. The completed EOI (Expression of Interest) shall be submitted to the office of the undersigned on or before 15/10/2021.

Executive Engineer (E)  
Deendayal Port Trust

## Annexure I

### Bill of Quantities

**Name of Work:** "Comprehensive Operation and Maintenance contract for 6MW Inox Make Wind Farm of DPT at Village Sukhpur, Taluka: Babra, Bhavnagar Road, District: Amreli, Gujarat for 18 years".

Comprehensive charges of operation and maintenance of the wind farm facility project including supply of spares, consumables, tools, tackles, crane arrangement, testing equipment and instruments, lease charges, man power including security personnel, insurance, fees/charges payable to Govt. agencies, liaison with all govt. agencies, payment of all charges / levies for consuming active and reactive power, all administrative work, maintaining records and submission to all concerned authorities. Year-wise price to be furnished in INR only.

Particulars	O&M Charges per WEG per Annum	O&M Charges for WPP (3 WEGs) per Annum	Statutory Charges per Annum for WPP			Others, if any	Total Statutory	Grand Total of O&M charges for WPP
			Lease Rental	TRANSCO/ DISCOM charges	CEIG Fees			
(A)	(B)	(C = 3xB)	(D)	(E)	(F)	(G)	(H=D+E+F)	(I = C+H)
1 <sup>st</sup> year								
2 <sup>nd</sup> year								
3 <sup>rd</sup> year								
4 <sup>th</sup> year								
5 <sup>th</sup> year								
6 <sup>th</sup> year								
7 <sup>th</sup> year								
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13 <sup>th</sup> year								
14 <sup>th</sup> year								
15 <sup>th</sup> year								
16 <sup>th</sup> year								
17 <sup>th</sup> year								
18 <sup>th</sup> year								

**(In Words: Rupees**

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**(NOTE:** The rates should be inclusive of all taxes, duties, fees, cess etc. and all incidental charges; but exclusive of GST)

1. The O&M charges should be quoted on 'Firm' Basis.
2. Statutory charges should be indicated separately.
3. Any item of work not mentioned in the above particulars but written elsewhere in the scope of work or technical specifications or essentially required for efficient operation and maintenance of wind farm, safety of equipment and operating personnel, shall be deemed to have been included in the above particulars.
4. Any incentive subsidy granted by Central/State Government shall be to the benefit of DPT.
5. Any statutory changes in taxes and duties (due to change in law) will be to DPT's account.
6. The rate quoted by the firm should be excluding GST.
7. The comprehensive O&M contract will be for 18 (Eighteen) years. The O&M charges shall be quoted with applicable taxes & duties showing separately. All fee / charges payable to any statutory authority on account of operation & maintenance of wind farm shall be included in the quoted price for entire period of O&M contract and shall be filled up in the price schedule based on the prevailing rates. In case of any increase after bid date, DPT shall reimburse the difference to O&M contractor. In case of any benefit, the same shall be passed on to DPT. In case of invoice being raised on DPT by authority as an OWNER, DPT will pay and deduct the amount from O&M bills of the contractor.
8. The contractor shall be responsible for ROW related issues.
9. The evacuation system (Asset with Network) shall be taken over and maintained by the contractor.
10. The contractor shall be responsible for technology transfer.
11. The 03 nos. of WTGs are of INOX make. Hence, there shall be legal hand over of the contract from INOX to the contractor. The acceptable evidence shall be submitted by the contractor before entering into new contract or before issue of work order.
12. No deviation, from the contract, shall be entertained, even if the revenue loss for non-operation/failure of WTGs happens, the DPT reserves the right to review the contract.
13. The contractor shall maintain critical spares within 04 months from the date of issue of work order. Hence, a list of critical spares shall be submitted to DPT within 07 days from the date of issue of Letter of Intent (LOI), before issue of work order, failure of which, DPT may take action as deemed fit.
14. The SIM card for data transmission & SCADA system, required compatible software, etc. is in the scope of the contractor.
15. The bidder shall submit evidence of getting support of the OEM for supply of all spares and consumables and technical support for entire contract period.
16. The bidder shall be aware of the requirement of DPT and shall take over in the present condition and the contractor will put all the WTGs into operation immediately after the issue of LOI, if any/all of the WTGs is/are out of order at the time of issue of Letter of Intent (LOI).
17. Along with the bid, the bidder shall submit NOC from INOX or MOU on

Rs.300/- Non-Judicial Stamp paper, showing that M/s INOX will hand over the Operation & Maintenance (O&M) for which DPT will not pay any reparation, if M/s INOX claims any compensation.

