



V.O. CHIDAMBARANAR PORT AUTHORITY

Tender No. MEE/P&M/6MW-Wind/2025

e - TENDER

for

“Design, Engineering, Supply, Installation & Commissioning of 6.0 MW Wind Farm on EPC Mode at VOCPA, Tuticorin along with Civil works and Power evacuation system to be connected with Grid as per DISCOM (TNPDC) norms including Comprehensive Operation & Maintenance for 11 years with two (02) years Guarantee period”

Online submission closing date: 15.00 hrs. on 08.05.2025

Online Opening date: 15:30 hrs. on 09.05.2025

<https://etenders.gov.in/e procure/ app>

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SECTION- I

NOTICE INVITING TENDER (NIT)

- 1.1 V.O. Chidambaranar Port Authority invites electronic tenders (Two Cover System) from eligible bidders for the work ***“Design, Engineering, Supply, Installation & Commissioning of 6.0 MW Wind Farm on EPC Mode at VOCPA, Tuticorin along with Civil works and Power evacuation system to be connected with Grid as per DISCOM (TNPDC) norms including Comprehensive Operation & Maintenance for 11 years with two (02) years Guarantee period”***
- 1.2 A complete set of Tender documents may be downloaded by any interested Bidders from e-Tender web portal <https://etenders.gov.in/eprocure/app>. The Bidder shall submit his bid in Central Public Procurement Portal (e-Procurement) at <https://etenders.gov.in/eprocure/app> by following the procedure of Instruction to Bidder (Section - II). Non-submission of Bid along with relevant documents shall lead to rejection of the tender.
- 1.3 Salient features of the bid:

Tender No.	MEE/P&M/6MW-Wind/2025
Tender Type	Open online e-Tender
Tender Inviting Authority	Chief Mechanical Engineer, VOCPA
Address	V.O. Chidambaranar Port Authority, Harbour Estate, Tuticorin – 628 004, Tamil Nadu
Contact Details & e-mail	Tel. off: 0461-2372206, 0461-2372203 Email: cme@vocport.gov.in
Brief Work Description.	<ul style="list-style-type: none"> Design, engineering, procurement, construction, installation, testing, commissioning, demonstration of performance guarantee tests of SCADA control of the minimum 6MW wind turbine facility with all related civil / electrical / mechanical / instrumentation / communication works, etc. to complete the system in all respect as detailed in Scope of Work & Technical Specification. Comprehensive Operation & Maintenance for 11 years including two years Guarantee period, on successful completion of installation of minimum 6MW wind turbine facility.

Location of the work	VOCPA premises
Estimated Cost	Rs.60.92 Crores plus GST
EMD	<p>Rs.1.22 Crores (Rupees One Crore and Twenty-Two lakhs only).</p> <p>All bidders other than an MSEs should pay the EMD through online payment gateway mode in CPP e- tender web Portal or shall submit the EMD in the form of Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque or irrevocable & operative Bank Guarantee from any of the Scheduled Commercial Banks. The validity period of bid security is to remain valid for a period of 45 (forty-five) days beyond the final bid validity period. Otherwise, his/her/their tender will be rejected. EMD in any other form shall not be accepted.</p> <p>The MSEs are required to furnish relevant valid Certificate for claiming exemption. This valid certificate shall be uploaded in the Bid, failing which the Technical Bid shall not be evaluated. Similarly, bidders are required to upload scanned copies in the Bid incase payment of EMD in the form of Insurance Surety Bonds, account payee demand draft, fixed deposit receipt, banker's cheque or Bank Guarantee from any of the Commercial Banks, failing which the Technical Bid shall not be evaluated. The originals of Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee from any of the Commercial Banks shall be received only after the bid opening date. If the originals not received within 7 days of bid opening date the bid may not be considered.</p>
Period of Contract	<p>Supply, Installation, Commissioning – 06 months from the date of commencement of work.</p> <p>O&M period: 11 years including 2 years Guarantee Period</p>
Downloading of Tender documents start date	12.04.2025
Downloading of tender	08.05.2025 up to 15:00 hours

document end day	
Start date of seeking clarifications	12.04.2025, 10:00 hours
End date of seeking clarifications	up to 11.00 hours on 25.04.2025
Pre-Bid Meeting	25.04.2025, 15:30hrs
Reply to pre-bid queries	30.04.2025
Bid Submission end date & time	08.05.2025 at 15:00 hrs
Bid opening date	09.05.2025 at 15:30 hours
Bid Validity period	120 days from the date of opening of Tender
Currency of Contract	INR
Language of Contract	English

1.4 Bidders fulfilling following eligibility / pre-qualification criteria may participate in the tender:

a) Financial Capability:

Average Annual financial turnover during the last three years, ending 31st March of the previous financial year, should be at least 30% (Thirty percent) of the estimated cost. The details shall be furnished by the bidder on **Form III of Annexure A.**

b) Similar Work Experience:

The bidder should have successfully completed similar work(s) as detailed below during the last 07 years from the previous month of date of publication of the NIT with either of the following in any Central / State Government / Autonomous bodies / PSEs / PSUs / Public Limited or Private Limited Companies, Major / Minor Ports etc.

i) Three similar completed services each costing not less than the amount equal to 40% (Forty per cent) of the estimated cost.

(OR)

ii) Two similar completed services each costing not less than the amount equal to 50% (Fifty per cent) of the estimated cost.

(OR)

iii) One similar completed service costing not less than the amount equal to 80% (Eighty percent) of the estimated cost.

“**Similar work**” shall mean.

The term similar work shall mean “Engineering, Procurement and Construction (EPC) contract for a minimum of 1 No. of Wind turbine generator with a rated capacity of atleast of ~1MW & above at single location

(OR)

“Owning and Operating of at least 50 MW of wind farm

(OR)

“Owning / operating of at least 50 MW of wind farm

Copies of work order(s) & respective satisfactory completion(s) / performance certificate(s) must be furnished in support of meeting similar work experience. In case of experience other than Central / State Government / Autonomous bodies / PSEs / PSUs/ Public Limited Companies, the bidder has to submit TDS certificate for the past experience, only then the experience will be considered.

The above-said details shall be furnished by the bidder in **Form IV of Annexure A.**

- 1.5 The Wind Turbine Generator (WTG) offered by the bidders shall be type-approved and scheduled in the list of models and manufacturers (RLMM) of the National Institute of Wind Energy (NIWE) / Ministry of New and Renewable Energy (MNRE). Offered WTG model having valid type certificate approval will only be considered. The offered WTG (model, make, etc.) should have been in successful continuous operation for at least one year as on the date of submission of the bid.
- 1.6 The Bidder in case not a manufacturer (OEM) shall submit an authorization / MOU with the manufacturer for this specific tender failing which the bid shall stand cancelled.
The above-said details shall be furnished by the bidder in technical bid.
- 1.7 **Pre-qualification of Joint Venture/ Consortium:**
 - 1.7.1 In case of a JV / Consortium, the combined Technical andp Financial Capability of those members who have and shall have an equity share of at least 26% (twenty-six per cent), should satisfy the conditions of eligibility / pre-qualification criteria as per **clause No.1.4.**
 - 1.7.2 Similar Work Experience shall not be claimed by more than one member of a consortium. In other words, no double counting by a consortium in respect of the same experience shall be permitted in any manner whatsoever.
 - 1.7.3 JV/ Consortium, members are “jointly and severally responsible and liable” for this contract.

For pre-qualification, the JV / Consortium members should fulfill the criteria as specified in clause 1.4 as described below: -

- a. Qualifying factors to be met collectively: (i) Similar Work experience as **per clause 1.4 b)** & (ii) Financial capability **as per clause 1.4 a)**
- b. Qualifying factors for lead partner: (i) Similar Work experience **as per clause 1.4 b)** and (ii) Financial capability - not less than of 50 (fifty) per cent of the respective limits prescribed in **Sl.No.1.4 a)**.
- c. Qualifying factors for other members or partners: Same as for lead partner except that for the factor specified in 1.6.3 b (ii) above, a lower limit of 25 (twenty-five) per cent may be accepted.

- 1.7.4 Number of Joint venture Partners / Consortium members would be limited to three.
- 1.7.5 In case of the bidder being a newly formed JV, the lead partner shall have the relevant registration of GST, IT etc. The successful bidder shall submit the registration of GST, IT in the name of JV and the requirement of PF & ESI is to be complied with as per the statutory requirement.
- 1.8 The bidder should have (i) EPF registration certificate; (ii) ESI; (iii) Permanent Account Number [PAN]; (iv) Income Tax Return of preceding three years; and (v) GST Registration Certificate etc.
- 1.9 Other details can be seen in the Tender documents. The Bidders are advised to read the whole document carefully and submit their tender/bid strictly, meeting the requirements spelled out in the bid document.
- 1.10 The bid document is required to be submitted only through e-tender web portal <https://etenders.gov.in/eprocure/app>.
- 1.11 While E-tendering all the supporting documents as stated in Annexure A have to be signed in each and every page serially numbered along with seal and shall be uploaded by the Bidders. No hard copies need to be sent to the Authority.
- 1.12 The Authority will not be held responsible for any technical snag or network failure during online bidding.
- 1.13 The Authority reserves the right to cancel any or all bids without assigning any reason.

Format and Signing of Bid:

The Price Bid to be submitted on-line shall be signed digitally by a person or persons duly

authorized to sign on behalf the Bidders.

The Bid shall contain no alternations additions, except those to comply with instructions issued by the Employer.

Contacts:

1. The Chief Mechanical Engineer
Mechanical & Electrical Engineering Department,
V.O. Chidambaranar Port Authority,
Tele:0461-2352270
Email: cme@vocport.gov.in
2. The Deputy Chief Mechanical Engineer
Mechanical & Electrical Engineering Department,
V.O. Chidambaranar Port Authority,
Tele: 0461-2352270 Mob:9556050300.
Email: niharanjanbhoi@vocport.gov.in
3. The Executive Engineer (P & M),
Mechanical & Electrical Engineering Department,
V.O. Chidambaranar Port Authority,
Tele: 0461-2372227 Mob:8903443444
Email: senthilganesh.a@vocport.gov.in

Chief Mechanical Engineer
V. O. Chidambaranar Port Authority

SECTION II **INSTRUCTION TO BIDDERS**

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SECTION II

INSTRUCTION TO BIDDERS

2.1 e-TENDER NOTICE:

- 2.1.1** e-Tenders (Online) are invited in the “**TWO COVER**” system on behalf of **V.O. CHIDAMBARANAR PORT AUTHORITY (VOCPA)** from interested, reputed and experienced eligible bidders for the work as mentioned in the **Notice Inviting Tender (NIT) Section-I**. The bidder must fulfill the eligibility criteria and other requirements stipulated in the bid document.
- 2.1.2** Bid document having all details are available at the URL of the e-Tender web portal <https://etenders.gov.in/eprocure/app> or at the Port website www.vocport.gov.in for downloading during the period specified in the **NIT(Section-I)**. The completed bid documents are required to be submitted only through online (e-mode) offered on the e-Tender web portal <https://etenders.gov.in/eprocure/app>. Bids in any other manner will be rejected, and no correspondence on such matter will be entertained. No bids shall be accepted off-line.

2.2 PARTICIPATING IN THE TENDER IN THE E-PROCUREMENT PORTAL:

- 2.2.1** The intending Bidders are required to register on the e-Tender web portal <https://etenders.gov.in/eprocure/app> (If not already registered) by clicking “Online Bidder Enrollment” option in order to obtain user-id and password and then to activate their respective user-id by using Digital Signature Certificate (Class-III). The bidders will have to accept, unconditionally, the online user portal agreement which contains all the terms and conditions of NIT including commercial and general terms and conditions and other conditions, if any, along with an online undertaking in support of the authenticity of the declarations regarding facts, figures, information and documents furnished by the bidder online; The bidder shall visit the homepage of the e-tender portal for getting information to be followed for bidding in the e- tender portal.
- 2.2.2** Any prospective bidder can view or download the bid documents from the e-Tender web portal <https://etenders.gov.in/eprocure/app> during the period as indicated in NIT / home page of portal.
- 2.2.3** In the case of any failure, malfunction, or breakdown of the electronic system used during the e- Procurement process, the Tender Inviting Authority shall not accept any responsibility for such failures or breakdowns other than in those systems strictly within their own control.

2.3 ELIGIBLE BIDDERS:

- 2.3.1** All eligible bidders meeting the eligibility criteria as defined in NIT (Section-I) can participate in the tender.
- 2.3.2** Bidder means any eligible person or firm or company; Please refer to Special Condition of Contract (SCC) for applicability of Joint Venture / Consortium.
- 2.3.3** Bidders who have been non-performing / debarred / blacklisted by any Purchaser / Employer / Client at the time of bidding shall not be allowed to participate in this tender.

2.4 COST OF BIDDING:

The Bidder shall bear all costs associated with site visit(s), pre-bid / post bid conference(s), preparation, and submission of his Bid, opening of price bid and VOCPA will in no case be responsible or liable for those costs regardless of the conduct or outcome of the bidding process.

2.5 LOCAL CONDITIONS:

2.5.1 It will be imperative for each Bidder to fully inform himself of all local conditions and factors which may have any effect on the execution of the works covered under the bidding documents and specifications. VOCPA will not entertain any request for clarifications from the Bidders regarding such local conditions.

2.5.2 It must be understood and agreed that such factors have properly been investigated and considered while submitting the bid. Neither any change in the time schedule of the contract nor any financial adjustment arising thereof which are based on the lack of such clear information, its effect on the cost of the works to the Bidder shall be permitted by the VOCPA. No claim for financial adjustment to the contract awarded under these specifications and documents will be entertained by the VOCPA.

2.6 SITE VISIT:

2.6.1 The Bidder, at the bidder's own responsibility and risk are encouraged / advised to carry out the site visit to VOC Port at their own cost for the intended work and to inspect / examine & assess the site condition and its surroundings and satisfy themselves prior to submission of his bid.

2.6.2 In general, they shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid. A Bidder shall be deemed to have full knowledge of the site, whether he inspects it or not and no extra charges arising out of any misunderstanding or otherwise shall be allowed. Bidders shall submit a realistic offer for the execution of the work at their own cost without any liability on VOCPA.

2.6.3 It is implied that on submission of the bid/tender, the Bidder is deemed to have read the Tender document, clearly understood & satisfied himself regarding terms & conditions, scope of work and technical specifications of the work & services to be executed, local conditions and other factors likely to be encountered & having a bearing on the execution of work thereof. The price quoted in the **Cover B – Price bid** is adequate and all- inclusive with respect to all factors, circumstances, and conditions likely to be incidental, both direct and indirect, to the work and services mentioned in the subject tender.

2.7 PRE-BID MEETING

A pre-bid meeting will be conducted on the date & time as specified in **NIT (Section – I)** through hybrid mode. Interested bidders can participate in the pre-bid meeting physically or through the VC link uploaded in the CPP portal and Port website.

2.8 UNDERSTANDING AND CLARIFICATION ON BIDDING DOCUMENTS:

A prospective bidder requiring clarification regarding discrepancies or omissions in the tender documents or in doubt as to the true meaning of any part, may send queries at once

in writing / email / through e-tender portal, provided the queries are raised during the period as mentioned in the NIT / home page of portal. Any queries received after the due date shall not be considered and no reply to such queries will be given. Reply to queries shall be given by VOCPA only if the queries requested are considered appropriate by VOCPA. Verbal clarifications and information given by the VOCPA or his employee(s) or his representative(s) shall not in any way be binding on the VOCPA.

2.9 AMENDMENT TO BID DOCUMENTS:

- 2.9.1** At any time prior to the due date & time of opening of bids, VOCPA may, for any reason, whether at its own initiative or in response to a clarification sought by any prospective bidder, modify the bidding documents, bidding process, terms & conditions, specifications, etc. by issuing Corrigendum and/or Addendum.
- 2.9.2** Any Corrigendum and/or Addendum thus issued shall be part of bidding documents and shall be notified only on the web portal <https://etenders.gov.in/eprocure/app>. Bidders intending to participate in the tender shall be solely responsible for checking the portal for any amendment issued in the shape of Corrigendum and/or Addendum.
- 2.9.3** In order to afford prospective bidders reasonable time to take the amendment into account in preparing their bids, VOCPA may, at its discretion, extend the deadline for the submission of bids.

2.10 BIDDER'S RESPONSIBILITY:

2.10.1 Contacting VOC Port Authority:

Bidder shall not contact VOC Port Authority on any matter relating to its Bid from the time of the Bid Opening to the time the contract is awarded. Any effort by any Bidder to influence VOC Port Authority in the Bid Evaluation, Bid Comparison, or Contract Award decision shall result in disqualification of the bidder.

2.10.2 Undertaking By the Bidders:

- (i) The Bidder undertakes, if his tender is accepted, has to enter into and execute when called upon to do so, a Contract Agreement as provided in **Annexure B** with such modifications as agreed upon. Until the formal Contract Agreement is prepared and executed, this tender/bid document together with the written acceptance shall form a binding agreement between the Port and the Contractor.
- (ii) The Bidder undertakes, if his tender is accepted, has to give the required performance security as per **Clause No.2.28.1 of ITB**.
- (iii) The Bidder shall submit a declaration as provided in the **Form VII** of the bid document that the Bidder has not been blacklisted or debarred in the last 3 years by any of the Central / State Government / Autonomous bodies / PSEs / PSUs and any other organizations in India prior to and as on the bid submission date mentioned in the NIT and the same shall be uploaded along with the bid document in the e-tender portal.
- (iv) The bidders shall submit a declaration as provided in the **Form VII** of the bid document that they have not made any payment or illegal gratification to any person / authority connected with the bid process so as to influence the bid process and have not committed any offence

under the Prevention of Corruption Act (PC Act) in connection with the bid.

PREPARATION OF BID

2.11 LANGUAGE OF BID:

The bid prepared by the Bidder and all correspondences and documents relating to the bid exchanged by the Bidder and VOCPA shall be written in the English language, provided that any printed literature furnished by the Bidder may be written in another language so long as it is accompanied by an English translation of its pertinent passages in which case for the purpose of interpretation of the Bid, the English translation shall be considered.

2.12 BID PRICES:

2.12.1 The Bidder shall quote, on the prescribed Price Schedule, the landed prices (F.O.R Destination basis) of all the goods and services at VOCPA.

2.12.2 The quoted price shall be a firm lump-sum price and shall be as on the opening of the bid. The Bidder shall ensure that the prices are rational, reasonable. The above lump-sum price shall include all the taxes (except GST), duties, fees, all types of Cess, insurance, transportation, packing, forwarding and all other incidentals required for execution of the contract in all respects. In case of change in /Custom Duties/other Government taxes & levies during pendency of the contract, only incremental change will be paid, provided goods and services are executed during the original completion date of the Contract. Variation of taxes & duties during extended period of Contract shall only be considered on merit.

2.12.3 No price escalation shall be admissible unless the contract specifically provides for it. In general, no price escalation is applicable on any account till the contract is executed in full and its subsequent amendments accepted by the Contractor even though the completion / execution of the contract may take a longer time than the scheduled period incorporated and accepted in the contract.

2.12.4 Also, by submitting a bid for the work, bidders shall be deemed to have satisfied himself by actual inspection of the site and locality of the work, that rates quoted by him in the Bid will be adequate to complete such work according to the specification and conditions attached here to and he has taken into account all conditions and difficulties that may be encountered during its progress and to have quoted labour and material rates which shall include the cost of the material with taxes, duties and incidental and all other charges necessary for the completion of the work, to the entire satisfaction of VOCPA.

2.13 BID VALIDITY:

2.13.1 The bids shall be valid for a period of 120 days from the date of opening of e-Tender.

2.13.2 During this period, the bidder shall not be permitted to withdraw or vary their offers, once made and if they do so, EMD paid by the bidder will be forfeited.

2.13.3 In exceptional circumstances, prior to the expiry of the original time limit, the “Tender inviting Authority” may request the bidders to extend the period of validity for a specified additional period. The request and the bidders’ responses shall be made in writing or by e-mail. A bidder may refuse the request without any risk of forfeiture of Bid Security (EMD).

2.13.4 A bidder agreeing to the request will not be required or permitted to modify his bid but will be required to extend the validity of his bid for the period of the extension.

2.14 BID CURRENCIES:

The prices shall be quoted in the currency of Indian Rupees only. The price quoted in the currency of Indian rupees in the 'Price Schedule' shall be firm and shall not be varied on account of exchange rate fluctuation during the bid validity / contract period.

2.15 BID SECURITY/ EARNEST MONEY DEPOSIT (EMD):

2.15.1 The Bidder shall furnish, as part of its bid, bid security (EMD) for the amount stipulated in the NIT.

2.15.2 Any bid not accompanied by prescribed bid security shall be rejected by the VOCPA as being non-responsive.

2.15.3 All bidders other than an MSEs should pay the EMD through online payment gateway mode in CPP e- tender web Portal or shall submit the EMD in the form of Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque or irrevocable & operative Bank Guarantee from any of the Scheduled Commercial Banks. The validity period of bid security is to remain valid for a period of 45 (forty-five) days beyond the final bid validity period. Otherwise, his/her/their tender will be rejected. EMD in any other form shall not be accepted.

The MSEs are required to furnish relevant valid Certificate for claiming exemption. This valid certificate shall be uploaded in the Bid, failing which the Technical Bid shall not be evaluated. Similarly, bidders are required to upload scanned copies in the Bid incase payment of EMD in the form of Insurance Surety Bonds, account payee demand draft, fixed deposit receipt, banker's cheque or Bank Guarantee from any of the Commercial Banks, failing which the Technical Bid shall not be evaluated. The originals of Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee from any of the Commercial Banks shall be received only after the bid opening date. If the originals not received within 7 days of bid opening date the bid may not be considered. In the CPP portal, if there is no provision to upload BG, select the option 'YES' in the EMD exemption and upload the BG as EMD exemption document.

2.15.4 The bid securities of unsuccessful bidders will be returned at the earliest after expiry of the final bid validity period and latest by 30th day after the award of contract.

2.15.5 A bidder's bid security will be forfeited if the bidder:

- a. Withdraws or amends its / his bid.
- b. Impairs or derogates from the tender in any respect within the period of validity of the tender.
- c. If the bidder does not accept the correction of his bid price during evaluation.
- d. If the Bidder submits fraudulent documents and / or wrong information in support of its eligibility / qualification

- e. In case of any bidder found indulged in corrupt, fraudulent, coercive, undesirable and restrictive practices during the bidding process and
- f. If the successful bidder fails to sign the contract or furnish the required performance security within the specified period.

2.15.6 No interest shall accrue or is payable on the EMD from the date of its remittance till it is returned to the bidders.

2.15.7 Bid security shall be refunded to the successful bidder on receipt of a performance security and signing of contract. Bid security of the successful bidder may be adjusted against Performance Security Deposit if requested by the successful bidder.

2.15.8 If successful bidder on award of contract fails to sign the contract or to submit a performance security within the specified period, EMD will be forfeited, and the bidder may be suspended for a period of 3(three) years from being eligible to submit Bids for contracts with VOCPA.

2.15.9 The MSEs are exempted from payment of Bid Security subject to furnishing of relevant valid Certificate by uploading the said valid certificate copy at the time of submission of their bid along with the details duly filled in as per **Form-II A**. MSE bidders claiming exemptions from EMD as per MSME guidelines must also register Udyam Registration Certificate indicating URN (Udyam Registration Number) issued from MSME, in order to avail the benefits available to MSEs as contained in Public procurement policy.

2.16 DOCUMENTS COMPRISING THE BID:

2.16.1 The bidder is required to download all the documents for the preparation of his bid. The bidders are strongly advised to examine all the instructions, forms, terms, and specifications in the Tender/Bid documents. Failure to furnish all the information required by the Tender/Bid Document or submission of a Bid not techno-commercially responsive, in every respect, will be at the Bidder's risk and shall result in the rejection of its Bid.

2.16.2 The bidder shall carefully prepare the list of required documents that are asked for submission along with the bid. The bid shall be a Techno-Commercial bid and financial bid. The bid shall be prepared as under and uploaded the same online through e-Procurement Portal in two cover system and digitally signed by the authorized representative of the bidder as follows:

Cover A – Techno-Commercial Bid:

- (i) Duly filled in **Form -I** – “Bid Cover Letter”
- (ii) Scanned copy of system generated proof towards successful payment of EMD in case of payment through online payment gateway mode in CPP e- tender web Portal **OR** scanned copy of proof towards successful payment of EMD in the form of Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee from any of the Commercial Banks along with filled in **Form-II A** **OR** valid Certificates by MSEs for claiming exemption along with filled in **Form-II B**.
- (iii) Eligibility / pre-qualification criteria information on **Financial Capability** as detailed under SI. No. 4. a) of Notice Inviting Tender (Section-I):

Scanned copy of Profit & Loss statements for the last 3(three) years ending 31st March of the previous financial year duly certified by the Chartered Accountant in support of meeting Financial Capability along with duly filled in **Form-III**.

- (iv) Eligibility / pre-qualification criteria information on **Similar Work Experience** as detailed under SI. No. 4. b) of Notice Inviting Tender (Section-I):

Scanned copies of work order(s) along with BOQ & respective satisfactory completion with performance certificate in support of meeting Similar Work Experience along with duly filled in **Form-IV**. In case of experience other than Central / State Government / Autonomous bodies / PSEs / PSUs / Public Limited Companies, the bidder has to submit scanned copies of TDS certificate along with duly filled in **Form-IV A**.

- (v) Scanned copies of (i) EPF registration certificate; (ii) ESI; (iii) Permanent Account Number [PAN]; (iv) Income Tax Return of preceding three years; and (v) GST Registration Certificate
- (vi) Duly filled in Form-V – “Declaration of Authorized Representative”
- (vii) Duly filled in Form-VI – “Schedule of No deviation”
- (viii) Duly filled in Form-VII – “Declaration by the Bidder”
- (ix) Duly filled in Form-VIII – “Bank Mandate Form”
- (x) Duly filled in Form-IX – “Tender Acceptance Letter”
- (xi) Duly filled in Form-X – “Local Content declaration & Self Certification” [**wherever applicable if specifically asked for in bid document**]
- (xii) Duly filled in and signed Form-XI – “Integrity pact” [**wherever applicable as per as per Clause No.2.30 of ITB**]
- (xiii) Details of Technical Manpower to be deployed for execution of work [**wherever applicable if specifically asked for in bid document**]
- (xiv) Scanned copy of valid license "ESB/" ESA"/"EA" grade issued by the Licensing Board [**wherever applicable if specifically asked for in bid document**]
- (xv) The bidder shall submit the technical details and brochures of the proposed plant/materials/machines /equipment to be deployed along with technical bids with necessary certifications as per the technical requirement.
- (xvi) Any other documents which need to be uploaded, as a support to bidder's qualification/ responsiveness to the bid in compliance to Tender Document.
- (xvii) In Case of JV / Consortium following forms should be filled in and submitted along with bid document

FORM-XII	Declaration Of Power Of Attorney
FORM-XIII	Declaration Of Power Of Attorney for Consortium

FORM-XIV

Joint Bidding Agreement (JBA)

(xviii) In order to file an error-free tender/bid, the bidders may make use of the qualification documents to be uploaded list provided **in the Pre-qualification and Responsiveness Information in Annexure - A** of the bid document to identify the documents to be scanned and uploaded in support of their bid. Scanned copy of duly filled in Annexure - A shall be uploaded by the Bidder.

NB: *Please note that bidders should upload only the documents that are mentioned in the preceding clauses. The bidders need not send any documents (Hard Copy) to the Tender Inviting Authority. The NIT corrigendum/ addendum published by Tender Inviting Authority need not be uploaded and will be deemed to be part of the bid. Bid documents may be scanned with 100dpi with black and white option which helps in reducing size of the scanned document.*

Cover B – “Financial Bid” shall comprise Price Schedule

(i) Price proposal by the bidder:

- a. In the e-Procurement Portal, an intelligent Price Schedule / Bill of Quantity in Microsoft Excel format shall be made available to the bidder.
- b. The bidder shall bid for the whole works as described in the Price Schedule.
- c. The bidder shall be deemed to have satisfied himself/herself as to the correctness and sufficiency of the Tender and the rates and prices quoted in the Price Schedule, all of which shall cover all his/her obligations under the Contract and all matters & things necessary for the proper execution and completion of the work and the remedying of any defects therein.

2.1.2 Bidders shall submit offers that fully comply with the requirements of the Tender documents. Conditional offers or alternative offers will not be considered in the process of bid evaluation.

2.2 FORMAT AND SIGNING OF BID:

2.2.1 The bidder shall upload the completed bid at his/her convenience within the final date and time of submission. The bidder shall only submit a single copy of the required documents and Price Bid in the portal. The Bidders are advised to upload the completed Bid document well ahead of bid closure time to avoid any last-moment problem of power failures, network failure, etc. VOCPA shall not be responsible in any manner.

2.2.2 The bidder shall ensure the correctness of the bid prior to uploading and also ensure clarity/legibility of the document uploaded by him/her to the portal, especially the scanned documents. Non-submission of legible documents may render the bid non-responsive. However, VOCPA, if so desires, can ask for legible copies or original copies of scanned documents and statements uploaded in the portal within the specified period for verification provided such document in no way alters the Bidder's price bid. If the Bidder fails to submit the original documents within the stipulated date, his bid shall be considered nonresponsive.

2.2.3 The bidder shall digitally sign on all the statements, documents, certificates uploaded by him/her in support of the **Pre-qualification and Responsiveness of the bid**, owning responsibility for their correctness/ authenticity. The bidder must note that misrepresentation of facts and/or submission of fraudulent documents or submission of bid in an irresponsible manner may disqualify the bidder from participating in any tender of VOCPA and also termination of any other ongoing contracts with forfeiture of the Security Deposit. VOCPA reserves the right to verify the authenticity of the documents/information submitted by the bidder.

2.2.4 Signatory of the bid documents shall be Bidder himself or a person duly authorized and holding power of attorney to do so on behalf of the Bidder, as furnished in **Form-V** of the bid document.

2.3 DEADLINE FOR SUBMISSION OF THE BIDS:

2.3.1 The online bidding will remain active till the last date and time of the bid submission. Once the date and time (Server date and time) are over, the bidder will not be able to submit the bid. The date & time of bid submission should remain unaltered even if the specified date for the submission of bids declared a holiday for the VOCPA.

2.3.2 The Tender Inviting Authority/ VOCPA may extend the deadline for submission of bids by issuing an amendment in accordance with **Clause No.2.9** of this Section, in which case all rights and obligations of the VOCPA and the bidders previously subject to the original deadline will then be subject to the new deadline. The new date after extension shall be available on the Tender portal.

2.4 LATE BIDS:

The system shall reject the submission of any bid through the portal after the closure of the receipt time. For all purposes, the server time displayed in the e-procurement portal shall be the time to be followed by the bidder and concerned officers.

2.5 MODIFICATION AND WITHDRAWAL OF BIDS:

2.5.1 In the E-Procurement Portal, it is allowed to modify the bid any number of times before the final date and time of submission. The bidder shall have to log on to the system and resubmit the documents as asked for by the system, including the price bid. In doing so, the bids already submitted by the bidder will be removed automatically from the system, and the latest bid only will be admitted. But the bidder should avoid modification of bid at the last moment to avoid system failure or malfunction of internet or traffic jam or power failure etc. If the bidder fails to submit his/her modified bids within the designated time of receipt, the bid already in the system shall be taken for evaluation.

