



COCHIN PORT TRUST

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Website: www.cochinport.gov.in

TENDER DOCUMENT FOR

**“SITE SURVEY, DESIGN, ENGINEERING,
MANUFACTURE, SUPPLY, STORAGE, CIVIL WORK,
ERECTION, TESTING & COMMISSIONING OF
350 KWp GRID CONNECTED ROOFTOP SOLAR PV
PROJECT ON THE ROOF TOP OF VARIOUS BUILDINGS
OF COCHIN PORT TRUST, INCLUDING OPERATION &
MAINTENANCE (O & M) OF THE SYSTEM FOR A PERIOD
OF 25 (TWENTY FIVE) YEARS UNDER RESCO MODEL
AFTER OPERATIONAL ACCEPTANCE”**

(TECHNICAL BID)

(E-Tendering Mode)

Website: www.tenderwizard.com/COPT

No. F1/T-18/350kWp SOLAR-RT2/2020-M Dt:03/12/2020

**OFFICE OF THE
CHIEF MECHANICAL ENGINEER
COCHIN-682 009**

Price: Rs.10,500 /-

COCHIN PORT TRUST
MECHANICAL ENGINEERING DEPARTMENT
Tender No: **F1/T-18/350kWp SOLAR-RT2/2020-M**

Tender for
**“SITE SURVEY, DESIGN, ENGINEERING, MANUFACTURE, SUPPLY, STORAGE,
CIVIL WORK, ERECTION, TESTING & COMMISSIONING OF 350 KW_p GRID
CONNECTED ROOFTOP SOLAR PV PROJECT ON THE ROOF TOP OF VARIOUS
BUILDINGS OF COCHIN PORT TRUST INCLUDING OPERATION &
MAINTENANCE (O & M) OF THE SYSTEM FOR A PERIOD OF 25 (TWENTY FIVE)
YEARS UNDER RESCO MODEL
AFTER OPERATIONAL ACCEPTANCE”**

CONTENTS

Volume-I

Section I	1.	Notice Inviting Tenders	6-10
	2.	Instructions to Tenderers	11-36
	3.	Form of Bid	37-39
	4.	Form of Agreement	40-42
	5.	Contract Data	43-45
	6.	Annexure (1 to 15)	46-68
	7.	Schedule-I	69
Section II	1.	General Conditions of Contract: Part A - G	73-117
	2.	Form of Securities (Annexure A & B)	118-121
Section III	1.	General Description of work	124-132
	2.	Special Conditions of Contract	133-141

Volume-II

Section IV	1.	Technical Specifications	144-154
------------	----	--------------------------	---------

Volume-III

Section V	1.	Drawings	
-----------	----	---------------------	--

Volume-IV

Section VI	1.	Preamble	
	2.	Bill of Quantities	157-159

SECTION -I

COCHIN PORT TRUST

MECHANICAL ENGINEERING DEPARTMENT

Tender No: **F1/T-18/350kWp SOLAR-RT2/2020-M**

Tender for

“SITE SURVEY, DESIGN, ENGINEERING, MANUFACTURE, SUPPLY, STORAGE, CIVIL WORK, ERECTION, TESTING & COMMISSIONING OF 350 KWp GRID CONNECTED ROOFTOP SOLAR PV PROJECT ON THE ROOF TOP OF VARIOUS BUILDINGS OF COCHIN PORT TRUST INCLUDING OPERATION & MAINTENANCE (O & M) OF THE SYSTEM FOR A PERIOD OF 25 (TWENTY FIVE) YEARS UNDER RESCO MODEL AFTER OPERATIONAL ACCEPTANCE”

Volume-I

Section I	1.	Notice Inviting Tenders	6-10
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Volume-III

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Volume-IV

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INDEX

SECTION -I

Sl. No.	Clause	DESCRIPTION	Page No.
1	1.	Notice Inviting Tender	6-10
2	2.	Instructions to Bidders	11-36
3	3.	Form of Bid	37-39
4	4.	Form of Agreement	40-42
5	5.	Contract Data	43-45
6	6.	Annexure (1 to15)	46-68
7.	7.	Schedule-I	69

**SECTION I
COCHIN PORT TRUST**

**Chief Mechanical Engineer's Office
Cochin Port Trust
W/Island , Cochin – 682009, KERALA
Tele: 91-0484-2666639/0484-258 2300/2305
E-mail: cme@cochinport.gov.in
website: www.cochinport.gov.in**



Tender No: F1/T-18/350kWp SOLAR-RT2/2020-M

Dt:03/12/2020

NOTICE INVITING TENDER

- I. Electronic Tenders (**e-tenders**) are invited by Cochin Port Trust from reputed contractors in single stage two cover bidding procedure [Technical Bid and Financial bid], meeting the Minimum Eligibility Criteria specified below for the work of “**Site survey, design, engineering, manufacture, supply, storage, civil work, erection, testing & commissioning of 350 kWp grid connected rooftop solar PV project on the roof top of various buildings of Cochin Port Trust, including operation & maintenance (O & M) of the project for a period of 25 (twenty five) years under RESCO model after operational acceptance**”.
- II. **MINIMUM QUALIFICATION CRITERIA (MQC)**

Tenderer must fulfill the following minimum qualifying criteria to prove the techno-commercial competence and submit the documents in support thereof:

1. Experience

The Bidders should have the experience of having successfully completed works involving “**Supply, Installation, Testing, Commissioning and Operation & Maintenance of Solar Power Plants**” during the last 7 (seven) years ending on **30/11/2020**, at least either:

- (a) One (1) completed work costing not less than **Rs.1,26,00,000/- OR**
(b) Two (2) completed works, each single contract costing not less than **Rs.78,75,000/- OR**
(c) Three (3) completed works, each single contract costing not less than **Rs.63,00,000/-**

This may be furnished in the Proforma in ‘Annexure-4’ of the tender document and submit the documents in support thereof. The experience of having carried out the work under subcontract to the main contractor will not be considered.

2. Financial Eligibility Criteria

Average annual financial turnover during the last three (3) financial years, of the bidder shall not be less than **Rs.47,25,000/-** and the bidder shall submit the Annual turnover certificate during the last 3 financial years 2016-'17, 2017-'18, 2018-19 duly authorized by a Chartered Accountant. This may be furnished in the Proforma in ‘Annexure-5’ of the tender document.

3. License

The tenderer shall hold valid “**A-Class**” license or should have a tie-up with a firm having “A-Class” license. A copy of the license shall be submitted along with the tender or furnish an undertaking that the tenderer will tie-up with a contractor having A class license in case of award of contract.

Note : following enhancement factors will be used for the costs of works executed for bringing the financial figures to a common base value in respect of the works completed in past years.

Table 1.1

Year before	Multiplying factor
One year [2019]	1.07
Two years [2018]	1.14
Three years [2017]	1.21
Four years [2016]	1.28
Five years [2015]	1.35
Six years [2014]	1.42

III. Eventhough the tenderers meet the above qualifying criteria, they are subjected to be disqualified if they have:

- (i) Made misleading or false representations in the forms, statements and attachments submitted in proof of the qualification requirements; and/ or
- (ii) Record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history or financial failures etc.

IV. Pertinent information to the tender is given in the following tables:

- (i) Schedule of different activities till submission of the tender are detailed as under:

Table 1.2

Sl. No.	Particulars	Date and Time
1.	Tender e-publication date	03/12/2020
2.	Download period of tender documents	04/12/2020 to 14.30hrs.on 31/12/2020
3.	Date of pre-bid meeting	15/12/2020 11:30 hrs
4.	Last date for seeking clarification	15/12/2020 11.00 hrs
5.	Likely date for uploading the addendum/ clarification if any,	18/12/2020
6.	Last date and time of submission of bid	31/12/2020 at 15.00 hrs.
7.	Date and time of opening the bid	31/12/2020 at 15.30hrs.