18. The bidder shall have a local site office and upload/mail all the requisite data on 24x7 days basis as per the MIS requirement of DPT.

19. If any stealing/theft of any part or damage happens, the contractor shall arrange the same with their installation & commissioning of the WTGs at their own cost. The evidence of material purchased from OEM/OPM, shall be submitted to DPT and also all the actions including Legal action/FIR with local police station, shall be done by the contractor at their risk & cost and responsibilities.

20. The contractor firm will do a joint site survey along with DPT officials after issue of Letter of Intent to ascertain site status of WTGs.

**Signature & Seal  
of Contractor**

**Executive Engineer (E)  
Deendayal Port Trust**

## **DETAILED SCOPE OF WORK**

The scope consists of Comprehensive Operation and Maintenance contract for 6MW Inox Make Wind Farm of DPT at Village Sukhpur, Taluka: Babra, Bhavnagar Road, District: Amreli, Gujarat for 18 years.

### **SPECIAL CONDITIONS FOR OPERATION & MAINTENANCE OF WINDFARM**

#### **1.0 TERMS OF O&M CONTRACT**

**1.1** In case of Award of Contract, the operator shall be responsible for comprehensive operation & maintenance of the wind power project for a period of 18 (Eighteen) years. One of the 3 WEGs, bearing no. RJ4T60 is in breakdown condition.

#### **2.0 BATTERY LIMIT**

The battery limit for bidder during the period of O&M contract shall cover complete wind power plant and power evacuation system up to the point of interconnection. The successful bidder/ Operator shall be responsible for supply of all spare parts, repairs / replacement of any defective equipment(s), consumables etc. at his own cost as required from time to time, schedule and preventive maintenance, major overhauling of the plant, maintaining log sheets for operational detail, deployment of staff for continuous operations and qualified engineer for supervision of O&M work, deployment of security personnel so as to ensure the smooth operation for the entire period of O&M. DPT shall not pay any amount except the agreed O&M charges.

All fee / charges payable to any statutory authority on account of operation & maintenance of wind farm shall be included in the quoted price for entire period of O&M contract and shall be filled up in the price schedule based on the prevailing rates. In case of any increase after bid date, DPT shall reimburse the difference to O&M contractor. In case of any benefit, the same shall be passed on to DPT. In case of invoice being raised on DPT by authority as an OWNER, DPT will pay and deduct the amount from O&M bills of the contractor.

Operation & maintenance of evacuation system up to the point of interfacing with the State grid shall be the responsibility of the O&M Contractor. In case of any outage of external lines connected with the wind farm, the Contractor would follow up with GETCO/DISCOM for prompt restoration of the faulty line under intimation to Owner.

#### **3.0 SCOPE OF WORK**

Operator shall provide all day to day operation and maintenance for the Power

plant as set forth herein. Operator shall perform the work and supply all required spare parts in a prudent and efficient manner and in accordance with manufacturer's and systems designers' specifications, the Annual Operating Plan for the Plant and all operation and maintenance manuals. All Indian applicable laws including environmental protection, pollution, sanitary, employment and safety laws, ("Government Rules") shall be complied Prudent Utility Practice.

Operator shall use all reasonable and practical efforts

- i. To maximize plant capacity utilization,
- ii. To minimize plant downtime,
- iii. To optimize the useful life of the equipment of the power plant.
- iv. The Operator shall perform the following obligations prior to takeover of the O&M activity:
- v. Prepare Mobilization plan in consultation with the Owner
- vi. Provide the services and personnel set forth in the Mobilization Plan
- vii. Prepare in consultation with the Owner, the initial Annual Operating Plan
- viii. Develop and implement plans and procedures including those for firefighting, maintenance planning, procuring and inventory control of stores and spares, plan to meet emergencies, plant safety and security; and such other facilities and systems as may be necessary to commence Operator's ongoing responsibilities.