2.5.2 In the e-Procurement Portal, withdrawal of bids is allowed. But in such a case, the bidder has to write a confidential letter with appropriate reasons for his/her withdrawal addressed to the Tender Inviting Authority and upload the scanned document to the portal in the respective bid before the closure of submission. The system shall not allow any equipment withdrawal after the expiry of the closure time of the bid.

OPENING AND EVALUATION

2.6 BID OPENING:

- 2.6.1** Bid opening dates are specified during the publishing of tender or can be extended vide corrigendum. These dates are available in NIT / Corrigendum as well as the home page of the portal.
- 2.6.2** If the specified date of bid opening is declared a holiday for VOCPA, the bids shall be opened at the appointed time on the next working day.
- 2.6.3** If the required EMD has not been provided or exemption from EMD is claimed without acceptable poof of exemption, bid will not be considered for techno-commercial evaluation.
- 2.6.4** The Cover A – Techno-commercial Bid containing the techno-commercial documents listed in the Pre- Qualification and Responsiveness Information in Annexure- A and any other documents uploaded by the Bidders as required for bidding purpose will be opened through online on the scheduled date and time in the presence of such bidders and/or their authorized representatives, who wish to be present at the time of opening, at their own cost.
- 2.6.5** The Price bid of the shortlisted bidders i.e., technically qualified bidders will alone be opened by the Port on a date and time to be notified later.

2.7 CLARIFICATION ON BIDS:

During evaluation and comparison of the bids, the VOCPA may, at his discretion, ask the bidder for clarification on the bid. The request for clarification shall be given in writing by registered/ Speed Post/Registered e-mail/uploaded on the e-procurement Portal, asking the bidder to respond by a specified date, and also mentioning therein that, if the tenderer does not comply or respond by the date, his tender will be liable to be rejected. Depending on the outcome, such tenders are to be ignored or considered further. No change in prices or substance of the bid shall be sought, offered, or permitted. No post-bid clarification at the initiative of the bidder shall be entertained. The shortfall information/documents should be sought only in case of historical documents which pre-existed at the time of the tender opening, and which have not undergone change since then. (Example: if the Permanent Account Number, *registration with GST* has been asked to be submitted and the tenderer has not provided them, these documents may be asked for with a target date as above). So far as the submission of documents is concerned with regard to qualification criteria, after submission of the tender, only related shortfall documents should be asked for and considered. For example, if the bidder has submitted a work /supply order without its completion/ performance certificate, the certificate can be asked for and considered. However, no new work supply/work order should be asked for so as to qualify the bidders.

2.8 EVALUATION & COMPARISION OF BID:

2.8.1 Evaluation of Techno-Commercial Bid:

In evaluation of the techno-commercial bid, conformity of the eligibility/ qualification, technical and commercial conditions to those in the bid document is ascertained. Additional factors, if any, incorporated in the tender documents may also be considered in the manner indicated therein. A responsive tender is one which inter-alia confirms to all the terms and

conditions including General and Special conditions of the entire bid documents without any deviation or reservation and the same shall be determined as described below:

- (a) The documents uploaded by the bidder as specified in **Form- IV** read with **Section - II, Clause 2.11.6.2 (iv)**, will be evaluated basing on the work orders, Performance Certificate / work completion certificate of similar nature of the work and value of the work fulfilling the eligibility criteria.
- (b) The financial capability will be evaluated based on the information provided in **Form III** read with **Section- II, clause 2.11.6.2 (iii)**.
- (c) After scrutiny of the documents uploaded in the **Cover A – Techno-commercial Bid**, the eligible bidders will be pre-qualified based on the details provided by them.
- (d) The Port may verify the original documents of the scanned copies uploaded by the Bidder during evaluation or at any time, if required. In case the documents submitted by the bidders found to be forged/ false, the port will take appropriate penal action including cancellation of the work order issued and blacklisting of the firm/ company for a period of 3 years.
- (e) The shortlisted bidders after the Techno-Commercial evaluation will be informed through emails after short listing and the same will also be published in the Port website. Any bidders who had participated in the tender having any objections or observations shall inform the same to the designated Email id, within a period of seven days from the date of publishing in the website. Objections if any, received after this date will not be entertained.
- (f) Objections so received will be duly examined as per the Terms and Conditions of the tender and the decision will be posted on the website or intimated to the firm. The decision of the competent authority, in this regard, will be final and binding and no further objections will be entertained once the decision is finalized.

2.8.2 Financial Evaluation:

- (a) The due date of opening of **Cover B- Financial Bid** shall be scheduled and intimated to the prequalified bidders through portal.
- (b) The Financial Bid of the pre-qualified & responsive bidders will be opened on the pre-published / notified date &time in the presence of bidders or their authorized representative who wish to be present. The participating bidders can also witness the opening of price bids online by logging on to the portal with his DSC from anywhere.
- (c) The financial evaluation shall be made on the basis of total price as indicated price schedule/ Bill of quantity. VOCPA is not bound to accept the lowest quoted offer. Conditions, if any, with Price Bid shall not be considered for any purpose.

- 2.8.3 Evaluation of the bid does not exonerate the bidders from checking their original documents. VOCPA reserves the right to verify the authenticity of the documents/information submitted by the bidder.

As per Section-468(Forgery for the purpose of Cheating) and Section-471(using as genuine, a forged document) of IPC-1860, use of fraudulent/forged document for the purpose of participating in any tender is a punishable offense. Hence, in such cases, VOCPA shall have no other option than to take the following actions against the firm, which has restored to use

of forged/fraudulent documents in any tender. It is also applicable if, at a later date, the bidder is found to have misled the evaluation through wrong information.

At the time of the bidding stage

- (a) Termination of any other ongoing contracts with forfeiture of the Security Deposits.
- (b) Blacklisting / debarring / tender holiday of the firm under the Prevention of Corruption Act, 1988 for a period of three years from the date of blacklisting.

At the time of contract execution

- (a) Termination of the contract with forfeiture of the Security Deposits.
- (b) Termination of any other on-going contracts with forfeiture of the Security Deposits.
- (c) Blacklisting of firm under Prevention of Corruption Act, 1988 for a period of three years from the date of blacklisting.

- 2.8.4** Conditional bids may be rejected by VOCPA. Conditions, if any, on any document enclosed with Price Bid shall not be considered for any purpose.

AWARD OF CONTRACT

2.9 AWARD CRITERIA:

The Tender Inviting Authority, on behalf of VOC Port Authority, will award the contract to the bidder whose bid is the lowest evaluated Bid as per tender conditions and their price schedule will be considered.

2.10 PURCHASER'S RIGHT TO ACCEPT OR REJECT ANY OR ALL THE BIDS:

VOC Port reserves the right to accept or reject any bid and the bidding process at any time prior to award of contract without thereby incurring any liability to the affected Bidder or Bidders on the grounds of VOC Port Authority's action.

2.11 NOTIFICATION OF AWARD:

Prior to the expiration of Bid Validity, the Successful bidder will be notified in the form of Letter of Acceptance / Award or Work Order which will be communicated by registered or by mail that his Bid has been accepted. The successful bidder has to furnish Performance Security & additional security (if any), and non-judicial stamp paper for signing of Contract / Agreement within 15 days from date of issuance of Letter of Acceptance/ Award of Work Order. The issue of the letter of acceptance shall be treated as the closure of the Bid process.

2.12 SIGNING OF CONTRACT:

The successful has to furnish the Performance Security Deposit (PSD), as per the Tender Conditions. The Contractor shall be required to execute an agreement in the proforma prescribed by the V.O.Chidambaranar Port Authority (**as per Annexure- B**) on Tamil Nadu Government State stamp paper of the required value within 28 days from the date of issue of Letter of Acceptance / Work Order. In the event of failure on the part of the successful bidder to execute the agreement within the above stipulated period, or the period agreed

by the Port, VOC port being in such circumstances entitled to treat the successful bidder as in breach of contract and proceed accordingly.

2.13 **PERFORMANCE SECURITY DEPOSIT or PERFORMANCE GUARANTEE:**

2.13.1 The successful bidder (Contractor) shall furnish an amount of 5% of the Contract Price as Performance Security in the form of Insurance Surety Bond, account payee demand draft, fixed deposit receipt from Scheduled Commercial bank, irrecoverable and operative Bank Guarantee issued / confirmed from any of the Scheduled Commercial bank in India, as per specimen in **Annexure D** or online payment through RTGS/NEFT to the account whose details are provided as below:

A	Name and address of the bank	Indian Overseas Bank, Harbour Branch, Tuticorin-628004.
B	Name of the branch	Harbour Branch
C	IFSC code	IOBA0000143
D	Account Number	0143010000000001
E	Type of Account	Savings Account
F	Beneficiary's Name	FA & CAO, V.O. Chidambaranar Port Authority, Tuticorin

Performance Security is to be furnished within 15 days from the date of issuance of Letter of Acceptance/ Award of Work Order towards successful performance of the Contract and it should remain valid for a period of 60 (sixty) days beyond the date of completion of all contractual obligations of the Contractor, including warranty period. However, the Engineer may relax the time limit of 15 days for submission Performance Security and extend it by further period in extraordinary circumstances for the reasons recorded. If the performance Security is not deposited in time as prescribed above, the LOA shall stand cancelled automatically and the Earnest Money Deposit will be forfeited, and action shall be initiated as per **Clause No. 2.15.8 of ITB**

The Contractor shall furnish the BG towards performance security by the issuing bank directly to the Port through SFMS mode.

This will not bear any interest. Bank Guarantee, obtained from the Nationalized Bank /Scheduled bank in the format prescribed, ***shall be in compliance with for a digital confirmation for the Bank Guarantee and the BG not complying with this shall not be considered.***

The Contractor shall ensure that the Performance Security is valid and enforceable until the Contractor has executed and completed the Works including warranty period and remedied any defects. If required, the Contractor shall extend the validity of the Performance Security accordingly.

The performance security will be forfeited in the event of breach of contract by the Contractor.

The performance security should be refunded to the Contractor without interest, after the Contractor duly performs and completes all obligations under the contract but not later than completion of the Warranty Period.

2.13.2 Security Deposit / Retention Money:

In addition to Performance Security, Security deposit / retention money for an amount of 5% of the contract value shall be recovered by deducting @10% from each running bill subject to a maximum accumulation of 5% of the contract value. The earnest money instead of being released may form part of the security deposit. The contractor may, at his option, replace the retention amount with an unconditional BG at the following stages:

- (a) After the amount reaches half the value of the limit of retention money; and
- (b) After the amount reaches the maximum limit of retention money.

One-half of the retention money (or BG, which replaced retention money) shall be released to the contractor without interest on the issue of completion certificate; The other half of the retention money (or BG, which replaced the retention money) shall be released to the contractor without interest, after he duly performs and completes all obligations under the contract but not later than completion of the Warranty Period.

2.14 OTHER INSTRUCTIONS

2.14.1 PROVISION OF PUBLIC PROCUREMENT (PREFERENCE TO MAKE IN INDIA):

The provisions contained in Public Procurement (Preference to Make in India) Order 2017 as Amended by OM No. P-45021/2/2017 – PP(BE-II) dated 16.09.2020 further as amended from time to time if any, shall be applicable to this tender.

- i. The margin of purchase preference applicable is 20% or as decided by the relevant Nodal Ministry for the item from time to time.
- ii. The minimum local content for Class I and Class II local suppliers shall be 50 % and 20 % respectively or as decided by the relevant Nodal Ministry for the item.
- iii. Procurements where the estimate value is less than Rs.5.00 Lakhs shall be exempted from this order.
- iv. Verification of Local Content:
 - a. For procurement value up to 10.00 Crores: The class I local supplier /Class II local supplier at the time of tender, bidding or solicitation shall be obliged to indicate percentage of local content and provide Self Certification (as per the format enclosed) that the item offered meets the local content requirement for Class I local supplier / Class II suppliers as the case may be. They shall also give details of the locations at which the local value addition is made.

- b. For procurement value above Rs.10.00 Crores: The Class I local supplier / Class II local supplier at the time of tender, bidding or solicitation shall be required to provide certificate from the statutory auditor or cost auditor of the company (in case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content. The Tenderer shall submit the Declaration as per **Form XI**.

2.14.2 INTEGRITY PACT:

For every work / procurement / contract the value of which is Rs.1crore and above, the Integrity Pact agreement format as given at **Form – X** shall form a part of the bid document and it shall be prepared in Non-judicial stamp paper shall be uploaded along with technical bid by all the participating bidders and the original shall be submitted to Notice Inviting Tender Authority within 7 (Seven) days of opening of tender by all the participating bidders. The Integrity pact signed by the Purchaser and the bidder (successful bidder – Contractor) shall be made part of contract agreement.

The details of Independent External Monitors (IEM) are:

- 1) Shri Hermanprit Singh, IPS (Retd.),
12, Bevedre Road,
Alipore,
Kolkata – 700027.
Phone No: 9830197103
Email id: hermanprit@gmail.com.
- 2) Shri Trivikram Nath Tiwari, ILS (Retd.),
301-B Block – 3B, HIG DDA Flats,
Rani Jhansi Road, DDA Complex, Motia Khan,
New Delhi – 110055. Phone No: 9871788277
Email id: trivikramnt@yahoo.co.in

SECTION III

GENERAL CONDITIONS OF CONTRACT

3.1 GENERAL PROVISIONS:

3.1.1 Definitions:

In the Conditions of Contract ("these Conditions"), which include Particular Conditions and these General Conditions, the following words and expressions shall have the meanings hereby assigned to them, except where the context requires otherwise.

3.1.1.1 The Contract:

3.1.1.1.1 "Contract" means the Notice Inviting Tender, the Bid / Tender and acceptance thereof and the formal legal Agreement, if any, executed between the Employer and the Contractor together with the documents referred to therein including General Conditions with appendices and any Special Conditions of Contract, the Specifications, Designs & Drawings, Scope of Work, Priced Schedule / Bill of Quantities and further any documents. All these documents taken together shall be deemed to form one Contract and shall be complementary to one another.

3.1.1.1.2 "Contract Agreement" means the Employer and the Contractor shall enter into a Contract Agreement within stipulated days after the Contractor receives the Letter of Acceptance / Work Order, unless they agree otherwise. The Contract Agreement shall be in the format annexed to the bid document. The costs of non-judicial stamp paper of applicable value and other statutory charges (if any) in connection with entry into the Contract Agreement shall be borne by the Contractor.

3.1.1.1.3 "Letter of Acceptance (LOA)/ Letter of Award / Notification of Award / Work Order (WO)" means the letter of formal acceptance, signed by the Employer.

3.1.1.1.4 "Specification" means the document entitled specification, as included in the Contract, and any additions and modifications to the specification in accordance with the Contract. Such document specifies the works.

3.1.1.1.5 "Drawings" means the drawings of the Works, as included in the Contract, and any additional and modified drawings issued by (or on behalf of) the Employer in accordance with the Contract.

3.1.1.1.6 "Schedules" means the document(s) entitled schedules, completed by the Contractor and submitted, as included in the Contract. Such document may include the Bill of Quantities, data, lists, billing package and schedules of rates and/or prices.

3.1.1.1.7 "Price Schedule / Bill of Quantities" means the documents so named (if any) which are comprised in the Schedules.

3.1.1.1.8 "Tender/Bid" (including terms offers, quotations or proposals in certain contexts) means an offer to supply of goods, services, or execution of works made in accordance with the terms and conditions set out in the bid document inviting such offers.

3.1.1.1.9 “Tender/Bid documents” means a document issued by Employer, including any amendment / corrigendum thereto, that sets out the terms and conditions of the given procurement process including ‘Notice Inviting Tender’.

3.1.1.1.10 “e-Tender” means conducting of procurement processes by the Employer with bidders for execution of works and services through use of information and communication technology (specially the internet) with the aim of open, nondiscriminatory and efficient procurement through transparent procedures.

3.1.1.2 Parties and Persons:

3.1.1.2.1 “Party” means the Employer or the Contractor, as the context requires.

3.1.1.2.2 “Employer/ Purchaser” (“Board”) means the Board of V.O. Chidambaranar Port Authority and assigns, acting through its Chairperson or any other Officer so nominated by the Board.

3.1.1.2.3 “Contractor / Service Provider” means the person(s), firm or company whose Tender has been accepted by the Employer and includes the Contractor’s Representative(s), the successors and/or permitted assigns for the subject Contract.

3.1.1.2.4 “Engineer” means the Chief Mechanical Engineer / V.O. Chidambaranar Port Authority or any other Officer nominated by Chairman.

3.1.1.2.5 “Employer's Personnel” means the Engineer, his representative and all other staff, labour and other employees of the Employer; and any other personnel notified to the Contractor, by the Employer or the Engineer, as Employer's Personnel.

3.1.1.2.6 “Contractor's Personnel” means the Contractor's Representative and all personnel whom the Contractor utilizes on Site, who may include the staff, labour and other employees of the Contractor and of each Subcontractor; and any other personnel assisting the Contractor in the execution of the works.

3.1.1.2.7 “Contractor's Representative” means the person named by the Contractor in the Contract or appointed from time to time by the Contractor under **Sub-Clause 3.4.2** [Contractor's Representative], who acts on behalf of the Contractor.

3.1.1.2.8 “Engineer’s Representative” means any Representative(s) of the Engineer, the assistants referred to in **Sub-Clause 3.3.2** [Delegation by the Engineer] whose authority shall be notified in writing to the Contractor by the Engineer.

3.1.1.2.9 “Sub-contractor” means any person named in the Contract as a subcontractor, or any person appointed as a subcontractor, for a part of the Works; and the legal successors in title to each of these persons.

3.1.1.3 Money & Payments:

3.1.1.3.1 “Contract Price” means accepted contract amount mentioned in the Letter of Acceptance towards execution and completion of the Works and the remedying of any defects.

3.1.1.3.2 “Executed value” means the price defined in **Sub-Clause 3.13.3** and includes adjustments in accordance with the Contract.

- 3.1.1.3.3 "Cost" means all expenditure reasonably incurred (or to be incurred) by the Contractor, whether on or off the Site, including overhead and similar charges, but does not include profit.
- 3.1.1.3.4 "**Currency**" means Rupees in which part (or all) of the Contract Price is payable.
- 3.1.1.3.5 "Performance Security" means the security (or securities, if any) under Clause 2.28.1 of ITB [Performance Security].
- 3.1.1.4 **Dates, Periods and Completion:**
- 3.1.1.4.1 "**Commencement Date**" means the date notified under **Sub-Clause 3.7.1** [*Commencement of Work*].
- 3.1.1.4.2 "**Time for Completion**" means the time for completing the Works or a Section (as the case may be) under **Sub-Clause 3.7.2** [Time for Completion], as stated in NIT/ Special Condition of Contract / Scope of Work / LOA (with any extension under **Sub-Clause 3.7.4** [*Extension of Time for Completion*]), calculated from the Commencement Date.
- 3.1.1.4.3 "**Acceptance**" means as defined under **Clause 3.9** [Acceptance].
- 3.1.1.4.4 "**Completion Certificate**" means the certificate issued under **Clause 3.9** [Acceptance].
- 3.1.1.4.5 "**Warranty Period**" means the period as mentioned under **Sub-Clause 3.10.2**.
- 3.1.1.4.6 "**Day**" means a calendar day of 24 hours from midnight to the next midnight irrespective of the number of hours worked in that day.
- 3.1.1.4.7 "**Week**" means, seven days without regard to the number of hours worked in any day in the week.
- 3.1.1.4.8 "**Month**" means, month according to Gregorian calendar.
- 3.1.1.4.9 "**Year**" means 365 days.
- 3.1.1.5 **Works & Goods:**
- 3.1.1.5.1 "**Contractor's Equipment**" means all apparatus, machinery, vehicles and other things required for the execution and completion of the works and the remedying of any defects. However, Contractor's Equipment excludes Temporary Works, Employer's Equipment (if any), Plant, Materials and any other things intended to form or forming part of the Permanent Works.
- 3.1.1.5.2 "**Permanent Works**" means the permanent works to be executed / maintained by the Contractor under the Contract.
- 3.1.1.5.3 "**Plant / Plant & equipment**" means the apparatus, machinery and vehicles intended to form or forming part of the Permanent Works.
- 3.1.1.5.4 "**Materials**" means things of all kinds (other than Plant & equipment) intended to form or forming part of the Permanent Works, including the supply-only materials (if any) to be supplied by the Contractor under the Contract.

- 3.1.1.5.5 **"Temporary Works"** means all temporary works of every kind (other than contractor's Equipment) required on Site for the execution and completion of the Permanent Works and the remedying of any defects.
- 3.1.1.5.6 **"Works"** mean the Permanent Works and the Temporary Works, or either of them as appropriate including services under the Contract.
- 3.1.1.5.7 **"Section"** means a part of the Works
- 3.1.1.5.8 **"Goods"** means Contractor's Equipment, Materials, Plant and Temporary Works, or any of them as appropriate. The term 'goods' also includes works & services which are incidental or consequence to supply of such goods, such as transportation, insurance, installation, commissioning, training and maintenance.
- 3.1.1.6 **Other Definitions:**
- 3.1.1.6.1 **"Contractor's Documents"** means the calculations, computer programs and other software, drawings, manuals, models and other documents of a technical nature (if any) supplied by the Contractor under the Contract.
- 3.1.1.6.2 **"Employer's Equipment"** means the apparatus, machinery and vehicles (if any) made available by the Employer for the use of the Contractor in the execution of the Works, as stated in the specification; but does not include Plant which has not been taken over by the Employer.
- 3.1.1.6.3 **"Force Majeure"** is defined as in **Clause 3.17** [*Force Majeure*].
- 3.1.1.6.4 **"Laws"** means all national (or state) legislation, statutes, ordinances and other laws, and regulations and by-laws of any legally constituted public authority.
- 3.1.1.6.5 **"Site"** means the locations /places/lands where the Permanent Works are to be executed and to which Plant and materials are to be delivered or services to be provided or works to be executed and any other places as may be specified in the Contract as forming part of the Site.
- 3.1.1.6.6 **"Variation"** means any change to the Works, which is instructed or approved as a variation under **Clause 3.12** [*Variations*].

3.1.2 Interpretations:

In the Contract, except where the context requires otherwise:

- (a) words indicating one gender include all genders.
- (b) words indicating the singular also include the plural and words indicating the plural also include the singular.
- (c) provisions including the word "agree", "agreed" or "agreement" require the agreement to be recorded in writing, and
- (d) "written" or "in writing" means hand-written, printed, or electronically made, and resulting in a permanent record.
- (e) the marginal words and other headings shall not be taken into consideration in the interpretation of these Conditions.

3.1.3 Communications:

Wherever these Conditions provide for giving or issuing of approvals, certificates, consents, determinations, notices and requests, these communications shall be:

- (a) in writing and delivered by hand (against receipt), sent by mail or courier, or speed post.
- (b) delivered, sent or transmitted to the address for the recipient's communications.

3.1.4 Law, Language and Jurisdiction:

The language for communications shall be in English. The contract shall be governed by and constructed according to the laws in force in India. All disputes shall be subjected to exclusive jurisdiction of the courts at Tuticorin only for the purpose of actions and proceedings arising out of this contract.

3.1.5 Priority of Documents:

In case of any variation in Instructions to Bidders (ITB), General Conditions of Contract (GCC) and Special Conditions of Contract (SCC), the Special Conditions of Contract – if any, shall prevail. But in case of any requirement / condition specified in the Scope of Work, it shall prevail over all other conditions. It may please be noted that at any time prior to the deadline for submission of Bids, Employer may, for any reason, whether at its own initiative or in response to a clarification requested by any prospective bidder, modify the tender document by amendment / issue of addendum. In such cases, clarifications shall be treated as the appropriate meaning of the respective conditions of bid document.

3.1.6 Assignment:

The Contractor shall not assign the whole or any part of the work to any other Party/Firm/Individual without prior written consent of the Employer.

3.1.7 Care and Supply of Documents:

The Contractor shall keep on the Site, a copy of the Contract, the Contractor's Documents (if any), the Drawings and Variations and other communications given under the Contract. The Employer's Personnel shall have the right of access to all these documents at all reasonable times.

3.1.8 Contractor's use of Employer's Documents:

As between the Parties, the Employer shall retain the copyright and other intellectual property rights in the Specification, the Drawings and other documents made by (or on behalf of) the Employer. The Contractor may, at his cost, copy, use, and obtain communication of these documents for the purposes of the Contract. They shall not, without the Employer's consent, be copied, used or communicated to a third party by the Contractor, except as necessary for the purposes of the Contract.

3.1.9 Confidential Details:

The Contractor shall disclose all such confidential and other information as the Engineer may reasonably require in order to verify the Contractor's compliance with the Contract.

3.1.10 Compliance with Laws, Statutes & Regulations:

The Contractor shall, in performing the Contract, comply in all respect with applicable Laws, Statutes and Regulations including clearance from State / Central Govt. Authorities, Pollution Control Boards, labour enforcement and local authorities. The Contractor shall indemnify and hold the Employer harmless against and from the consequences of any failure to do so.

3.1.11 Details to be Confidential:

The Contractor shall treat the details of the contract as private and confidential, except to the extent necessary to carry out obligations under it or to comply with applicable laws. The Contractor shall not publish, permit to be published or disclose any particulars of the works in any trade or technical paper or elsewhere without the previous agreement of the Employer.

3.2 THE EMPLOYER:

3.2.1 Right of Access to the Site:

The Employer shall give the Contractor right of access to, and possession of, all parts of the Site within the time (or times) stated in the Contract. If no such time is stated in the Contract, the Employer shall give the Contractor right of access to, and possession of, the Site within such times as may be required to enable the Contractor to proceed in accordance with the time schedule (bar chart) submitted under **Sub-Clause 3.7.3** [Time Schedule / Bar Chart].

If the Contractor suffers delay as a result of a failure by the Employer to give any such right or possession within such time, the Contractor shall give notice to the Engineer within 7 (seven) days from end of such time or period and shall be entitled to:

- (a) an extension of time for any such delay, if completion is or will be delayed, under **Sub-Clause 3.7.4** [*Extension of Time for Completion*],

However, if and to the extent that the Employer's failure was caused by any error or delay by the Contractor, including an error in, or delay in the submission of, any of the Contractor's Documents, the Contractor shall not be entitled to such extension of time.

3.2.2 Permits, Licenses or Approvals:

The Employer shall (where he is in a position to do so) provide administrative support to the Contractor at the request of the Contractor:

- (a) by obtaining copies of the Laws of the Country which are relevant to the Contract but are not readily available, and
- (b) for the Contractor's applications for any permits, Licenses or approvals required by the Laws of the Country for execution of work under the Contract:
 - (i) which the Contractor is required to obtain.
 - (ii) for the delivery of Goods, including clearance through customs, and for the export of Contractors Equipment when it is removed from the Site.
 - (iii) which the Contractor is required to obtain under the Contract

3.2.3 Employer's Claims:

If the Employer considers himself to be entitled for any payment (claim) under any Clause of these Conditions or otherwise in connection with the Contract, and/or to any extension of the Defects Liability Period, the Employer or the Engineer shall give notice and particulars to the Contractor.

The notice shall be given as soon as practicable after the Employer became aware of the event or circumstances giving rise to the claim. A notice relating to any extension of the Defects Liability Period shall be given before the expiry of such period.

The particulars shall specify the Clause or other basis of the claim and shall include substantiation of the amount and/or extension to which the Employer considers himself to be entitled in connection with the Contract. The claim amount shall be considered as a deduction in the Contract Price.

3.3 ENGINEER AND ENGINEER'S REPRESENTATIVE:

3.3.1 The Engineer shall carry out such duties in issuing decision, certificates and orders as are specified in the contract. The Engineer's Representative shall be responsible to the Engineer and be the Engineer-in-Charge of the work.

3.3.2 Delegation by Engineer:

The duties of the Engineer's Representative is to watch and supervise the work and to test and examine any materials to be used or workmanship employed in connection with the works. He shall have no authority to relieve the Contractor or any of his duties or obligations under the contract nor except as expressly provided hereunder or elsewhere in the contract to order any work involving delay or any extra payment by the Employer nor to make any variation of or in the works.

Any written instructions or approval given by the Engineer's Representative to the Contractor within the terms of such delegation (but not otherwise) shall bind the Contractor and the Employer as though it had been given by the Engineer provided, however, that.

a) Failure of the Engineer's Representative to disapprove any work or materials shall not prejudice the power of the Engineer thereafter to disapprove such work or materials and to order the pulling down, removal or breaking up thereof.

b) If the Contractor shall be dissatisfied by reason of any decision of the Engineer's Representative, he shall be entitled to refer the matter to the Engineer who shall thereupon confirm, reverse or vary such decision.

3.4 THE CONTRACTOR'S OBLIGATIONS:

3.4.1 Contractor's General Obligations:

The Contractor shall design (to the extent specified in the contract) if stipulated in the Contract, execute and complete the Works in accordance with the Contract and with the Engineer's instructions, and shall remedy any defects in the Works.

The Contractor shall provide the Plant& equipment, materials and Contractor's Documents specified in the contract, and all Contractor's Personnel, Goods, consumables and other things and services, whether of a temporary or permanent nature, required in and for this

design, execution, completion and remedying of defects.

All the material, equipment offered and used in the execution of the work shall be suitable for sustained service in a marine atmosphere and local environment condition.

The Contractor shall be responsible for the adequacy, stability, and safety of all Site operations and of all methods of construction. The Contractor shall, in consideration of payments to be made to him as hereinafter provided, execute and do the Works set forth as described in the Scope of Work and specifications, including any amendments to tender clauses.

The Contractor shall exercise all reasonable care and diligence in the discharge of all technical, professional and Contractual duties to be performed by them under this Contract as specified in the Scope of Work within the Time for Completion and provide all labour, including the supervision and security thereof, Contractor's Equipment necessary thereof and for carrying out his obligation, so far as the necessity for providing the same is specified in or is reasonable to be inferred from the Contract. The Contractor shall be fully responsible to Employer for proper, efficient, and effective discharge of their duties.

The Contractor shall, whenever required by the Engineer, submit details of the arrangements and methods, which the Contractor proposes to adopt for the execution of the Works. No significant alteration to these arrangements and methods shall be made without this having previously been notified to the Engineer.

If the Contract specifies that the Contractor shall design any part of the Permanent Works, then.

- (a) the Contractor shall submit to the Engineer the Contractor's Documents for this part in accordance with the procedures specified in the Contract.
- (b) these Contractor's Documents shall be in accordance with the Specification and Drawings and shall include additional information if required by the Engineer to add to the Drawings.
- (c) the Contractor shall be responsible for this part, and it shall, when the Works are completed, be fit for such purposes for which the part is intended as are specified in the Contract;

3.4.2 Contractor's Representative:

The Contractor shall appoint the Contractor's Representative and shall give him all authority necessary to act on the Contractor's behalf under the Contract. The Contractor shall submit the name and particulars of the representative prior to commencement of work.

3.4.3 Assignment and Subcontracting:

The Contractor shall not, assign the contract or any part thereof or any benefit or interest therein or there under without the prior written consent of the Engineer.

The Contractor shall not sub-contract the whole of the works. Except otherwise provided by the Contract, the Contractor shall not sub-contract any part of the Works without the prior written consent of the Engineer and such consent if given shall not relieve the Contractor

from any liability or obligation under the Contract and he shall be responsible for the facts, defaults and neglects of any sub-Contractor, his agents, servants or workmen fully as if they were the acts, defaults or neglects of the Contractor.