- (ii) Bid information:

Table 1.3

i)	NIT No. & Date	No: F1/T-18/350kWp SOLAR-RT2/2020-M dated 03/12/2020
ii)	Document Description	<ul style="list-style-type: none"> l. The tender document comprises “Bidding process for Site survey, design, engineering, manufacture, supply, storage, civil work, erection, testing & commissioning of 350 kWp grid connected rooftop solar PV project on the roof top of various buildings of Cochin Port Trust including operation & maintenance

		<p>(O & M) of the project for a period of 25 (twenty five) years under RESCO model after operational acceptance”.</p> <p>II. Bidder can submit bids for RESCO model as per above, up to the maximum aggregate bid capacity of 500 kWp.</p> <p>III. Bidder can submit bids under RESCO model for the sites located at Cochin Port Trust area.</p>
iii)	Estimated Amount put to tender	Rs.1,57,50,000/- excluding GST (Rupees One crore fifty seven lakh fifty thousand only)
iv)	Bid Bond (Bid Security or EMD) (Exemption shall be given as per Clause XII below)	Rs 3,15,000/- (Rupees Three lakh fifteen thousand only). The bid security shall be accepted in the form of Account Payee Demand Draft, Fixed Deposit Receipt, Banker’s Cheque or Bank Guarantee from any of the Commercial Banks or payment online in an acceptable form safeguarding the purchaser’s interest in all respects, in favour of “FA&CAO , Cochin Port Trust” payable at Cochin, along with the bid.
v)	Tender document fee / Tender processing fee (non- refundable) (Exemption shall be given as per Clause XII below)	Rs.10,500/- (Rupees Ten Thousand Five Hundred Only) including 5% GST, to be furnished through Demand Draft (DD)/ Banker’s cheque drawn in favour of “FA&CAO, Cochin Port Trust”, payable at Kochi along with Bid.
vi)	Validity period of tender	120 days from the last date for receipt of tenders
vii)	Completion period for installation of solar power plant	5 months
viii)	Milestone completion activity	50kW of the facility by 02/04/2021
ix)	Performance Security	Performance Security amount of Rs.15.75lakh should be furnished by the successful bidder after issue of Letter of Award (LoA) by Cochin Port Trust, in the form of Account Payee Demand Draft, Fixed Deposit Receipt from a Commercial Bank, Bank Guarantee from a Commercial Bank or online payment in an acceptable form safeguarding the purchaser’s interest in all respects, in favour of “FA&CAO , Cochin Port Trust”, payable at Cochin.
x)	Maximum allowable Levelized Tariff for 25 years under RESCO Model	Rs.3.33 per kWh

xi)	Name, Designation, Address and other details (For Submission of Bid in response to NIT)	V.Thuraipandian Chief Mechanical Engineer, Ist floor, New Administrative Building, Cochin Port Trust, Willingdon Island, Kochi-682 009, Kerala.
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Important Note:

Prospective Bidders are requested to remain updated for any corrigendum/ amendments/ clarifications etc. to the bid document through the website.

No separate notifications will be issued for such corrigendum /amendments/clarification etc. in the print media or individually.

All the information related to this NIT shall be updated in the websites

www.cochinport.gov.in , www.tenderwizard.com/CPT and www.eprocure.gov.in

The levelized tariff to be quoted by the bidder for 25 years shall be firm. No taxes, duties etc, is payable by CoPT. No price variation whatsoever is applicable. The rate should be firm for the entire period of 25 years, including all taxes and duties.

- **Please note that any queries related to the subject tender may be sent to the undersigned, before the date of pre-bid meeting.**

V. The tenders should be submitted under single stage 2 cover e-tender mode in accordance with the Standard Bidding Documents (SBD), General Conditions of Contract (GCC), Special Conditions of Contract (SCC), Contract Data Sheet or Bid Data Sheet, Scope of work and detailed Technical Specification etc, as enumerated in the Standard Bidding Documents .

VI. Downloading of Tender Document.

1. Tender documents can be downloaded from the e-Tendering portal www.tenderwizard.com/COPT on the dates specified in the above table by making online requisition. Tender document will also be available in Cochin Port website (www.cochinport.gov.in) as well as in the Central Public Procurement Portal <https://eprocure.gov.in>.
2. The intending bidder must have valid Class-II or III digital signature certificate to submit the bid. For further details and to obtain the digital signature please contact e-Tender Help Desk No. 080 – 40482000 / 9746118529.

VII. Submission of Tender:

1. The tenderers need to obtain the one time User ID & password for login to in **e-Tendering** system from the service provider **KEONICS** by paying registration fees by online Payment using Credit/Debit Card/Net banking or DD in favour of “KSEDCL, Bangalore. The details of e-tender facilitator is available through Telephone Nos. **080 49352000/ 09605557738**.
2. Tenders shall be submitted “**on line**” strictly in accordance with the Instructions to Bidders and Terms & Conditions given in the tender document. The bidders should submit scanned copy of all the required documents such as instrument towards the cost of tender and EMD; proof of experience, financial details etc. through the e-tendering portal. **Tenderers shall submit the BOQ in Price Bid in the online portal www.tenderwizard.com/COPT only, otherwise the tender will be rejected.** No manual submission of Price Bid is allowed.
3. Bid Bond (EMD) and Tender Document fee, both in original, and hard copies of the MQC documents shall be received by post or in person or deposited the same in the

tender box located in the reception area of main administrative building of Cochin Port Trust at the Office of Chief Mechanical Engineer, Cochin Port Trust, Cochin-09 on or before **15.00Hrs on 31/12/2020**, failing which the tenders will summarily be rejected.

4. The tenderer is responsible to download Addendums/ Amendments/ Errata/ Replies to the queries of the tenderer etc., if any, issued by the Employer, from the website before submission of the bid. Any shortfall in submissions of the said Addendums/ Amendments/Errata/Replies to the queries of the tenderer duly signed etc. along with the downloaded documents while submitting the bid will not be considered. Incomplete tenders will be rejected.
5. Cochin Port Trust will not be held responsible for any technical snag or net work failure during online bidding. It is the bidders responsibility to comply with the system requirement i.e. hardware, software and internet connectivity at bidder's premises to access the e-Tender portal. Under any circumstances, Cochin Port Trust shall not be liable to the bidders for any direct/indirect loss or damages incurred by them arising out of incorrect use of the e-Tender system or internet connectivity failures.
6. The bidder shall submit the original documents towards the cost of tender and EMD and the power of attorney along with letter of submission in a sealed cover to the Chief Mechanical Engineer, Cochin Port Trust, W/Island, Cochin-682009, KERALA, before tender submission date and time. Tenders without submitting the original documents as above, before submission date and time of the tender will be liable for rejection.

- VIII. There is no lease/ license involved in this project for the installation of roof top solar power panels.
- IX. The successful bidder shall execute an agreement that the contract will be terminated at any time with a notice period of 6 months after a period of 10 years from the date of PPA, if CoPT requires the assets for its development project without any compensation to the contractor. CoPT at its discretion may identify the alternate location if available, and the contractor shall relocate the plant at his own risk and cost. If no suitable location is available, the contractor shall dismantle and remove the solar plants at his own cost and risk.
- X. The cost of tender document / processing fee and Bid Bond (EMD) shall be remitted as per the Instruction to Bidders (ITB) of SBD.
- XI. The cost of tender document/ processing charge, once remitted, will not be refunded under any circumstances.
- XII. **Exemption from the payment of EMD and Cost of Tender document shall be given to Micro and Small Enterprises (MSEs) as defined in MSE Procurement Policy issued by Department of Micro, Small and Medium Enterprises (MSME) or are registered with the Central Purchase Organization or the concerned Ministry or Department as provided in GFR 2017.**
- XIII. The undersigned reserves the right to reject/cancel/postpone any one or all tenders at any stage of the tender, which will be binding on all bidders.

Sd/-
CHIEF MECHANICAL ENGINEER
COCHIN PORT TRUST

SECTION I
COCHIN PORT TRUST
TENDER No. F1/T-18/350kWp SOLAR-RT2/2020-M

2. INSTRUCTIONS TO BIDDERS

Sl. No.	Clause/ Sections	DESCRIPTION	Page No.
1	2.1	Introduction	13
2	2.2	General Instructions	13
3	2.3	Bid Details	15
4	2.4	MQC	16
5	2.5	Invitation for Bids	16
6	2.6	Use of Technical and/or Financial Strength of Parent Company	16
7	2.7	Bid Submission	17
8	2.8	Clarifications & Pre Bid Meeting	18
9	2.9	Amendments to NIT	18
10	2.10	Bid Formats	19
11	2.11	Method of Bid submission	20
12	2.12	Cost of Bidding	21
13	2.13	Bid Bond/ EMD	21
14	2.14	Validity of bids	22
15	2.15	Bid Due date	22
16	2.15.1	No alternative proposals by bidders	22
17	2.16	Format and signing of bids	22
18	2.17	Deadline for Submission of the Bids	23
19	2.17.1	Late bids	23
20	2.18	Information required in the Bid	23
21	2.19	Bid opening	25
22	2.20	Right to Withdraw the NIT and to Reject any Bid	26
23	2.21	Zero Deviation	26
24	2.22	Examination of bids and Determination of responsiveness	26
25	2.23	Evaluation Criteria	26
26	2.23.3	Evaluation of Bidder's Fulfillment of Eligibility Criteria	27