After taking over the activity of O&M for the power plant, the Operator shall be responsible for the operation and maintenance of the plant and shall perform all necessary services including applicable services listed below:

- a) Provide all operations and maintenance services necessary and advisable to efficiently operate and maintain the plant, including all associated and appurtenant mechanical and electrical equipment keeping in view the objectives set-forth herein above.
- b) Maintain at the Plant accurate and up-to-date operating logs, records and Monthly reports regarding the operation and maintenance of the Plant which shall include detail of power output, other operating data, repairs performed and status of equipment, all such records to be maintained for life time of wind farm. Upon expiry of term, the operator shall hand over such records to the owner; however, Owner shall have access to all such records at any time.
- c) Regularly update and implement an equipment repair or replacement and preventive maintenance program that meet the specifications of the equipment manufacturers and the recommendations of the manufacturers.
- d) Perform periodic overhauls or preventive maintenance required for the Plant in accordance with the recommendations of equipment manufacturers. Also attend break down and other maintenance in the Plant. Inform DPT the time and action

taken with root cause analysis after attending to such breakdown shortly after restoration of WEG. Time for root cause analysis can be mutually agreed prior to order.

e) Provide technical & engineering services for solving operation and maintenance problems.

f) Procure all spare parts, or equipment/s as required, overhaul of parts, tools and equipment at their cost, and to operate and maintain the Plant in accordance with the recommendations of individual original equipment manufacturer.

g) Operate and maintain Plant fire protection and safety equipment.

h) Maintain with the assistance of the Owner, accounting records regarding the facility in accordance with the generally acceptable accounting principles under the Laws of India.

i) Assure technical support and critical spare part for life time of the project. Bidder should not quote for any WEG model which are likely to be made obsolete or under phasing out plan in near future.

j) Periodic repair and maintenance including painting, anticorrosive treatment, terminate proofing, waterproofing etc. required to upkeep the wind farm asset including plant & machinery, hot line washing in switch yard, equipment, building, structures etc. as per OEM recommendation and standard industry practice as a prudent operator.

#### **4.0 PERSONNEL**

The Operator shall employ only such personnel who are adequately qualified and experienced for operating and maintaining such power generating sets. The Operator shall ensure that such personnel are on duty at the plant at all times, twenty-four (24) hours a day and seven (7) days a week.

#### **5.0 MACHINE AVAILABILITY**

**5.1** The operator shall guarantee the Average machine availability of Wind Power Project as minimum 95% on Annual Basis.

#### **5.2 Pre-Determined Mutually Agreed Damages regarding Machine Availability**

The operator shall maintain the WEGs in full working condition at all the time. The operator shall keep the annual average minimum machine availability for the Wind farm at not less than 95%. The machine availability of 95% includes power evacuation system (up to interface with the state grid). Availability means availability of complete wind farm including internal electrical system and

evacuation facility within O&M contractor scope.

In case the machine availability is less than 95%, then the operator shall pay to the owner pre-determined mutually agreed damage this account limited to annual O&M charges for each year capped to maximum to 100% of the annual O&M charges.

**5.3 PRE-DETERMINED COMPENSATION**

a) For machine availability ranging between 95% and 90%. 2% of Annual O&M charges for every 1% fall in machine availability.

b) For machine availability below 90%: Actual revenue loss as per applicable tariff. Machine availability shall be calculated by the following formula:

Annual Average M.A of the wind farm shall be calculated in the following manner:

$$\{8760 - (EGF + FM + S + U)\} \times 100$$

Annual M.A for each WEG = .....

$$\{8760 - (EGF + FM)\}$$

Sum of the annual M.A calculated for each WEG

Annual Average M.A = .....

of the wind farm No. of WEGs installed at site

Where, Recorded Hours =  $\{8760 - (EGF + FM + S + U)\}$

8760 = Number of total hours for a machine in an year (i.e. 24x365 Days)

EGF = External Grid Failure hours,

FM = Force Majeure hours

S = Scheduled Maintenance Hours for a Machine

U = Unscheduled or Forced Maintenance Hours for a Machine (except break down maintenance)

Contractor shall provide documentary evidence from Concern DISCOM for Grid Failure, subject to same is made available by DISCOM.

In addition to above, the contractor has to ensure machine availability of 95% during the each month from April to August of every year. In such high wind available months the machine availability should be on individual basis and not on average basis. In case of machine availability is below 95%, 5% of monthly O&M will be recovered for every 1% fall in machine availability per WTG for such months.

**6.0 GUARANTEE FOR POWER FACTOR AND REACTIVE POWER**

**6.1 Power Factor**



It will be the responsibility of the operator to maintain minimum power factor of the wind farm as per the requirement of GETCO / concerned DISCOM so as to minimize VAR drawl from Transco. If state grid company penalizes DPT for lower power factor penalty at actual amount shall be deducted from the operator's bills / outstanding operator's credit amount.

## **6.2 Reactive Power (kVArh)**

Reactive power drawn from the grid shall mean the Reactive Power drawn from the grid and charged by the power utility from the company. The operator shall ensure that the maximum reactive power drawn cumulatively by the WEG annually shall not exceed 4% of the total generation of the power by the WEG. In the event that the Annual Reactive Power drawn by the WEG cumulatively exceeds 4% of the total generation of the power and the company having to pay DISCOM / GETCO for the excess over 4% the operator shall compensate the company for such excess reactive power drawn at the prevailing rate charged by DISCOM for such reactive power for the excess over 4% which will be recoverable from any payment due to the contractor.