In the event of the Contractor contravening this condition, Employer shall be entitled to terminate the Contract forthwith and award a fresh Contract to some other party at risk and cost of the Contractor who shall be liable for any loss or damage which Employer may sustain in consequence arising out of such replacement of the Contractor. In such a case, the performance security deposit shall be forfeited.

3.4.4 Cooperation:

The Contractor shall, as specified in the Contract or as instructed by the Engineer, allow appropriate opportunities for carrying out work to:

- (a) the Employer's Personnel,
- (b) any other contractors /PMC/ 3rd party Inspecting Agency employed by the Employer, and
- (c) the personnel of any legally constituted public authorities,

who may be employed in the execution on or near the Site of any work not included in the Contract.

3.4.5 Setting Out:

The Contractor shall set out the Works in relation to original points, lines and levels of reference specified in the Contract or notified by the Engineer. The Contractor shall be responsible for the correct positioning of all parts of the Works, and shall rectify any error in the positions, levels, dimensions or alignment of the Works.

3.4.6 Safety Procedures:

The Contractor shall:

- (a) comply with all applicable safety regulations,
- (b) take care for the safety of all persons entitled to be on the Site,
- (c) use reasonable efforts to keep the Site and Works clear of unnecessary obstruction so as to avoid danger to these persons,
- (d) provide fencing, lighting, guarding, and watching & warding of the Works until completion and taking over under **Clause 3.9** [*Acceptance*], and
- (e) provide any Temporary Works (including roadways, footways, guards and fences), which may be necessary, because of the execution of the Works, for the use and protection of the public and of owners and occupiers of adjacent land.
- (f) provide all lights be placed or screened so as not to interfere with any signal lights on the Employer's railways or with any traffic lights of any local or other authority.

3.4.7 Site Data:

The Employer shall have made available to the Contractor for his information, all relevant data if available in the Employer's possession on conditions at the Site, including environmental aspects. The Contractor shall be responsible for interpreting all such data.

The Contractor shall be deemed to have obtained all necessary information as to risks, contingencies and other circumstances which may influence or the Tender or Works. To the same extent, the Contractor shall be deemed to have inspected and examined the Site, its surroundings, the above data and other available information, and to have been satisfied before submitting the Tender as to all relevant matters, including (without limitation):

- (a) the form and nature of the Site, including sub-surface conditions,
- (b) the hydrological and climatic conditions,
- (c) the extent and nature of the work/service and Goods necessary for the execution and completion of the Works and the remedying of any defects,
- (d) the Laws, procedures, and labour practices of the State / Country, and
- (e) the Contractor's requirements for access, accommodation, facilities, personnel, power, transport, water and other services.

3.4.8 Sufficiency of the Accepted Contract Amount:

Unless otherwise stated in the Contract, the Accepted Contract Amount covers all the Contractor's obligations under the Contract (including those under Provisional Sums; If any) and all things necessary for the proper execution and completion of the Works.

3.4.9 Rights of Way and Facilities:

The Contractor shall bear all costs and charges for special and/or temporary rights of-way which he may require, including those for access to the Site. The Contractor shall also obtain, at his risk and cost, any additional facilities outside the Site, which he may require for the purposes of the Works.

3.4.10 Transport of Goods:

Unless otherwise stated in the Particular Conditions:

- (a) the contractor shall give the Engineer not less than 07 days' notice of the date on which any Plant or a major item of other Goods will be delivered to the Site;
- (b) the Contractor shall be responsible for packing, loading, transporting, receiving, unloading, storing and protecting all Goods and other things required for the Works; and
- (c) the Contractor shall indemnify and hold the Employer harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from the transport of goods and shall negotiate and pay all claims arising from their transport.

3.4.11 Contractor's equipment:

The Contractor shall be responsible for all Contractor's equipment. When brought on to the Site, Contractor's equipment shall be deemed to be exclusively intended for the execution of the Works and shall be retained at the site till the completion of the work. The Contractor

shall not remove from the Site any major items of Contractor's equipment without the consent of the Engineer. However, consent shall not be required for vehicles transporting Goods or Contractor's Personnel off Site.

3.4.12 Protection of the Environment:

The Contractor shall take all reasonable steps to protect the environment (both on and off the Site) and to limit damage and nuisance to people and property resulting from pollution, noise and other results of his operations.

The Contractor shall ensure that emissions, surface discharges and effluent from the Contractor's activities shall not exceed the values indicated in the Specification and shall not exceed the values prescribed by applicable Laws.

3.4.13 Site Facilities:

Facilities Supplied by the Contractor:

The Contractor shall supply all services, amenities, temporary structures including security fencing if required and storage compounds if required, machinery, temporary sheds and construction equipment necessary for the proper execution of the Works at Site at his cost except for the items specified below, which will be provided by the Employer.

Facilities Supplied by the Employer:

The Employer will make available to the Contractor the following services which will be charged at the prevailing rates.

(a) Supply of land for Contractor's site establishment and lay down areas:

The above shall be made available at rates as given in the Scale of Rates as relevant and applicable subject to revision from time to time.

(b) Construction Water / Drinking Water:

The Employer will provide a source for reasonable quantity of construction water at one point adjacent to the Contractor's work area on chargeable basis. Any further reticulation to the Contractor's individual facilities shall be the Contractor's responsibility and cost. Similarly drinking water may be supplied on chargeable basis. However, all necessary arrangement like plumbing / installation of water meter etc. to be made by the contractor. Water charges will have to be paid (adjusted from the contractor's bill) by the contractor against actual consumption recorded through water meter as per the prevailing rates subject to revision from time to time.

(c) Electric Power:

The Employer may provide source of electric power at one point adjacent to the Contractor's work area. Any further reticulation to the Contractors' individual facilities shall be the Contractor's responsibility and cost.

The **Electricity consumption charges** [as per Port tariff] shall have to be paid by the Contractor immediately, on receipt of the bill from the office of MEE Department, V.O.Chidambaranar Port. All payment on this account should be

updated, otherwise the pending bill amount, along with late payment surcharge, will be recovered from the Contractor's bill(s).

The Employer does not guarantee the continuity of power supply. The contractor shall be required to make its own arrangements for the provision of uninterrupted electric power.

3.4.14 Records to be maintained:

The Contractor shall maintain site account of materials, including the departmental supply, clearly indicating relevant information such as description of the material, source, date of delivery at site, date of consumption at site. The Contractor shall forward a copy of monthly site account of materials to the Engineer in Charge at the end of every month. On completion of the work under the contract, the Contractor shall submit to the Engineer in Charge a copy of the site account of the materials from the date of commencement to date of acceptance. The Contractor shall also maintain hindrance register, site instructions register, complaint register and daily progress register and the EIC shall verify the registers as and when required and sign the same, duly recording his remarks.

3.4.15 Security of the Site:

Unless otherwise stated; authorized persons shall be limited to the Contractor's Personnel and the Employer's Personnel; and to any other personnel notified to the Contractor, by the Employer or the Engineer, as authorized personnel of the Employer's other contractors on the Site.

3.4.16 Contractor's Operations on Site:

The Contractor shall confine his operations to the Site, and to any additional areas, which may be obtained by the Contractor and agreed by the Engineer as working areas. The Contractor shall take all necessary precautions to keep Contractor's Equipment and Contractor's Personnel within the Site and these additional areas, and to keep them off adjacent land.

During the execution of the Works, the Contractor shall keep the Site free from all unnecessary obstruction and shall store or dispose of any Contractor's Equipment or surplus materials. The Contractor shall clear away and remove from the Site any wreckage, rubbish and Temporary Works, which are no longer, required. The Contractor shall clear away and remove, all Contractor's Equipment, surplus material if not handed over to the Employer as per the Contract. Contractor shall leave that part of the Site and the Works in a clean and safe condition. The Contractor shall at all reasonable times allow persons duly authorized by the Employer.

3.5 STAFF AND LABOUR:

3.5.1 Engagement of Staff and Labour:

The Contractor shall make arrangements for the engagement of all staff and labour, local or otherwise, and for their payment, accommodation, feeding and transportation. Since time is the essence of this Contract, the requisite number of labour force has to be kept so as to complete work within the completion period as stipulated in the Contract.

3.5.2 Compliances of Regulations etc.:

The Contractor shall, at all times during the continuance of the Contract, so far it may be necessary, comply with all existing enactments including central and state Legislation as

well as an applicable Bye-Laws of any local authority regarding labour (Contractor's Personnel), particularly the Minimum Wages Act, Factories Act, Workmen's Compensation Act, Provident Fund and Miscellaneous Provisions Act, Family Pension Fund Act and Employees State Insurance Act, Contract Labour (Regulation and Abolition) Act, Payment of Wages Act, Maternity Benefit Act, National Festival Holiday Act, Shop and Establishment Act, The Apprentice Act and shall keep the Employer indemnified against any action that may be taken against him for the contravention of provisions of the above said enactments by the Contractor. The prices quoted by the Contractor in Bill of Quantities shall be deemed to include all expenses whatsoever the Contractor may be required to incur for the compliance with the provisions of the above said legislation. The Contractor shall make necessary arrangements for the Employer to witness the payments made by the Contractor to his staff and labour and get the certificate from the Employer as required in terms of the regulations.

The Contractor shall cover all its workmen under EPF & ESI irrespective of the no. of workmen engaged in the work. The Contractor shall produce documentary evidence in support of the EPF & ESI coverage to its workers within 30 days of induction of contractual worker(s). This will also be applicable to the sub-contractor(s) appointed by the Contractor for the subject work.

The Contractor shall also comply apart from all the relevant labour Laws applicable to the Contractor's Personnel, Laws relating to their employment, health, safety, welfare, and emigration and shall allow them all their legal rights.

The Contractor shall require his employees to obey all applicable Laws, including those concerning safety at work.

3.5.3 Rates of Wages and Conditions of Labour:

The Contractor shall pay rates of wages and observe conditions of labour as per the provision of regulations, etc which are not lower than the minimum wages & conditions notified under any Central or State law as applicable to the Employer.

3.5.4 Persons in the Service of Employer:

The Contractor shall not recruit, or attempt to recruit, staff and labour from amongst the Employer's Personnel.

The Employer shall be at liberty to terminate the Contract if the Contractor himself or any of his partners / employees / staffs or any of his Directors who having held Class-I post with the Employer prior to his retirement has failed to obtain the Employer's specific permission to undertake any outside employment before the expiry of two years from the date of his retirement, in accordance with the regulations.

3.5.5 Facilities for Staff and Labour:

The Contractor shall provide and maintain all necessary facilities as applicable at site for smooth execution of contract. . Port entry permit for the contractor and their staff, materials, vehicles etc. for movement inside the Port area, will be on chargeable basis.

3.5.6 Health and Safety:

The Contractor shall at all times take all reasonable precautions to maintain the health and safety of the Contractor's Personnel. The Contractor shall maintain records and make Reports concerning health, safety and welfare of persons, and damage to property, as, the Engineer may reasonably require.

Safety Gears, PPEs, Etc.

The Contractor shall be solely responsible, at his own cost to provide all safety gears including PPEs for all labours engaged and he shall also ensure the use of such safety items by his staff & labour at site.

In the event of failure on the part of the Contractor, the Employer shall provide the same and recover the cost thereof from any amount due or which may become due to the Contractor or from any amount lying with them or under their control.

3.5.7 Contractor's Superintendence:

(a) The Contractor shall give or provide all necessary superintendence during the execution of the Works and as long thereafter as the Engineer may consider necessary for the proper fulfilling of the Contractor's obligations under the Contract. The Contractor, or his competent and authorized agent or Representative is to be constantly on the works and shall give his whole time to the superintendence of the same. Such authorized agent or Representative shall receive on behalf of the Contractor directions and instruction from the Engineer or the Engineer's Representative.

(b) *Epidemics:*

In the event of any outbreak of illness or an epidemic nature, the Contractor shall comply with and carry out such regulations, orders and requirements as may be made by the Government or the local medical or sanitary authorities for the purpose of dealing with and overcoming the same.

3.5.8 Contractor's Personnel:

The Contractor's Personnel shall be appropriately qualified, skilled, and experienced in their respective trades or occupations wherever require. The Contractor shall employ such skilled, semi-skilled and unskilled labour as is necessary for proper, timely execution of work.

The Engineer may require the Contractor to remove (or cause to be removed) any person employed on the Site or Works, including the Contractor's Representative if applicable, who:

- (a) persists in any misconduct or lack of care,
- (b) carries out duties incompetently or negligently,
- (c) fails to conform with any provisions of the Contract, or
- (d) persists in any conduct, which is prejudicial to safety, health, or the protection of the environment.

If appropriate, the Contractor shall then appoint (or cause to be appointed) a suitable replacement person.

3.5.9 Wage Records:

The Contractor shall maintain records of wages and other remuneration paid to his employees in such forms as may be convenient and to the requirements of the Engineer and conciliation officer, Central Ministry of Labour, Government of India or such other authorised persons appointed by the State Government. The Contractor shall also exhibit the different notices as required under the Minimum Wages Act, 1949, Payment of Wages Act, 1936 and other Acts, Rules and Regulations made there under from time to time.

3.5.10 Accidents:

The Contractor shall within 24 hours of the occurrence of any accident at or about the site or in connection with the execution of the work report such accidents to the Engineer / Engineer's Representative. The Contractor shall also report such accidents to the competent authorities to whom such report is required to be sent as per prevailing law.

3.5.11 Records of Contractor's Personnel and Equipment:

The Contractor shall submit if required, to the Engineer, details showing the number of each class of Contractor's Personnel and of each type of Contractor's Equipment on the Site. Details shall be submitted each calendar month, in a form approved by the Engineer, until the Contractor has completed all work.

3.5.12 Disorderly Conduct:

The Contractor shall at all times take all reasonable precautions to prevent any unlawful, riotous or disorderly conduct by or amongst the Contractor's Personnel, and to preserve peace and protection of persons and property on and near the Site.

3.5.13 Observance By Sub-Contractors:

The Contractor shall be responsible for observance by his Sub-Contractors of the foregoing provisions.

3.5.14 Remedial Action by the Employer:

If as a result of Contractor's failure, negligence, omission, default, or non-observance of any provisions of any laws, the Employer is called upon by any authority to pay or reimburse or required to pay or reimburse any amount, the Employer shall be entitled to deduct the same from any sums of money due or that they become due to the Contractor under this Contract or any other Contract or otherwise recover from the Contractor any sums which the Employer is required or called upon to pay or reimburse on behalf of the Contractor. All registration and statutory inspection fees in respect of his work pursuant to the Contract shall be paid by the Contractor.

3.6 PLANT, MATERIALS AND WORKMANSHIP:

3.6.1 Manner of Execution:

The Contractor shall, at his own costs and expenses, provide all labour, plant & equipment, materials, stores, etc. required for efficiently carrying out and completing the work to the satisfaction of the Employer within the stipulated time period as per Scope of Work and Specifications.

All plant & equipment and materials and workmanship shall be of the respective kinds described in the Contract and in accordance with Engineer's instructions and shall be subjected to such tests specified in the Contract.

3.6.2 Quality Assurance:

The Quality Assurance Plan defines the methodology to be used to ensure quality of goods / services involved in the work. The Contractor shall submit a quality assurance plan (QAP) for acceptance by the Engineer if specified in the Contract. The QAP shall, contain list of the tests and inspections proposed along with standards (IS or other equivalent standards / performance standards where applicable) to be done to ensure quality for goods and services

3.6.3 Inspection:

The Engineer or his designated Representative(s) shall at all reasonable times:

- (a) have full access to Contractor or its sub-contractor(s) / its manufacturer(s) premises / work site where the Plant and Equipment are being manufactured or the facilities are being installed / executed, and
- (b) during production, manufacture, and construction (at the Site and elsewhere), be entitled to examine, inspect, measure and test the materials and workmanship, and to check the progress of manufacture of materials.

The Contractor shall give the Employer's Personnel full opportunity to carry out these activities, including providing access, facilities, permissions and safety equipment.

3.6.4 Test

The Contractor shall at its own expense carry out at the place of manufacture and / or on the Site all such tests of the Plant and Equipment and any part of the Work / Facilities as are specified in the Contract or as per approved QAP.

Unless otherwise specified,

- (a) Works where supply of plant & equipment are not included in scope of Contractor, test & inspection shall be done by Engineer or his Representative on quality of workmanship of work.
- (b) The contractor shall submit, if necessary, test guarantee certificates / internal inspection report / manufacturer certificates towards acceptance of plant equipment. Inspection of works at site shall be carried out on the basis of workmanship and performance tests.
- (c) Works where supply of plant & equipment are included in scope of Contractor and if such tests are clearly intended by or provided for or inferred from the Contract or Specifications or Bill of Quantities, the test & inspection of all such specified plant & equipment / items shall be carried out at Contractor / sub- contractor(s) / manufacturers' premises as per approved QAP. For rest of the equipment / items, the Contractor shall submit test guarantee certificates/internal inspection report / manufacturer certificates. Tests & Inspection of works at site shall be carried out on the basis of workmanship and performance standards and as per approved QAP.

The Engineer or his designated representative(s) shall be entitled to attend the aforesaid test and / or inspection, provided that the Employer shall bear costs and expenses incurred in connection with such attendance including, but not limited to, all travelling and board and lodging expenses.

Whenever the Contractor is ready to carry out any such test and / or inspection, the Contractor shall give a 7-day advance notice of such test and / or inspection. The Engineer shall then either carry out the examination, inspection, measurement or testing without unreasonable delay, or promptly give notice to the Contractor that the Engineer does not require to do so. If the Contractor fails to give the notice, he shall, if and when required by the Engineer, shall carry out any such test and / or inspection and thereafter reinstate and make good, all at the Contractor's cost. The Contractor shall provide the Engineer with a certified report of the results of any such test and / or inspection.

If any Plant and Equipment or any part of the Facilities fails to pass any test and/ or inspection, the Contractor shall either rectify or replace such Plant and Equipment or part of the Facilities and shall repeat the test and / or inspection upon giving a notice.

The execution of a test and / or inspection of Plant and Equipment or any part of the Facilities, or the attendance by the Employer or the Engineer, or the issue of any test certificate or waiver certificate shall not relieve the Contractor from any of its responsibilities under the Contract.

Employer's right to inspect, test and, where necessary, reject the Goods after the Goods arrival in Employer premises shall in no way be limited or waived by reason of the Goods having previously been inspected, tested and passed by Employer or its representative prior to the Goods' shipment from the place of origin.

3.6.5 Rejection:

If, as a result of an examination, inspection, measurement or testing, any Plant, Materials or workmanship is found to be defective or otherwise not in accordance with the Contract (all such matters being hereinafter, called 'Defects'), the Engineer may reject the Plant, Materials or workmanship by giving notice to the Contractor in writing of the said decision specifying particulars of the defects alleged to exist or to have occurred. The Contractor shall at his own expense and with all efforts would make good the defects so specified.

Further, Employer reserves the right to subject any part / component / equipment for re-test and on written instruction from Employer, the Contractor shall arrange for the re-test and the cost shall be reimbursed by Employer as per actual, only if the test results are satisfactory. In case of unsatisfactory test results, the part / component / equipment shall be rejected and the Contractor shall be responsible for replacement of the item at his own cost and also bear the cost of the re-test.

3.6.6 Remedial Work:

Notwithstanding

- (a) remove from the Site and replace any Plant or Materials which is not in accordance with the Contract,

- (b) remove and re-execute any previous test or certification, the Engineer may instruct the Contractor to: any other work which is not in accordance with the Contract, and
- (c) execute any work which is urgently required for the safety of the Works, whether because of an accident, unforeseeable event or otherwise.

The Contractor shall comply with the instruction within a reasonable time, which shall be the time (if any) specified in the instruction, or immediately if urgency is specified under sub-paragraph (c). If the Contractor fails to comply with the instruction, the Employer may take, at the cost and risk of the Contractor, such steps as may in all circumstances be reasonable to make good such defects. The expenditure so incurred by the Employer will be recovered from the amount due to the Contractor. The decision of the Engineer with regard to the amount to be recovered from the Contractor will be final and binding on the Contractor.

3.7 COMMENCEMENT AND DELAYS:

3.7.1 Commencement of Work:

The work shall be commenced within 15 days of issuance of Letter of Acceptance / Work Order. If no notification received from the Contractor regarding commencement date, then 16th date from issuance of Letter of Acceptance / Work Order shall be treated as date of commencement. The Contractor shall proceed with the Works with due expedition and without delay. Commencement of work is subject to compliance all the conditions precedent as mentioned at **Clause No. 2.26 and 2.28.1 of ITB (Section-I)**. The stipulated deadlines mentioned at **Clause No. 2.26 and 2.28.1 of ITB (Section-I)** would have to be strictly adhered to unless otherwise extended by Employer.

3.7.2 Time of Completion / Period of Contract:

The Contractor shall complete the whole of the Works, and each Section (if any), within the Time for Completion as indicated in Work Order / Letter of Acceptance for the Works or Section (as the case may be), including:

- (a) achieving the passing of the Tests on Completion, and
- (b) Completing all work, which is stated in the Contract as being required for the Works or Section to be considered to be completed for the purposes of taking over under **Clause 3.9** [Acceptance]

3.7.3 Time Schedule/ Bar Chart:

If specified in the Contract, The Contractor shall submit a Time Schedule / Bar Chart form within 15 days of issuance of Letter of Acceptance / Work Order.

The Contractor shall submit a bar chart, before signing the agreement, clearly indicating the plan for timely execution of the work. The bar chart must indicate the individual activities and commencement and completion dates of each activity. The bar chart shall be used for monitoring the progress of the work.

Unless the Engineer, within 15 days after receiving bar chart, gives notice to the Contractor stating the extent to which it does not comply with the Contract, the Contractor shall proceed in accordance with the bar chart.

If, at any time, the Engineer gives notice to the Contractor that time schedule fails (to the extent stated) to comply with the Contract or to be inconsistent with actual progress and the Contractor's stated intentions, the Contractor shall submit a revised time schedule / bar to the Engineer.

3.7.4 Extension of Time for Completion:

The Contractor shall commence the works after being notified for award of work and shall proceed with the same with due expedition and without delay except as may, be expressly sanctioned or ordered by the Engineer or be wholly beyond the Contractor's control. The Contractor shall maintain the rate of progress required as per schedule.

The Contractor shall be entitled subject Contractor's Claims to an extension of the Time for Completion if and to the extent that completion of work *is* or will be delayed by any of the following causes:

- a) changes ordered by the Employer,
- b) delay in performance of work caused by orders issued by the Employer.
- c) delay in providing work fronts or supply of any materials or services which are to be provided by the Employer,
- d) exceptionally adverse climatic conditions,
- e) force Majeure
- f) other reasonable causes

If the Contractor considers himself to be entitled to an extension of the Time for Completion, the Contractor shall give notice to the Engineer for extension of time before expiry of the period of contract with details of the hindrance(s) on account of which he desires such extension as aforesaid with documentary evidence.

If the progress of work is held up owing to circumstances which, in the opinion of Engineer are beyond the control of the Contractor the Engineer may, at his discretion, grant to the Contractor such extension of time as he considers reasonable for the completion of the work.

The execution of the work during the extended period also shall be only under the conditions and at the rate specified in the contract.

No claim shall be made by the Contractor on the grounds of executing the work beyond the completion period stipulated in the contract.

3.7.5 Liquidated Damage:

Unless otherwise specified, in case of delay in completion of the contract, liquidated damages (for works costing up to Rs. 10 lakh - one (1) percent of the contract value per week and for all other works half percent (0.5%) of the contract value per week of delay subject to a maximum of ten percent (10%) of contract value should be levied. Such liquidated damages will be deducted from any money due or become due to the contractor. The payment of such damages shall not relieve the contractor of his obligations to complete the work or from any other of his obligations or liabilities under this contract.

3.8 TESTS, IF ANY ON COMPLETION OF ERECTION & INSTALLATION AT EMPLOYER'S SITE:

- (a) On completion of erection / installation of the items under the work / facilities by the Contractor and also when trial runs & final adjustments at the site are completed in accordance with the Contract, the Contractor shall give the Engineer-in-charge notice in

writing thereof and before making the tests on completion of 7 days' notice in writing of the date on which he will be ready to make the said tests in accordance with and in the manner prescribed in the specifications.

- (b) If any portion of work falls under the tests to fulfil the Contract conditions, tests of the faulty portion shall, if required by the Engineer-in-charge or by the Contractor, be repeated within a reasonable time upon the same terms and conditions.
- (c) If the Contractor neglects to make the 'Performance test' within the time stipulated, Employer shall nevertheless have the right of using the Installations at the Contractor's risk until the 'Performance test' is successfully carried out.

3.9 **ACCEPTANCE:**

Upon successful tests under **Clause No.3.8** / upon completion of work under this contract, the Engineer may accept the works and/or services, if defects or shortcomings are not considered essential and, the Contractor agrees to make good the deficiencies in confirmation with this contract. Further, no work shall be treated as accepted before the Contractor clears the site of scraps, unused materials, work shed, equipment and all such materials which were used for execution of the work and not required any more at the work site.

The Engineer may, at the sole discretion of the Employer, may accept part or section work if it is substantially completed.

The Contractor shall submit to the Engineer the "as-built" documents and operation and maintenance manuals in accordance with the Specification and in sufficient detail for the Employer to operate, maintain, dismantle, reassemble, adjust and repair this part of the Works. Such part shall not be considered to be completed for the purposes of acceptance until these documents and manuals have been submitted to the Engineer.

As soon as the works have been completed in accordance with the contract and have passed the tests on completion, the Employer shall issue a certificate in which he shall certify the date on which the works have been so completed and have passed the said tests, and the Employer shall be deemed to have taken over the works on the date so certified.

3.10 **DEFECT LIABILITY / GUARANTEE/ WARRANTY:**

- 3.10.1 The Contractor shall warrant that the work or any part thereof under this contract will comply strictly with the contract or superior to what is defined, shall be first class in every particular case and shall be free from defects. The Contractor shall further warrant that all materials, equipment, and the supplies furnished by him will be new and fit for their intended purposes.
- 3.10.2 The guarantee period shall be for a period mentioned in the NIT from date of completion of work, unless otherwise specified in the Scope of Work / Special Condition of Contract.
- 3.10.3 If during the Defect Liability Period any defect be found in materials and workmanship or of the work executed by the Contractor, the Contractor upon being notified, shall promptly, in consultation and agreement with the Employer and at its cost, repair, replace or otherwise make good such defect as well as any damage to the goods & services and materials caused

by such defect within a specified time or a mutually agreed time between the Contractor & Employer.

3.10.4 If the work or any part thereof cannot be used by reason of such defect and / or making good of such defect, the Defect Liability Period of the work or such part, as the case may be, shall be extended by a period equal to the period during which the work or such part cannot be used by the Employer because of any of the aforesaid reasons. In addition, the Contractor shall also provide an extended warranty for any such replaced or repaired component of the work for the period of minimum 12 months or as it may be stipulated in Contract Technical Specifications. Such obligation shall be in addition to the defect liability specified under **Clause 3.10.2** hereof.

3.10.5 If the Contractor, having been notified, fails to remedy the defects in accordance with the contract, the Employer may proceed to take such remedial action as may be necessary, at the Contractor's risk and cost.

3.10.6 In the event of repeated failure of any component or material or fitting, within the warranty period, it shall be treated as failure on the part of the Contractor and the Contractor shall have to promptly rectify the same at his own cost failing which Employer shall have the right to recover the cost from any other outstanding amount of the Contractor lying with Employer and / or any amount that may become due to the Contractor and the Contractor shall be debarred to participate in any of the tender of Employer in future.

3.11 MEASUREMENT:

Unless otherwise specified:

- (a) measurement shall be made of the net actual quantity of each item of the Permanent Works, and
- (b) the method of measurement shall be in accordance with the Bill of Quantities or other applicable Schedules.

3.12 VARIATIONS:

The variation or additional work must be a necessary part within the scope of the original works and should not completely change the scope/ character and purpose of the original contract. The variation may result in additional or reduced payments to the contractor or there may be no price change at all.

3.12.1 Variation means:

- (a) increase or decrease in the quantity of any work included in the BOQ of the contract.
- (b) omission of any such work (but not if the omitted work is to be carried out by the Employer by another contractor);
- (c) change in the character or quality or kind of any such work.
- (d) change in the levels, lines, position and dimensions of any part of the works.
- (e) additional work of any kind necessary for the completion of the works; and
- (f) change of the specified sequence or timing of construction of any part of the works.

At any time during the execution of the contract, by a written notice to the Contractor (Change Order), variations as specified above may be made in the scope of contract by Representative of Engineer, with due approval of competent authority.

3.12.2 Valuation of Variations:

Variations as specified in **clause 3.12.1** shall not in any way vitiate or invalidate the contract but the cost, if any, arising out of all such changes shall be taken into account in ascertaining the total amount of the contract price. Where the rate is available in the contract and the same is applicable to the additional work, in the opinion of the Engineer, the cost of the additional work shall be determined as per this available rate. But, if the rate for additional work is not available in the contract, the same shall be determined by the Engineer taking into account the market rate and labour cost at the site for similar works and shall be final.

3.12.3 Deviations from the specifications as contained in the contract agreement including the make / model, shall not be accepted. In case of any such deviation, payment shall not be made for that part of the work / item, even if it is meeting the functional requirements and has been accepted by the Employer. The payment for such portion of the work / item can only be released if the contractor makes good the deviations before the expiry of the warranty period so as to meet the specifications of the tender agreement in all respects.

3.12.4 Adjustments for Changes in Legislation:

If during the period of the contract, any statutory regulations or bye-laws, new tax / duty / cess or any other charge is imposed / levied / come into force by the Government / any statutory authority having impact on the payable amount to the Contractor only to the extent of the services to be rendered after commencement of work, then the same would be paid by VOCPA to the contractor at actual on production of relevant proof.

3.13 CONTRACT PRICE AND PAYMENT:

3.13.1 The Contract Price:

The Contract Price as specified in Letter of Acceptance / Work Order shall be for the entire Scope of the work towards execution and completion of the Works and the remedying of any defects. Price Schedule or Bill of Quantity of Contract Price is attached with Letter of Acceptance.

The Contract Price accepted in Indian Rupees shall include all duties, taxes and levies, transportations, incidentals, etc. as may be applicable and prevailing on base date of the Contract i.e. bid opening date but excluding Goods & Service Tax (GST).

3.13.2 Firm Contract Price:

The contract shall be firm, not subject to any escalation except in the event of a change in the scope of work or specification or as otherwise provided in the Contract.

3.13.3 Executed Contract Value:

The Employer hereby agrees to pay to the Contractor the Contract Price in consideration of the performance by the Contractor of its obligations and includes adjustments in accordance with the Contract or such other sums as may be determined in accordance with the terms and conditions of the Contract.

3.13.4 Payment Terms:

Contractor shall submit Tax invoice as per the provision of GST Act and rules. 100% of

payment to the Contractor will be made on satisfactory completion of works and will be released on receipt of the complete and correct invoices & relevant documents and unless any objection to such bill is raised by the Employer. Deductions & Recoveries will be made as per conditions of the contract. The quantity given in the Price Schedule / BOQ is only approximate and payment will be made as per actuals.

3.13.5 Taxes & Duties:

The Contractor shall pay all taxes, duties, cess, levies if any, fees and all other dues required to be borne & paid by him under the Contract, and the Contract Price shall not be adjusted for any of these costs except as stated in **Sub-Clause 3.12.4** [Adjustments for Changes in Legislation] on production of documentary evidence by the Contractor;

The Contractor shall bear and pay all the liabilities in respect of non- observance of all legal formalities as per various statutory provisions.