27	2.23.5	Evaluation of Price Bid	28
28	2.24	Rejection of Tender	28
29	2.25	Fraud and corrupt Practices.	28
30	2.26	Debar from Participating In Cochin Port Trust'S Roof Top Tender	29
31	2.27	Successful Bidder(S) Selection	29
32	2.28	Notification to Successful Bidders	30
33	2.29	Performance Security	30
34	2.30	Signing of Agreement	31
35	2.31	Release of Bid security/ EMD	31
36	2.32	Project Allocation and Sanction	31
37	2.33	Transfer of Capacity	32
38	2.34	Increase/Decrease of Bidder Allocated Capacity	32
39	2.35	Incorporation of a Project Company	32
40	2.36	Other Conditions	32
41	2.37	Time of Completion of Allocated Capacity	33
42	2.38	Penalty for Delay in Project Implementation	34
43	2.39	User ID For Updating The Project Progress on Bi-Weekly Basis	34
44	2.40	Inspection and Audit by The Government	35
45	2.41	Commissioning /Completion Certificate:	35
46	2.42	Deductions from the Contract Price	35
47	2.45	Correspondence	36

SECTION I
COCHIN PORT TRUST
TENDER No. F1/T-18/350kWp SOLAR-RT2/2020-M

2. INSTRUCTIONS TO BIDDERS

2.1. Introduction

- 2.1.1. Cochin Port Trust intends to develop grid connected rooftop solar PV project at the various rooftops of the buildings, under RESCO model. The list of building comprises of residential buildings owned by Cochin Port Trust at W/Island area, Kochi, Kerala. The projects to be installed will be grid connected through net-metering system.
- 2.1.2. Bidder can submit bids under RESCO model for the Cochin Port Trust, Kochi mentioned in NIT.
- 2.1.3. The scheme targets installation of grid-connected roof top solar PV projects on the roof tops of residential buildings / offices owned by Cochin Port. The generated solar power may be utilized for captive application and the surplus power will be fed to the grid. The scheme aims to reduce the fossil fuel-based electricity load on main grid and make building self-sustainable from the point of electricity, to the extent possible.
- 2.1.4. Cochin Port Trust, which expression shall also include its successors and permitted assignees, hereby invites interested companies to participate in the bidding process for the selection of Successful Bidder(s) for implementation of large scale grid-connected roof top Solar Photovoltaic Projects at Cochin Port Trust, W/Island, Kochi indicated herein under.
- 2.1.5. The Bidder is advised to read carefully all instructions and conditions appearing in this document and understand them fully. All information and documents required as per the bid document must be furnished. Failure to provide the information and / or documents as required may render the bid technically unacceptable.
- 2.1.6. The bidder shall be deemed to have examined the bid document, to have obtained his own information in all matters whatsoever that might affect the carrying out the works in line with the scope of work specified elsewhere in the document at the offered rates and to have satisfied himself to the sufficiency of his bid. The bidder shall be deemed to know the scope, nature and magnitude of the works and requirement of materials, equipment, tools and labour involved, wage structures and as to what all works he has to complete in accordance with the bid documents irrespective of any defects, omissions or errors that may be found in the bid documents

2.2. General Instructions

The work is to be executed as described in the Bid document and in particular in the Technical specifications, Special Conditions, Schedule of Quantities and drawings and in general includes, but is not limited to supplying all including consumables and equipment necessary to execute the work as described in the Bid Document.

- 2.2.1. Before submitting the bid, the bidder shall examine carefully all conditions of contract, specifications, drawings etc. supplied herewith. The bidders shall inspect the site of work with prior appointment with the Engineer of the work to get himself acquainted with the site conditions and to assess and satisfy himself of the difficulties and constraints which may be involved in executing the work in the location. It will be deemed that prior to the submission of tender, the tenderer has visited the site and has satisfied himself as to the nature and location of the work, general and local

conditions, particularly those pertaining to transportation, handling and availability and storage of materials, availability of labour, weather conditions, tidal variations at site, working conditions, ground level, nature of soil etc. and that the tenderer has estimated his cost accordingly and the Port Trust will be in no way responsible for the lack of such knowledge and also consequences thereof to the tenderer. Failure to visit the site will in no way relieve the successful bidder of any of the obligations in performing the work in accordance with this Bid Document including addendum/corrigendum, within the quoted price.

- 2.2.2. A bidder shall be deemed to have full knowledge of all documents, site conditions etc. whether he has inspected them or not. The submission of a bid by the bidder implies that he has read the notice and conditions of contract and has made himself aware of the scope and specifications and other factors bearing on the bid and that they are binding on him.
- 2.2.3. The bidders may please note that the EMPLOYER will not entertain any correspondence or query on the status of the offers received against this Bid. Bidders are also requested not to depute any of their personnel or agents to visit the Employer's offices for making such enquiries till finalisation of the bid. Should the EMPLOYER find it necessary to seek any clarification, technical or otherwise the concerned bidder will be duly contacted by the EMPLOYER.
- 2.2.4. Canvassing in any form by the bidder or by any other agency acting on behalf of the bidder after submission of the bid may disqualify the said bidder. The Employer's decision in this regard shall be final and binding on the bidder.
- 2.2.5. EMPLOYER will not be liable for any financial obligation in connection with the work until such time the EMPLOYER has communicated to the successful bidder in writing his decision to entrust the Work (covered by the bid document issued to him).
- 2.2.6. Telex/E-mail offers will not be considered. Bidders should prepare their bid themselves. Bids submitted by agents will not be recognized.
- 2.2.7. Bids received after the due date and time and any change in bid after the specified date will be rejected. EMPLOYER will not be responsible for the loss of the bid document or for the delay in postal transit.
- 2.2.8. In case of an unscheduled holiday on the prescribed closing/opening day of the bid, the next working day will be treated as the scheduled prescribed day of closing/opening of the bid.
- 2.2.9. While evaluating the document, regard would be paid to National security considerations, at the discretion of the Cochin Port Trust. Bid received from any bidder may be summarily rejected on National security consideration without any intimation thereof to the bidder.
- 2.2.10. If there are varying or conflicting provisions made in any document forming part of the contract, the Chief Mechanical Engineer, Cochin Port Trust, Cochin – 682009 shall be the deciding authority with regard to the intention of the document which will be binding on the Bidder.
- 2.2.11. In case the department desires to inspect the equipments/ machinery for confirmation of its availability and capacity etc., necessary arrangements shall be made by the contractor for such inspection at his own cost.
- 2.2.12. Any error in description, any omissions there from shall not vitiate the contract or release the contractors from the execution of whole or any part of the works

comprised therein according to drawing and specifications or from any of his obligations under the contract

- 2.2.13. All the Bank Guarantees (BGs) to be furnished by the contractors in connection with the tender shall be sent to the Chief Mechanical Engineer, Cochin Port Trust directly by the issuing bank under registered post with AD. The contractor shall take the responsibility of sending BGs directly to the Port Trust by the issuing bank.
- 2.2.14. The contractor shall comply with all the provisions of the Indian Workmen's Compensations Act, Provident Fund Regulations, Employees Provident Fund and ESI Act etc. amended from time to time and rules framed there under and other laws affecting the contract labour that may be brought in to force from time to time.
- 2.2.15. The contractor shall be registered under EPF and ESI Act and the employees employed under them shall be covered in the EPF and ESI scheme. Work Order shall be issued only to the contractors who are registered under EPF organisation and ESI Corporation. The contractors shall regularly remit the employer and employee contribution to the authorities. If not, the Department would remit the same and the amount so remitted shall be deducted from the part/final bill of contractors.
- 2.2.16. The contractor shall be registered under GST and shall furnish documentary evidence in support of valid GST registration.

2.3. Bid Details

- 2.3.1. The bidding process under this NIT of the rooftop scheme is for 0.35 MWp for RESCO Model as tabulated in Clause 2.3.4 below but subject to the maximum aggregate capacity of 0.5 MWp as per Clause 2.3.6 of bid document.
- 2.3.2. Bids are invited from the prospective bidders for the tendered capacity as indicated based on the levellised tariff for RESCO Model for the allocated capacity subject to Clause 2.32 of Bid document.
- 2.3.3. Maximum allowable Levellised tariff for 25 years for RESCO Model is at the rate of Rs.3.33/- per kWh and the bids with tariff more than Rs.3.33/- Per kWh will not be considered for evaluation and award.
- 2.3.4. The locations, where the projects are required to be installed along with the respective capacities are indicated in the table below:

Buildings Owned by Cochin Port Trust

Sl. No.	Name	Address	Capacity Rounded in kW	Area in Sq mtr
1.	Residential building	RNAS area quarters, Near Ayyappa Temple, W/Island, Kochi-09, Kerala	250	2500
2.	Roof top of CISF quarters	Near CISF barrack, W/Island, Kochi, Kerala	100	1000

2.3.5. Size of the Projects

The size of each project shall be in the range of 4x25kWp to 6x25kWp for identified locations in W/Island area. One project may however comprise of several rooftop units. Each roof top unit can separately connect with the grid and may have separate meters.