## **6.3 Transmission loss**

The contractor shall ensure that the loss of energy during transmission (transmission loss) between WTG meter and the SEB/SEB authorized meter(s) located within the wind farm or any other place shall not be more than 4% in any month from any WTGs. In the event of such transmission loss exceeding 4% of any WTG in any month, the contractor shall compensate DPT for such loss @ 2% of the O&M charges per such WTG for every 1% of excess transmission loss over 4%.

The pre-determined compensation during the O&M period will be having the maximum cap of 100% of the O&M charges payable to the specific year. The machines – which need periodical calibration – should be calibrated by the contractor during the O&M period at their own cost.

## **7.0 LIAISONING**

During the contract period, the contractor shall complete all the formalities and liasoning for enabling DPT for ensuring timely credit in the DISCOM energy bill and it shall be the responsibility of the Contractor/ Operator to liaison with the following authorities:

- Liasoning with Gujarat State Government
- Liasoning with Gujarat State Power Utilities
- Liasoning with Gujarat State Renewable Agency
- Any other department / agency as may be required.

Arranging Wheeling & Banking Agreement(s)/ other Agreement(s) from Gujarat Energy Transmission Company (GETCO), GEDA & DISCOM for wheeling and Banking of power for captive consumption in DPT Locations (if required).

## **8.0 O&M PERFORMANCE GUARANTEE**

Successful bidder will submit a bank guarantee prior to completion of two years of free service and before the start of chargeable O&M services. The O&M performance guarantee should be before the expiry of Performance guarantee/warranty/ defect liability period and it should be for an amount equivalent to 10% (Ten percent) of O & M Charges for the particular year.

Every year a fresh bank guarantee will be submitted by the Bidder before the expiry of earlier bank guarantee. The performance guarantee should be issued by any nationalized bank having its branch at Gandhidham.

## **9.0 INSURANCE**

Operator shall provide or obtain and maintain in force throughout the period of contract the following insurance coverage:

Workmen compensation and /or group personal accidents Insurance policy covering all its employees and works including of the sub Operator.

Insurance to cover third party liability Insurance in respect of claims for personal injury to or death of any person in the employment of operator and arising out of and in the course of such employment, which insurance shall comply with all applicable Indian law and directives. EAR policy may be required by applicable Indian law or in order to enable the operator to comply with prudent utility practice. Nevertheless fire and allied perils including earthquake, flood, storms, cyclone, tempest, theft & burglary, insurance policy shall be taken by DPT regularly during O&M contract period. In case of any loss/ claim under the policy, O&M Contractor shall immediately inform the same to DPT& Insurance Company & thereafter shall take all the measures required to protect the interest of owner / underwriters and required for settlement of claim. In the case of any delay / lapse on the part of O&M Contractor the loss would be made up by them. The Contractor shall replace the damaged equipment without waiting for settlement insurance claim. DPT shall issue a confirmation letter to contractor for carry out such replacement and repair. Payment for the replaced item shall be released by DPT. Any short settlement of claim by insurance company shall bear by DPT.

The Contractor/ Operator bidder shall bear the risk for machine breakdown and it would be the responsibility of the Contractor/ Operator to operate and maintain the wind farm and its all the equipment in perfect condition at his own cost for the entire period for which DPT shall pay the agreed O&M charges only. The replacement / repair / modification of any / all equipment have to be carried out

by the Contractor at his own cost for the entire period of contract. DPT shall not be responsible for any break down / failure of any equipment to any reason thereof and that Contractor shall maintain requisite stock of spares of various equipment.

### **10.0 MEASUREMENT OF ENERGY AND METERING 10.1 Metering Systems:**

The Contractor shall maintain the Metering System (which shall include energy meter, current and potential transformers and telemetering equipment (if any)). The Metering System will be designed so as to measure outgoing energy and power delivered by the WEG to the Gujarat State grid at the delivery point, i.e. point of inter connection and also for the import of energy for any purpose. Accuracy class of all metering equipment shall comply the requirements of State and should not be less than 0.2%. Meter reading shall be done jointly with Power Utility Engineer on monthly basis or at mutually agreed time interval.