3.13.6 Goods and Service Tax:

3.13.6.1 The GST shall be paid by the Employer at the rates applicable from time to time on submission of bills / invoices as prescribed under GST rules mentioning the full details regarding the Name, Address, GST Registration Number of the bidder along with the description, classification and value of taxable services and GST payable thereon. The GST shall be reimbursed to the Contractor on his making available the GST claimed by him in GSTR against the Port GST number.

3.13.6.2 The GST TDS shall be applicable as per the section 51 of the CGST Act, 2017. [As per CGST Act, 2017] and shall be deducted at such rate as may be specified from the invoice of the Contractor.

3.13.7 Income Tax:

Income tax will be deducted at the rates as applicable from time to time. It is open to the contractor to make an application to the concerned Income Tax Authorities to obtain a certificate from them authorizing the department to deduct income tax at such lower rate or deduct no tax as may be appropriate to his case. Such certificate will be valid for the period specified therein unless it is cancelled by the Income Tax authorities earlier.

3.13.8 E-payment:

The Bidder should submit the consent in a mandate form for receipt of payment through EFT and provide the details of bank A/c in line with RBI guidelines for the same. These details will include bank name, branch name & address, A/c type, bank A/c no., bank and branch code as appearing on MICR cheque issued by the bank. Further, the Contractor should also submit a certificate from their bank certifying the correctness of all the above-mentioned information in the mandate form. In case of non-payment through EFT or where EFT facility is not available, payment will be released through cheque.

3.13.9 Deduction / Recoveries:

3.13.9.1 Deduction of taxes at source shall be made from the bill of the Contractor in accordance with the prevailing rules& regulations of Employer.

3.13.9.2 While performing under the contract, the damages caused by the Contractor or his/her workmen to any of the Employer's shall be promptly made good by the Contractor at his/her own cost. In case the Contractor fails to repair/replace the damage, the Employer shall have the right to take steps to make good the damages and all the cost on this account shall be recovered from the bills of the Contractor or any money due to the Contractor from this contract or any other contract or any other transaction. In determination of the damage, the opinion of the Engineer shall be conclusive.

3.13.9.3 Any dues arising out of failure on the part of the Contractor to carry out any obligation under the contract shall be deducted from the bills of the Contractor or from any money due to the Contractor from this contract or any other contract including Security Deposit and Performance Security

3.13.10 No Interest on Account of Delayed Payments:

Any claim for interest will not be entertained by the Employer with respect to any payment or balance which may be in their hands owing to any disputes between themselves and the Contractor or with respect to any delay on part of the Employer in making payment.

3.14 BREACH OF CONTRACT, REMEDIES AND TERMINATION:

3.14.1 Breach of Contract:

In the event of unsatisfactory performance or non-compliance with regard to the provisions of the Contract or omission or negligence or default or failure to comply with any of the conditions of contract, a breach of contract is said to have occurred by the Contractor of the terms and conditions of the Contract. In such cases, the Employer will issue notice to the contractor indicating such unsatisfactory performance or non-compliance by the Contractor, for compliance and if the Contractor fails to comply within a period of 15 days or within the time specified in the notice from the date of issue of notice, the Employer reserves the right to terminate the contract following the procedure as stated below:

- (a) Consequent to the failure of the contractor to comply with the notice issued for non-performance / breach of contract, the Employer will issue a notice giving the contractor 7 days' time asking him to show cause as to why the contract should not be terminated.
- (b) If no reply is received or if the reply received from the contractor within given time is found to be not satisfactory, Port will terminate the contract with immediate effect.

3.14.2 Termination of Contract for Default:

Without prejudice to any other remedy for breach of contract, by written notice of default sent to the Contractor, the Employer may terminate the contract in whole or in part, if:

- (a) the Contractor has seriously or repeatedly breached the contract including:
 - 1. failure to complete the work within the time period(s) specified in the contract, or any extension thereof granted.
 - 2. substantial suspension of work for more than the specified days without authority from the engineer and failure to proceed with the work within the specified days of receipt of notice from the engineer without any lawful excuse.
 - 3. failure to obey instructions in relation to his progress or defective work, material or plant.

4. failure to proceed diligently with the work.
5. breach of the prohibition against sub-contracting.
6. abandons the Contractor without reasonable cause.

- (b) the contractor has committed fraud.
- (c) the contractor fails to perform any other obligation under the contract within the period specified in the contract or any extension thereof granted.

In such event,

- (a) the Performance Security and Security Deposit will be forfeited, for the loss or damages suffered by the Port due to the breach of the Contract committed by the Contractor. In addition, the Employer may also black list or suspend or debar the Contractor from participating in future tenders, as the Employer thinks deem fit.
- (b) the Employer will take over the site and to complete the works himself or with another contractor (risk Purchase) and using the contractor's materials, equipment, temporary works. The Contractor shall remain liable to the Employer for any excess cost for such works and risk, if any
- (c) No payment shall be released in favour of the Contractor till all the balance works are completed in all respects. After the balance works are completed, the Employer may consider payment for the items / goods that have been completed / supplied by the Contractor and accepted by the Employer after adjustment of any additional cost that have been incurred for completing the balance works and outstanding dues that due to the Contractor.

However, the contractor shall continue to fulfil the contract to the extent not terminated.

3.14.3 Termination of Contract for Insolvency / Bankruptcy / Winding up, etc.:

The Employer shall be entitled to cancel / terminate the Contract before expiry of contract period, if the Contractor is declared as insolvent or bankrupt or is unable to pay its debts or makes a composition with its creditors or if a trustee, liquidator, receiver or administrator is appointed to take over the assets or the business or the undertaking of the Contractor or if a substantial portion of the assets, property, revenues or business of the Contractor is confiscated or expropriated by the Central / State Government or any governmental agency or third party or if the law relating to the sick companies applies to the Contractor or the Contractor is dissolved or wound up or if an order shall be made or an effective resolution is passed for the winding up of the Contractor or the Contractor is reconstituted or the business or operations of the Contractor is closed either due to disputes inter-se amongst its stakeholders or otherwise. Termination shall be affected by giving a written notice to the contractor, without compensation to the contractor, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to Employer.

3.14.4 Termination of Contract for Employer's Failure or Convenience / Foreclosure of the Contract by Port:

After placement of the contract, there may be an unforeseen situation compelling Employer to cancel the contract. In such a case, the Contract may be foreclosed by the Employer by giving 30 (thirty) days advance notice to the Contractor during the subsistence of the contract period without assigning any reasons. In such event, the Performance Security Deposit and Security deposit will be refunded to the Contractor. Also, the Contractor may be suitably compensated on mutually agreed terms for terminating the contract based on value of works executed, value of any materials lying at site, etc., and deducting from it: (i) pending advances; (ii) other recoveries; and (iii) taxes as due.

3.14.5 Discontinuance by the Contractor:

If the contractor is not in a position to continue the contract, the Contractor should give 90 (ninety) days in writing, prior to the proposed date of discontinuance of the contract to the Port. In such case, the Performance Security and the Security Deposit shall be forfeited.

3.15 RISK AND RESPONSIBILITY:

3.15.1 Indemnification:

The Contractor shall defend, indemnify, and keep indemnified and hold the Employer, its officers and employees harmless from any and all claims, demands, injuries, damages, costs, charges, compensation, losses, expenses, proceedings or suits including attorney fees, arising from

- a) Any breach or default in the performance of any obligation on the Contractor's part to be performed under the terms and conditions of this Contract or
- b) any negligence of the Contractor, or any of its agents, or its employees or the person provided for the purpose of this Contractor.
- c) non-fulfilment/ non-adherence/ non-compliance of any statutory provisions which is as per law the contractor is required to comply with.

The provisions of this section shall survive even after the expiration or termination of this Agreement.

3.15.2 Contractor's Care of the Works:

Care of Works From the commencement to the completion of works the Contractor shall take full responsibility for the care thereof and of all Temporary works and in case any damage, loss or injury shall happen to the works or to any part thereof or to any Temporary works from any cause whatsoever (save and except the Excepted Risks as defined in **clauses 15.3.**) shall at his own cost repair and make good the same so that at completion, the works shall be in good order and condition and in conformity in every respect with the requirements of the Contract and the Engineer's instructions. In the event of any such damage, loss, injury happening from any of the Expected Risks the Contractor shall if and to the extent required by the Engineer repair and make good the same as aforesaid at the cost of the Employer.

3.15.3 Excepted Risks:

The "Excepted Risks" are war hostilities (whether war be declared or not) invasion act of foreign enemies, rebellion, revolution, insurrection or military or usurped power civil war

or (otherwise than among the Contractor's own employee's) riot, commotion or disorder or use or occupation by the Employer of any portion of the works in respect of which a certificate of completion has been issued or a cause solely due to the Engineer's design of the Works or any such operation of the forces of nature as reasonable foresight and ability on the part of the Contractor could not foresee or responsibility provide against or any such eventuality which are beyond the control of the contractor and the Employer (all of which are herein collectively referred to as "The Excepted Risks").

3.15.4 Patent Rights:

The Contractor shall fully indemnify Employer against any action, claim or demand, costs or expenses arising from or incurred by reason of any infringement or alleged infringements of letters, patents, design, trademark or name, copyright, or other protected rights in respect of any machine, plant, work, materials or things, system or methods of using, fixing working or arrangement used for fixed or supplied by the Contractor in India, or elsewhere.

All payments, or otherwise, shall be deemed to be included by the Contractor in the Prices named in the tender and shall be paid by him to whom they may be payable.

In the event of any claim being made or action brought against Employer in respect of any such matter as aforesaid, the Contractor shall be immediately notified thereof and he shall, with the assistance if he so requires of Employer, but at the sole expense of the Contractor, conduct all negotiations for the settlement of the same or any litigation that may arise there from, provided that the conduct of such negotiations or litigations shall be conditional upon the Contractor giving to Employer such security as shall from time to time, reasonably required by Employer to recover the ascertained or agreed amount as the case may be of any compensation, damages, expenses and cost which might be payable by Trustees in respect of or as result of any negotiation or litigation.

3.15.5 Damage to Property:

The Contractor shall be responsible for making good to the satisfaction of the Port, any loss or damage to any structures and properties within the Port premises if such loss or damage is due to fault and/or the negligence or willful acts or omission of the Contractor, his employees, agents, representatives and/or manpower deployed by the contractor. The contractor shall make good the loss as assessed by the Port.

3.15.6 Accident or Injury to Workmen:

The Employer shall not be liable for any damages or compensation payable at law in respect or in consequence of an accident or injury to any workmen or any other person in the employment of the Contractor and the Contractor shall indemnify and keep indemnified the Port against all such damages and compensation and against such claims, demands, proceedings, costs, charges and expenses whatsoever in respect thereof or in relation thereto.

3.16 INSURANCE:

- (a) Before commencing of execution of works the contractor shall insure against any damage, loss or injury which may occur to any property including that of the

Employer or to any person including any employee of the Employer or arising out of the execution of the works in carrying out of the contract.

- (b) Minimum Amount of Insurance: Such Insurance shall be effected with an insurer for at least the awarded value of the contract and the contractor shall produce to the Engineers representative the policy or policies of insurance and receipts for payment of the current premiums, which is mandatory before admitting any bills for payment by Employer.

3.17 FORCE MAJEURE:

- (a) The term “force majeure” as employed herein shall mean including but not limited to, acts of God, war, revolt, riot, fire, flood and acts and regulations of the Government of India or any of its authorized agencies. In the event of either party being rendered unable by force majeure to perform any obligation required to be performed by them under this agreement, the relative obligation of the affected party by such force majeure shall be suspended for the period during which such cause lasts.
- (b) Upon the occurrence of such cause and upon its termination the party alleging that it has been rendered unable as aforesaid thereby shall notify the other party immediately in writing of the alleged beginning and ending thereof giving full particulars and satisfactory proof and it cannot be claimed ex-post facto. The clause does not excuse a party’s non-performance entirely, but only suspends it for the duration of the Force Majeure.
- (c) The time for performance or relative obligations suspended by the force majeure shall be extended by the period for which the cause lasts or condoned by the Employer without any penalty. If the work is suspended by force majeure conditions lasting for more than 1(one) month, the Port shall have the option of cancelling the Contract in whole or in part thereof at its own discretion. Any situation of force majeure shall not be payable by the Port under any circumstances. For the period of force majeure, no amount shall be payable to the Contractor.

3.18 DISPUTE RESOLUTION MECHANISM:

3.18.1 Normally, there should not be any scope for dispute between the Employer and Contractor after entering into a mutually agreed valid contract. When dispute/ difference / disagreement / claims of any kind arise, both the Employer and contractor should first try to resolve it amicably by mutual consultation failing which it shall be referred to conciliation & settlement Committee established by the Employer.

3.18.2 Amicable Settlement:

If a dispute of any kind, whatsoever, arises between the Employer and contractor in connection with or arising out of the contract or the execution of the works, whether during the execution of the works or after their completion and whether before or after the repudiation or termination of the contract, including any difference, question or disagreement by either party with any action, in action, opinion, instruction, determination, certificate or valuation of the Engineer; the matter in dispute shall,

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- (a) refer to the Chief Mechanical Engineer, V.O. Chidambaranar Port Authority, Tuticorin.
 - (b) In case the dispute is not resolved, the same shall be referred to the committee headed by Deputy Chairman and other members to be nominated by Chairman, VOCPT.
 - (c) If the dispute remains unresolved, the same shall be referred to the Chairman, VOCPT, whose decision, in this regard, is final and binding on both the parties to the contract.

3.18.3 Conciliation:

In case any dispute is not resolved amicably as provided in **Clause 3.18.1**, the Contractor may agree to refer the matter to conciliation & settlement Committee established by the Employer. The procedure for reconciliation and settlement shall be followed as per the guidelines issued by the Ministry of Ports, Shipping and Waterways (Conciliation and Settlement Guidelines).

3.18.4 Arbitration:

If an amicable settlement is not forthcoming, the Dispute shall be referred to the Society for Affordable Redressal of Disputes - Ports (hereinafter called as SAROD - Ports). The dispute shall be dealt with in terms of Rules of SAROD - Ports. The detailed procedure for conducting Arbitration shall be governed by the Rules of SAROD - Ports and provisions of Arbitration & Conciliation Act, 1996, as amended from time to time. The Dispute shall be governed by Substantive Law of India.

3.19 OTHER CONDITIONS:

3.19.1 Extras:

Any extra expenses incurred in connection to the Works by the Employer in the performance of the Works owing to the neglect or omission on the part of the Contractor, in any of the case mentioned in this Contract shall be deducted from any sum due or which may thereafter become due to the Contract or from any amount lying with them or under their control or he may be called upon to pay the amount of such extra expense to such person or persons as the Employer may appoint to receive the same and in the event of the Contractor failing to make such payment, the said amount shall be recoverable from him in such manner as the Employer may determine.

3.19.2 Use of Ground:

On completion of Works or termination of his contract, he shall clear away all his tools, plant, rubbish, and other materials within a fortnight and handover and peaceful possession of the same to the Employer in a tidy and clean condition.

3.19.3 Use of Completed Portions:

3.19.3.1 Whenever in the opinion of the Employer the work or any part thereof is in a condition suitable for use and in the best interest of the Employer requires the use, the Employer may take possession of the same. The Contractor shall, however, be not relieved of his pending obligations.

3.19.3.2 Prior to the date of final acceptance of the work by the Employer, all necessary repairs or renewals in work or part thereof so used on account of defective materials

or workmanship or due to the operation's failure except normal wear & tear shall be at the expenses of the Contractor.

3.19.3.3 Such use shall neither relieve the Contractor or any of his responsibilities under the contract nor act as a waiver by the Employer of the conditions thereof. However, if, in the opinion of the Employer, the use of the work or the part thereof delays the completion of the remainder of the work, the Employer may grant such extensions of time, as it may consider reasonable.

3.19.3.4 The decision of the Employer in the matter shall be final. The Contractor shall not be entitled to claim any compensation on account of such use by the Employer.

3.19.4 Employer's Lien:

Employer shall have a lien on over all or any money that may become due and payable to the Contractor under this Contract or any other Contract or from any amount lying with them or under their control and in respect of any debt or sum that may become due and payable by the Employer to the Contractor either alone or jointly with another or other and either under this Contract or under any other Contracts or transaction of any nature whatsoever between the Employer and the Contractor.

3.19.5 Bribes and Commission:

Any bribe, commission, gift or advantage given, promised or offered by or on behalf of the Contractor or his or their behalf to any officer, servant, representative or agent of the Engineer or to any person on his behalf in relation to the obtaining or to be execution of this or any other contract with the Employer shall in addition to any criminal liability which he may incur subject the contractor to the cancellation of this and all other contracts with the Employer and also to the payment of any loss or damage resulting from any such cancellation, and the Employer shall be entitled to deduct the amounts so payable from any money otherwise due to the contractor under this or any other contract. Any question or disputes as to the commission of any offence under the present clause shall be settled by the Engineer in such a manner and on such evidence or information as he shall think fit and consider sufficient and his decision shall be final and conclusive.

SECTION IV

SPECIAL CONDITIONS OF CONTRACT

4.1 Joint Venture:

- 4.1.1 The invitation for bid is also open to Joint Venture (JV) / Consortium meeting the eligibility criteria defined in **Section – I (NIT)**.
- 4.1.2 Members / partners of Joint Venture (JV) / Consortium shall have an equity share of at least 26% (twenty-six per cent), provided that each such member shall, for a period of 2 (two) years from the date of commencement of the contract, hold equity share capital not less than 26% (twenty-six percent) of the subscribed and paid-up equity.
- 4.1.3 The maximum number of partners/ members in Joint Venture (JV) / Consortium shall be limited to three. All the partners shall be jointly and severally liable for the successful completion of the work.
- 4.1.4 The Joint Venture (JV) / Consortium should fulfil the criteria as specified in Section – I (NIT) collectively.
- 4.1.5 Where the bidder is a “Consortium”, it shall be required to comply with the following requirements:
- (a) Members of the Consortium shall nominate one member as the Lead Member who shall have an equity share holding of at least 26% of the paid up and subscribed equity. The nomination(s) shall be supported by a Power of Attorney, as per the format at **FORM-XIII**, signed by all the other members of the Consortium; Lead Partner / member is responsible for signing Agreement with VOCPA and shall be authorized to incur liabilities and receive instructions for and on behalf of all the partners of joint venture.
 - (b) The Tender / Bid shall contain the information required for each member of the Consortium.
 - (c) The Bidder shall include a brief description of the roles and responsibilities of individual members of the consortium, particularly with reference to technical and financial obligations.
 - (d) An individual (single entity) Bidder participating in the instant tender shall not be a member of any other Consortium participating in the instant tender; further, a member of a particular Consortium shall neither submit any tender individually nor shall be a member of any other Consortium participating in the instant tender.
 - (e) All members of the Consortium shall be liable and responsible jointly and severally for all obligations of VOCPA in relation to the contract throughout the contract period.
- 4.2 Successful bidder / Executing agency / Contractor have same meaning for all purposes.
- 4.3 **Please refer Clause 2.16 (xv).** The bidder shall submit the following technical details and brochures of the wind turbines proposed for the subject project.

1. Detailed technical specification
2. Schematic Diagram of power evacuation document.
3. The model of WTG offered should be as per the Ministry of New and Renewable Energy (MNRE) RLMM's latest list. Documentary proof to this effect must be submitted along with the bid.
4. Energy Computation
The bidder shall submit, "Energy Yield Estimation Report" for 11years along with the Certified Power and Thrust Curve of the proposed WTGs based on the wind data measured / collected by VOCPA at 100m height and furnish all the input information/ data.
5. Land requirement and the tentative proposed location (s) for installation of Wind turbines.
6. Worksheet for estimated annual wind energy production output – Attachment 1
7. The details of WTG shall be furnished in the format provided in Attachment – 2

4.4 **EVALUATION & COMPARISION OF BID: (May be read in conjunction with Clause No. 2.8.1 & 2.8.2)**

Evaluation of Technical Bid:

In evaluation of the technical bid, conformity of the eligibility/ qualification, technical and commercial conditions to those in the bid document is ascertained. Additional factors, if any, incorporated in the tender documents may also be considered in the manner indicated therein. A responsive tender is one which inter-alia confirms to all the terms and conditions including General and Special conditions of the entire bid documents without any deviation or reservation and the same shall be determined as described below:

(i) Compliance to eligibility Criteria;

The documents uploaded by the bidder as specified in **Form- IV** read with **Section - II, Clause 2.11.6.2 (iv)**, will be evaluated basing on the work orders, Performance Certificate / work completion certificate of similar nature of the work and value of the work fulfilling the eligibility criteria.

The financial capability will be evaluated based on the information provided in **Form III** read with **Section- II, clause 2.11.6.2 (iii)**.

The bids fulfilling the eligibility/ prequalification criteria and other requirements as mentioned in TD will be declared as prequalified bids.

- (ii)** The Port may verify the original documents of the scanned copies uploaded by the Bidder during evaluation or at any time, if required. In case the documents submitted by the bidders found to be forged/ false, the port will take appropriate penal action including cancellation of the work order issued and blacklisting of the firm/ company for a period of 3 years.
- (iii)** The shortlisted bidders after the Techno-Commercial evaluation will be informed through emails after short listing and the same will also be published in the Port website. Any bidders

who had participated in the tender having any objections or observations shall inform the same to the designated Email id, within a period of seven days from the date of publishing in the website. Objections if any, received after this date will not be entertained.

- (iv) Objections so received will be duly examined as per the Terms and Conditions of the tender and the decision will be posted on the website or intimated to the firm. The decision of the competent authority, in this regard, will be final and binding and no further objections will be entertained once the decision is finalized.

(v) **Award Criteria (Superseding Clause No.2.9)**

1. The bid satisfy the prequalification criteria will be considered for opening of price bid.
2. The evaluation of the energy yield estimation report submitted by the bidder shall be carried out by using WAsP (Wind Atlas Analysis and Application Programme) tool, considering the following loss factors viz., Grid Availability – 95%, Machine Availability – 95%, Transmission Loss – 3% and Wake Loss – 5% and standard uncertainty factors. The evaluation and validation of the Estimation of energy generation for the wind power plant shall be carried out by the PMC consultant of VOCPA or any other reputed Agency approved by Govt. of India and their decision on this shall be final and binding. The cost per unit will be derived from Energy yield estimation and cost of machine including 11 years O &M.
3. The cost per unit will be derived from Energy yield estimation and cost of wind farm with all ancillary and Transmission line including 11 years of comprehensive O & M.
4. Further the weightage of the bids will be calculated as below
 - (a) 10% weightage will be considered for land.
 - (b) 90% weightage will be considered for cost per unit.
 - (c) Land score = Lowest bidder's land area / Bidder's land area X 100
 - (d) Cost per unit score = Lowest offered bidder's cost per unit / Bidder's cost per unit.
 - (e) Total Score = (10 % x Land score) + (90% x cost per unit score)
5. VOCPA may award the bidder whose score is highest at his quoted price. However, if the cost of wind farm is higher than the estimation, VOCPA may opt to go for negotiation with highest score bidder. The decision of the VOCPA is final.

4.5 Commencement of Work: (Superseding Clause No.3.7.1 of GCC)

The work shall commence within 15 days of issuance of Letter of Acceptance / Work Order. If no notification received from the Contractor regarding commencement date, then 16th date from issuance of Letter of Acceptance / Work Order shall be treated as date of commencement. The Contractor shall proceed with the Works with due expedition and without delay. Commencement of work is subject to compliance with all the conditions precedent as mentioned **at Clause No. 2.26 and 2.28.1 of ITB (Section-II)**. The stipulated deadlines mentioned **at Clause No. 2. 26 and 2.28.1 of ITB (Section-II)** would have to be strictly adhered to unless otherwise extended by Employer.

4.6 Time of completion/period of contract (May be read in conjunction with Clause No.3.7.2 of GCC)

Design, Manufacture, Supply, Installation, Testing, Commissioning, and Guaranteeing the performance of 6MW wind farm and obtaining statutory approvals with 2 years guarantee:

06 months from the date of commencement of the work including 1(One) month of stabilization.

O & M of 6MW wind farm:

Date of commencement for Operation and Maintenance of the 6MW wind farm shall be from the date of commissioning and acceptance of the facility by VOCPA. The O & M period is for 11(Eleven) years including 2 years guarantee period.

The contract can further be extended for another two years at the discretion of the port subject to satisfactory performance with same rate, terms & conditions.

4.7 Time Schedule/ Bar Chart:

The Contractor shall submit the bar chart in accordance with **Clause No.3.7.3 of GCC for Design, Manufacture, Supply, Installation, Testing, Commissioning, and Guaranteeing the performance of 6MW wind farm and obtaining statutory approvals with 2 years guarantee – complete work including site development to commissioning and obtaining statutory approvals, etc.**

4.8 All the work fronts cannot be made available at a stretch any time. The same will be handed over in stretch by stretch to the Contractor for the execution depending on the request of the contractor and progress of the work. The firm /Contractor shall programme the work accordingly and complete the total work within the stipulated time. No financial claim for delay in handing over the site either in full or for giving stretch by stretch will be entertained by VOCPA. However, suitable time for completion of work will be considered for the delay on account of VOCPA.

4.9 The Contractor shall submit weekly/monthly Progress Report in the agreed Pro-forma on every Monday and 2nd of succeeding month. In case of deviation from agreed bar chart, the contractor shall indicate the reason for deviation and follow up-action needed to compensate the shortfall along with weekly/monthly progress report.

(a) Weekly Progress Report

- Weekly program v/s actual achieved in the past week and program for the ensuing week.
- Remedial Actions and hold-up analysis.
- Client or PMC Consultant query/ approval.
- Photographs

(b) Monthly Progress Report:

This report shall be submitted on a monthly basis within Ten Calendar days from

the cut-off date as agreed upon, covering the overall scenario of the work. The report shall include but not be limited to the following:

- Brief introduction of the work.
- Activities executed/achievements during the month.
- Schedule v/s actual percentage progress manufacturing / delivery, sub-contracting, construction, and overall work.
- Quantum wise status of purchase orders against scheduled shall also be indicated.
- Areas of concern/problem/hold-ups, impact, and action plans.
- Resources deployment status.

Distribution: Contractor has to send one duly signed copy of the above reports along with a soft copy to the VOCPA.

4.10 PAYMENT:- (May be read in conjunction with clause no.3.13 of GCC)

Design, Manufacture, Supply, Installation, Testing, Commissioning, and Guaranteeing the performance of 6MW wind farm and obtaining statutory approvals:

Supply

- (a) 60% progress payment against receipt of supply along with 100% taxes and duties.
- (b) 20% against commissioning
- (c) 15% against successful completion of Energy Production Demonstration Test (EPDT).
- (d) 5% against Final Acceptance Certificate upon completion of Stabilization Period

The percentages mentioned are w.r.t **Price Schedule, Sl. No.1.**

The successful bidder shall submit the Bill breakup unit as per the above schedule for the approval of VOCPA. The BBU will be vetted by third party agency or PMC. The payment will be released as per the above schedule & BBU, on completion of scheduled work and submission of required documents.

Erection, Testing, Commissioning, Stabilization, Charges for Statutory Approvals, electrical works including Development charges, etc

- (a) 60% on completion of Foundation & Erection of WTGs
- (b) 20% against commissioning
- (c) 15% against successful completion of Energy Production Demonstration Test (EPDT).
- (d) 5% against Final Acceptance Certificate upon completion of Stabilization Period

The percentages mentioned are w.r.t **Price Schedule, Sl. No.2.**

The successful bidder shall submit the Bill breakup unit as per the above schedule for the approval of VOCPA. The BBU will be vetted by third party agency or PMC. The payment will be released as per the above schedule, on completion of scheduled work and submission of required documents.

O & M of 6MW wind farm:

100% Monthly payment as per the BOQ on submission of Consolidated O&M report for the respective months. The Consolidated O&M report will be prepared on award of work with the successful bidder on mutually agreed terms.

- (a) The monthly payment during the period of O & M (11 years) as per BOQ subject to any deduction and/ or retention money, after adjusted of any dues attributed to the contractor.
- (b) The O&M charges shall be inclusive of all applicable taxes, duties, fees, royalty, levies, etc. but excluding GST.
- (c) Payment will be made after all applicable deductions. The BOQ prices shall be inclusive of all salaries and other costs, expenses of employees, cost of spares, cost of repair / replacement / modification of any equipment or system for the entire quoted period of contract, to give a minimum of 95% machine availability. The prices shall also be deemed to be 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 VOCPA by the contractor.
- (d) 100% Monthly payment as per the BOQ on submission of Consolidated O&M report for the respective months. The Consolidated O&M report will be prepared on award of work with the successful bidder on mutually agreed terms.

4.11 Design Criteria:

The bidder may please note that the specifications mentioned in the Tender Document are indicative only. The bidder may adopt its own design so as to fully meet the **functional requirements in all respects** without sacrificing the safety, quality, efficiency and reliability in any manner.

All the material, equipment offered and used in the execution of the work shall be suitable for sustained service in a marine atmosphere and cyclone prone environment.

In the event of repeated failure of any component or material or fitting, within the warranty period, it shall be treated as design defect and the Contractor shall have to promptly rectify the same at his own cost failing which VOCPA shall have the right to recover the cost from any other outstanding amount of the Contractor lying with VOCPA and / or any amount that may become due to the Contractor and the Contractor shall be debarred to participate in any of the tender of VOCPA in future.

4.12 Manuals & drawings:

All the manuals shall be sufficiently informative so as to smoothly carry out operation and

maintenance after the work is completed and accepted by VOCPA. The following guide lines may be followed by the Contractor for preparation of the manuals which shall be submitted in electronic form as well as 3sets Hard Copies.

A) Operation Manual : The manual must cover, inter alia, the principal features of the machine / equipment / system, as applicable, the control philosophy used, pre-starting checks, starting procedures, checks to be made during operation, stopping procedures, DOs and DONTs, trouble shooting, emergency procedures, safety trips etc.

B) Maintenance Manual: The manual must include, inter alia, important maintenance procedures, preventive maintenance schedule, Lubrication Chart, various tolerance limits and list of special tools. The maintenance manual must contain dismantling and assembling procedures of important components clearly showing positioning of special tools, fixtures, measuring instruments etc. with diagrams.

C) Spare Parts Manual: The manual must contain, inter alia, spare parts details such as drawing no., part no, specifications of all the assemblies. For bought out items, the cross sectional drawings giving details of parts, dimensions etc. has to be supplied to VOCPA. The bearing nos and oil seal nos of all the bearings and oil seals used in the work must be listed clearly giving their make and the location where used.

D) As-Built Project Document Handover

4.13 Project Management Consultancy (PMC);

The PMC appointed by VOCPA provides the following services

1. Assistance and review in obtaining relevant safety, environmental, and regulatory approvals by the Executing Agency (EA).
2. Co-ordination with stakeholders, executing agency, VOCPA, statutory/regulatory agencies, etc
3. Reviewing and approval of design, drawings, data sheets and documents submitted by the contractor as per the relevant standards, statutory and bid requirements.
4. Compile all relevant data, reports, and documentation throughout the project.
5. Any other activities as envisaged by the PMC and VOCPA
6. Preparation of a checklist and comprehensive review plan and Monitoring, Reviewing, inspecting, Validating, Co-ordinating with stakeholders, QC, Ensuring timely completion
7. The PMC while inspecting, shall adhere to the requirements of the relevant standards meant for the execution. While offering its views/recommendations, the standards referred to must be mentioned by the PMC. In case there is no specific standard available, the same may be clearly mentioned and proper justification in support of recommendation should be recorded in the report. The contractor has to submit one set of the standard documents of relevant standards referred/ mentioned in the contractual document for reference.
8. The consultant shall depute concerned Engineer(s)/Expert (s) continuously/intermittently for smooth execution and quality checking as per project requirements
9. The responsibility of the PMC shall, inter alia, to ensure and certify that the work is being executed as per the relevant standards as given in the approved QAP.