2.3.6. Bid Capacity

Bidders can submit the bid for minimum 0.35MW to maximum capacity of 0.5 MW only, for location indicated in table 2.3.4. The levelled tariff shall be quoted in the price bid accordingly.

2.4. Minimum Qualifying Criteria: (MQC)

Tenderer must fulfill the following minimum qualifying criteria to prove the techno-commercial competence and submit the documents in support thereof:

2.4.1 Experience

The Bidders should have the experience of having successfully completed works involving “**Supply, Installation, Testing, Commissioning, Operation & Maintenance of Solar Power Plants**” during the last 7 (seven) years ending on **30/11/2020**, at least either:

- (a) One (1) completed work costing not less than **Rs.1,26,00,000/-OR**
- (b) Two (2) completed works, each single contract costing not less than **Rs.78,75,000/- OR**
- (c) Three (3) completed works, each single contract costing not less than **Rs.63,00,000/-**

This may be furnished in the Proforma in ‘Annexure-4’ of the tender document and submit the documents in support thereof. The experience of having carried out the work under subcontract to the main contractor will not be considered.

2.4.2 Financial Eligibility Criteria

Average annual financial turnover during the last three (3) financial years, of the bidder shall not be less than **Rs.47,25,000/-** and the bidder shall submit the Annual turnover certificate during the last 3 financial years 2016-'17, 2017-'18, 2018-19 duly authorized by a Chartered Accountant. This may be furnished in the Proforma in ‘Annexure-5’ of the tender document.

2.4.3 License

The tenderer shall hold valid “**A-Class**” license or should have a tie-up with a firm having “**A-Class**” license. A copy of the license shall be submitted along with the tender or furnish an undertaking that the tenderer will tie-up with a contractor having A class license in case of award of contract.

2.5. Invitation for Bids:

2.5.1. Bidder will be declared as a Qualified Bidder based on meeting the eligibility criteria as specified in the bid, based on documentary evidence submitted by the Bidder.

2.5.2. Any kind of Consortium is not allowed in this Bidding Process.

2.5.3. Further in-case where the bidding company has used the financial eligibility criteria of its parent company then it needs to be ensured that any change in the controlling equity of the Bidding company requires prior approval of Cochin Port Trust

2.5.4. Bidder can submit only one bid.

2.6. Use of Technical and/or Financial Strength of Parent Company

2.6.1. Bidder can however use the technical and financial strength of its Parent Company or Affiliate to fulfill the Technical and/or Financial Eligibility criteria mentioned below.

2.6.2. In above case, Bidders shall submit an Undertaking from the Parent Company as per Format in the annexure. Undertaking from the Financially Evaluated Entity or its Parent Company/ Ultimate Parent Company and also furnish a certificate of relationship of Parent Company or Affiliate with the Bidding Company as per

Format “ Format for certificate of relationship of Parent Company or Affiliate with the Bidding Company”. Company Secretary Certificate towards shareholding pattern of the Parent Company and the Bidding Company along with a Board resolution from the Parent Company shall also be submitted.

2.7. Bid Submission

2.7.1. The information and/or documents shall be submitted by the Bidder as per the formats specified in Annexure 4 of this document.

2.7.2. Strict adherence to the formats wherever specified, is required. Wherever, information has been sought in specified formats, the Bidder shall refrain from referring to brochures /pamphlets. Non-adherence to formats and / or submission of incomplete information may be a ground for declaring the Bid as non-responsive. Each format has to be duly signed and stamped by the authorized signatory of the Bidder.

2.7.3. The Bidder shall furnish documentary evidence in support of meeting Eligibility Criteria as indicated in Clause no. 2.4.1, 2.4.2, and 2.4.3 to the satisfaction of Cochin Port Trust and shall also furnish unconsolidated/ consolidated audited annual accounts in support of meeting financial requirement, which shall consist of balance sheet, profit and loss account, profit appropriation account, auditors report, etc., as the case may be of Bidding Company or Financially Evaluated Entity for any of the last three(3) financial years immediately preceding the Bid Deadline which are used by the bidder for the purpose of calculation of Annual Turnover or of last Financial Year in case of Net Worth.

2.7.4. In case the annual accounts for the latest financial year are not audited and therefore the bidder cannot make it available, the applicant shall give certificate to this effect from their directors. In such a case, the Applicant shall provide the Audited Annual Reports for 3 (three) years preceding the year or from the date of incorporation if less than 3 years for which the Audited Annual Report is not being provided.

2.7.5. The tendering system for the work comprises three stages (i) Mandatory Documents (Bid Fee and Bid Bond) (ii) Technical Bid [Eligibility qualification] and (iii) online Financial Bid. The Bidders are required to submit the online tender and submit hard copy with all required documents in Two Sealed Envelopes – I & II, as detailed above. If no mandatory documents are seen submitted while opening the technical bid on line, the tender will be summarily rejected immediately without considering other documents submitted by the bidder.

2.7.6. In Stage II [Technical Bid] the Bidder shall prepare the Documents comprising the Tender. Bidders shall attach all Copies of Certificates pertaining to their Eligibility Criteria, Qualification Information Documents and Credit lines / Letter of Credit / Certificates from Scheduled Banks, failing which the Bid shall not be considered.

2.7.7. Stage III - Submission of Online Financial Bid.

2.7.8. The Tender shall contain no Alterations or Additions, except those to comply with instructions issued by the Employer.

2.7.9. Procurement of Tenders

Tender Documents may be downloaded from the e tender portal as indicated in the NIT. Bidders shall submit signed, complete Technical Bid comprising of the documents and forms. The submission shall be physically (hard Copy) as well as online.

Only the authorized representative of the Bidder shall sign the original submission letters in the required format for the Qualification Documents, Technical Proposal and the Financial Proposal and shall initial all pages as required. The authorization shall be in the form of a written power of attorney attached to the Qualification Documents Proposal.

Any modifications, revisions, interlineations, erasures, or overwriting shall be valid only if they are signed or stamped by the person signing the Proposal.

The signed Proposal shall be marked "Original". The scanned Copy shall be made from the signed original and submitted online. If there are discrepancies between the original and the scanned copies submitted online, the tender committee of CoPT shall take signed hard copy as original.

If the envelopes and packages with the Proposal are not sealed and marked as required, the CoPT will assume no responsibility for the misplacement, loss, or premature opening of the Proposal.

- 2.7.10. The Bidding Company should designate one person to represent the Bidding Company in its dealings with Cochin Port Trust.

The person should be authorized to perform all tasks including, but not limited to providing information, responding to enquires, signing of Bid etc. The Bidding Company should submit, along with Bid, a Power of Attorney in original (as per Annexure 2), authorizing the signatory of the Bid.

2.8. Clarifications and Pre-Bid Meeting

- 2.8.1. The Cochin Port Trust will not enter into any correspondence with the Bidders, except to furnish clarifications on bid documents, if necessary. The Bidders may seek clarifications or suggest amendments to bid document in writing, through a letter or by fax (and also soft copy by e-mail) to reach Cochin Port Trust at the address, date and time mentioned in Bid information sheet.
- 2.8.2. The Bidder(s) or their authorized representative(s) is /are invited to attend pre-bid meeting(s), which will take place on date(s) as specified in Bid information sheet, or any such other date as notified by Cochin Port Trust.
- 2.8.3. The purpose of the pre-bid meeting will be to clarify any issues regarding the bid document including in particular, issues raised in writing and submitted by the Bidders.
- 2.8.4. Cochin Port Trust is not under any obligation to entertain/ respond to suggestions made or to incorporate modifications sought for.

2.9. Amendments to Bid document

- 2.9.1. At any time prior to the deadline for submission of Bids, the Cochin Port Trust may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, modify the bid document by issuing clarification(s) and/or amendment(s).
- 2.9.2. The clarification(s)/ amendment(s) (if any) may be notified on Cochin Port Trust website www.cochinport.gov.in , www.tenderwizard.com/cpt and www.eprocure.gov.in at least Two (2) days before the proposed date of submission of the Bid. If any amendment is required to be notified within Two (2) days of the proposed date of submission of the Bid, the Bid Deadline may be extended for a suitable period of time.