#### **10.1 Testing of Meters**

The owner shall have the right to carry out surprise inspections of the Metering Systems from time to time to check their accuracy. All testing and metering equipment shall conform to the relevant IS/IEC / DISCOM standards. If either the Operator or the Owner find any inaccuracy in the Metering System, the operator or the Owner, as the case may be, shall notify the other party in writing within 24 hours for a joint inspection and testing from DISCOM/ or other agreed agency.

#### **10.2 Sealing and Maintenance of Meters**

The Metering System shall be sealed in the presence of both parties or in the presence of DISCOM Engineer. When the Metering System and/or any component thereof is found to be outside the acceptable limits of accuracy or otherwise not functioning properly, it shall be repaired, re-calibrated or replaced by the Operator as soon as possible at their own cost. Any meter seals shall be broken only by the Owner's representative or DISCOM Engineer in the presence of the Operator's representative whenever the Metering System is to be inspected, tested, adjusted, repaired or replaced.

### **11.0 O& M CHARGES**

The comprehensive O&M contract will be for 18 (Eighteen) years... The O&M charges shall be quoted with applicable taxes & duties showing separately. All fee / charges payable to any statutory authority on account of operation & maintenance of wind farm shall be included in the quoted price for entire period of O&M contract and shall be filled up in the price schedule based on the prevailing rates. In case of any increase after bid date, DPT shall reimburse the difference to O&M contractor. In case of any benefit, the same shall be passed on to DPT. In case of invoice being raised on DPT by authority as an OWNER, DPT will pay and

deduct the amount from O&M bills of the contractor.

Any increase in statutory taxes, levies / fees or newly imposed taxes would be charged extra (with submission of documentary proof). Similarly, due credit would be given to DPT in case of withdrawal or reduction in applicable taxes / fees / duties.

Payment will be made after all statutory deductions as applicable to such type of contracts. The rate quoted shall deem to be inclusive of all salaries and other cost, expenses of employees, cost of spares, cost of repair / replacement/modification Overhauling of any equipment, system etc. for the entire contract period. The rates are also inclusive of tools & tackles, etc. and liabilities of every description and all risk of every kind to be taken in operation, maintenance and handing over the plant to the owner by the operator. Owner shall not be responsible for any such liability on the operator in respect of this contract and exclusion of applicable taxes on the date of issue of LOI at prescribed rates due to ignorance or otherwise shall not form a reason for claiming anything extra at a later date.

If any amount is payable / levied to Concerned DISCOM, etc., on account of low power factor or any other account of wind farm, the same shall be deducted from the operator's remuneration or from other due payments/Bank Guarantees.

## **12.0 PAYMENT**

Payment period shall be monthly. The operator shall submit bills in respect of the month ended, in quadruplicate after the end of each month for the payment after submission of PBG as per clause no.8. All payment shall be released in electronic mode as per below clause.

### **E-PAYMENT**

Deendayal Port Trust (DPT) has initiated payments to suppliers and contractors electronically and to facilitate the payments electronically, the bidder should have an account with \_\_\_\_\_Bank or \_\_\_\_\_Bank or \_\_\_\_\_ so that the payment through e-banking be made to the bidder, in case order is placed on him. Further, the bidder should give their account number and other details in any one of the above banks to facilitate payment.

## **13.0 SUBMISSION OF DAILY AND MONTHLY GENERATION DATA STATEMENT**

A daily report comprising energy generation, grid availability, breakdowns, general hours, low wind hours, machine availability etc. shall be sent through email and/or made available by Designated Authority of bidder to owner.

Monthly Generation data statement for net energy delivered to the Utility duly certified by their authorized official shall be furnished to DPT by the Operator not

later than 10th day of the following month or as per availability since it has to be certified by Govt. officials.

#### **14.0 OPERATORS OFFICE AT THE SITE**

During the execution of the contract the Operator shall ensure that a Plant Manager with authority to take decisions to be available at site. Such person deputed by the Operator shall report to the Engineer in Charge for smooth operation of the plant. The Operator shall also provide and maintain an office, to be used on shared basis, at the site for the agents and the staff and such office shall be open at all reasonable hours to receive instructions, notices or other communications. The office shall have telephone, fax and internet facility. The Operator shall be responsible for any misconduct/indiscipline by his employees or sub operator/agent employee's. The Operator shall abide by the instructions of the Owner Representative, if given in this regard.