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10. On completion, permit the contractor to commission the project. Consultant shall check, validate, the material, works, equipment, procedures and statutory clearances & required approvals and recommend for the acceptance of the Project by VOCPA.

4.14 Time Is The Essence Of The Contract:

Time is the essence of the contract and the Contractor shall ensure that all the obligations under the contract are completed within the agreed time schedule. The Contractor shall be solely responsible for all the delays including the delays caused by it's vendors. In case of delay in progress of the works, VOCPA reserves the right to withhold the payment, cancel the contract unilaterally or complete the work departmentally or by engaging another agency at the cost and risk of the contractor.

4.15 Defect Liability / Guarantee: (Superseding Clause No.3.10)

Design, Manufacture, Supply, Installation, Testing, Commissioning, and Guaranteeing the performance of 6MW wind farm and obtaining statutory approvals:

- 4.15.1 The Successful bidder shall guarantee for trouble free working of the plant/equipment/subsystem for 2 (two) years from the date of acceptance shall be furnished. For this purpose two years shall mean twenty calendar months during which the plant shall remain in commission and will not include period or periods during which the plant shall be out of commission due to defective materials, bad workmanship etc., covered by the bidder's guarantee.
- 4.15.2 The Successful bidder shall guarantee to supply required spares and after Sales Service for a period of 11 years. The period of any delay other than on extraordinary situation in supplying the spares required will not be accounted for against the guarantee period of two year.
- 4.15.3 The Successful bidder shall guarantee that the equipment will be new & in accordance with the Contract relevant standards and free from defects arising due to deficiencies in design, engineering, and workmanship.
- 4.15.4 The Successful bidder shall guarantee for the entire plant, i.e., wind turbines, generators, transformers, switchgear, etc., and their associated equipment for a period of two years from the date of completion of the stabilization period. If during the said guarantee period, VOCPA finds any materials to be containing manufacturing defects or defects in workmanship or otherwise, the contractor would be required to promptly repair/supply /replace such defective equipment free of charge to VOCPA with an extended guarantee of another 12 months from the date of replacement. If the item is brought out item, the warranty period will be as declared by the Manufacturer or 12 months, whichever is greater.
- 4.15.5 The Successful bidder shall bear all the expenses incurred in connection with the repair or replacement against such defective equipment, inclusive of all freight and insurance, Taxes & Duties, levies, forwarding and clearing and demurrages, and other incidental charges involved in delivering the said equipment to VOCPAs specified destination. The charges for erection and supervision of such replacement shall not be paid by VOCPA. The decision whether correction of the defects should be by the repair or replacement shall be the sole discretion of VOCPA.

- 4.15.6 VOCPA and the Successful bidder shall mutually agree to a program of replacement, renewal, or repair which will minimize any interruption in the commercial use of the equipment.
- 4.15.7 In the event, the Successful bidder fails to undertake necessary steps to repair or replace defective materials as stipulated above after receiving notice from VOCPA of any defect in the material or failure of any material to conform with the specifications, VOCPA may proceed to undertake the repair or replacement of such defective equipment at bidders' risk and expense but without prejudice to any other rights with VOCPA may have against the bidder in respect of such defects.
- 4.15.8 The Successful bidder shall submit a guarantee support program, in detail, covering the methodology and approach, which shall be adopted to ensure minimum failures and maximum availability of the WTG. The Bidder shall provide details of his warranty program and after-sales service capability, including an organization chart, guaranteed response times to requests for technical assistance and spare parts, and a 24-hour helpline.
- 4.15.9 The successful bidder shall maintain the installations during the free guarantee period including providing manpower, materials, tools, Equipments, machineries, tackles, etc. The terms and conditions of the comprehensive O&M is applicable for guarantee period.

Comprehensive O & M of 6MW wind farm:

The bidder shall guarantee to supply required spares and consumables during the deployment period for efficient and effective operation of the plant.

The Successful bidder shall guarantee to supply required spares and after Sales Service for a period of 10 years after the successful commissioning of the plant. The period of any delay other than an extraordinary situation in supplying the spares required will not be accounted for against the guarantee period of one year.

4.16 Liquidated Damage: (Superseding Clause No.3.7.5 of GCC)

Design, Manufacture, Supply, Installation, Testing, Commissioning, and Guaranteeing the performance of 6MW wind farm and obtaining statutory approvals:

In case of delay in completion of the contract, liquidated damages half percent (0.5%) of the contract value (Item No.1&2 value of price schedule) per week of delay subject to a maximum of ten percent (10%) of contract value should be levied. Such liquidated damages will be deducted from any money due or become due to the contractor. The payment of such damages shall not relieve the contractor of his obligations to complete the work or from any other of his obligations or liabilities under this contract.

- 4.17 Hot work during maintenance period is subject to adhering to safety measures prescribed by Fire Section/ Safety office Department.
- 4.18 Contractor's Office: The buildings should not be used for residential purposes. The contractors shall at their own cost and expense shall arrange for watch and ward security at the above location.
- 4.19 No cooking shall be permitted inside the work spot. No alcoholic drinks will be permitted inside the work spot and no personnel with alcoholic influence will be permitted to enter

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- into the work spot. The contractor shall ensure that the personnel employed for this work do not smoke inside the Port area.
- 4.20** Statutory requirement as per Labour Department and Dock Safety Inspectorate as per regulation should be adhered by the Contractor.
 - 4.21** All safety precautions shall be strictly adhered to.
 - 4.22** The contractor and their employees should be complied with Quality Management (ISO 9001:2015, EMS ISO 14001:2015 and OHASAS 18001:2007) Electricity Act, Dock Safety regulations.
 - 4.23** The contractor shall allow his labourers for the government notified national and local festival holiday and such closed holidays for the Port declared by the employer and also have due regard to local religious and social customs in respect of labourers employed by him.
 - 4.24** The Contractor shall be responsible for any accident, damage or injury caused to any of his employees during the execution of this work and shall hold the VOCPA blameless in respect thereof and also in respect of any reason whatsoever.
 - 4.25** The Contractor shall be solely responsible for reporting to the Port Authority and Police Department immediately of any serious or fatal accidents inside the Harbour premises to any of his employees/workmen engaged by him.
 - 4.26** The contractor shall deploy disciplined work force. If any the person (s) noticed for malpractice/ disobedience / noncompliance of work, the contractor is responsible for the misbehavior and the concerned will not be entertained inside VOCPA further. The damage / loss caused shall be rectified by the contractor.
 - 4.27** The staff provided by the contractor are in case found to be indulging in any undesirable or unfair activities in the premises of the office, the contractor will solely be responsible for all the consequences apart from the liberty of office to lodge complaints before appropriate authorities.
 - 4.28** The contractor shall furnish contact telephone number, Mobile number & contact address of representative of contractor.
 - 4.29** Unauthorized person belonging to the contractor are not allowed to enter port premises.
 - 4.30** Accidents: Any accidents including death caused to the contractor or workers during course of execution of work or elsewhere will be taken care by the contractor(s) themselves and Port is no way responsible for the same. The port is not responsible for any loss of life or damage or theft of materials. All the materials should be kept in the safe custody of the Contractor.
 - 4.31** The contractor shall supply the PPEs (safety helmet, Gloves, shoes, reflecting jackets, diversion boards, etc) to the workers for carrying out maintenance works in safe manner.
 - 4.32** The contractor shall pay the monthly salary to the technicians before 7th day of every month.
 - 4.33** Any manpower shall apply leave, the contractor is requested to deploy a fresh manpower as required.

- 4.34** The contractor is required to pay bonus as per the Bonus act to the manpower deployed and the same shall be reimbursed at actual by the Port upon submission of proof of payment to the provided manpower.
- 4.35** The contractor shall furnish the valid labour license under contract labour (Regulation and abolition) Act 1970 within 30 days from the date of work order and comply with all necessary required provisions of the above act as amended and rules /orders framed there under from time to time and shall hold valid license throughout the contract period.
- 4.36** The contractor shall be responsible for disputes that may arise between the contractor and the manpower contractor and its amicable solutions.
- 4.37** STAFF: The staff engaged for by the contractor shall be given periodical safety training and periodical medical check-up by the contractor (once in a year) to comply with IDLR requirement. Electrician/Supervisor working in electrical accessories shall be qualified as per the requirement of electricity act.
- 4.38** The Contractor shall carefully operate and maintain the plant. If any damages happened to the port properties during the contract period, the contractor shall rectify the damage at his cost, failing which the actual charges towards rectification will be re-covered from the contractor along with departmental supervision cost.
- 4.39 Final Inspection, Acceptance and Payment:**
- The Contractor shall, two months prior to the expiry of the Contract Period, notify VOCPA in writing for inspection in order to handover the plant to Port in a reasonably good and working conditions. VOCPA shall make a final inspection within 30 days of receiving such Notice from the Contractor and take over the plant on expiry of the Contract. In case of any defect or abnormality, observed during inspection, and shall be made good by the Contractor at his own cost within a reasonable period and thereafter certificate of final acceptance / completion certificate will be issued either on completion of contract or on rectifications of defects or abnormalities whichever is later. For this purpose, payment for the last 2months shall be withheld. Upon receipt of the certificate of final acceptance, the Contractor will make application to VOCPA for final payment within 30 days. VOCPA shall make payment to the Contractor within 30 days after receiving the final payment invoice, complete in all respect.
- 4.40 Engineer-in-Charge (EIC):**
- The concerned Executive Engineer of the Division, executing the work, shall be Engineer-in-Charge (EIC) for the work.

SECTION-V

TECHNICAL SPECIFICATIONS

TECHNICAL SPECIFICATION FOR WIND TURBINE GENERATORS (WTG) AND ASSOCIATED EQUIPMENTS OF WIND POWER PLANT (s) (WPP)

5. WIND TURBINE GENERATORS (WTG):

5.1 WTG Type:

The WTG shall be of the type given below:

5.1.1 Upwind

5.1.1.1. Horizontal axis with active yawing.

5.1.1.2. 3-bladed type rotor.

5.1.1.3. Grid compatible.

5.1.1.4. Pitch or active stall regulated.

5.1.1.5. Single or Variable speed

5.1.1.6. Lattice / tubular steel tower/Hybrid Tower or RCC.

5.2 Rotor:

The rotor shall be so manufactured as to be least affected by the tropical weather and coastal conditions at the site for its life profile surface smoothness etc. The rotor should have its own aerodynamic brake so that extra torque due to strong wind, gust, storm, etc., is only marginally transmitted to the high-speed shaft of the gearbox if any. The blades shall be sturdy enough to maintain their shape and alignment when kept installed or stopped condition at any angle to the vertical and for a long period of time. The safety system of the rotor assembly shall be of fail-safe design. The blades of the rotor shall have inbuilt lightning protection. This will be in addition to lightning protection provided for the rest of Nacelle's equipment.

5.3 Braking System:

5.3.1 Two independent braking systems shall be necessary, out of which one should be aerodynamic type through tip brake or pitch control.

5.3.2 The aerodynamic brake may be hydraulic or mechanical or electrical type but shall be so designed that braking force shall be applied evenly through all the blades to avoid vibration and undue stresses on the rotor. The operation of the braking system shall be foolproof and shall have a minimum adverse effect due to the ingress of dust and water/ moisture into the moving parts. In any case, these brakes shall have the facility of auto/ remote controlled resetting when activated. In case the hydraulic power pack is located in the hub, the unit shall be certified for operation at any position with respect to horizontal level and shall be unaffected by the centrifugal force experienced during over speeding of the rotor. Safety precautions against loss of power in this braking system shall be incorporated.

- 5.3.3** Fail-safe, heavy-duty electro-hydraulic or hydraulic brake shall be provided for mechanical braking of the rotor. This may be provided on high speed or low-speed shaft but not on the non-driving end of the generator to avoid fatigue-failure of the generator shaft. The brake shall be adequately rated to stop the rotor at full speed during sudden power failure. The Brake shoe line shall withstand temperature rise at the time of braking and have adequate surface area for dissipation of thermal energy. The shoes shall be capable of withstanding a large number of operations before requiring replacement.
- 5.3.4** An additional brake manually operated from the nacelle shall be provided for holding the rotor in any position with the main brake(s) dismantled for inspection and servicing.
- 5.3.5** The Contractor, along with explanatory notes on their working principle, shall indicate the expected life of the braking system and the pads. The note shall also explain the safety feature for a situation when the WTG is kept switched off for a long period for maintenance etc., and disconnected from the grid.

5.4 Yaw System:

The WTG shall be provided with an active yaw system responding to the signals from the wind direction sensor. The yaw system shall possess a feature for automatic untwisting of cables connected to the Nacelle. The yaw system shall be protected against corrosion, dirt, and also fatigue due to gusts, storm, freak wind-shift, etc.

5.5 Tower:

- 5.5.1** The WTG shall have identical towers, either RCC or lattice or tubular or hybrid (a combination of lattice & tubular type) type fabricated from structural grade steel sections or plates or members and shall be galvanized or painted as specified. The tower shall be designed for the dynamic loading imposed by the normal operation of the WTG as well as to withstand survival wind speed without any damage. The permissible tolerances in the fabrication of towers shall be as per the relevant Indian standards. Complete details of the towers shall be furnished.
- 5.5.2** The towers shall be provided with facilities like lift etc., for safe access to the nacelle and to the aerodynamic brakes. Safety ropes, belts and necessary foundation bolts shall also be made available as & when required during erection time or during the O&M period.
- 5.5.3** If tubular towers are offered, and the local control panels and associated electrical equipment are installed inside the tower, a lockable door shall be provided at the base of the tower or inside the tubular tower portion in case of hybrid towers. In the case of lattice-type or RCC tower, a separate electrical room with adequate protection against weather and unauthorized entry shall be provided.
- 5.5.4** CCTV system shall be provided with adequate recording facility and interconnection with the CCTV control centre of VOCPA.
- 5.5.5** A separate dashboard shall be provided with necessary hardware and software to monitor the wind farm data (generation, performance, maintenance data, etc). Also the existing RE plants (solar & WTG) shall be interconnected in the dashboard with cumulative monitoring facility with a provision to add future RE project monitoring.

5.5.6 The wind farm tower and machine shall be painted with the VOCPA logo in an attractive manner. Necessary display boards explaining the Wind farm & its benefits shall be installed near each WTGs

5.5.7 A suitable fencing around the WTG (s) shall be installed for safe guard the WTG and its accessories.

5.6 Tower Foundation:

The foundations shall be designed to take adequate care of the possible soil condition and adverse seismic effects on the basis of soil conditions of the site. For this purpose, the Contractor is required to carry out the soil investigation prior to the foundation work. The Contractor shall, upon his selection, submit a report consisting of the following so as to establish the adequacy of tower and foundation design:

- i. Soil investigation report carried out.
- ii. Foundation design calculations.

The soil conditions, survival wind speed, load on tower and foundation, together with such other parameters required for a safe design of the tower and its foundation, shall be considered by the Contractor. The contractor shall prepare the site with reengineering works based on soil test reports to improve the soil bearing capacity and to make the site fit for installation of WTG. Necessary guard wall protection and other arrangement as per site requirements shall be made by the contractor.

5.7 Electrical Systems of WTG:

5.7.1 General:

5.7.1.1 Electrical power and control systems of the WTG must be designed for unattended, automatic service.

5.7.1.2 The design must ensure

- Desirable reliability.
- Easy maintenance and services.
- Maximum power production.

5.7.1.3 All installations/ equipment/ system/components must be designed, fabricated, and tested in accordance with the latest publications from the Indian and International Organizations of Standards:

- BIS: Bureau of Indian Standard
- IEC : International Electro-technical Commission

5.7.1.4 The Contractor shall submit the details of standards if not comply with BIS/IEC.

5.7.1.5 The test certificates should be obtained from any recognized/authorized Govt. testing/certified body.

5.7.2 System Voltage:

5.7.2.1 The WTG system shall be designed to operate continuously and satisfactorily under the

following parameters though being indicative & depending on WTG design, shall comply with IEGC requirements:

- Voltage –nominal value (according to IEC 60038) 690 V \pm 10 %.
- Frequency – 50 Hz (- 3 Hz and +1 Hz)
- Voltage imbalance – the ratio of the negative sequence component of voltage not exceeding 2 %.
- Current asymmetry: \pm 12.5%
- Auto-reclosing cycles – auto-reclosing cycle periods of 0.1 to 5 s for the first reclosure and 10s to 90s for a second reclosure shall be considered.
- However, the above variations should be acceptable to state electricity utility.

5.7.2.2 Tolerances exceeding the above limits must not harm/damage the installation in any way.

5.7.2.3 If the WTG is to be stopped or tripped beyond the limiting values mentioned above, adequate time delay shall be incorporated for cooling of the electrical equipment in accordance with the system design.

5.7.2.4 The contractor shall furnish the provisions for the protection of the system or equipment when boundary conditions are violated.

5.7.3 Generators:

5.7.3.1 The generators shall be of three-phase induction generators asynchronous/synchronous generators/Doubly-Fed Induction Generators (DFIG) / PMG (Permanent Magnet Generator)/with Gear/Gearless compatible for 50 Hz grid connection, designed for tropical environment and in accordance with Indian / International standards applicable for design and manufacturing of generators which are also approved type by certifying agencies in their approved valid type certificates.

5.7.3.2 The generators shall meet at least the following technical specifications:

i.	Rated voltage	: 690V-1000V,3 phase-according to the design of the OEM
ii.	Rated frequency	: 50 Hz
iii.	Rated output	: To match WTG
iv.	Degree of protection (IEC)	: IP 65
v.	Power factor	: Power factor for all generation level shall not be less than 0.95
vi.	Efficiency	: Min.90%

vii.	Insulation class	:	“F” Has approved in the type test.
viii.	Vibration category	:	As per relevant IS/IEC

5.7.3.3 The generators shall be provided with temperature sensors installed in the stator windings being part of the generator protection system.

5.7.3.4 If the design of the system so demands, a separate cooling fan with cooling fins and ducting shall be provided for the generator. This fan should preferably be automatically controlled through a temperature-sensing device.

5.7.3.5 Generator windings etc. must be provided with special corrosion protection to cope with condensation problems caused by the high relative humidity/ temperature gradient at the site.

5.7.3.6 Generator shall be protected against short circuit, earth fault, over current, and over/ under voltage. The contractor shall mention the requirement of any other protection and shall also mention the type and make of protection relays considered.

5.7.3.7 Generators must be provided with a drain hole.

5.7.3.8 Generator construction, electrical and mechanical, must withstand cut-in at anti-phase & cut-out phases.

5.7.3.9 The rated output and voltage shall match the varying availability of Wind Energy on the one hand and all the possible grid connection on the other hand. In case of variable speed, WTG is offered, complete details of power electronics used for this purpose shall be furnished along with the offer.

5.7.3.10 Range of speed in which it shall be possible to synchronize the generator with the grid shall be furnished.

5.7.4 **Transformers:**

5.7.4.1 The transformer should be type tested and a type certificate to be furnished. The transformers shall be of vector group Dyn 11, oil-immersed, naturally cooled (ONAN), outdoor type of connection to a system with suitable tapings or better specifications suitable as per site requirements.

5.7.4.2 The transformers shall be of approved makes. The transformer, cables, all other equipments & instruments shall conform to relevant IS.

5.7.4.3 The contractor shall provide transformer (s) to match the required grid voltage as per DISCOM.

5.7.5 **CABLING:**

5.7.5.1 **Cable type:**

Two categories of cables shall be provided, one for stationary equipment and the other for movable equipment and components. Irrespective of utilization voltage and current rating, all cables shall have a copper conductor and shall be a minimum of 1100 volts grade. The cables shall be adequately insulated for the voltage required and shall be suitably color-coded for the required service. The Contractor shall furnish the size and rating of cables along with the offer.

5.7.5.2 **Cable end termination:**

The cable ends shall be terminated with adequate size metallic double compression cable glands/PVC glands, and the glands shall be earthed at two locations. Suitable lock-type crimping lugs shall be used for cable end terminations. Where cables are raised from the ground, suitable PVC pipe guarding shall be provided for cable raising with the sealing of the guarding PVC pipe, including a suitable clamp.

5.7.5.3 **Transmission:**

The gearbox, if provided, shall be of proven and special design suitable for WTG application from an experienced and reputed manufacturer for long and trouble-free operation. Standard components shall be used to give high reliability. The gearbox, if used, shall be provided with a temperature sensor mounted in the sump for measuring the oil temperature amongst other parameters. The transfer of vibrations from the gearbox to the nacelle shall be minimized & necessary provisions shall be made in accordance.

5.7.6 **Capacitor Banks:**

Since capacitor bank provision is dependent on the design of every WTG, the Contractor shall clearly establish its requirement so as to limit the power factor (0.95 or more) & reactive power (*not more than 3% of the active power exported on an annual basis*). Other requirements are mentioned below :-

- Adequate capacitor banks shall be provided with automatic control switches so that the reactive power requirement of the generator(s) is compensated, resulting in a minimum power factor of 0.95 at all operating conditions.
- The capacitors must be connected when WTG is running after the start procedure is terminated. Safety equipment must be provided for switching off the capacitors when disconnected from the grid to prevent the rise in voltage and Production. The capacitor banks must be installed with a tightness class of minimum IP 21.
- The rated voltage of the capacitors must be equal to the WTG nominal voltage.
- The capacitors shall, in general, conform to IS or IEC equivalent.
- Capacitor shall be provided separately to compensate the reactive power drawl by the step-up Transformers installed for grid tie-up, and this capacitor should be in parallel with the grid always, except whenever power is switched off.

- f) The total reactive power drawl (kVARh) from the grid in each of the metering points shall not exceed 3% of the active power exported. This will be calculated on a monthly basis.
- g) DFIG having adjusting power factor feature without additional capacitor bank shall also be acceptable provided they meet the power factor requirement of the state utility. In case WTG has an inbuilt power factor adjustment algorithm without an additional capacitor bank shall also be acceptable provided they meet the power factor requirement of the state utility if any.

5.8 **Start-Up:**

The current drawn by the WTG at the time of grid tie-up shall be limited to the full load current of the generator by providing suitable thyristor controls or other means. Provision for inhibiting start from the central monitoring system must be provided. The maximum inrush / starting current shall not exceed the full load current of the generator.

5.9 **Power Panel:**

- a) Each WTG shall have a power panel, and it must include all power distribution for the WTG, the protection systems, soft start, capacitor control, yaw motor and other auxiliary drives, control, etc.
- b) General data for the Power Panel:

i.	Control Voltage	As per requirement
ii.	Frequency	50Hz +/-2 Hz
iii.	Prospective Short-Circuit level	50KA(RMS)symmetrical
iv.	Degree of protection	IP54 and above
v.	Incoming cable	PVC insulated & armoured
vi.	Space heaters	Required with thermostat.

- c) The power panel and its bought-out components shall be designed and manufactured in accordance with Indian/IEC standards.
- d) The 415 volts, 3 phase supply between power panel and transformer shall be protected against short circuit by circuit breaker/ MCCB on distribution board. Lightning arrestors must be installed at the control panel end to protect against voltage transients on the grid. The power panel frame shall be connected to the earth at two points.
- e) The switchboard must include suitable outlets to feed the lights and sockets in the nacelle/tower area. Socket outlets must be kept powered even when the WTG is stopped and all remaining electrical installations isolated from the grid.
- f) The generator overload protection system must be combined with temperature measurement of the generator windings to ensure maximum production time of

the WTG even at low grid voltage.

- g) A phase relay must cut out the generator if any of the phases are missing. Relays and computer systems must be fully functional at voltages drops up to -13% of 400 / 690 volts.
- h) Voltage variations beyond (+/-) 13% or ambient temperature above 45°C must not harm/damage the systems with a suitable protection mechanism.
- i) A mushroom-type emergency push button must be located on the switchboard front.
- j) A switch for preventing remote control operation must be located in the front of the switchboard.

5.10 **Local Control System (LCS):**

The WTG shall have a Local Control System (LCS), and it shall be designed for automatic, unattended operation based on a microprocessor/ PLC-controlled system with adequate power backup. The microprocessor/ PLC and power control units shall be located at a well-ventilated place. In the case of a tubular tower, the LCS shall be capable of operating satisfactorily at such temperature that may exist inside the tower without exceeding the permissible temperature rise. The LCS shall be able to display basic operating functions of the WTG along with provision for stopping and restarting the WTG. This should either be by providing a suitable display on meters or through port compatible to Laptop. If the manufacturer does not have an LCS control system in their design, they have to make the necessary arrangement to display the control and operational parameters. The LCS shall be able to:

5.10.1 **Display the following parameters:**

i.	Power(kW)
ii.	Voltage (V), of all the three phases in RMS values.
iii.	Frequency (Hz)
iv.	Current (A) of all the three phases in RMS values.
v.	Rotor Revolution Speed (rpm)
vi.	Brake activation
vii.	Cumulative energy production (kWh)
viii.	Cumulative virtual energy production (kVAh)
ix.	Cumulative active energy consumption from the grid (kWh)
x.	Cumulative reactive energy consumption is drawn from grid

	(kVArh), if applicable
xi.	Power production of the WTG (kW)
xii.	Total run hours of WTG
xiii.	Status of WTG
xiv.	Yaw angle
xv.	Wind speed (m/s) and direction of wind flow.
xvi.	Actual reactive power consumption (kVAr)
xvii.	Temperature of the generator, gear box, etc.
xviii.	Hydraulic Pressure

5.10.2 **Display and Alarm for the following conditions:**

i.	Low oil level or pressure in gearbox
ii.	Yaw failure
iii.	Cable twist
iv.	Control system failure
v.	Excessive vibration in the nacelle or other major item
vi.	Worn-out brake pads
vii.	Abnormal temperature in generator, gear box, yaw motor, brake calipers and control panel
viii.	Grid failure i.e., frequency error, excess current asymmetry, voltage failure
ix.	Over speed of rotor and generator
x.	Activation of emergency stop brake
xi.	Failure of capacitor units, if applicable

5.10.3 Stop, display, and restart again when conditions become normal:

- i. Low wind speed
- ii. High wind speed

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- iii. Untwisting and twisting of cables
 - iv. Activation of the stop push button (restart when the start push button is activated)
- 5.10.4 Stopping the WTG automatically whenever the grid supply fails and the AutoStart of WTG on resumption of healthy grid supply. The LCS shall be connected with the Central Monitoring and Control System. It should be possible from central monitoring and control system at the master control room to control all the Wind Electric Generators, give commands, record their various data and take out the printed reports of energy generated from the wind power project as a whole and from each WTG, export /import of energy, etc.
- 5.10.5 Provide parameters and operational conditions to the Central Monitoring and Control System (CMCS/SCADA) in the Central Control Room.
- 5.10.6 LCS shall release the WTG after a shutdown caused by grid failure, and the WTG shall start automatically, provided it was released by CMCS. The WTG shall be restarted manually only under all other shutdowns. If the CMCS is out of order, WTG shall be restarted manually only after shut down. LCS must be capable of reporting any shut down to the CMCS, giving enough information to identify the cause of failure. All setpoints of the microprocessor or setpoints must be adjustable. The LCS must not depend on CMCS. If there is a fault in the CMCS, the LCS must continue to control the WTG and keep it in operable condition.
- 5.10.7 Indicative list of digital and analog I/O's for the PLC/DCS system being offered is to be furnished. Auxiliary power requirement for contactor/relays/control electronics etc. shall be met through a UPS. Its capacity and backup shall be mentioned.
- 5.10.8 Requirements of important control elements are mentioned below:
- 5.10.9 DC Power Supply Shall be SMPS based suitable for wide input supply with power boost facility got reliable starting of loads and proactive alarm signals and selective fuse breaking capability, UL/international certification body (safety-related), approved, safety in acc. with EN 60950/ VDE 0160.
- 5.10.10 Signal barriers/Isolators certified as per EMC guideline 89/36AEEC & UL 508 with 3-way Galvanic Isolation and spring cage terminals.
- 5.10.11 Interposing/auxiliary relays shall be modular, pluggable mountable on DIN Rail with LED indication, UL approved.
- 5.10.12 Transducer/signal converter /multipliers shall preferably be configurable, 3-way galvanically isolated, mountable on DIN Rail, and certified as per EMC guideline 89/E.EC, UL approved.
- 5.10.13 Fiber optic converter shall be industrial grade, modular on DIN rail, and shall have support redundancy with diagnostic functions like bar chart display & remote output. These shall be certified as per EMC guidelines 89/336/EEC & the interference /immunity shall be as per EN 55 011/EN 61 000 -6 -2.
- 5.10.14 Wireless Signal Transmission Device (for Analog, Digital & Data Signals), if used, shall be based on Frequency Hopping Spread Spectrum (FHSS) technology, operating the licensed

free Band (Frequency shall be 2400-2480 MHz) with Diagnostic Indications like RF link status with relay outputs.

5.10.15 Terminal Blocks shall comply with IEC-947-7-1. All metal parts shall be captive & made of Copper Alloys. Housing material shall be fire retardant type and suitable for vibration levels up to 5G.

5.11 **COMMUNICATION WITH LCS:**

- a) The LCS performs the data acquisition on the wind WTG and grid. All data measured on WTG must be accessible for CMCS/SCADA. Besides the WTG, the LCS is to measure the voltage on three phases and the frequency of the grid.
- b) Data transmission between LCS and CMCS/SCADA must be a serial interface, 20mA current loop, or standard RS-232C/RS 485. Contractors may specify in the Tender the method of interfacing between LCS and CMCS/SCADA.
- c) The scope of supply shall include the software and hardware requirements for access and monitoring the data related to the plant at individual WTG level by the Administrative office of VOCPA at Tuticorin.
- d) A dedicated wireless network shall be established between administrative building and wind farm to data connectivity and CCTV monitoring.

5.12 **SENSORS & CONTROLS:**

- a) The sensors must be robust and reliable and calibrated by certified testing agencies, and the measured data must fulfill the requirements of accuracy.
- b) The Contractor has to monitor, operate and control the entire Wind Power Plant through Central Monitoring Control Station (CMCS)/SCADA. The Contractor shall make arrangements for the CMCS for this project and the cost of which should be included in the project cost. The following operation of the individual WTG shall be possible to carry out from CMCS:
 - i. Stop the WTG
 - ii. Start the WTG
 - iii. Reset the counters
 - iv. Change the alarm limit.
- c) After certain faults, as per LCS settings, the WTG is restarted automatically. To avoid excess voltage drops, the CMCS/SCADA must inhibit the start of more than one WTG at a time. The time between the start of WTG must be adjustable in the range of 0 to 60 sec.
- d) All alarms must be reported immediately to CMCS/SCADA. All alarms must be printed out in clear text, describing the kind of alarms, where the alarm occurred, and the time of initiation of the alarm. Resetting of alarms is to be printed in the same form. Print out of alarms must not interrupt print out of reports. It must be possible to specify maximum and minimum limits for all alarms.