- 2.9.3. Cochin Port Trust will not bear any responsibility or liability arising out of non-receipt of the information regarding Amendments in time or otherwise. Bidders must check the website for any such amendment before submitting their Bid.
- 2.9.4. In case any amendment is notified after submission of the Bid (prior to the opening of Techno-Commercial Bid, Bids received by Cochin Port Trust shall be returned to the concerned Bidders on their request through registered post or courier and it will be for the Bidders to submit fresh Bids as the date notified by the Cochin Port Trust for the purpose.
- 2.9.5. All the notices related to this Bid which are required to be publicized shall be uploaded on website www.tenderwizard.com/cpt , www.cochinport.gov.in and www.eprocure.gov.in.

2.10. Bid Formats

The Bid shall comprise of the following:

2.10.1. ENVELOP – I (MANDATORY DOCUMENTS)

- 2.10.1.1. Bid document fee/ processing fee @ Rs. 10,500/- (Rs.10000+ 5% GST) in original.
- 2.10.1.2. Bid Bond/Bid security/EMD, as per the prescribed Format shall be submitted as per Clause 2.13 in original.

2.10.2. ENVELOP- II TECHNO-COMMERCIAL DOCUMENTS

- 2.10.2.1. Covering Letter indicating the Capacity quoted as per the prescribed Format in the Annexure -1: Covering Letter.
- 2.10.2.2. Copy of PAN, TAN and GST certificates of Bidding company.
- 2.10.2.3. Cash remittance details
- 2.10.2.4. Original power of attorney issued by the Bidding Company in favour of the authorized person signing the Bid, in the form attached hereto or standard power of attorney in favour of authorized person signing the Bid. (Power of Attorney must be supplemented by Board Resolution to above effect for the company). However, Cochin Port Trust may accept general Power of Attorney executed in favour of Authorised signatory of the Bidder, if it shall conclusively establish that the signatory has been authorized by the Board of Directors to execute all documents on behalf of the Bidding Company.
- 2.10.2.5. General particulars of bidders as per Annexure-3: Organization details of the Bidder.
- 2.10.2.6. Shareholding certificate signed by the company secretary of the bidding company and shareholding certificate signed by the company secretary of the Parent company (if parent company credentials are used).
- 2.10.2.7. Document in support of meeting Eligibility Criteria as per Clause no. 2.4 above.
- 2.10.2.8. Details for meeting Financial Eligibility Criteria as per Clause no. 2.4.2 in the prescribed Format in Annexures 5- Financial Eligibility Criteria Requirement along with documentary evidence for the same.
- 2.10.2.9. Certificates of incorporation of Bidding company and parent company (if parent company credentials are used)

- 2.10.2.10. If credentials of Parent company are being used by the Bidding company than Format in annexure 5a - Format for certificate of relationship of Parent Company or Affiliate with the Bidding Company shall be furnished.
- 2.10.2.11. Undertakings from the Financially Evaluated Entity or its Parent Company/ Ultimate Parent Company as per Annexure 5b.
- 2.10.2.12. Board Resolution of the Parent Company /Ultimate Parent Company of the Bidding company duly certified by the Company Secretary to provide the Performance Bank Guarantee (PBG) in the event of failure of the Bidding Company to do so.
- 2.10.2.13. Board resolution for Authorised signatory
- 2.10.2.14. Signed and stamped Copy of Bid Documents including amendments & clarifications by Authorised signatory on each page.

Note: All formats and relevant documents as required in the Bid Document shall be spiral bounded and should be flagged separately. Details of flag should be mentioned in the covering letter.

2.11. Method of Bid Submission

- 2.11.1. The bids shall be submitted both physically (hard Copy) as well as online. The hard Copy of the Tender shall be submitted by the Bidder with Two sealed envelope and shall contain all the Documents.
- 2.11.2. Bids are required to be submitted in a single sealed cover envelope containing Envelope-I (Bid document fee and Bid Bonds) and Envelope-II (Techno- Commercial documents) [hard copy and online] and Envelope III (Price Bid (s)) [online only]. Envelope should contain the documents as detailed in Clause 2.10 above.
- 2.11.3. Both Envelop – I & II shall be kept in a single Envelope. All the envelopes should be superscribed as “Bid for Implementation of Grid connected Roof Top Solar PV System at Cochin Port Trust under RESCO model” Envelope-I (Bid document fee and Bid Bonds) and Envelope-II (Techno-Commercial documents) along with the “BID DUE DATE”.
- 2.11.4. The Bidders have the option of sending their Bid either by registered post; or speed post; or courier; or by hand delivery, so as to reach Cochin Port Trust by the Bid Deadline. Bids submitted by telex/telegram/fax/e-mail shall not be considered under any circumstances. Cochin Port Trust shall not be responsible for any delay in receipt of the Bid. Any Bid received after the Bid Deadline shall be returned unopened. It should be noted that except Envelope III (online only), no other envelope shall contain any information/document relating to Price Bid. Cochin Port Trust shall not be responsible for premature opening of the Price Bids in case of non- compliance of above.
- 2.11.5. All pages of the Bid, except for the Bid Bond, and any other document executed on non-judicial stamp paper, forming part of the Bid and corrections in the Bid, if any, must be signed by the authorized signatory on behalf of the Bidder. It is clarified that the same authorized signatory shall sign all pages of the Bid. However, any published document submitted with the Bid shall be signed by the authorized signatory at least on the first and last page of such document. Bidders shall submit the Bid in original, duly signed by the authorized signatory of the Bidder. No change or supplemental information to a Bid will be accepted after the Bid Deadline, unless the same is requested for by Cochin Port Trust.

- 2.11.6. If the outer cover envelope or Envelope I (Bid Document Fee and Bid Bond) or Envelope- II (Techno-Commercial Envelope) is/are not closed/sealed and not super scribed as per the specified requirement, Cochin Port Trust will assume no responsibility for the Bid's misplacement or premature opening.
- 2.11.7. All the envelopes shall be sealed properly & shall indicate the Name & address of the Bidder. The Bid must be complete in all technical and commercial respect and should contain requisite certificates, drawings, informative literature etc. as required in the Bid document. Each page of the Bid document should be signed & stamped.
- 2.11.8. Bids with any type of change or modification in any of the terms/ conditions of this document shall be rejected. If necessary, additional papers may be attached by the Bidder to furnish/ submit the required information. Any term / condition proposed by the Bidder in his bid which is not in accordance with the terms and conditions of the NIT document or any financial conditions, payment terms, rebates etc. mentioned in Price Bid shall be considered as a conditional Bid and will make the Bid invalid.

2.12. Cost of Bidding

- 2.12.1. The bidder shall bear all the costs associated with the preparation and submission of his offer, and the company will in no case be responsible or liable for those costs, under any conditions. The Bidder shall not be entitled to claim any costs, charges and expenses of and incidental to or incurred by him through or in connection with his submission of bid even though Cochin Port Trust may elect to modify / withdraw the invitation of Bid.

2.13. Bid Security/ Bid Bond/ EMD

The Bidder shall furnish the Interest free Bid Bond @ **Rs. 3.15 Lakh** (Rupees Three Lakh Fifteen Thousand only) in the form of Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee from any of the Commercial Banks or payment online in an acceptable form safeguarding the purchaser's interest in all respects, in favour of "FA&CAO, Cochin Port Trust payable at Cochin, along with the bid. The initial validity of Bid Bond shall be for a period of 6 months from the Bid Deadline, which shall be extended by the bidder as per the bid validity. If the bidder fails to extend the bid bond validity as per above on request by Cochin Port Trust then entire Bid bond may be forfeited. Bidders submitting Bid Bond Amount less than that required amount as mentioned above shall not be considered.

- 2.13.1. The Bid Bond shall be denominated in Indian Rupees and shall:
- At the Bidder's option, be in the form of Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee from any of the Commercial Banks or payment online in an acceptable form safeguarding the purchaser's interest in all respects, in favour of "FA&CAO, Cochin Port Trust payable at Cochin, along with the bid.
 - Be submitted in its original form; copies will not be accepted; and remain valid for a minimum period of 6 months from the date of Techno Commercial bid opening, or beyond any period of extension subsequently requested
- 2.13.2. The Successful Bidder shall sign and stamp the Allocation Letter and return the duplicate copy of the same to Cochin Port Trust within 15 days from the date of its issue.
- 2.13.3. The Bid Bond shall be forfeited without prejudice to the Bidder being liable for any further consequential loss or damage incurred to Cochin Port Trust under following circumstances:

- a. Hundred percent (100%) of Bid Bond amount, if a Bidder withdraws/revokes or cancels or unilaterally varies his bid in any manner during the period of Bid Validity specified in the NIT document and in accordance with the Clause
- b. Hundred percent (100%) of the Bid Bond amount, if the Successful Bidder fails to unconditionally accept the Allocation letter within 15 days from the date of its issue.
- c. Hundred percent (100%) of the Bid Bond amount, if the Successful Bidder fails to furnish the “Performance Security” as per the Clause 2.29.