#### **15.0 POWER OF ENTRY**

In case the Operator does not execute the work in the manner described in the contract documents or if he shall at any time in the opinion of the Engineer In charge:

- i. Fail to operate & maintain the plant in conformity with contract document or
- ii. Commit or suffer or permit any other breach of any of the provisions of the contract on his part to be performed, or
- iii. If the operator abandons the works, or
- iv. If the Operator during the continuance of the contract becomes bankrupt

In any of such events, the Owner shall have the power to enter upon the works and take possession of the plant, materials, spares, equipment, tools and stocks thereon, and to revoke the Operator's license to operate the plant by his agents, other Operators or workmen.

#### **16.0 HANDING OVER THE PLANT AFTER EXPIRY OF TERM**

After the expiry of term & extension of term or termination of terms as the case may be, operator shall hand over the plant to the Owner in working condition. The operator shall demonstrate short run test of all WEGs along with the associated major and critical equipment to ensure that plant is operational and in good running condition in accordance to the norms of manufacture. While handing over the plant operator shall hand over all technical documents, literature, and instruction manuals, lists of spare part & tools & tackles. Operator will also hand over all the relevant record/documents. Tools & tackles supplied along with order by OEM shall be the property of owner.

Contractor shall hand over plant in work condition with Machine Availability and

other performance parameters as prescribed in Pre-Determined Compensation clause 5.01 achieved as on date of handover. In case if condition arise of hand over of plant due to dispute then owner reserve the right to deduct amount as well as forfeit CPBG against repair/loss to owner. Owner decision in this regard is final and binding to the contractor/operator.

In case for dispute also, contractor shall run the machine and have generation till dispute get resolved.

### **17.0 DEFECTS/ NON ACHIEVEMENT PLANT DEPENDABLE CAPACITY AFTER HANDING OVER**

In order that the Operator could obtain a Handing Over certificate, he shall rectify any defect / non achievement of plant dependable capacity in accordance to the norms of manufacturer arising from the defective Operation & maintenance practices or noncompliance of Prudent Utility Practices or that may have been noticed or developed during/ after the plant has been taken over, the period allowed for carrying out such works will be normally one month. If any defect could not be remedied or plant dependable achievement capacity in accordance to the norms of manufacturer could not be achieved within a reasonable time the Owner may proceed to do the work at operators risk and expense and deduct from the final bill such amount as may be decided by the Owner. All the aforesaid safeguards /rights provided for the company shall not prejudice its other rights/remedies elsewhere provided herein and/or under law.

### **18.0 FINAL PAYMENT**

Whenever, in the opinion of the Engineer-in-charge the Operator has completely performed the contract on his part, the Engineer in-charge will so certify in writing to the Operator. The final payment to the Operator shall be made after accounting for all the previous payments/advances/adjustments of dues, provided always that Operator furnishes a "NO further claim - No dues certificate". The release of final payments does not relieve the

Operator from his any other obligations as provided for in the contract. The DPT shall deduct statutory taxes at source as per prevailing rates from bills of the Operators

### **19.0 FAILURE OF THE OPERATOR TO COMPLY WITH THE PROVISIONS OF THE CONTRACT**

If the Operator refuses or fails to execute the work or any separable part thereof with such diligence or fails to perform any of his obligations under the contract or in any manner commits a breach of any of the provisions of the contract, it shall be open to the DPT, to adopt following course of action at its option, by written notice to the

Operator.

i. To determine the contract in which event the contract shall stand terminated and shall cease to be in force and effect on and from the date the decision is announced by the DPT The Operator shall stop forthwith any of the Operators work, then in progress and handover the work to the DPT The DPT shall be entitled for recovery of cost /compensation to complete the unfinished obligations.

ii. Without determining the contract, to take over the work of the Operator or any part thereof and complete the same through a fresh contract or by other means at the risk and cost of the Operator. In the event that DPT proceeds in the manner prescribed in above clause then the whole or part of the security / Performance Guarantee furnished by the Operator is liable to be forfeited without prejudice to the other rights of the DPT The DPT shall also have the right of taking possession and utilizing such materials, equipment and plant, belonging to the Operator, as may be at the site of the work in order to complete the unfinished work. The amount that may have become due to the Operator on account of work already executed by him shall not be payable to him until after the expiry of six months reckoned from the date of the determination of contract or from the taking over of the work or part thereof by the DPT as the case may be. Further during this period of six months the responsibility for faulty workmanship in respect of such completed work shall under the contract, rest exclusively with the Operator. Termination of the contract shall not prejudice or affect the rights of the DPT which may have accrued up to the date of such termination.

## **20.0 Right of Way (RoW)**

The contractor shall be responsible for Right of Way (RoW) related issues.