5.13 **OTHER EQUIPMENT LIKE ENERGY METER, METERING SET, VACUUM CIRCUIT BREAKERS, etc.**

The offer shall include for every WTG a three-phase trivector energy meter (as per the respective state norms) with the provision of backup, to record import and export power is drawn/provided from/to the grid as per DISCOM regulations/norms. The energy meter with suitable CT shall be provided as per DISCOM (TNPDC) requirement. The HT energy meter shall also have TOD facilities so as to facilitate a minimum of three slot-peak periods, normal period & off period - metering of electrical energy. Contractor shall furnish the technical details, including make and type of all the electrical equipment required for grid-tie up other than the transformers. The metering arrangement shall include structures, plinth, meters, meter box, earthing arrangement, CT, PTs, etc. Individual metering arrangement shall be made for DISCOM and generator (Port) at each WTG (s).

5.14 **SURGE PROTECTION:**

Surge Protection devices shall be provided at the following points with minimum requirements mentioned below:-

- a) At the Input side of Main Distribution Cabinet (690 VAC/ 415 VAC): The device used in this application shall be based on a single spark gap, stage-I/Class B type with rated voltage 440 VAC (for 690 VAC)/ 310 VAC (for 415 VAC) or above. The surge current handling capacity of the device shall be 50 KA of 10/350 μ s waveform (between L-N) with a protection level of 2.5 KV (690 VAC)/ 0.9 KV (415 VAC). It shall confirm the latest IEC-61643 guidelines.
- b) At the Input side of AC Drive Cabinet (690 VAC/ 415 / 230V AC), UPS, PLC Cabinets, Control Panels, etc.: The device used in this application shall be of stage II, Class C type. The surge current handling capacity of the device shall be 10 KA of 8/10 μ s waveform with a rated voltage of 600 VAC (for 690 VAC) / 310 VAC (for 415 VAC) or above. The device shaft is pluggable, testable and shall have diagnostic functions like overload Indication and potential free outputs. It shall confirm the latest IEC 61643 guidelines.
- c) At the Input Power Supply line of 24/48/60 V AC/DC: The device used in this application shall be of stage III/Class D type. The device shall be pluggable, testable and shall have diagnostic functions like overload Indication and potential free outputs. It shall confirm to the latest IEC 61643 guidelines.
- d) At Bus Systems (like Profibus, Modbus, etc.) / Serial Ports (RS 232/485): The device (for the required 2-wire or 4-wire Interface) shall have the surge handling capacity of 10 KA (Core-Core) & 10 KA (between Core-Ground). The device shall be pluggable & on-site testable. It shall confirm the latest IEC 61643-21 guidelines.
- e) Ethernet Networks: The devices for Ethernet networks shall be able to protect all 8 signal paths with discharge surge current handling capacity of 350,4/ 2.5KA (between Core-Core / Core-Ground) of 8/10 μ s waveform. The device shall confirm the test standards in accordance with IEC 61643-21.

5.15 **EARTHING AND GROUNDING:**

Design of grounding system and supply and installation of all materials required for grounding the WTG for the proper performance of electrical and electronic components, for the safety of personnel against lightning shall be provided by the Contractor. The installation must comply with the requirements of relevant provisions of IE Rules. The soil resistivity test shall be done by the Contractor for the design of suitable earth pits and report submitted to VOCPA.

5.16 **EQUIPMENT GROUNDING AGAINST GROUND FAULT:**

- a) All electrical frames shall be effectively connected to the earth at two points at two distinct locations at both ends. Combined earth resistance at each WTG shall be less than 01 (one) ohm.
- b) The cover slab on the earth pit shall be adequately labeled as per the relevant provisions of IE Rules.
- c) All mechanical parts made of metal shall be bonded and connected to the earth. The earthing system must follow the relevant Indian standards, including any statutory requirements as provided in IE Act 2003 and follow by EB and CEIG.
- d) The earth electrodes of WTG systems shall *be provided as per EB/CEIG standards*. The contractor submits a drawing showing the earthing arrangement for WTG and transformers and shall also submit the design calculations.

5.17 **LIGHTNING AND OVER-VOLTAGE PROTECTION:**

- a) The Contractor shall provide a suitable earthing system to protect the nacelle and tower against lightning strokes as per IS2309/3043. Effective earth resistance of electrodes shall be less than 1 Ohms or less as required by relevant standards.
- b) Care shall be taken to protect electric and electronic equipment within the control panel against any lightning / switching surges which are expected in the electrical network. For this purpose, the Contractor shall provide their own lightning arresters/varistors within the control panel.
- c) Lightning Arrester shall be of appropriate voltage and impulse current rating to protect all power equipment within the WTG system. They shall be readily accessible and easily replaceable. Lightning Arresters shall be provided with some indication, which would enable the operator to ascertain if it has been ruptured.
- d) Varistor or any other low voltage surge diverter shall be used to protect the electronic control cards against spikes generated in power systems.
- e) Lightning protection provided for rotor blades shall be highlighted, indicating the scheme and design details.

5.18 **ELECTRICAL INSTALLATION CODES & STANDARDS:**

- 5.18.1 All electrical installations shall be carried out in accordance with generally accepted installation expected for the Wind Power Plant and specifically shall comply with the relevant provisions of The Electricity Act-2003, CEIG requirement; DISCOM / TNPDC requirement.

- 5.18.2 The equipment, accessories, cables, conductors and other materials covered by this Tender document shall be designed, manufactured and tested in accordance with the latest relevant standards published by the Bureau of Indian Standards & International Electro-Technical Commission wherever available.
- 5.18.3 All electrical installations shall conform to the latest relevant codes of practices published by the Bureau of Indian Standards & International Electro-Technical Commission.
- 5.18.4 All Electrical equipment and installations shall conform to the latest Indian Electricity Rules, CEA guidelines on connectivity standards, LVRT, etc., as regards safety, earthing, connectivity, and other essential provisions specified therein for installation and operation of electrical plants.
- 5.18.5 All equipment and installation shall comply with the statutory requirement of the Government of India and the Government of the State/UT where the site is located.
- 5.18.6 Capability of the system to support line during fault condition complying with the CEA connectivity standards, 2013 or latest and LVRT shall be furnished.

5.19 Factory Tests:

Factory tests include testing, adjusting, and calibration of all components and systems. The test program shall include:

i.	Balancing of blades/shafts
ii.	Mechanical brake system
iii.	Hydraulic system
iv.	Power system, according to IEC/IS and factory standard test.
v.	Switchboard, according to IEC/IS and factory standard tests.
vi.	Safety systems
vii.	Soft start systems
viii.	Local control system
ix.	Control functions
x.	Alarm functions
xi.	Display functions
xii.	Calibration of sensors and total systems
xiii.	Central monitoring and control system

xiv.	Control functions
xv.	Automatic data collections
xvi.	Automatic data analysis
xvii.	Calibration of sensors and total system

5.20 Exhibition of data:

The display screen shall show the following pictures and data, which is indicative in nature & shall be as per the manufacturer's design:

5.20.1 Actual power generation and operation status (on/off) of each WTG.

5.20.2 Wind speed, direction (figure and arrow), air temperature, and air pressure from wind masts

5.20.3 Table showing the following data for WTG

i.	WTG number
ii.	Active power
iii.	Reactive power
iv.	Energy production, the main generator
v.	Energy productions mall generator (if any)
vi.	Power factor
vii.	Operation time(main and small generator)
viii.	Total operation time
ix.	Local wind speed
x.	Local wind direction
xi.	Ready for yawing, green yes/white no
xii.	Ready for normal operation, green yes/white no
xiii.	Freewheeling, green on/white off
xiv.	Operation, green on/white off
xv.	Yawing left, green yes/white no

xvi.	Yawing right, green yes/white no
xvii.	Automatic cable untwisting, green on/white off
xviii.	Automatic reset expected, red yes/white no
xix.	Generator 1, green on/white off
xx.	Generator 2, if any, green on/white off
xxi.	Manual operation green on/white off
xxii.	Remote stop executed, green on/white off
xxiii.	Manual reset required, red yes/white no
xxiv.	List of alarms/failures
xxv.	Rotor speed

5.20.4 It must be possible to reset the alarm in the screen picture (after the cause of failure is rectified).

5.20.5 Alarms, which are reset at the WTG, shall automatically be reset on this screen picture.

5.20.6 Active alarms with text, date and time may be in red color. After resetting the text, the date and time must change to white.

5.20.7 The last 10 alarms must always be presented on screen.

5.20.8 Manual stop also to be reported on the alarm list.

5.20.9 It must be possible to switch different WTG from the screen pictures "Wind WTG", "Mechanical", "Electrical," and "Operate WTG" without returning to the main menu in the Powerplant overview.

5.20.10 The display screen shall show the following parameters (Mechanical) in graphical form.

1. Wind WTG number
2. Gear oil temperature
3. Oil level (ok/alarm)
4. Main bearing temperature
5. Mechanical brake temperature
6. Brakes activated (on/off)
7. Yaw motor temperature
8. Nacelle temperature

9. Yaw system, hydraulic pressure

10. Yaw angle

11. Rotor speed

5.20.11 Manual stop also to be reported on the alarm list.

5.20.12 The display screen shall show the following parameters (Electrical) in graphical form.

1. Generator temperature
2. Generator revolution
3. Active power
4. Reactive power
5. Power factor
6. Voltage (3 Phase)
7. Current (3 phase)
8. Frequency
9. Switchboard temperature

5.20.13 The display screen shall show the following wind power plant parameters

1. Operation (on/off)
2. Number of active alarms (not reset)
3. Active power
4. Reactive power
5. Power factor
6. Wind speed and
7. Wind direction
8. Total active power
9. Total reactive power
10. Average active power
11. Average reactive power
12. Air Temperature

5.20.14 It shall be possible to carry out the following tasks from the screen, but with a password. In order to avoid errors, activation of any of these tasks shall cause a text to appear on the screen, which has to be answered before the order can be executed. For example, the text could be as "Stop the wind WTG type Yes/No."

1. To start/stop the WTG
2. Reset counters and change alarm limits.

3. To start/stop all the WTG, reset counters and change *alarm* limits

5.21 Generation of Reports:

CMCS shall be capable of generating various reports on operation, maintenance, breakdowns, generation, etc. of the wind power plant required for analysis and decision-making at various levels of management.

5.22 Standards/Type Certification:

- i) The WTG shall be type-approved from the internationally recognized agencies GL/DNV/Lloyds/BIS/TATA Projects Ltd. / NIWE- India.
- ii) The WTG shall be listed in the latest list of models and manufacturers (RLMM) of NIWE / MNRE. The offered WTG shall have valid approval. A valid type test copy of WTG must be submitted.
- iii) Technical particulars of the material offered must comply with the standard or other applicable specifications and the relevant provisions of standards.
- iv) Technical particulars of the materials offered must comply with the standard or other applicable specifications and the relevant provisions of standards.
- v) The contractor shall perform the work in accordance with all applicable codes, statutory regulations, and established practices. It is agreed and understood by and between the parties hereto that the contractor shall comply with applicable laws, rules, regulations, and by-laws whether now in force or which may hereinafter come in force during the currency of the contract and/or extension thereof.

5.23 PROTECTION AGAINST HIGH TEMPERATURE AND DUST STORMS:

- a) WTG needs to be suitably protected. All materials, components and equipment shall function and work properly during the lifetime without deterioration due to the aggressive climate conditions and dust loading. Details shall be furnished on protection methods/precautions adopted for the satisfactory performance of WTG for such Conditions, without fail.
- b) If the technology for generation at WTG is at different voltages, it may be accepted. However, the evacuation of the electrical energy will be at 22 KV.
- c) In case the Contractor's technology does not require or specify some technical requirement and it does not materially affect the generation of electricity, price, safety, security of human beings, electricity rules of the land, and life of the project, it can be dispensed with.

5.24 General Requirements:

- 5.24.1 The type of WTG shall be of proven design, identical, commercially available and grid-connected type.
- 5.24.2 The WTG shall be fitted with components as specified in the Certificate. The make and type / model of the component shall be specified by the Contractor.
- 5.24.3 The WTG shall be complete with all parts and components necessary for normal operation during the lifetime of the WTG.
- 5.24.4 All materials, components, and equipment shall be new, factory-made and designed to

ensure easy maintenance and from approved manufacturers.

5.24.5 Source of Components shall be furnished by the Contractor.

5.24.6 A shelter erected near the tower (for Lattice tower) shall protect equipment installed at the tower base. In the case of the tubular tower, the equipment erected inside the tower base shall be protected suitably taking into consideration the environmental impact at the site.

5.24.7 The WTG shall comply with CEA guidelines (in vogue) of Low Voltage Ride Through (LVRT).

5.25 Main Design Criteria:

5.25.1 The WTG must be suitable for continuous and satisfactory operation at the site for the prevailing wind and climatic conditions and designed to have a minimum of 20 years operating life. If the life of any of the components is less than 20 years, such components shall be listed, stating the expected life.

5.25.2 The blades should be designed based on a standard specification, which may be indicated by number, date of issue, issuing authority.

5.25.3 The WTG shall have a minimum of two independent and fail-safe braking systems, of which at least one must be of the aerodynamic type.

5.25.4 The WTG operation and safety shall be governed by a control and protection system. The protection system shall be activated whenever the WTG is not kept within normal operating limits due to Control System failure, effects of internal/external failure, or on account of any dangerous event.

5.25.5 The Local Control System (LCS) of the WTG shall be based on a microprocessor having a facility for fiber optic cable/RF-based communication with Central Monitoring & Control Station (CMCS) with a facility for remote control and a centralized remote monitoring system for control and monitoring and database system including supply of a good configuration personal computer for monitoring along with Ethernet option for remote access facility. Also, details of the data logger for this purpose are to be furnished.

5.25.6 Details of auxiliary power supply as required for various segments of Electrical and Automations system shall be furnished.

5.26 Environmental Protection:

5.26.1 All materials, components, and equipment shall function and work properly during the lifetime without deterioration due to the climatic condition at the site.

5.26.2 All exposed steel parts of the WTG system must be protected against corrosion by suitable environmental protection. The details of the same shall be informed in the bid. Wherever galvanization is required, same shall have a minimum thickness as required under the relevant Standards to meet the operational requirement at the proposed site.

5.26.3 The methods to be used to protect against corrosion of all components of the WTG shall be described and submitted along with the Tender.

SECTION VI

SCOPE OF WORK

VOCPA intends to install 6MW wind farm on EPC mode including DISCOM / TNPDC grid connectivity followed with Comprehensive operation & maintenance of the facility created for 11 years including 2 years guarantee period.

The scope of work of the contractor shall include Design, engineering, procurement, construction, installation, testing, commissioning, demonstration of performance guarantee tests of SCADA control of the 6MW wind turbine facility with all related civil, electrical, mechanical, instrumentation, communication works, etc. to complete the system in all respects as detailed in this section & Technical Specification.

It may be understood and confirmed by the CONTRACTOR that the scope as described in the Tender Document is not limiting in so far as the responsibilities of the contractor is concerned shall include inter-alia, carrying out any and all works, and providing any and all facilities those are required for successful commissioning of SCADA controlled 6MW wind turbine facility complying with all statutory requirements, and satisfying all performance guarantee tests. All machineries, Equipments, materials, spares & man power shall be provided by the contractor. The project scope of work for the CONTRACTOR includes but is not limited to the following:

6. Scope of Supply:

6.1 Wind Power Plant:

- 6.1.1 Design, engineering, manufacturing, testing, and supply of suitable upwind, horizontal axis Wind Turbine Generators (WTGs), complying with the Technical Specifications detailed in **Section-V** with accessories as may be required for erection, commissioning and successful continuous operation of the Wind-Power plant, in different locations identified by VOCPA, with all Transmission lines, protection switchgears, interfacing equipments, evacuation lines, metering arrangements, CMCS/SCADA control room & lattice towers etc. for feeding the grid. All the WTGs shall be equipped with current-limiting devices and capacitors (if required) so as to maintain the power factor as desired by the state electricity grid.
- 6.1.2 Site clearance and constructing approach road for movement of materials required for the work and establishing site office & parking area on the sites,
- 6.1.3 Conducting soil test, preparation of land with reengineering works to strengthen the soil bearing capacity as per standards / requirements, guard wall protection,
- 6.1.4 Preparation & submission of application along with requisite documents, Liaison with DISCOM / TNPDC, CEIG, and any other statutory authorities for necessary approvals / clearances as applicable.
- 6.1.5 Design & construction of the tower, including foundation for WTG.

- 6.1.6 Grid interfacing, including transformer, panels, kiosks, protection equipment, metering equipment and all other allied instruments/accessories/equipments, HT lines for the evacuation point of the wind power plant to the Muthayapuram Auto sub-station as per DISCOM / TNPDC norms.
- 6.1.7 The supplier will lay the evacuation lines and install energy meters for recording import & export of power from & to the State grid substation as per the DISCOM / TNPDC/ TANTRANSCO norms.
- 6.1.8 Design, engineering, manufacture, and supply of any item not specified but essential for the wind turbine for successful operation.
- 6.1.9 The Contractor shall make all arrangements for the Centralized Monitoring and Control System (CMCS) along with SCADA. Also, arrangements shall be made for accessing and downloading the real-time SCADA data at the VOCPA Administrative office. Establishment of AC containerized centralized control room for wind farm with internet connectivity, local network (OFC/Wireless) connectivity, power supply arrangement, furniture, required PC(s)/server(s), all required accessories, etc
- 6.1.10 All items shall be carefully inspected and tested during manufacture and prior to dispatch in accordance with the Quality Assurance Plan /standard practice of the manufacturer and the applicable standards as per inspection and testing. These certificates in original shall be submitted to VOCPA.

6.2 Responsibility of the Contractor:

- 6.2.1 All expenses towards mobilization at site and demobilization, including bringing in equipment, workforce, materials, clearing the site after completion of work and liaison or getting approval for interconnection of wind power plant with the State Grid with concerned departments viz., CEIG, etc. shall be deemed to be included in the prices quoted and no separate payments on account of such expenses shall be entertained.
- 6.2.2 Contractor may have to work in energized or partly energized conditions. In such cases, it shall be the responsibility of the contractors to arrange for necessary permits or shuts downs and provide skilled and responsible persons for the execution of works.
- 6.2.3 Contractor shall organize his works during the shutdown periods properly and complete the programmed works within the time given. Contractor shall not be paid any extra payments for working under the above-said circumstances.
- 6.2.4 It shall be entirely the Contractor's responsibility to provide, operate and maintain all necessary construction equipment, scaffoldings, and safety gadgets, cranes, and other lifting tackles, tools, and appliances to perform the work in a like and efficient manner and complete all the jobs as per time schedules. However, if any equipment/ facilities are provided by VOCPA, the same shall be on a chargeable basis.
- 6.2.5 The procurement and supply of all materials and consumables shall be entirely the Contractor's responsibility, and his rates for the execution of work will be inclusive

of the supply of all these items.

- 6.2.6 In case any material is issued by VOCPA, then it shall be properly used and maintained. Subsequent to completion of its use, it will be returned to VOCPA in good condition. In case of damage or misuse of such stores, VOCPA will recover the cost from the Contractor from the payments due to the Contractor.
- 6.2.7 The QA plan shall be prepared and submitted by the contractor and the same shall be vetted by TPIA / PMC consultant/ NIWE/ reputed agencies approved by VOCPA.

6.3 Soil Test & Foundation:

- (a) The Contractor shall conduct soil tests at the proposed location (s) and design the foundation and structures accordingly. It should be noted that the Contractor should furnish the foundation and tower stability report to VOCPA along with the soil test report.
- (b) The reengineering work for preparation of land and the design of foundation shall suit the local soil conditions. The materials viz. cement, reinforcement steel, etc., shall conform to relevant standards. The contractor shall consider the relevant standards and soil bearing capacity.
- (c) Subsequently, the contractor shall submit a certificate in support of WTG foundation design having been vetted by a Government organizations / Reputed Engineering College like SERC, IIT, or National Institute of Technology (NIT) or other accredited Lab.
- (d) The work shall comprise of design and construction of the wind turbine foundation as per the wind turbine location indicated.
- (e) The successful bidder shall furnish sources of reinforcement steel, cement and concrete ingredients i.e., coarse aggregate, fine aggregate, water and admixture.
- (f) The foundation design shall suit the local soil conditions, and the materials used viz. cement, reinforcement steel, etc., shall conform to relevant standards. The bidder shall furnish the safe bearing capacity of the soil, concrete mix design calculation, and detailed construction drawings for the foundation for the WTG to VOCPA before proceeding with the work.
- (g) The contractor shall furnish sources of reinforcement steel, cement and concrete ingredients i.e., coarse aggregate, fine aggregate, water and admixture. The concrete mix and materials shall be tested.

6.4 TESTING OF WTG:

As already stated, all the components are to be type tested as per the relevant standard. The WTG also has to be *certified/recognized* by MNRE/NIWE. Major components of the WTG offered in the Tender shall be of the same make. The materials for major components shall be confirmed to international standards/BIS.

6.5 Statutory Approvals:

6.5.1 Obtaining statutory approvals/clearances, wherever required, from Government departments but not limited to the following:

- 6.5.1.1 Directorate General of Civil Aviation
- 6.5.1.2 State Renewable Energy Development Agency
- 6.5.1.3 State Power Utilities viz. Transmission Company / Distribution
- 6.5.1.4 Company
- 6.5.1.5 Chief Electrical Inspectorate General (CEIG).
- 6.5.1.6 Coastal Regulatory Zone (CRZ) – both State and Central level.
- 6.5.1.7 Energy Wheeling Agreement (EWA) - wheeling of power from the proposed 6.0 MW Wind Power farm under open access for a period of 25 years from the date of commissioning
- 6.5.1.8 Other relevant applicable permissions/clearances from statutory bodies before commissioning
- 6.5.1.9 All the required approvals shall be obtained for successful installation, commissioning and execution of the project. The document evidence to this effect shall be submitted. VOCPA will extend all the possible administrative support.

6.5.2 All the fees/ charges, representations for obtaining the clearances and approvals shall be borne by the contractor and shall be included in the price bid itself. VOCPA will provide all the related administrative support.

6.5.3 Statutory Charges:

Statutory charges like CEIG annual charges, annual meter testing charges, joint certification charges, etc., or any other direct and indirect charges as may be required to be paid to such statutory agencies shall be in the scope of the contractor and shall be included in the quote itself.

6.6 SCOPE OF INSTALLATION, TESTING & COMMISSIONING:

6.6.1 Erection, Testing & Commissioning:

- (a) Construction of civil foundations for WTG towers.
- (b) Transportation of all materials from the site store to the WTG locations.
- (c) Erection, Installation, testing, and commissioning of unit substation for every WTG and adequate internal evacuation system for the wind turbine.
- (d) Installation, testing and commissioning of Grid interfacing equipments including transformers, HT lines, panels, protection equipment, metering equipment for evacuation of power from the wind power farm to the grid.
- (e) Installation, testing, and commissioning of tri-vector type energy meter(s) for recording data, as per the DISCOM / TNPDC/ TANTRANSCO norms, regarding

export and import of power to & from State grid and recording the energy data on real-time basis. The individual metering set shall be provided for DISCOM and Generator (port) at WTG (s) location and grid connectivity point. Additional meters at interconnection points shall be provided, if required.

- (f) Installation, testing and commissioning VAR drawl compensation system if required.
- (g) Installation, testing and commissioning of Centralized Monitoring and Control System (CMCS) for remote operation of the WTGs, receiving the data relating to WTG, processing and getting required report on energy generation, wind speed etc.
- (h) All the items, including other items, which is required for successful commissioning and operation of wind turbine shall be erected as per relevant standards and to ensure satisfactory functioning of wind turbine.
- (i) Contractor shall quote for the supply of any additional equipment and materials, which are not specifically mentioned in this tender document but are required to complete the system, offered by him in every respect, and for safe and efficient operation and guaranteed performance. It shall be the responsibility of Contractor to furnish such materials and equipment and provide the services specified accordingly.
- (j) Contractor shall provide all tools, tackles, equipment/ machinery, materials/ consumables and labour required for the execution of work and the quoted rates shall be inclusive of all such charges.
- (k) The WTGs shall be considered as commissioned when WTGs
 - (i) are interconnected to the grid with the charged electrical lines;
 - (ii) Commissioning Certificate issued by the DISCOM / TNPDC.
- (l) Commissioning shall be done strictly as per OEM's instructions manual, international/Indian Standards and IE Rules 1956 or latest.

6.6.2 Power Evacuation:

- 6.6.2.1 The contractor has to connect the proposed wind turbines to the 230kV/110kV/22kV Muthaiahpuram substation / suitable substation at required voltage level. The nearest Muthaiahpuram, substation co-ordinates are as follows:-

Latitude: 8°44'35.82"N

Longitude: 78° 8'50.37"E

- 6.6.2.2 It is the Contractor's responsibility to obtain the necessary approval, including the technical feasibility study / load flow study, to connect the WTGs to the Muthayapuram Substation. VOCPA will provide required administrative support in this regard.

6.6.3 GRID TIE-UP:

6.6.3.1 General:

- a) The Contractor shall furnish a single line diagram of the electrical system for connecting the WTG with the grid.

- b) The transformer and the WTG shall be interconnected by the underground cable of a suitable rating to match the output of WTG.
- c) The transformer shall be protected by an air break switch, horn gap fuse, and lightning arrester mounted on a two-pole structure.
- d) The transformer shall be tower mounted or mounted on a suitably designed plinth.
- e) The transformer area in each WTG shall be provided with fencing as per CEIG standard or state EB requirement.
- f) The fencing should also comply with security requirements issued by Government authorities from time to time.
- g) WTG shall be interconnected through overhead lines to evacuate generated power to the common EB HT/EHT sub-station through the step-up transformer to the SEB grid as applicable to the site offered.
- h) The Contractor shall specify the grid-tie up the arrangement in detail.

6.6.3.2 List of drawings for Grid Interface:

It is the responsibility of the Contractor to prepare the drawings required for his Tender submission and will be the responsibility of the Contractor for preparing and submitting the drawings required for NOC, Grid-tie up and DISCOM / TNPDC /CEA approval, etc. However, the drawings pertaining to the services to be provided by the VOCPA, if any, shall be indicated by the Contractor.

6.6.4 The arrangement shall include for individual connection of WTG to the grid is as follows:

- a) The WTG will be connected to a plinth-mounted step-up transformer of suitable capacity to match the output and voltage rating of the WTG offered. The transformer and the WTG shall be interconnected by an underground cable of a suitable rating to match the output of WTG.
- b) DP structures with HG fuse, lighting arresters and air brake switch.
- c) HV Vacuum circuit breaker shall be provided.
- d) DP structure with TOD metering set
- e) Evacuation line connecting to the nearest TNPDC substation with metering arrangements as per the TNPDC requirements.
- f) The transformer area of each WTG and metering set area shall be provided with fencing as per CEIG norms.

6.6.5 Metering set testing by DISCOM / approved agency or lab:

The contractor shall get tested all required equipment (like CT, PT, Meters, etc.) from the power utility well before commissioning of the wind power plant so as to avoid any delay in the export of power or required approval from the utility.

6.6.6 INSPECTION AND TESTING:

Entire quantity of major/critical components viz. Nacelle, Towers, Rotor Blade & Transformers shall be carefully inspected and tested by TPIA / PMC consultant during manufacture and prior to dispatch in accordance with the standard practice of the manufacturer and the applicable standards. The VOCPA's/ Consultant representative may also join for the inspection to be carried out by the TPIA / PMC consultant. Test certificates shall be submitted after the commissioning of WTG.

6.6.7 Site Tests:

VOCPA or their authorized representatives shall subject all equipment installed in the Wind Power Plant to such tests and inspections, which may be required. The tests shall include:

- (i) Check on main data and specifications for the WTG.
- (ii) Test of functions of the WTG.

All tests and results shall be reported and presented to VOCPA or their representatives. If defects or failures are discovered during the tests, the Contractor shall undertake to repair or replace or carry out improvements as deemed necessary.

6.6.8 Commissioning tests:

6.6.8.1 During the commissioning of the WTG, the following inspections and tests will be carried out:

- a) Identification of technical data of the WTG and the monitoring systems.
- b) Visual inspection of the WTG and monitoring systems.
- c) Functional tests (yawing test, braking test, manual pitching, vibrational tests operations, cut-in operations, cable twist) of the WTG, protection, and monitoring systems as per OEM manual.
- d) Short-term test of the WTG and monitoring systems shall be conducted post stabilization of WTG. The tests shall be carried during low/high wind regimes so as to ensure the operation of the machine at stated capacity continuously, and the following operation will be checked.

i.	yawing test,
ii.	braking test,
iii.	manual pitching,
iv.	vibrational tests operations,
v.	cut-in operations,
vi.	cable twist etc.

6.6.8.2 For conducting these tests, the WTG shall be run continuously for 96 hrs (except a Grid outage) without any interruption. In case of interruption or stoppage of WTG

during the test, the test shall not be considered to have been completed. In such an event and the test shall be conducted afresh. The manufacturer shall document the successful starting and shutdown sequence of WTG, the emergency shutdown of WTG, Clockwise and anti-clockwise rotations of the Wind Turbine (02 Rounds) in manual operation.

- 6.6.8.3 The test shall be considered successful if values of observed parameters of WTG are found within the set value. In case of non-conformance of the parameters of any component / item of WTG, replacement of the defective component shall be done and test repeated till such time it is successful.

6.6.9 Documentation required to be handed over after Commissioning:

The following documents will form the completion certificate documents:

- a) The technical documents (technical data sheets & the GA drawings as approved by the VOCPA) according to which the work was carried out.
- b) Four sets of as-built drawings (hard copy) showing therein the modification and corrections made during the course of execution and 2 sets of soft copy in CD / USB.
- c) Final Test Certificates for major/critical equipments.
- d) Statutory clearances / permissions.
- e) Commissioning certificate from DISCOM / TNPDC.

6.7 Infrastructure:

The contractor shall provide a suitable arrangement of water supply for the day-to-day requirements of the facility during the entire O&M period. The contractor shall construct the necessary approach road to the facility.

6.8 Manpower & Utilities:

- 6.8.1 Deploy adequate qualified manpower, cranes, special tools & tackles, required consumables, measuring & testing equipment at the site, and arrange construction power & water as required for installation and commissioning of the project.
- 6.8.2 To discharge obligations relating to retirement/ Superannuating benefits to employees or any other benefit accruing to their compensation, profit in lieu / in addition to salary, etc., for the period of service with the Contractor.
- 6.8.3 To hand over the entire system in good working condition.

6.9 Training of VOCPA Officials:

- 6.9.1 VOCPA intends to train its official's viz. Officers and Engineers in getting acquainted with the various equipment that forms part of the Wind Power Plant, its testing, assessing performance, monitoring the performance during erection, installation, and commissioning as well as during the O&M period. The training period envisaged by VOCPA is as follows:

- 6.9.1.1 Contractor shall impart training on-site to 6 (Six) VOCPA engineers/ officials about the complete system, O&M of Wind Turbine Generator and associated equipment for two weeks. VOCPA shall bear the boarding and

lodging expenses of the trainees.

- 6.9.1.2 Contractor shall impart training at the manufacturer's works to 6 (Six) VOCPA engineers on the manufacturing process and testing of the Wind Turbine Generator and associated equipment for about a week. Boarding and lodging expenses of the trainees shall be borne by the contractor.