2.13.4. **Exemption from the payment of EMD shall be given to Micro and Small Enterprises (MSEs) as defined in MSE Procurement Policy issued by Department of Micro, Small and Medium Enterprises (MSME) or are registered with the Central Purchase Organization or the concerned Ministry or Department as provided in GFR 2017. In this regard the firm should submit valid certificate.**

2.14. Validity of Bid

2.14.1. The bid and the Price Schedule included shall remain valid for a period of 4 months (120 days) from the date of techno-commercial bid opening, with bidder having no right to withdraw, revoke or cancel his offer or unilaterally vary the offer submitted or any terms thereof. In case of the bidder revoking or cancelling his offer or varying any term & conditions in regard thereof or not accepting letter of allocation, Cochin Port Trust shall forfeit the Bid Bond furnished by him. Confirmation regarding the Bid offer validity shall be clearly mentioned in the covering letter.

2.14.2. In exceptional circumstances when letter of allocation is not issued, the Cochin Port Trust may solicit the Bidder's consent to an extension of the period of validity. The request and the responses thereto shall be made in writing. The Bid Bond provided under Clause 2.13 shall also be suitably extended. A Bidder may refuse the request without forfeiting its Bid Bond. A Bidder granting the request will neither be required nor permitted to modify its Bid in any manner.

2.15. BID DUE DATE

The Bidder should submit the Bids so as to reach the address indicated below by 15:00 hrs (IST) on or before 31/12/2020,
Chief Mechanical Engineer,
Room No NAB 101, New Administrative Building,
Cochin Port Trust, Willingdon Island, Cochin -09, Kerala
Ph No. 0484-2666639, 0484 2582300, 0484 2582305, 0484 2582351
Fax No 04842666639
Email- cme@cochinport.gov.in

2.15.1. No Alternative Proposals by Bidders:

Bidders shall submit offers that comply with the requirements of the bidding documents. Alternatives will not be considered.

2.16. Format and Signing of Bid:

2.16.1. The Tenderer shall prepare one set of his Tender (all Volumes), duly completed and signed, along with the set of Drawings and other documents mentioned hereinafter. The Technical Bid shall be typed or written in indelible ink and shall be signed by a person or persons duly authorised to sign on behalf of the Bidder with signature duly witnessed and company seal affixed. Then it shall be scanned and upload in the e

tender portal for submission. However the Power of Attorney (in original) authorizing the signatory/s of the Tender shall be submitted in hard copy along with submission of tender fees and EMD.

- 2.16.2. If the tender is made by an individual it shall be signed by his full name and his address shall be given. In the event of the tender being submitted by a registered partnership firm, it must be signed individually by each partner thereof or it must be signed by person holding a proper power-of- attorney authorising him to do so and to bind the partner in all matters pertaining to the contract including the arbitration clause, such power-of-attorney to be attached with the tender which must disclose that the firm is duly registered under Indian Partnership Act. If the tender is made by a Limited Company it shall be signed by a duly authorised person who shall produce with the tender satisfactory evidence of the authorisation. In the case of a Limited Company the tender should be accompanied by the Memorandum and Articles of Association of the Company.

2.17. Deadline for Submission of the Bids:

E-tenders attaching all documents shall be submitted ‘on-line’ in the **e tender portal** strictly in accordance with the terms and conditions of tender document before **the time and the day notified** in Table 1.2 of NIT.

The sealed Technical Bid in hard copy containing all the documents listed in Clause 2.18 in original superscribed with the Tender Number, Name of Work, date notified for submission of tender and the Name of the Tenderer, should reach the office of the Chief Mechanical Engineer, Cochin Port Trust, Cochin-9, on or before the time and the day notified in NIT.

2.17.1. Late Bids:

Any Bid received by the Employer after the Bid due date will be returned unopened to the bidder.

2.18. Information Required In The Bid

2.18.1. **Part I -Technical Bid** shall contain the following:

- a) Earnest Money Deposit (Bid bond) as described in Clause 2.13 above
- b) Cost of tender document (bid document fee/ processing fee)
- c) ~~Integrity Pact, duly signed (vide Annexure-11)-~~
- d) Check list as per **Schedule I**
- e) Letter of Submission (vide **Annexure-1**)
- f) Power of Attorney (in original) in favour of signatory/s to the Tender, duly authenticated by Notary Public. (vide **Annexure-2**)
- g) Organization Details (vide **Annexure-3**)
- h) Details of experience as per **Annexure-4** and Certificates in proof of experience in similar works as detailed under clause 2.4.1 of Instruction to bidders.

Explanatory notes:

- (1) Original or notary certified copy of completion certificates of each work issued by the owner/ the responsible officers of the owner under whom he has executed such contracts and work order shall be attached. The certificate shall invariably contain the following among other things.

- a) Details of work involved specifying the nature of work
 - b) The completion cost of the work and
 - c) Date of commencement ; and
 - d) Date of completion of the work.
- (2) If the experience in similar works is as a member of joint venture, notary attested copy of joint venture agreement in this respect shall be attached.
- (3) The works indicated in **Annexure-4** will only be considered for evaluation. Mere submission of work completion certificate will not be considered as Eligible Assignments
- i) A statement duly certified by Chartered Accountant showing Average Financial turnover of the tenderer over the last three financial years [2016-'17, 2017-'18 & 2018-'19] (vide **Annexure-5**) supported by Audited Financial statements for the last three years.
 - j) Bid document including all addendum/corrigendum duly signed and sealed
 - k) Partnership deed or Memorandum and Articles of Association of the company and Registration certificate of the company as the case may be.
 - l) Copies of PAN, GST, EPF and ESI registration
 - m) "A" Class Electrical Contractor's license or undertaking that the firm will tie-up with a contractor having A class license in case of award of contract.
 - ~~n) A detailed method statement (Technical Note) for carrying out of the works, along with a implementation schedule showing sequence of operation and the time frame for various segments of temporary and permanent works.(vide **Annexure-6**). The information provided will form part of the work methodology and the same shall be in line with the Specifications and Bill of quantities. Not applicable.~~
 - ~~o) A list of Plant and equipment proposed to be engaged for work. (vide **Annexure-7**) The equipment indicated in the **Annexure-7** will form part of contract agreement and as such the bidders are requested to indicate the availability of the equipment at site at what stage of the construction period the equipment would made available.~~
 - p) A declaration to the effect that (vide **Annexure -8**):-
 - i. ~~All details regarding construction plant and machinery, temporary work and personnel for site organization considered necessary and sufficient for the work have been furnished in the **Annexure 7** and that such plant, temporary works and personnel for site organization will be available at appropriate time of relevant works for which the equipment have been proposed at site till the completion of the respective work.~~
 - ii. No conditions are incorporated in the financial bid. In case any conditions are specified in the financial bid, the tender will be rejected summarily without making any further reference to the bidder.
 - iii. We have not made any payment or illegal gratification to any persons/ authority connected with the bid process so as to influence the bid process and have not committed any offence under PC Act in connection with the bid.
 - iv. We disclose with that we have made / not made payments or propose to be made to any intermediaries (agents) etc in connection with the bid.

- v. We do hereby confirm that no changes have been made in the tender document downloaded and submitted by us for the above bid. Port Tender document will be treated as authentic tender and if any discrepancy is noticed at any stage between the Port's tender document and the one submitted by the tenderer, the Port's document shall prevail.

q) Bank information for e- Payment system as per **Annexure-10**.

2.18.2. **Part II : "Price Bid"** shall be submitted online only in e-tendering mode in the e-tender portal www.tenderwizard.com/COPT .

2.19. Opening of Bids

2.19.1. Technical Bid shall be opened at 15.30 hrs on 31/12/2020 in online in the e-tender portal www.tenderwizard.com/COPT .

2.19.2. Bid Opening – Price Bid:

Price Bid of those tenderers found responsive in the evaluation of Technical bid, will be opened online later after technical evaluation.

2.19.3. Clarification of Bids:

To assist in the examination and comparison of Bids, the Employer may, at his discretion, ask any Bidder for clarification of his Bid, including breakdown of unit rates. The request for clarification and the response shall be in writing, but no change in the price or substance of the Bid shall be sought, offered, or permitted.