## **21. Documents to be submitted along with monthly claim of payment.**

- 1) Monthly generation report.
- 2) Details of schedule maintenance done as per OEM standards.
- 3) Documentary evidence towards Reactive power and Transmission loss .
- 4) The wind curve of the particular month.
- 5) Power generation from wind farm and energy feed into the power grid,
- 6) The machine availability report of each WTG of particular month.
- 7) The details of equipment for which calibration done, if any.
- 8) Details of Manpower engaged (Name and designation etc.)
- 9) Any other documents/information sought by DPT.

**22.** After eight and fifteen years of O & M period, DPT may appoint a Third Party Inspection Agency for assessing the performance, conditions of the equipment and spare parts of the project. On the basis of the recommendation of TPI, if it is found necessary any equipment or spare parts will be repaired or replaced by the

contractor at their own cost to the satisfaction of DPT and the TPI appointed by DPT. The decision in this regard will be final and binding. The charges towards TPI will be borne by DPT.

## **23.0 SCOPE OF OPERATION AND MAINTENANCE**

### **23.1 SCOPE**

DPT wishes to entrust the Comprehensive Operation and Maintenance contract for 6MW Inox Make Wind Farm of DPT at Village Sukhpur, Taluka: Babra, Bhavnagar Road, District: Amreli, Gujarat for 18 years.

The Contractor shall be responsible for all the required activities for the successful running, optimum energy generation & maintenance of the wind farm including wind farm electric's covering.

- Deputation of Engineering and supporting personnel
- Deputation of Security personnel.
- Successful running of WEGs for optimum energy generation.
- Monitoring controlling, troubleshooting maintaining of records, registers.
- Arrangement of all spares, consumables and fixing / application of the same as per WEGs
- Conducting periodical maintenance check, testing over hauling and taking preventive action for smooth running of wind farm as required.
- General up keeping of all equipment, building, roads, wind farm land area.
- Submission of daily /periodical reports to DPT on the energy generation & operating conditions of the wind farm.
- Taking care of the full security aspects of the wind farm.
- All the activities and fees related to Scheduling & Forecasting shall be in the purview of client and excluded from the scope of O&M.
- Continuous monitoring of the Performance of the Wind Electric Generators and regular maintenance of the whole system including WEG, transformers, overhead line, outdoor kiosks, switchgear, equipment etc. are necessary for extracting and maintaining the maximum energy output from the wind farm. Operation and Maintenance of the wind farm shall be required to be carried out for 18 years.
- All the required spares, capacitors, oil, lubricants, Consumables etc. as per supplier's recommendation shall be arranged by the operator at his end at their own cost.

### **23.2 GENERAL**

To maintain at the facility accurate and up-to-date operating logs, records and monthly reports regarding the Operation & Maintenance of facility.

To perform or contract for and oversee the Performance of periodic overhauls or maintenance required for the facility in accordance with the recommendations of the original equipment manufacturer.

To maintain and keep all control room, roads, tool room, stores room, equipment,



etc. in workable conditions.

To discharge obligations relating to retirement/ Superannuating benefits to employees or any other benefit accruing to them in the nature of compensation, profit in lieu / in addition to salary, etc. for the period of service with the Contractor.

### **23.3 OPERATION AND PROFORMANCE MONITORING**

Operation part consists of deputing necessary manpower necessary to operate the wind farm at the optimum capacity as per O & M manual.

Daily work of the operators in the wind farm involves logging the voltage, current, power factor, Active and Reactive Power output of the  $6 \pm 5\%$  MW wind farm, battery voltage, specific gravity, temperature, logging down individual WEG's output data once a day . The operator shall also note down failures, interruption in supply and tripping of different relays, reason for such tripping, duration of such interruption etc.

The operator shall record monthly energy output of each WEG and reports shall be prepared on Performance of wind farm indicating turbine wise production. Down time, capacity factor, machine availability etc. and these figures shall be computed for the total wind farm.

A daily report comprising, Generation, Import, Export, Grid availability, Breakdowns, Generation hours, low wind hours, machine availability etc. shall be sent by e-mail to DPT/Consultant.

Report shall be submitted by 30 April every year. DPT at its discretion may get the performance checked from an independent technical consultant.

### **23.4 MAINTENANCE**

The Contractor shall draw the preventive maintenance schedules and attend to the breakdowns keeping in view that the machine availability is always more than 95%.

The Contractor shall carry out the periodical/plant maintenance as given in the manufacturer's service manual and perform minimum two certified services per year. A program for all the equipment shall be prepared as per operating manuals of manufacturer's and shall be implemented in letter and sprits.