6.10 COMMISSIONING CERTIFICATE /COMPLETION REPORT:

- 6.10.1 On completion of work, the Contractor will apply to the Engineer-in-charge along with the commissioning certificate issued by TNPDCCL for the issue of VOCPA's completion certificate towards supply, installation, commissioning, stabilization of the system / facility and 96 hrs. test run (short-term test as per Terms and conditions of the contract and the same will be issued within 10 days of the completion of work in all respects, after verifying completion documents and satisfying himself that the work has been completed in accordance with details set out in the construction and erection drawings, and the contract documents. No completion certificate shall be given, nor shall the work be deemed to have been executed until the export of generated wind power commenced and all scaffolding, surplus materials and rubbish are cleaned off the site completely.
- 6.10.2 The following will be fulfilled before the issue of VOCPA's completion certificate or work shall not be treated as complete till the following are satisfied:
- The technical documents according to which the work was carried out.
 - All works mentioned under the scope of the work completed except operation and maintenance for 11 years.
 - Contractor will furnish the commissioning certificate for the WTG as given by TNPDCCL.
 - Four sets of as built drawings showing therein the modification and corrections made during the course of execution signed by the Engineer-in-charge.
 - Certificates of tests performed for various works and to be handed over to VOCPA.
 - Guarantee certificates are to be submitted to VOCPA.
 - Operation and maintenance manual are provided as specified.
 - Energy Wheeling Agreement (EWA) wheeling of power from the proposed 6.0 MW and above Wind Power Plant under open access for a period of 25 years from the date of commissioning
 - Statutory clearances.
 - Performance certificate issued by the Engineer-in-charge on satisfactory trouble-free operation of the WTG continuously for 96 hrs. (short-term test after the stabilization period of 1 (one) month.
 - The copy of the certified initial meter reading of the main meter and backup meter signed by power utility, contractor etc.
 - The certificate / documents showing the completion of stabilization.

6.11 Wind Mast to Monitor the Performance of the WTGs:

Installation of a Wind Mast at the Wind Power Project site along with all required dataloggers, sensors, etc., to collect required data for adjudging the performance of the Wind Power Plant. The height of the wind mast shall be equal to the hub height of the WTG to be installed. It shall be installed and shall become operational at least 15 days before the start of the Commercial Operation Date (COD) for carrying out the performance of WTG. After completion of the measurement for a period of one year, the contractor may dismantle, clear the land and take back the met mast and instruments.

6.12 ENERGY PRODUCTION DEMONSTRATION TEST (EPDT) AFTER COMMISSIONING:

Contractor shall provide an Energy Production Demonstration Test (EPDT) to the VOCPA as per the methodology explained below:

- (i) Contractor shall install a wind mast (of height equal to the hub height of the above turbine) as guided by IEC 61400-12-1 near the mutually selected turbine location at a distance between 2-2.5D (D-Rotor Diameter). This shall record wind data at the height the same as the hub height of the turbine and shall be taken as reference data for the purpose of energy production verification. This mast will be maintained at the site for the entire contract period, so that it can also be used for the performance monitoring of the wind farm.
- (ii) The EPDT will be done as follows:
 - (a) The test shall be conducted between May to September
 - (b) The test should result in a minimum number of 1400 hours of data sets.
 - (c) Should the test fail, then the test shall have repeated once again (with the minimum of 1400 hrs. of data sets as above) either in the same wind season or in the next windy season between May to September.
 - (d) Calibrated sensors only will be used for measurements.
- iii) The Certified Power Curve (CPC) shall then be applied to the above wind speed distribution to arrive at the Gross Expected Energy Generation ('GEEG'). The following factors shall then be applied to the GEEG to arrive at the Net Expected Energy Generation ('NEEG').
 - i. The air density correction factor will be applied to the certified power curve.
 - ii. Array losses will be taken from wind flow model simulation
 - iii. Grid availability during the test period
 - iv. Machine availability during the test period.
 - v. Uncertainty factor in terms of RSS (Root Sum Square) value, i.e., 3-5% for wind measurement and 5-7 % for power curve, will be applied.
- iv) The accuracy class of all the measuring equipment (Energy Meter, CT & PT) shall be 0.2S or better. Contractor shall furnish valid calibration certificates of accredited test houses for

all measuring instruments before their installation at the site.

- v) The NEEG worked out as per methodology given above shall be verified against actual energy generated by the WTG as recorded by the tri-vector meter (TVM).
- vi) If the actual generation as recorded by the TVM is equal to or above 95% of the NEEG, then the turbine is deemed to have met with the energy production demonstration test.
- vii) If the actual generation as recorded at the TVM is less than 95% of the calculated net estimated generation from the wind mast data, then the bidder shall conduct the test again after making necessary checks & settings, as per the above procedure (with the minimum of 1400 hrs. of data sets as above) either in the same wind season or in the next windy season between May to September.
- viii) In case the test is again unsuccessful, the Contractor shall compensate the loss due to shortfall in the test in the manner as given in clause 6.7.

- 6.12.1 VOCPA, through its consultant, shall evaluate and validate the Energy Production Demonstration Test (EPDT).
- 6.12.2 Site checking, supply & installation of wind mast and onsite facilities / support for testing and monitoring shall be the responsibility of the Contractor.
- 6.12.3 The met mast and the TVM will be maintained at the site for the entire contract period, so that it can also be used for the performance monitoring purpose.

6.13 COMPENSATION FOR LOWER PERFORMANCE

PENALTY FOR SHORTFALL IN GENERATION

- (a) After rectification and repeat test, if the actual generation is equal to or more than 95% of NEEG (Net Expected Energy Generation), the Power Performance of the WTG will be deemed to have passed. However, if the actual generation is less than 95% of NEEG but above 90%, then VOCPA shall accept the machine/plant after levying Penalty as below.
- (b) Percentage Shortfall in Generation for test turbine (Dt) = $95 - Ac$
Where,
 - (i) Ac is Actual Generation as percentage of NEEG (When Ac is greater than or equal to 95, $Dt=0$)
 - (ii) Quoted Annual Energy Production in MU from the Offered Project Capacity = G
 - (iii) Shortfall in energy generation due to Turbine Power Curve Deficiency = $G \times Dt$ in MU (Million Unit).
- (c) Contractor shall compensate for shortfall in energy generation due to Turbine power curve deficiency as calculated above to VOCPA as penalty for under performance and the rate of penalty per every loss kWh. The average Kwh rate of VOCPA energy consumption is applicable as rate of penalty per Kwh. The average rate is total energy consumption (without considering the RE adjustment) / total HT billing cost (including all rates and taxes) i.e per unit cost.
- (d) In case the actual generation as recorded at the TVM is less than 90% of the NEEG, the

Contractor shall rectify the defects in all WTGs, or replace all the WTGs as the case may be, in the manner that power generation is not less than 90 % of NEEG. The Energy Production Demonstration test should be repeated again after rectification in a randomly selected and mutually agreed WTG. In such case, it is the responsibility of the contractor to ensure installation of wind mast, TVM and other onsite facilities / support for testing and monitoring.

- (e) In case after rectification, the actual generation is below 90% of NEEG, the VOCPA reserves the right to reject the machine/wind farm and recover from the Contractor the payments already made (or) accept the machine/wind farm after levying penalty (Prevailing DISCOM rate per unit – Cost per KWhr of Wind farm) at the rate assessed by the VOCPA.
- (f) The Power curve performance test should be repeated again after rectification. In case the actual generation is equivalent or more than 90% of NEEG, the test will be deemed to have passed the performance test. In this case, the contractor shall compensate VOCPA for the actual revenue loss during the period when generation is lower due to the performance of the WTG. The revenue loss will be calculated considering the contractor's obligation at 100% NEEG.

6.9 SCOPE OF COMPREHENSIVE OPERATION AND MAINTENANCE:

6.9.1 General:

VOCPA intends to entrust the operation and maintenance (O&M) of the wind farm on a comprehensive basis to the Contractor on turnkey for the 11 (Eleven) years useful lifetime, including Guarantee Period of 2 years.

6.9.2 Scope:

- (a) The Contractor shall be responsible for all the required activities for the successful running of the WTGs and to ensure optimum energy generation, etc.
- (b) To maintain the facility's accurate and up-to-date operating logs, records, and monthly reports regarding the Operation & Maintenance of the Wind Power Plant.
- (c) To maintain and keep all control rooms, roads, tool room, stores room, equipment, etc., in clean & workable conditions.
- (d) Monitoring, controlling, troubleshooting of wind power plant & maintaining of relevant data.
- (e) Supply of all spares and consumables necessary for Operation and Maintenance.
- (f) Conducting periodical checking, testing overhauling, and preventive action.
- (g) General up keeping of all equipment, building, roads, wind power plant land area.
- (h) Submission of periodical reports to VOCPA on the energy generation & operating conditions of the wind power plant.
- (i) Continuous monitoring the performance of the Wind Turbine Generators and regular maintenance of the whole system including WTG, transformers, overhead line, control panels etc. as necessary for extracting and maintaining the maximum energy output from the wind power farm.
- (j) Necessary spares, including capacitors, consumables etc. shall be arranged by the Contractor at his own cost.
- (k) The Contractor shall do forecasting & scheduling of generation directly (if authorized) or through authorized/approved Third party agencies as per DISCOM norms at the cost of contractor.
- (l) The contractor shall deploy adequate man power with Equipments, machines, tools & tackles for O &M including security personnel (round the clock) and house keeping, etc.

6.9.3 Operation and Performance Monitoring:

- (a) Operation part consists of the deployment of adequate manpower to operate the wind power plant at the maximum capacity.
- (b) Daily work of the operators in the wind power plant involves monitoring of voltage,

current, power factor, power, and energy output of the wind power plant, battery voltage, specific gravity, temperature, etc. The operator shall note down the failures, interruption in supply, including grid failure and tripping of different relays, the reason for such tripping, duration of such interruption, etc.

- (c) The operator shall record the monthly energy output of the WTG, and reports shall be prepared on the performance of wind power plant indicating turbine production. Downtime, capacity factor, machine availability, etc., and these figures shall be computed for the wind power plant. The monthly performance report shall be submitted to VOCPA during the first week of every month.
- (d) The operation team shall prepare and submit the reports to VOCPA as per the approved formats.
- (e) The operation team shall include security personnel (round the clock) and house keeping staff for securing and upkeeping the installation.
- (f) The operation and maintenance team shall report and deliver the works as per the instruction of Engineer-in-charge

6.9.4 Maintenance:

- (a) The Contractor shall draw the preventive maintenance schedules and attend to the breakdowns keeping in view that the machine availability is more than 95% as stipulated in these tender documents.
- (b) The Contractor shall carry out the periodical/ plant maintenance as given in the manufacturer's service manual.
- (c) Regular periodic checks of the WTGs shall be carried out as a part of routine preventive maintenance during the low wind period. In order to meet the maintenance requirements, stock of consumables as well as various spares, as recommended by the manufacturer as per the requirement, are to be maintained.
- (d) Maintenance of other major equipment involved in wind power plant are transformers, overhead line equipment and VCB panel and metering panel, all LT, HT switch gears. Particular care shall be taken for outdoor equipment to prevent corrosion. Cleaning of the insulators and applying Vaseline (Petroleum Jelly) on insulators shall also be carried out at every 3 to 4 months interval. Resistance of the earthing system, as well as individual earth pit, is to be measured and recorded every three months. If the earth resistance is high, suitable action is to be taken to bring down the same as per IE Rules & as per IS3043(Latest version).
- (e) 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 to be taken to prevent a recurrence.
- (f) The Schedules will be drawn such that some of the jobs other than breakdown, which may require comparatively long stoppage of the WTG, shall be carried out

preferably during the non-windy season.

- (g) The Contractor shall deploy enough manpower at the wind power plant site to carry out work instructions and preventive maintenance schedules as specified.
- (h) The Contractor will attend to any breakdown jobs immediately for repair/ replacement/adjustments and complete at the earliest working round the clock.
- (i) The Contractor shall immediately report the accidents, if any, to the nominated VOCPA official & to all the concerned authorities as per the prevailing law of the land.
- (j) Indemnify VOCPA for any losses arising out of the above acts and shall undertake the responsibility to comply with all statutory rules & regulations governed under the relevant applicable acts/ laws.

6.10 MEASUREMENT OF ENERGY AND METERING:

6.10.1 Metering Systems:

The contractor shall maintain the Metering System comprising energy metering set (Main Meter, Check Meter and Stand by Meter), current and potential transformers, etc. The accuracy class of all metering equipment shall comply with the requirements of State Electricity transmission / distribution utility (TANTRANSCO / TNPDC). Meter reading shall be done jointly with Power Utility Engineer on a monthly basis or at a mutually agreed time interval.

6.11 Handing over the Plant after the expiry of Term:

After the expiry of O&M term, the contractor shall hand over the plant to VOCPA in good operating condition. The contractor shall demonstrate functional operations of all the major & critical equipment.

6.12 Quality Spares & Consumables:

In order to ensure longevity and safety of the core equipment and optimum performance of the system, the Contractor should use only genuine spares of high-quality standards. The contractor shall maintain the necessary spares at site. Also the spares on demand, shall reach the site at the minimum possible period.

6.13 Equipment's, Machineries, Tools and Tackles:

The Contractor shall arrange for all the necessary equipment's, machineries, tools and tackles, including a crane for carrying out all the operations & maintenance work covered under this contract.

6.14 Security Services:

The Contractor has to arrange a proper security system, including deputation of security personnel at his own cost for the check vigil for the wind power plant. The security staff may be organized to work on a 24 X 7 shift system. Any occurrence of unlawful activities shall be informed to VOCPA immediately.

6.15 Manpower & utilities:

Deployment of manpower, required consumables, testing equipment during erection till commissioning and during O&M, arrangement of power & water as required for this contract shall be arranged by the Contractor.

6.16 DOCUMENTS TO BE SUBMITTED BY THE CONTRACTOR:

6.16.1 Documents to be Submitted after Award of Work:

The Contractor shall be required to provide four copies of the following, information, drawings, and documents, with in three weeks of the placement of order:

- (a) Complete technical specifications of the WTG, including rotor, nacelle and tower, Transformer, VCB / Compact Sub-Station, CT/PT.
- (b) OEM's standard Operation/ & Maintenance/ Trouble-shooting manuals include detailed drawings for the local control system (LCS) as well as Central and Remote Monitoring & Control.
- (c) Station /SCADA/ CMCS s/ lift.
- (d) The Specification of lightning and other voltage protection.
- (e) The Specification of anti-corrosion treatment.
- (f) GA drawings of machinery and equipment including electrical equipment in Unit Sub Station.
- (g) Detailed planning network diagram in the form of an MS Projects-based Gantt Chart / PERT Chart.
- (h) Detailed provision for a target power factor of the turbine shall be furnished. Also, details of reactive power from the grid for all modes of operation, i.e., start-up, continuous operation, and line fault conditions, shall be furnished.
- (i) Bar / Gantt chart and PERT Network diagram showing the broad schedule of supply, erection, and commissioning.
- (j) Operation and maintenance manual.

6.17 OTHER RESPONSIBILITIES OF THE SUCCESSFUL BIDDER WILL REMAIN AS BELOW:

1. Bidder shall arrange for all the consumables, oil and spare components at their level. Contractor has to follow all rules and regulations applicable to rendering of such services including Factory Act (if required), therefore, all statutory provisions, rules, regulations shall be observed including, provision of Environmental Quality Act, Government of India.
2. The contractor shall make provision for presence of requisite manpower during national holidays and festivals so that the work is not affected on holidays, national holidays and festivals. The Contractor should ensure presence of his workforce at the specified time.
3. The Port has the right to charge the contractor for any damage caused to Port or Govt. assets and the same shall be recovered from the contractor's bill with immediate effect.

4. The contractor shall be responsible for keeping up-to-date record of documents including day to day work of machine as per format given by department. The contractor shall maintain and update logbook, in which details of operational parameters are recorded in every shift and at regular interval or as decided mutually.
5. The Contractor shall maintain separate checklist register for daily, weekly, fortnightly, monthly, quarter yearly, half yearly and yearly activities. Also, during checking if any abnormalities found it must be brought to the notice of Engineer –in- Charge and rectified by the contractor.
6. Contractor has to submit daily/weekly/monthly report of their work to the respective Engineer –in- Charge or his representatives.
7. The contractor shall have to issue identity cards with photographs, uniform to all the staff employed for Operation and maintenance. It will be the responsibility of the successful bidder to have insurance coverage of the machine along with staff at their cost. They are requested to note that there will not be any reimbursement in this regard. In case any mishap / accident occurs on the road or at site, the successful bidder will have to shoulder the complete responsibility of the same, right from registration of Police complaint, lodging / follow up of the insurance claim and facing the court trials etc. It shall be the responsibility of successful bidder to set right the machine without raising any extra bills / claim against the same.
8. Rejected equipment shall be removed by and at the expense of the contractor within seven days from the date on which notice of such rejection is given to contractor. If not so taken away, the Chief Mechanical Engineer may cause the goods or materials to be removed and charges the contractor with all expenses incurred in such removal.
9. Communication system/ equipments including mobile shall be provided by contractor as per the requirements of O&M so as to have effective communication between contractor and various controlling and monitoring authorities. A public address system shall also be provided to enable the machine operator to guide the public as and when required during working at the site in the event of any emergency, mishap etc.
10. In order to maintain high standard, the successful bidder shall fix a schedule for cleanliness and maintenance of the wind power farm premises.
11. Each machine shall be provided with fire extinguisher and first aid kit along with other necessary tool-tackles and accessories.
12. The successful bidder / contractor shall keep the Wind Power farm in perfect working condition to the satisfaction of department officers.
13. The Contractor has to arrange for maintenance/tests, also as and when required after the written permission of the department officers.
14. Bidders shall have to print Logo as directed. Grade of the paint and Logo shall be confirmed with VOCPA, prior to delivery.

4.7.1 Performance Guarantee (PG) Parameters During the O&M Period:

The Performance Guarantee Parameters to be achieved during O&M period post

stabilization period of 1 month shall be as detailed here under;

4.7.2 Machine Availability Guarantee:

The Contractor shall guarantee machine availability of 95% per year for the WTG (post stabilization period). In case the annual average machine availability of the WTG falls below 95%, then the contractor shall compensate VOCPA with an amount @ 2% of the annual O & M service charges for every 0.5% of shortfall below 95% of machine availability. For arriving at the penalty charges during the free O&M period of the initial two years, the annual O&M charges as quoted by the contractor for the 3rd year onwards up to 11th year shall be considered.

"MACHINE AVAILABILITY" shall mean the ratio of the actual number of annual hours for which the WTG is in a state of complete readiness to generate Power subject to the Grid availability, wind availability, and all other parameters referred hereunder, to the total number of hours available annually (i.e., 8760 Hours). Machine Availability shall be calculated as follows.

$$\text{(Recorded Hours)} \times 100$$

$$\% \text{ Machine Availability} = \frac{\text{Recorded Hours}}{[8760 - (GF + FM)]}$$

$$\text{Where, Recorded Hours} = [8760 - (GF + FM + S + U)]$$

8760 = Number of total hours for a machine in a year (i.e., 24 x 365 days)

GF = Grid Failure hours (Other than scheduled or breakdown hrs.)

FM. = Force Majeure hours

S = Scheduled Maintenance Hours for a machine (approximate maintenance hours may be mentioned)

U = Breakdown Maintenance Hours for a machine

4.7.3 **PENALTY FOR SHORT FALL IN GUARANTEED MACHINE AVAILABILITY:**

This shall be as indicated in (Guaranteed Parameters for Machine Performance and related compensation during failure in Guarantees – under Clause 4.7.3) during the O&M period, including the guarantee period.

4.7.4 **COMPENSATION FOR EXCESS REACTIVE POWER DRAWAL:**

This shall be as indicated in (Guaranteed Parameters for Machine Performance and related compensation during failure in Guarantees – under Clause 4.7.3) during the O&M period, including the guarantee period

4.7.5 PENALTY FOR EXCESS INTERNAL LOSSES:

This shall be as indicated in (Guaranteed Parameters for Machine Performance and related compensation during failure in Guarantees – under Clause 4.7.3) during the O&M period, including the guarantee period.

4.7.6 Reactive Power Drawl:

The reactive power drawn shall not exceed 3% of the active power exported on monthly basis (if applicable). If the reactive power drawn is in excess of 3% of the active power exported on a monthly basis, the Contractor shall compensate VOCPA the charges payable to DISCOM as per prevailing tariff for drawl of reactive power.

4.7.8 Transmission Losses:

The contractor shall ensure that the loss of power during transmission between the WTG meter and the metering point of DISCOM shall not be more than 3% in any year. The contractor shall compensate VOCPA for the additional internal losses at the prevailing DISCOM tariff.

4.41 TERMINATION OF THE CONTRACT:

In pursuant to clause no.3.14, the contract may also be liable for termination if;

- i. The availability of machine is found below 70% consecutively for 3 months.
- ii. Total deduction on default in a contract year exceeds 10% of contract price for the year.
- iii. VOCPA will pay the Contractor on pro-rata basis for the services rendered by the contractor during the month within 30 days after the Contractor's receipt of notice of termination.

SECTION VII

SAFETY NORMS & EMS REQUIREMENTS

7.1 SAFETY CLAUSE:

- 7.1.1 The contractor should take all precautionary measures in order to ensure the protection of his own personnel moving about or working on the VOCPA premises and should conform to the rules and regulations of the VOCPA.
- 7.1.2 The Contractor should abide by all VOCPA regulations in force from time to time and ensure that the same are followed by his representatives, agents or sub- contractors, or workmen.
- 7.1.3 The contractor should ensure that unauthorized, careless, or inadvertent operation of installed equipment which may result in an accident to staff and/or damage to equipment, does not occur.

7.2 EMS REQUIREMENTS:

- 7.2.1 The contractor shall ensure that all his workmen wear PPEs commensurate with the severity of work.
- 7.2.2 The contractor shall ensure industrial safety methods in executing his work at VOCPA.
- 7.2.3 The contractor shall ensure that all wastes generated by his activities/work are moved to the respective dumpsites or taken for re-cycling at VOCPA.
- 7.2.4 The contractor has to give prior information on whether any hazardous chemical is used in his work and if so, the operational control to be exercised.
- 7.2.5 The contractor has to ensure that all his material handling equipment / transport Vehicles are emission tested.
- 7.2.6 The contractor has to ensure that his activities are in tune with the VOCPA EMS Policy (to be incorporated as part of the Contract)
- 7.2.7 The contractor's staff must be aware of the contents of MSDS in respect of chemicals / materials (if any).
- 7.2.8 The contractors' staff shall be competent to operate emergency appliances like fire extinguishers.

7.3 Hazardous Substances and Hazardous Site Conditions

- 7.3.1 Contractor shall not, nor shall it permit any other Person to bring any Hazardous Substances on the Site, other than Hazardous Substances to be used by Contractor or any Subcontractor in a manner that:
 - 7.3.1.1 does not violate any Applicable Laws, or Permits; and
 - 7.3.1.2 is consistent in quantity and with Good Solar Industry Practices for operating and maintaining solar energy conversion plants, such as motor fuels, solvents and lubricants (collectively, "Permissible Materials").
- 7.3.2 Contractor shall bear all responsibility and liability for:
 - a) any Hazardous Substances that are not Permissible Materials belonging to the Contractor or present on site; or
 - b) the handling of, or failure to handle, Permissible Materials in violation of Applicable Laws or otherwise in any manner that constitutes negligence or willful misconduct by Contractor or any

Subcontractor.

- c) Contractor shall use Hazardous Substances in performance of the Services in accordance with the Performance Standards, Applicable Laws and Good Solar Industry Practices and shall not:
- d) utilize, or permit or cause any Subcontractor to utilize, on the Site such Hazardous Substances as are prohibited under Applicable Law from being used in India; or
- e) import or use at the Site such Hazardous Substances as are prohibited under Applicable Law

NB: The section may be read in conjunction with related clauses of General Condition of Contract, Special Condition of Contract and Scope of Work.

SECTION VIII
ANNEXURES AND FORMS

ANNEXURE A

QUALIFICATION AND RESPONSIVENESS INFORMATION: LIST OF DOCUMENTS TO BE ENCLOSED

All bidders shall include the following information with their bids by scanning the relevant documents after being filled, signed with seal and serially numbered by the Bidder. The above shall be uploaded using their user-id and password in the E-tender portal on or before the last date of submission of tender mentioned in the NIT towards Cover A – Techno-commercial bid.

PART I (COVER A) – TECHNO-COMMERCIAL BID

Sl. No	Qualification Documents to be uploaded	Uploaded Page Ref No.
1	Form I – Bid cover letter (as per Section II, clause 2.16.2.(i))	
2	<p>Form II – Transaction details for remittance of Earnest Money Deposit (as per Section II, clause 2.16.2.(ii))</p> <p>Scanned copy of system generated proof towards successful payment of EMD in case of payment through online payment gateway mode in CPP e-tender web Portal OR scanned copy of proof towards successful payment of EMD in the form of Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee from any of the Commercial Banks along with filled in Form-IIA OR valid Certificates by MSEs for claiming exemption along with filled in Form-IIB</p>	
3	<p>Form III – Financial capability (as per clause 2.16.2.(iii))</p> <p>Scanned copy of Profit & Loss statements for the last 3(three) years ending 31st March of the previous financial year duly certified by the Chartered Accountant in support of meeting Financial Capability</p>	
4	Form IV Similar Work Experience [as per Section II, clause 2.16.2.(iv)]	

	Scanned copies of work order(s) along with BOQ & respective satisfactory completion(s) / performance certificate(s) certificates in support of meeting Similar Work Experience	
5	<p>Form IV A – Details of TDS certificate (if applicable) (as per Section II, clause (as per Section II, clause 2.16.2.(iv))</p> <p>In case of experience other than Central / State Government / Autonomous bodies / PSEs / PSUs / Public Limited Companies, the bidder has to submit scanned copies of TDS certificate</p>	
6	Scanned copies of (i) EPF registration certificate; (ii) ESI; (iii) Permanent Account Number [PAN]; (iv) Income Tax Return of preceding three years; and (v) GST Registration Certificate (as per Section II, clause 2.16.2.(v))	
7	Form V – Declaration of Authorised Representative (as per Section II, clause 2.16.2.(vi))	
8	Form VI – Schedule of No Deviation (as per Section II, clause 2.16.2.(vii))	
9	Form VII Declaration by the Bidder (as per Section II, clause 2.16.2.(viii))	
10	Form VIII – Bank Mandate Form (as per Section II, clause 2.16.2.(ix))	
11	Form IX -Tender Acceptance letter (as per Section II, clause 2.16.2.(x))	
12	Duly filled in Form-XI – “Local Content declaration & Self Certification” [wherever applicable if specifically asked for in bid document] (as per Section II, clause 2.16.2.(xii))	
13	Form- X - Integrity pact (as per Section II, clause 2.16.2.(xi))	
14	Details of Technical Manpower to be deployed for execution of work [wherever applicable if specifically asked for in bid document] (as per Section II, clause 2.16.2.(xiii))	Not applicable
15	Scanned copy of valid license "ESB/" ESA"/"EA" grade issued by the Licensing Board [wherever applicable if specifically asked for in bid document] (as per Section II, clause 2.16.2.(xiv))	Not applicable

16	The bidder shall submit the technical details and Brochure of the proposed plant to be commissioned/deployed along with technical bids along with necessary certifications as per the technical requirement.	
17	FORM-XII - Declaration of Power of Attorney	
18	FORM-XIII - Declaration of Power of Attorney for Consortium Attorney	
16	Any other documents which need to be uploaded.	
17	Total number of the pages uploaded by the bidder (mention the page no. starting from to end)	
	1. Starting page no.	
	2. Ending page no.	
	3. Total number of pages	

(Fill the page numbers where the documents have been uploaded in the table provided above)

(Signature of Authorized Person)

Place:

Name

Date:

Designation

Business Address:

.....

Seal

FORM I

(To be in the Firm's letter head)

Date:.....

BID COVER LETTER

1. Registered Business Name :
2. Registered Business Address :
3. Name, Designation & address of the Contact Person to whom all references shall be made regarding this tender :
4. Telephone / Mobile No. :
5. Fax :
6. E-Mail :

To

The Chief Mechanical Engineer,
Mechanical & Electrical Engineering Department,
V.O.Chidambaranar Port Authority,
Tuticorin – 628 004.

Sir,

1. We hereby apply to be qualified for the tender invited by the V.O.Chidambaranar Port Authority, Tuticorin as a bidder for the work “_____”
2. We hereby give our consent to the Port or its authorized Representative(s) to conduct any investigations to verify the statements, documents and information submitted and to clarify the financial and technical aspects of this application. For this, we hereby authorize (any Public Official, Engineer, Bank, Depository, Manufacturer, Distributor, etc.) or any other person or firm to furnish pertinent information deemed necessary and requested by the Port to verify statements and information provided in this application or regarding our competence and standing.
3. We the undersigned have read and examined in detail the Bid document in respect of work intended and do hereby express our interest to execute the intended work.
4. We certify that goods & services offered shall be of best quality and the manpower who shall be deployed for the work are competent enough and have necessary qualifications for taking up this assignment.

5. The names and positions of persons who may be contacted for further information, if required, are as follows
 - a) For Technical: Shri/Smt (Name, position, Address, contact number and email id)
 - b) For Financial: Shri/Smt (Name, position, Address, contact number and email id)
 - c) For Personnel: Shri/Smt (Name, position, Address, contact number and email id)
6. We declare that the statements made and the information provided in the application are complete, true and correct in every detail.
7. We understand that V.O.Chidambaranar Port Authority reserves the right to reject any application without assigning any reasons.

Thanking you,

Yours faithfully,

(Signature of Authorized Person)

Place:

Name

Date:

Designation

Business Address:

.....

Seal

FORM IIA

(To be in the Firm's letter head)

Date:.....

Transaction details for remittance of Earnest Money Deposit (EMD)

The bidder shall upload system generated proof towards successful payment of EMD along with following filled in form in the bid document as follows

Sl.No	Beneficiary reference No.	Date of Payment	Amount (in INR)	Uploaded page No. reference
1				

(Signature of Authorized Person)

Place:

Name

Date:

Designation

Business Address:

.....

Seal

FORM IIB

(To be in the Firm's letter head)

Date:.....

Exemption of EMD by the Micro and Small Enterprises (MSEs)

The bidder shall upload the requisite certificate of registration under **MSEs** along with following filled in form in the bid document as follows

Sl. No	Name of Enterprise	Udyam Registration Number	Enterprise type	Uploaded page No. reference
1				

(Signature of Authorized Person)

Place:

Name

Date:

Designation

Business Address:

.....

Seal

FORM III

(To be in the Firm's letter head)

Date:.....

FINANCIAL CAPABILITY

The details of Summary of Annual Turnover of the Bidder on the basis of the Audited Balance Sheet for the last three financial years shall be given as under

<i>Sl.No.</i>	<i>Financial year</i>	<i>Total Turnover</i>	<i>Uploaded page no. reference</i>
01	Year 20.... –	Rs.....	
02	Year 20.... –	Rs.....	
03	Year 20.... –	Rs.....	

Note: The Profit & Loss statement and Balance sheet to be uploaded shall be duly certified by the Chartered Accountant.

(Signature of Authorized Person)

Place:

Name

Date:

Designation

Business Address:

.....

Seal

FORM IV

(To be in the Firm's letter head)

Date:.....

SIMILAR WORK EXPERIENCE

The Bidders experience in similar work carried out each in any Central / State Government / Autonomous bodies / PSEs/PSUs / Nationalised Banks / Public Limited or Private Limited Companies, etc., for evaluating the Eligibility Criteria for pre-qualification to be provided using the format as below:

Details of Similar Work Experience

Sl. No	Name of work	Value of work executed (in Rs.)	Work order reference No.	Contract period		Date of completion certificate	Name and address of the Client	Uploaded page no. reference
				Commencement	completion			
1								
2								
3								

Note:

1. The copies of the documents containing above information like work order and completion certificate have to be uploaded duly self-attested.
2. In case of experience other than Central / State Government / Autonomous bodies / PSEs/PSUs/ Public Limited Companies, the bidder has to submit TDS certificate for the past experience to be uploaded, as provided in **Form IV (B)**, only then the experience will be considered.