No Bidder shall contact the Employer on any matter relating to his bid from the time of the bid opening to the time the contract is awarded. If the Bidder wishes to bring additional information to the notice of the Employer, he should do so in writing.

Any effort by the Bidder to influence the Employer's bid evaluation, bid comparison or contract award decisions, may result in the rejection of his bid.

2.20. Right to Withdraw the NIT and to Reject any Bid

2.20.1. This NIT may be withdrawn or cancelled by the Cochin Port Trust at any time without assigning any reasons thereof. The Cochin Port Trust further reserves the right, at its complete discretion, to reject any or all of the Bids without assigning any reasons whatsoever and without incurring any liability on any account.

2.20.2. The Cochin Port Trust reserve the right to interpret the Bid submitted by the Bidder in accordance with the provisions of the Bid document and make its own judgment regarding the interpretation of the same. In this regard the Cochin Port Trust shall have no liability towards any Bidder and no Bidder shall have any recourse to the Cochin Port Trust with respect to the selection process Cochin Port Trust shall evaluate the Bids using the evaluation process specified in Section -I, at its sole discretion. Cochin Port Trust decision in this regard shall be final and binding on the Bidders.

2.20.3. Cochin Port Trust reserves its right to vary, modify, revise, amend or change any of the terms and conditions of the Bid before submission and any amendment/ corrigendum will be displayed in the websites www.cochinport.gov.in , www.tenderwizard.com/CPT and www.eprocure.gov.in.

2.21. Zero Deviation

2.21.1. This is a ZERO Deviation Bidding Process. Bidder is to ensure compliance of all provisions of the Bid Document and submit their Bid accordingly. Tenders with any deviation to the bid conditions shall be liable for rejection.

2.22. Examination of Bid Document and Determination of responsiveness

2.22.1. The Bidder is required to carefully examine the Technical Specification, terms and Conditions of Contract, and other details relating to supplies as given in the Bid Document.

2.22.2. The Bidder shall be deemed to have examined the bid document including the agreement/contract, to have obtained information on all matters whatsoever that might affect to execute the project activity and to have satisfied himself as to the adequacy of his bid. The bidder shall be deemed to have known the scope, nature and magnitude of the supplies and the requirements of material and labour involved etc. and as to all supplies he has to complete in accordance with the Bid document.

2.22.3. Bidder is advised to submit the bid on the basis of conditions stipulated in the Bid Document. Bidder's standard terms and conditions if any will not be considered. The cancellation / alteration / amendment / modification in Bid documents shall not be accepted by Cochin Port Trust.

2.22.4. Bid not submitted as per the instructions to bidders is liable to be rejected. Bid shall confirm in all respects with requirements and conditions referred in this bid document.

2.23. EVALUATION CRITERIA

2.23.1. Bid Evaluation

The evaluation process comprises the following four steps:

Step – I	Responsiveness check of Techno Commercial Bid
Step – II	Evaluation of Bidder's fulfillment of Eligibility Criteria as per Clause 2.4 of Section-I
Step – III	Evaluation of Price Bid
Step – IV	Successful Bidders(s) selection

2.23.2. Preliminary Examination

The Cochin Port Trust will examine the Bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed and stamped and whether the Bids are otherwise in order.

2.23.3. Evaluation of Bidder's Fulfillment of Eligibility Criteria

Evaluation of Bidder's Eligibility will be carried out based on the information furnished by the Bidder as per the prescribed Formats and related documentary evidence in support of meeting the Eligibility Criteria as specified in Clause 2.4. Non-availability of information and related documentary evidence for the satisfaction of Eligibility Criteria may cause the Bid to be non-responsive.

2.23.4. Responsiveness Check of Techno Commercial Bid

The Techno Commercial Bid submitted by Bidders shall be scrutinized to establish responsiveness to the requirements laid down in the NIT subject to Clause

2.4.1,2.4.2,2.4.3. Any of the following may cause the Bid to be considered “Non-responsive”, at the sole discretion of Cochin Port Trust:

- a) Bids that are incomplete, i.e. not accompanied by any of the applicable formats inter alia covering letter, power of attorney supported by a board resolution, applicable undertakings, format for disclosure, valid Bid Bond (EMD), Cost of tender document (Processing fee) etc.;
- b) Bid not signed by authorized signatory and/ or stamped in the manner indicated in this Bid document;
- c) Material inconsistencies in the information/ documents submitted by the Bidder, affecting the Eligibility Criteria;
- d) Information not submitted in the formats specified in this Bid Document;
- e) Bid being conditional in nature;
- f) Bid not received by the Bid Deadline;
- g) Bid having Conflict of Interest;
- h) More than one Member of a Bidding Company using the credentials of the same Parent Company /Affiliate;
- i) Bidder delaying in submission of additional information or clarifications sought by Cochin Port Trust as applicable;
- j) Bidder makes any misrepresentation.

Each Bid shall be checked for compliance with the submission requirements set forth in this bid before the evaluation of Bidder’s fulfillment of Eligibility Criteria is taken up. Clause 2.4 shall be used to check whether each Bidder meets the stipulated requirement.

2.23.5. Evaluation of Price Bid

Price Bid submitted online shall be opened in the e-tender portal www.tenderwizard.com/COPT and the financially lowest offer will be the successful bidder.

The tariff quoted shall be evaluated as follows;

- a. The tariff shall be evaluated on levlized tariff basis quoted for the capacity.
- b. Since the maximum allowable levlized tariff for 25 years in this part is Rs.3.33/kWh, so bidder submitting bid above the maximum allowable rate shall be rejected.

2.24. Rejection of Tender:

Any Tender not conforming to the foregoing instructions will not be considered. The Employer does not bind himself to accept the lowest or any tender and has the right to reject any tender without assigning any reason thereof. No representation whatsoever will be entertained on this account.

2.25. Fraud and Corrupt Practices:

The bidder and their respective officers, employees, agents and advisers shall observe the highest standard of ethics during the Selection Process. Notwithstanding anything to the contrary contained in this document, the Port shall reject the tender without being liable in any manner whatsoever to the bidder, if it determines that the

bidder has, directly or indirectly or through an agent, engaged in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice (collectively the “Prohibited Practices”) in the Selection Process. In such an event, the Port shall, without prejudice to its any other rights or remedies, forfeit and appropriate the Bid Security or Performance Security, as the case may be, as mutually agreed genuine pre-estimated compensation and damages payable to the Port for, inter alia, time, cost and effort of the Authority, in regard to the Tender, including consideration and evaluation of such Bidder’s Proposal. Such Bidder shall not be eligible to participate in any tender or NIT issued by the Authority during a period of 2 (two) years from the date such Bidder is found by the Authority to have directly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice, as the case may be.

2.25.1. For the purposes of this Clause, the following terms shall have the meaning hereinafter respectively assigned to them:

- (a) “corrupt practice” means
 - (i) the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of any person connected with the Selection Process (for avoidance of doubt, offering of employment to or employing or engaging in any manner whatsoever, directly or indirectly, any official of the Authority who is or has been associated in any manner, directly or indirectly with the Selection Process or the LoA or has dealt with matters concerning the Agreement or arising there from, before or after the execution thereof, at any time prior to the expiry of one year from the date such official resigns or retires from or otherwise ceases to be in the service of the Authority, shall be deemed to constitute influencing the actions of a person connected with the Selection Process; or
 - (ii) engaging in any manner whatsoever, whether during the Selection Process or after the issue of the LoA or after the execution of the Agreement, as the case may be, any person in respect of any matter relating to the Project or the LoA or the Agreement, who at any time has been or is a legal, financial or technical consultant/ adviser of the Authority in relation to any matter concerning the Project;
- (b) “fraudulent practice” means a misrepresentation or omission of facts or disclosure of incomplete facts, in order to influence the Selection Process;
- (c) “coercive practice” means impairing or harming or threatening to impair or harm, directly or indirectly, any persons or property to influence any person’s participation or action in the Selection Process;
- (d) “undesirable practice” means
 - (i) establishing contact with any person connected with or employed or engaged by the Authority with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the Selection Process; or
 - (ii) having a Conflict of Interest; and
- (e) “Restrictive practice” means forming a cartel or arriving at any understanding or arrangement among Applicants with the objective of restricting or manipulating a full and fair competition in the Selection Process.

2.26. Debar from Participating In Cochin Port Trust's Roof Top Tender

2.26.1. Cochin Port Trust reserves the right to carry out the performance review of each Bidder from the time of submission of Bid onwards. In case it is observed that a bidder has not fulfilled its obligations in meeting the various timelines envisaged, in addition to the other provisions of the bid document, such Bidders may be debarred from participating in Cochin Port Trust's any future tender for a period as decided by the competent authority of Cochin Port Trust.