Regular periodic checks of the WEG shall be carried out as a part of routine preventive maintenance during low wind period. In order to meet the maintenance requirements stock of consumables are to be maintained as well as various spare as recommended by the manufacturer at least for 2 years to be kept for usage.

Maintenance of other major equipment involved in wind energy farm are step up

transformers overhead line equipment, switchgear outdoor 11/33/66 kV VCB kiosk and metering panel. Particular care shall be taken for outdoor equipment to prevent corrosion. Cleaning of the insulators and applying Vaseline on insulators shall also be carried out at every 3 to 4 months interval. Resistance of the earthing system as well as individual earth resistance is to be measured and recorded every month. If the earth resistance is high suitable action is to be taken to bring down the same within the limits.

According to the recommendations stock of special tools and tackles shall be maintained for WEG and other major electrical equipment.

A maintenance record is to be maintained by the operator to record the regular maintenance work carried out as well as any breakdown maintenance along with the date of maintenance reasons for the breakdowns steps have taken to attend the breakdown duration of the breakdown etc.

The Schedules will be drawn such that some of the jobs other than breakdown, which may require comparatively long stoppage of the WEG's, shall be carried out preferably during the non-windy season.

The Contractor shall deploy enough manpower at wind farm site to carry out work instructions and preventive maintenance schedules as specified. The Contractor shall keep at least one skilled and experienced supervisor at site on permanent basis to supervise the jobs that are being carried out at site.

The Contractor will attend to any breakdown jobs immediately for repair/replacement /adjustments and complete at the earliest working round the clock. During breakdowns the Contractor shall immediately report the accidents, if any, to the Engineer In charge & to all the concerned authorities as per prevailing law of the state showing the circumstances under which it happened and the extent of damage and / or injury caused. O&M Contractor would be solely & fully responsible / liable to pay for any losses/damages/claims, etc. and DPT will be fully indemnified for such losses / claims.

The Contractor shall comply with the provision of all relevant Acts of Central or State Governments including payment of Wages Act 1936, Minimum Wages Act 1948, Employer's Liability Act 1938, Workmen's Compensation Act 1923, Industrial Dispute Act 1947, and Maturity Benefit Act 1961, Employees State Insurance Act 1948, Contract Labour (Regulations & Abolishment) Act 1970 or any modification thereof or any other law relating thereto and rules made there under from time to time.

The Contractor shall at his own expense provide all amenities to his workmen as per applicable laws and rules.

The Contractor shall ensure that all safety measures are taken at the site to avoid accidents to his or his CoContractor or DPT's Workmen.

If in the event of negligence or mal-operation by the Contractor's operator any failure of equipment take place such equipment should be repaired / replaced by Contractor at free of cost.

### **23.5 QUALITY SPARES & CONSUMABLES**

In order to ensure longevity safety of the core equipment and optimum Performance of the system the Contractor should use only genuine spares of high quality standards as recommended by manufacturers.

### **23.6 TOOLS AND TACKLES**

The Contractor shall arrange for all the necessary tools and tackles including crane for carrying out all the maintenance work covered under this contract.

### **23.7 SECURITY SERVICES**

The Contractor has to arrange proper security system including deputation of security personnel at his own cost for the check vigil for the wind farm. The security staff may be organized to work on suitable shift system; proper checking & recording of all incoming & outgoing materials vehicles shall be maintained. Any occurrence of unlawful activities shall be informed to DPT immediately.

## **24.0 DELIVERABLES AND COMPLETION PERIOD**

### **24.1 DELIVERABLES**

The main deliverables of the contract shall be as hereunder:

1. Land acquisition based on the DFR submitted by Consultant (WFML).
2. Obtaining required clearances from concerned nodal agencies.
3. Micro siting report to DPT.
4. Construction of Approach roads and internal roads.
5. Construction of Civil foundation.
6. Construction of Power evacuation system and connectivity to Grid. The Grid connectivity can be also on sharing basis, but the priority will be given to DPT in case of any dispute.
7. Supply of WTG's at site.
8. Erection and commissioning of WTG's.
9. Project Management i.e. overall responsibility for the implementation of wind Project and to get the assured minimum annual power generation as indicated in contract.

### **24.2 COMPLETION PERIOD**

The completion period shall be as under:

Comprehensive Operation & Maintenance for 18 years

### **24.3 OPERATION & MAINTENANCE CHECKS**

The successful bidder shall carry out O&M checks at regular intervals viz. daily, weekly, monthly, quarterly, half yearly and yearly basis or as per manufacturer's recommendation during warranty period and O&M period for which details of such checks shall be furnished along with the bid.