Yours faithfully,

(Signature of Authorized Person)

Place:

Name

Date:

Designation

Business Address:

.....

Seal

FORM IV(A)

(To be in the Firm's letter head)

Date:

DETAILS OF TDS CERTIFICATE

In case of experience other than Central / State Government / Autonomous bodies / PSEs/PSUs/ Nationalized Banks / Public Limited Companies, the bidder has to provide the details of the TDS certificate in the form provided below and shall submit TDS certificate for the past experience to be uploaded, only then the experience will be considered.

Sl. No	Name of work	Value of work executed (in Rs.)	Work order reference No.	TDS Certificate		Name and address of the Client	Uploaded page no. reference
				No.	Amount		
1							

(Signature of Authorized Person)

Place:

Name

Date:

Designation

Business Address:

.....

Seal

FORM V

DECLARATION OF AUTHORISED REPRESENTATIVE

(To be provided in non-judicial stamp paper with denomination not to be lesser than Rs.100/-)

(Separate Forms to be submitted for each Signatory with details of Proprietor or Partner or Managing Director)

I/We, (Name) being the (Partners/Karta/Managing Directors and whole time Director/Members of Managing Committee of Associations/Board of Trustees etc.) of (Name of the Bidder), hereby solemnly affirm and declare that the (Authorised Signatory) is hereby authorized, vide resolution No. (Resolution Number) dated (Resolution Date) (copy submitted herewith), to act as an authorized signatory for the business (Name of the Bidder) for which submission of bid is being filed under the tender. All his actions in relation to this tender will be binding on me/us.

Signature of the person competent to sign

Name:

Description:

Name of the Business Entity:

Acceptance as an Authorized Signatory

I (Authorised Signatory) hereby solemnly accord my acceptance to act as authorized signatory for the above referred business and all my acts shall be binding on the business.

Signature of Authorised Signatory

Name:

Description:

Place:

Date:

Note:

1. For the purpose of this tender and the Agreement, the tender, forms, Agreement and other documents shall be signed only by the persons, who are themselves in a position to undertake the work and possessing all other resources required for the purpose. The tender shall contain the name, residence and place of business of the person or persons submitting the tender and shall be signed by the Bidder with his usual authorized representatives followed by the name and Description of

the person signing the document along with a copy of the partnership deed. A copy of the constitution of the firm with the names and addresses of all the partners shall be furnished.

2. Tender by a corporation shall be signed in the name of the corporation by a duly authorized representative, and a power of attorney in that behalf shall accompany the tender. In the case of company, a copy of the Memorandum and Articles of Association shall be furnished.
3. Tenders may be submitted by agents on behalf of their principals, but in such cases the Board reserves the right to enter into contract with the principals, Director, with the principals and agents jointly as deemed appropriate.

FORM VI

SCHEDULE OF NO DEVIATION

This is with reference to Tender No....., for
“.....”

I/We, (Name of the Bidder / Authorised Representative of the Bidder) of
M/s..... (Name of the organisation), hereby certify that there is no deviation from the
Tender conditions either technical or commercial or tender enquiry and I/We am/are agreeing to all the
terms and conditions mentioned and comprised in relation to the above-mentioned Tender.

Yours faithfully,

(Signature of Authorized Person)

Place:

Name

Date:

Description

Business Address:

Seal

Witness with signature

1) Name & Address

2) Name & Address

.....

.....

.....

.....

.....

.....

FORM VII

DECLARATION BY THE BIDDER

(To be provided in 100 Rs Stamp Paper)

To, The Head of the Department.

I/We M/s. represented by its Proprietor / Managing Partner / Managing Director having its Registered Office at and do declare that I/We have carefully read all the conditions of tender with NIT No....., dated, Basis In(Name Of The Department) Department At V.O.Chidambaranar Port Authority for a period of -----, (including extension if any), if needed and accepts all conditions of the tender including amendments/corrigendum subsequently issued by the tender inviting authority, if any. Further I/we confirm our eligibility for this tender and quoted as per the tender condition and Governing laws of India, in case of typographical error found in submitted documents/affidavits/declarations, in this case we accept all the Terms and conditions of bid documents and hereby confirm as under.

1. I/We have not made any counter conditions stipulation and conditions and I/We agree that in the event of any such counter conditions my/our tender will be summarily rejected and such offer will not be evaluated and considered at all by you.
2. I/We do hereby declare that we have not been blacklisted/ debarred by any Central / State Government / Autonomous bodies / PSEs/PSUs / Nationalised Banks / Public Limited or Private Limited Companies, etc., from taking part in the tendering process.
3. I/We have not made any payment or illegal gratification to any person/authority connected with the tendering process so as to influence the tendering process and have not committed any offence under the Prevention of Corruption Act in connection with the tender.
4. I/We hereby declare that, all information furnished by me/us with this tender is true to best of my/our knowledge, belief and in case, if it is found that, the information furnished is not true or partially true or incorrect, I/We agree that my/our tender shall be summarily rejected without prejudice to the right of the board of Trustees of Port of V.O.Chidambaranar Port Authority to take further action in to the matter.

Witness's

Signature: _____

Name: _____

Address: _____

Tel. No: _____

Mobile no.: _____

Date: _____

Bidder's

Signature: _____

Name: _____

Address: _____

Tel. No: _____

Mobile No: _____

Date: _____

FORM VIII

BANK MANDATE FORM

1. Name of the company :
2. Status :
3. Bank Name, Address & Branch :
4. IFSC Code :
5. MICR Code :
6. Branch Code :
7. Name of the Authorised Person :
8. Signature of the authorised person
as per Bank :
9. E-Mail ID of Authorised Person :
10. Contact No. Landline/Mobile :

Copy of cancelled cheque may be enclosed if Bank signature not obtained.

Name & Seal of the Bank with
Date

FORM IX

TENDER ACCEPTANCE LETTER

(To be printed on company letterhead and filled, signed, and uploaded)

To

The Chief Mechanical Engineer
V.O. Chidambaranar Port Authority
Tuticorin-4

Sir,

Subject: “-----”

Tender reference No. -----

1. I/We have downloaded/obtained the tender document(s) for the above-mentioned tender/work from the website, namely <https://etenders.gov.in/eprocure/app>, as per your advertisement given in the above-mentioned website(s).
2. I/We hereby certify that I/We have read the entire terms and conditions of the tender documents from **Page No. to** (including all documents like annexure(s), schedules(s), etc., which form part of the contract agreement and I /we shall abide hereby and agree the terms /conditions /clauses contained therein.
3. The corrigendum(s) issued from time to time by V.O.Chidambaranar Port Authority for the above subject work has also been taken into consideration while submitting this acceptance letter.
4. I/We hereby unconditionally accept the tender conditions of above-mentioned tender document(s)/ corrigendum (s) in its totality /entirety.
5. I/We do hereby declare that our firms have not been blacklisted/ debarred by any Govt. Department/ Public sector undertaking.
6. I / We certify that all information furnished by me/ us is true & correct and in the event that the information is found to be incorrect/untrue or found violated, then V.O.Chidambaranar Port Authority shall without giving any notice or reason therefore, summarily reject the bid or terminate the contract, without prejudice to any other rights or remedy including the forfeiture of the full earnest money deposit absolutely

Yours faithfully,

(Signature of the bidder with official seal)

Note: If the firm has been blacklisted or debarred or banned or delisted by any Government or Quasi-Government Agencies or Public Sector Undertaking in India, then the same should be declared properly after modifying the sentence, suitably.

FORM X

Local content Declaration & Self Certification as per the Government of India Order towards Public Procurement (preference to Make in India) vide Letter No. P-45021/2/2017-PP(BE-II), (revised) Dated.16.9.2020)

(To be provided on Rs.100/- non-judicial stamp paper)

I _____ (Name of the Person(s), S/o _____ at _____ (Address), working as _____ (Designation and name of the firm/Company/ partnership/ Joint venture), and I have been authorized to sign the Declaration / Self- Certification on behalf of firm / Company/partnership/ Joint venture do hereby solemnly affirm and declare as under:

That I will agree to abide by the terms and conditions of the policy of Government towards Public Procurement (preference to Make in India) vide Letter No. P- 45021/2/2017-PP(BE-II), (revised) Dated.16.9.2020. That the information furnished hereinafter is correct to be of my knowledge and belief and I undertake to produce relevant records before the procuring entity or any

authority so nominated for the purpose of assessing the Local Content. That the local content for all inputs which constitute the said equipment has been verified by me and I am responsible for the correctness of the claims made therein. That in the event of the domestic value addition of the product mentioned herein is found to be incorrect and not meeting the prescribed value addition norms based on the assessment of an authority so nominated for the purpose of assessing the Local Content, action will be taken against me as per the notification P-45021/2/2017-PP(BE-II), (revised) Dated.16.9.2020.

I agree to maintain the following information in the company's record for a period of 8 years and shall make this available for verification to my statutory authority. The Details of the location(s) at which the local value addition is made

- i. Name and details of the Domestic manufacture
- ii. Date on which this certificate is issued
- iii. Product for which the certificate is produced
- iv. Percentage of local content. (% to be mentioned)

Signed by me at _____ on _____

Authorized signatory

(Name of the Firm entity)

Note: Required particulars are to be filled properly for acceptance.

FORM XI
INTEGRITY PACT

Between

The Board of V.O. Chidambaranar Port Authority, a body corporate under Major Port Authority Act, 2021, represented by its having its office at Administrative building, V.O. Chidambaranar Port Authority, Tuticorin – 628 004 (herein after referred to as the 'Board' which expression shall unless excluded by or repugnant to the subject or context be deemed to include the successor in office) of the one part

And

M/s....., (a partnership firm / proprietorship firm / company registered under the laws of India) having its place of business at represented by its Shri....., s/o..... (Hereinafter referred to as 'Contractor' which expression shall, unless excluded by, or repugnant to the context be deemed to include his heirs, executors, administrators, representatives and assigns or his successors in office) of the other part

PREAMBLE

The Port intends to award, under laid down organizational procedures, contract/s for “-----” vide NIT No-----. The Port values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness /transparency in its relations with its Bidder(s) and/or Contractor(s).

In order to achieve these goals, the Port will appoint an Independent External Monitor (IEM) who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

Section 1 – Commitments of the Port:

1. The Port commits itself to take all measures necessary to prevent corruption and to observe the following principles.
 - a) No employee of the Port, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
 - b) The Port will, during the tender process treat all Bidder(s) with equity and reason. The Port will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.
 - c) The Port will exclude from the process all known prejudiced persons.

2. If the Port obtains information on the conduct of any of its employees which is a criminal offense under the IPC/PC Act, or if there be a substantive suspicion in this regard, the Port will inform the Chief Vigilance Officer and in addition can initiate disciplinary actions.

Section 2 – Commitments of the Bidder(s)/ contractor(s):

1. The Bidder(s)/ Contractor(s) commits themselves to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.
 - a) The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Port's employees involved in the tender process or the execution of the contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.
 - b) The Bidder(s)/ Contractor(s) will not enter with other Bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
 - c) The Bidder(s)/Contractor(s) will not commit any offence under the relevant IPC/PC Act; further the Bidder(s)/Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Port as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
 - d) The Bidder(s)/ Contractor(s) will, when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.
 - e) The Bidder(s)/Contractor(s) who have signed the Integrity Pact shall not approach the Courts while representing the matter to the IEM and shall wait for the decision in this matter.
2. The Bidder(s)/Contractor(s) will not instigate third persons to commit offenses outlined above or be an accessory to such offenses.

Section 3 – Disqualification from tender process and exclusion from future contracts:

1. If the Bidder(s)/Contractor(s), before award or during execution has committed a transgression through a violation of **Section 2** above or in any other form such as to put his reliability or credibility in question, the Port is entitled to disqualify the Bidder(s)/Contractor(s) from the tender process or terminate the Contract, if already signed, for such reasons mentioned above.
2. If the Bidder / Contractor have committed a serious transgression through a violation of **Section 2** such as to put reliability or credibility into question, the Port is entitled to exclude the Bidder / Contractor from participating in future tender processes. The imposition of such duration of exclusion shall be determined based on the severity of the transgression. The severity will be determined by the circumstances of the case, in particular the number of transgressions, the position

of the transgressors within the company hierarchy of the Bidder / Contractor and the amount of the damages. The exclusion may be imposed for a period of minimum 6 months to the maximum of 3 years. In such cases, the decision of the Port shall be final.

Section 4 – Compensation for Damages:

1. If the Port has disqualified the Bidder(s) from the tender process prior to the award of contract according to **Section 3**, the Port is entitled to demand and recover the damages equivalent to 3% of the tender value.
2. If the Port has terminated the contract according to **Section 3**, or if the Port is entitled to terminate the contract according to **Section 3**, the Port shall be entitled to demand and recover from the Contractor liquidated damages amount equivalent to 5% of the contract value.
3. If the Bidder / Contractor can prove that the exclusion of the Bidder / Contractor from the tender process or the termination of the contract has caused no damage or less damage than the amount of the above-mentioned liquidated damages, the Bidder / Contractor has to compensate only to the extent of damages caused due to the act of the Bidder / Contractor. However, if the Port can prove that the amount of the damage caused due to the disqualification of the Bidder / Contractor before the award of contract or after the termination of the contract is higher than the amount of the liquidated damages claimed, the Port is entitled to claim more compensation for the equivalent to the higher amount of damage.

Section 5 – Previous transgression:

1. The Bidder declares that no previous transgressions occurred in the last 3 (three) years with any other Company in any country conforming to the anti-corruption approach or with any Central / State Government / Autonomous bodies / Public Sector Enterprises in India that could justify his exclusion from the tender process.
2. If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

Section 6 – Equal treatment of all Bidders/Contractors/Subcontractors:

1. The Bidder(s) / Contractor(s) undertakes(s) to demand from all subcontractors a commitment in conformity with this Integrity Pact and to submit it to the Port before signing of the Contract.
2. The Port will enter into agreements with identical conditions as this one with all Bidders, Contractors and Subcontractors.
3. The Port will disqualify from the tender process all bidders who do not sign this Pact or violate its provisions.

Section 7 – Criminal charges against violating Bidder(s) / Contractor(s) / Subcontractor(s):

If the Port obtains knowledge of conduct of a Bidder, Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if the Port has substantive suspicion in this regard, the Port will inform the same to the Chief Vigilance Officer.

Section 8 – Independent External Monitor / Monitors:

1. The Port appoints competent and credible Independent External Monitor for this Pact. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.
2. The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. It will be obligatory for him to treat the information and documents of the Bidders/Contractors as confidential. He reports to the Chairman of the Board of the Port.
3. The Bidder(s)/Contractor(s) accepts that the Monitor has the right to access without restriction to all Project documentation of the Port including that provided by the Contractor. The Contractor will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his project documentation. The same is applicable to Subcontractors.
4. The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/Contractor(s)/Subcontractor(s) with confidentiality. The Monitor has also signed on 'Non-Disclosure of Confidential Information' and of 'Absence of Conflict of Interest'. In case of any conflict of interest arising at a later date, the IEM shall inform Chairman of the Port and rescue himself/herself from that case.
5. The Port will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the Port and the Contractor. The parties offer to the Monitor the option to participate in such meetings.
6. As soon as the Monitor notices, or believes to notice, a violation of this agreement, he will so inform the Chairman of the Port and request the Chairman to discontinue or take corrective action or to take other relevant action. The Monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.
7. The Monitor will submit a written report to the Chairman of the Port within 8 to 10 weeks from the date of reference or intimation to him by the Port and, should the occasion arise, submit proposals for correcting problematic situations.
8. If the Monitor has reported to the Chairman of the Port, a substantiated suspicion of an offense under relevant IPC / PC Act or Anti-Corruption Laws of India, and the Chairman of the Port has not, within the reasonable time taken visible action to proceed against such offense or reported it to the Chief Vigilance Officer, the Monitor may also transmit this information directly to the Central Vigilance Commissioner.
9. The word '**Monitor**' would include both singular and plural.

Section 9 – Pact Duration:

This Pact begins when both parties have legally signed it. It expires for the Contractor in 12 months after the last payment under the Contract Agreement, and for all other Bidders in 6 months after

the contract has been awarded. Any violation of the same would entail disqualification of the bidders and exclusion from future business dealings.

If any claim is made/lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged/determined by Chairman of the Port.

Section 10 – Other provisions:

1. This agreement is subject to Indian Law. Place of performance and jurisdiction is the location of the Office of the Port, i.e. Tuticorin.
2. Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.
3. If the Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.
4. Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
5. Issues like Warranty / Guarantee etc., shall be outside the purview of IEMs.
6. In the event of any contradiction between the Integrity Pact and its Annexure, the Clause in the Integrity Pact will prevail.

.....
(For & on behalf of the Port)

.....
(For & on behalf of the Bidder/Contractor)

.....
(Office Seal)

.....
(Office Seal)

Place:

Date:

Witness with signature

1) Name & Address

2) Name & Address

.....

.....

.....

.....

.....

.....

ANNEXURE B

CONTRACT AGREEMENT FORM

This AGREEMENT is made on this day ofMonth of..... Two Thousand
(..... 20....) between

The Board of V.O. Chidambaranar Port Authority, a body corporate under Major Port Authority Act, 2021, having its office at administrative building, V.O. Chidambaranar Port, Tuticorin – 628 004 (herein after referred to as the 'Board' which expression shall unless excluded by or repugnant to the subject or context be deemed to include the successor in office) of the one part.

And

M/s....., (a partnership firm / proprietorship firm / company registered under the laws of India) having its place of business at
(Hereinafter referred to as 'Contractor' which expression shall, unless excluded by, or repugnant to the context be deemed to include his heirs, executors, administrators, representatives and assigns or his successors in office) of the other part

WHEREAS the Board of V.O.Chidambaranar Port Authority, Tuticorin is desirous of the executing the “ _____ ”

WHEREAS the Contractor has offered to execute, complete and maintain such works till handing over the Board and whereas the Board has accepted the tender of the Contractor for an amount of Rs. _____ (Rupees _____) only and

WHEREAS the Contractor has furnished a sum of Rs. _____/- (Rupees _____ only) as Earnest Money Deposit (EMD) at the time of tendering, which will be adjusted against Security deposit as stipulated in **Clause No.2.13.5** of the **Section II** of the bid document and the Security deposit will be collected by deductions from the monthly running bills, at the rates mentioned therein for the due fulfilment of all the conditions of the Contract.

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this agreement words and the expressions shall have the same meanings as are respectively assigned to them in the conditions of the contract hereinafter referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement viz.
 - (a) Notice inviting tender
 - (b) The original Tender Document
 - (c) Bid document uploaded by the Bidder
 - (d) Letter of Acceptance

(e) Any correspondences and documents exchanged between the Contractor & Board in connection with tender/Contract.

3. The Contractor hereby covenants with the Board to execute, complete and maintain the work till handing over the Board in all respects in in conformity and in all respects with the provisions of this Agreement.
4. The Board hereby covenants to pay the Contractor in consideration of such execution, completion, and maintenance of the work for the “Contract Price” at the time and in the manner prescribed by the Contract.

IN WITNESS WHEREOF the parties here into have set their hands and seals the day and year first written.

The common seal of the Board of V.O. Chidambaranar Port Authority was here into affixed and
The thereof, has set his
Hand in the presence of

V.O. Chidambaranar Port Authority

Signed and sealed by

The Contractor in the presence of

Witness with signature

1) Name & Address

.....
.....
.....

2) Name & Address

.....
.....
.....

ANNEXURE C

FORM OF BANK GUARANTEE

(For Performance Security)

In consideration of the Chairman representing the Board of V.O.Chidambaranar Port (hereinafter called "The Port") having agreed to exempt (hereinafter called "said contractors") from the demand, under the terms and conditions of the contract awarded in No dated made between and for (hereinafter called "said Agreement") of Performance security for the due fulfillment by the said contractor(s) of the terms and conditions contained in the said Agreement, on the production of Bank Guarantee for Rs. _____ (Rupees.....only).

We* (hereinafter referred to as the Bank) at the request of the contractor(s) do hereby undertake to pay to the Port an amount not exceeding Rs. _____ against any loss or damage caused to or suffered or would be caused to or suffered by the Port by reason of any breach by the said contractor (s) of any of the terms and conditions contained in the said Agreement.

We* do hereby undertake to pay the amount due payable under this Guarantee without any demur, merely on demand from the Port stating that the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the Port by reason of any breach by the said contractor(s) of any of the terms and conditions contained in the said Agreement or by reason of the contractor(s) failure by performing the said Agreement. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this Guarantee shall be restricted to an amount not exceeding Rs.

We undertake to pay to the Port any money so demanded notwithstanding any dispute or disputes raised by the Contractor(s) in any suit or proceedings before any Court or Tribunal relating thereto our liability under this present being absolute and unequivocal.

The payment so made by us under this bond shall be a valid discharge of our liability for payment there under, and the Contractor(s) shall have no claim against us for making such payment.

We* further agree that the Guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Agreement and that it shall continue to be enforceable till all the dues of the Port under or by virtue of the said agreement have been fully paid and its claims satisfied or discharged or till the Engineering Department, V.O.Chidambaranar Port Authority certified that the terms and condition of the said Agreement had been fully and properly carried out by the said contractor's and accordingly discharges this Guarantee. Unless a demand or claim under this Guarantee is made on us in writing within three months from the date of expiry of the validity of the Guarantee period, we shall be discharged from all liability under this Guarantee thereafter provided further that the Bank shall at the request of the Port but at the cost of Contractor(s) renew or extend this Guarantee for such further period or periods as the Port may require.

We * further agree the Port, that the Port shall have the fullest liberty without consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Agreement to extend the time of performance by the said Contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the Port against the said Contractor(s) or for any

Forbearance, act or omission on the part of the Port or any indulgence by the Port to the said Contractor(s) or by any such matter or thing whatsoever which under the Law relating to sureties would but for this provision, have

the effect of so relieving us.

This Guarantee will not be discharged due to the charge in the constitution of the Bank or the Contractor(s)

We* lastly undertaken Otto revoke this Guarantee during its currency except with the previous consent of the Port in writing. (Validity/Period should be noted)

This guarantee is valid upto (period) Dated the.....day of 20__for.....**

Indicate here the name of the Bank Indicate here the period or date.

FORM XII

DECLARATION OF POWER OF ATTORNEY

(To be executed before Notary Public on a Non-Judicial Stamp Paper of at least Rs 100)

Dated: _____

POWER OF ATTORNEY

To whomsoever it may concern

Mr. _____ [Name of the Person(s)], residing at _____ [Address of the person(s)], acting as _____ (Designation of the person and name of the firm), and whose signature is attested below, is hereby authorized on behalf of _____ [Name of the Bidder (in case of a consortium, name of the lead member)] to sign the tender [(Tender No.and (Tender subject- “.....”)] and submit the same and is hereby further authorized to provide relevant information/ document and respond to the enquiry's etc. as may be required by V.O Chidambaranar Port Authority (VOCPA) in respect of the tender.

And I/ we hereby agree that all acts, deeds and things lawfully done by our said attorney shall be construed as acts, deeds and things done by us and I/ we undertake to ratify and confirm all and whatsoever that my / our said attorney shall lawfully do or cause to be done for me / us by virtue of the power hereby given.

(Attested signature of Mr. _____)

For _____ (Name of the Bidder / Consortium Members with Seal)

Note –

(In case of Consortium, representative of all members must sign)

FORM XIII

DECLARATION of POWER OF ATTORNEY FOR LEAD MEMBER OF CONSORTIUM

(To be executed before Notary Public on a Non-Judicial Stamp Paper of at least Rs 100)

POWER OF ATTORNEY

Whereas V.O Chidambaranar Port Authority, Thoothukudi (“the Authority”) has invited tenders from interested parties for “.....” (Tender No.....).

Whereas, And (collectively the “Consortium”) being members of the Consortium are interested in bidding for the Tender in accordance with the terms and conditions of the Tender Document and other connected documents in respect of the said tender, and

Whereas it is necessary under the Tender Document for the members of the Consortium to designate one of them as the Lead Member with all necessary power and authority to do for and on behalf of the Consortium, all acts, deeds and things as may be necessary in connection with the Consortium’s bid for the Tender and its execution.

NOW THEREFORE KNOW ALL MEN BY THESE PRESENTS

We, M/s. having our registered office at,
M/s.....
having our registered office at, M/s. having our registered office at

....., and M/s. having our registered office at, [the respective

names and addresses of the registered office] (hereinafter collectively referred to as the “Principals”) do hereby designate, nominate, constitute, appoint and authorize M/s. having its registered office at, being one of the members of the Consortium, as the Lead Member and true and lawful

attorney of the Consortium (hereinafter referred to as the “Attorney”). We hereby irrevocably authorize the Attorney to conduct all business for and on behalf of the Consortium and any one of us during the bidding process and, in the event the Consortium is awarded the Contract, during the execution of the contract, and in this regard, to do on our behalf and on behalf of the Consortium, all or any of such acts, deeds or things as are necessary or required or incidental to the pre-qualification of the Consortium and submission of its bid(s) for the tender, including but not limited to signing and submission of all applications, bids and other documents and writings, participate in Pre Bid and other conferences/meetings, respond to queries, submit information/ documents, sign and execute contracts and undertakings consequent to acceptance of bid(s) of the Consortium and generally to represent the Consortium in all its dealings with the Authority, and/or any other Government Agency or any person, in all matters in connection with or relating to or arising out of the Consortium’s bid(s) for the tender and/or upon award thereof till the Agreement is entered into with the Authority.

AND hereby agree to ratify and confirm and do hereby ratify and confirm all acts, deeds and

thingslawfully done or caused to be done by our said Attorney pursuant to and in exercise of the powers conferred by this Power of Attorney and that all acts, deeds and things done by our said Attorney in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us / Consortium.

IN WITNESS HEREOF WE HAVE EXECUTED THIS POWER OF ATTORNEY ON THIS
DAY OF20**

For(Name & Title)

For(Name & Title)

For(Name & Title)

Witnesses:

- 1.
- 2.

.....
(To be executed by all the members of the Consortium)

Attachment- 1

WORKSHEET FOR ESTIMATED ANNUAL WIND ENERGY PRODUCTION OUTPUT

(FOR THE QUOTED MODEL(S) ONLY)

ENERGY YIELD ESTIMATION REPORT SHOULD BE ATTACHED

Model of WTG offered:-----

Capacity of WTG(in kW):-----

REPORT SHOULD CONTAIN:

1. Digitized Contour map of the proposed site
2. Certified Power & Thrust curve of the proposed machine.
3. Details of the software used for energy estimation
4. Detailed Methodology
5. Estimated energy from the machine.
6. Details of Loss /Correction factors and Uncertainty factors
7. All other required details.

Soft copies (CD/USB) of all required inputs also should be given for verification purposes.

Seal of the Company

Signature of contractors

Attachment – 2		
<u>TECHNICAL PARTICULARS OF QUOTED MODEL OF WTG.</u>		
General Data		
Sl. No	Description	Particulars
	Make of WTG	
1	Type	
2	Rated output	
3	Current(Amps.)	
4	Voltage(V)	
5	Voltage Variation(%)	
6	Frequency Variation(%)	
7	Asymmetry variation(%)	
8	Wind Speed at rated output(m/Sec)	
9	Cut in wind speed(m/sec)	
10	Cut out wind speed(m/sec)	
11	Tip speed(m/sec)	
12	Survival wind speed(m/sec)	
13	Hub height(m)	
14	Rotor speed(rpm)	
15	Nacelle tilt angle	
16	Regulation	
17	Designed max. temp.(deg.C)	
18	Designed life(years)	
19	Designed turbulence intensity	
20	Noise level(dB)(also specify distance)	
21	Frequency(Hz)	
22	Maximum designed rotor speed	
23	Pitch angle for stall regulated machine	
24	Rotor orientation (upwind/downwind)	
25	No.of blades	
26	Rotor diameter(m)	

1.	Weight Rotor(kg)	
2.	Nacelle(kg)	
3.	Tower(kg)	
4.	Total(kg)	
	Generator	

1. Make
2. Rated power output(kw)
3. Type—Asynchronous/ synchronous / other(please specify)
4. Voltage/RPM
5. No.of poles
6. Insulation Class
7. Protection class
8. Coupling
9. Current Amps.
10. Frequency
11. Dual speed/Variable speed
12. Type of cooling
13. If forced cool then
 - a) Type & quantity of coolant
 - b) Pump rating
 - c) Motor make & rating
 - d) No.of phase
 - e) Motor duty cycle

Rotor

1. Make
2. Blade material
3. Number of blades
4. Rotor diameter(m)
5. Swept area(Sq.m)

6. Length of the blade(m)
7. Specification(TUDprofile)
8. Blades profile
9. Weight of each blade
10. Ref.Standards,Ref.No.,Date of issue, Name of Authority
11. Lightning protection for blades

Tower

1. Make
2. Height(m)
3. Type(Tubular/Lattice)
4. Material
5. No.of Sections
6. Assembly
7. Ladder-type
8. Safety system
9. Surface treatment protection
10. No.& type of landing platforms
11. Type of reptile protection

Yawing System

1. Make & Type
2. Gear box ratio
3. Rated capacity of yaw motor(kW)
4. No.of yaw motors
5. Type of yaw brake
6. No.of yaw brake

BrakeSystem

1. Aero Dynamic
 - i) Type
 - ii) Control
2. Mechanical or other type
 - i) Make & Type

ii) Position

iii) No. of calipers

iv) Motor capacity(KW)

GearBox

1. Make
- 2 Type/model
3. Gear ratio
4. No.of stages.
5. Max.power transmission(KW)
6. Lubrication System.
7. Designed life
8. Type of oil.
9. Weight without oil(kg)
10. Quantity of oil

Hub

1. Make &Type
2. Material

MainShaft

- 1 Make &Type
2. Material

MainBearing

1. Make
2. Type & specification

Coupling

1. Make
2. Type & specification

Nacelle

1. Material
2. Type of nacelle bed

3. Facility of loading & unloading
4. Lightning protection

Power Factor Compensation Capacitors.

1. Make
2. Type
3. Capacity(kVAR)
4. Number
- 5 No.of steps
6. Designed life of capacitors
7. Current in Amps.
8. Rated voltage
9. Estimated kVARh consumption

As the percentage of annual kWh generation.

10 Power factors at different Loads after Compensation:

- No-load
- 25% load
- 50%load
- 75% load
- 100%load

Power Panel

1. Voltage
2. Short circuit level
3. Rating of main MCCB
4. Provision for earth fault protection
5. Dimension
6. Relevant standards

Control System

1. Type
2. List of display (please attach separate sheet)
3. List of error messages (please attach

separate sheet)

4. List of annunciations(please attach separate sheet)
5. Stop features
6. Remote control facility
7. Printer facility
8. Details of special accessories
(Like Lap-top computer) for retrieval of parameters, including power curve data.

Details of CMCS Power cable (between generator & power panel)

1. Type & Make
2. Conductor material
3. Conductor size
4. No of core
5. Ref. standard

ISO9000 Certification

1. Category of certification
2. Date of certification

Seal of the Company

Signature of contractors

SECTION-IX

PRICE SCHEDULE