2.26.2. Any roofs on which projects has been installed or commissioned before the issue of allocation letter/sanction letter shall be construed as fraudulent activity in which case Successful bidder(s) may be debarred from participating in Cochin Port Trust's future tender for a period as decided by the Competent authority. However, such locations may be used for installation of additional capacity with the prior approval of competent authority.

2.27. Successful Bidder(S) Selection

2.27.1. Bids qualifying in Clause 2.4 shall only be evaluated in this stage.

2.27.2. The Levellized Tariff quoted in all Price Bids of Qualified Bidders shall be ranked from the lowest to the highest for each location separately.

2.27.3. The lowest bidder will be declared as the successful bidder.

2.27.4. Letter(s) of Allocation (LoA): The Letter(s) of Allocation (LoA) shall be issued to the Successful Bidders(s) selected as per the provisions of the Clause 2.29

2.27.5. Successful Bidder shall acknowledge the LoA and return duplicate copy with signature & stamp of the authorized signatory of the Successful Bidder to the Cochin Port Trust within Twenty (20) days of issue of LoA.

2.27.6. If the Successful Bidder, to whom the Letter of Allocation has been issued does not fulfill any of the conditions specified in Bid document, the Cochin Port Trust reserves the right to annul/cancel the award of the Letter of Allocation of such Successful Bidder and forfeit the PBG/Bid Bond.

2.27.7. The Cochin Port Trust at its own discretion, has the right to reject any or all the Bids without assigning any reason whatsoever, at its sole discretion

2.27.8. There shall be no negotiation on the quoted levelized tariff between the Cochin Port Trust and the Bidder(s), during the process of evaluation.

2.28. Notification to Successful Bidders

2.28.1. The name of Successful Bidders shall be notified indicating the allocated capacity and the levelised tariff shall be notified individually through letter of allocation.

2.29. Performance Security / Performance Bank Guarantee (PBG)

2.29.1. Within 21 days from the date of issue of Allocation letter, Successful Bidder shall furnish the Performance Security for the amount of Rs 15.75 Lakh, in the form of Performance Security amount of **Rs.15.75 lakh** should be furnished by the successful bidder after issue of Letter of Award (LoA) by Cochin Port Trust in the form of Account Payee Demand Draft, Fixed Deposit Receipt from a commercial Bank or Bank Guarantee from a Commercial Bank or payment online in an acceptable form safeguarding the purchaser's interest in all respects, in favour of "FA&CAO , Cochin Port Trust", payable at Cochin.

If the bidder wishes to quote for more than the minimum, he can do so with condition that the performance security and bid security shall be revised proportionately.

The formula applicable to calculate the PBG amount will be:

PBG amount for allocation = (Rs. 15.75 Lakh) X Allocated Capacity in MWp/0.35.
Example: Allocating for 500kWp project, the bidder has to submit PBG of Rs.15.75 Lakh X 0.50/0.35 = Rs.22.5 Lakh (Rupees Twenty Two Lakh and Fifty Thousand only).

2.29.2. The Performance Security shall be denominated in Indian Rupees and shall be in one of the following forms:

- a. Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee from any of the Commercial Banks or payment online in an acceptable form safeguarding the purchaser's interest in all respects
- b. BG will be confirmed for payment by the branch of the bank giving BG

2.29.3. The Performance Security/PBG shall be forfeited as follows without prejudice to the Bidder being liable for any further consequential loss or damage incurred to Cochin Port Trust:

- a. If the Successful Bidder is not able to commission the projects to the satisfaction of Cochin Port Trust, within completion date or extended date as provided under Clause No 2.38, the Performance security/PBG will be forfeited as per clause 2.38 on prorata basis for a period of 6 months and 100% performance security/PBG will be forfeited on expiry of such period for partial completion of project within the completion period or extended completion period.
- b. In all the above cases corresponding unidentified/non-commissioned capacity shall stand cancelled.

2.29.4. The Performance Security shall be valid for a minimum period of 12 months from the date of issue of Allocation letter(s) and shall be renewed / extended till the completion of 25 years of O&M from the date of commissioning.

2.30. Signing of Agreement

The successful tenderer will be required to execute an Agreement at his expense within 28 (twenty eight) days from the date of work order, on proper value Kerala State Stamp Paper in the prescribed form. The agreement as finally executed will include the Employer's Bid Documents and the Bidder's offer as finally accepted by the EMPLOYER together with addendum/corrigendum, bid clarification and all correspondences exchanged between EMPLOYER and the bidder, if any. Till the formal agreement is executed, the Letter of Acceptance together with the offer as finally accepted along with correspondences shall form a binding contract between the two parties.

2.31. Release of Bid Security / EMD:

The Bid Security/EMD of unsuccessful bidder other than L1 will be refunded immediately after opening the Price Bids. The Bid Security of the successful bidder will be discharged after he has signed the Agreement and furnished the required Performance Security.

2.32. Project Allocation and Sanction

2.32.1. The identification of the roof tops for the project at the time of bidding is mandatory. The Bidders, however, in their own interest are advised to make a preliminary survey of availability of roof tops for which they intend to Bid, as well as issue of Grid connectivity, as non-availability of roof tops and non-completion of other formalities after allocation of project will result in forfeiture of Bid Bond/PBG amount submitted by them.

- 2.32.2. The Successful Bidders selected as described in Clause 2.27 above shall be issued Letter of Allocation (LoA) indicating the allocated capacity & Levellized tariff etc.
- 2.32.3. The bidders who have been notified as Successful Bidders, shall be given 5 months from the date of issue of Letter of Allocation. However the notified bidder shall complete / commission at least 50kW of the facility by 02/04/2021 and PPA shall be executed accordingly. The roof identification is also in the bidder's scope.(within 2 months from the date of LoA)
- 2.32.4. First preference should be given to Cochin Port Trust identified roofs. In the event of award of contract given by Cochin Port Trust to the Bidder to execute the project in the Cochin Port Trust identified roof, the time for submission of project sanction documents by the bidder to Cochin Port Trust will be 10 days from the date of issue of allocation letter which can be extended depending upon the merit of the case. Failure of non- compliance of same shall lead to forfeiture of PBG in proportion to the capacity allocated in the Cochin Port Trust identified location.
- 2.32.5. Successful bidders shall share the time and date stamped photographs of the roofs and location details with Cochin Port Trust before applying for NOC from the Estate division of CoPT being the owner of the roof top. The roof top shall be allotted at free of cost.
- 2.32.6. For identification of additional roof tops for the project, Cochin Port Trust shall provide help. However the entire responsibility of finding the buildings lies with the Bidder.
- 2.32.7. Onus of identifying the additional buildings/rooftops and completing the other documentation like finalizing the Project report and entering into agreements with the buildings/rooftops owners for all the buildings lies with the Successful Bidder within the above mentioned time frame even for the buildings/rooftops identified by Cochin Port Trust for preferential installation.
- 2.32.8. The Bidder shall complete the design, engineering, manufacture, supply, storage, civil work, erection, testing & commissioning of each project within the time frame given in clause No.2.37 from the date of issue of Notification / allocation Letter.
- 2.32.9. If the Bidder fails to commission the project within specified time, penalty on per day basis calculated for the Performance Security on a 6 month's period would be levied. After 6 months, the project will get cancelled and the total performance security would be forfeited. Please refer Clause 2.38 below for details.

2.33. Transfer of Capacity

- 2.33.1. At sole discretion of Cochin Port Trust, Cochin Port Trust may allow transfer of allocated capacity in full or part. However, such transfer shall generally be allowed as per Bidder's request, if agreed by Cochin Port Trust.
- 2.33.2. Amended Performance security/PBG pertaining to additional capacity allocated or capacity transferred shall be submitted by bidder within 30 days from the date of issue of such notification.

Note: Increase/decrease/transfer of the Successful Bidder Capacity at the time of Allocation will be at the sole discretion of Cochin Port Trust.

2.34. Increase/Decrease of Bidder Allocated Capacity

- 2.34.1. Cochin Port Trust reserves the right to increase upto twenty five percent (25%) of the Bidder Allocated Capacity at its sole discretion and at the request of the Bidder at L1 price.

2.34.2. In case bidder has requested for reduction in Allocated capacity, then upto 10% reduction of allocated capacity only can be accepted by Cochin Port Trust without forfeiture of PBG at Cochin Port Trust's sole discretion subject to the condition that bidder has received at least sanction of 75% of allocated capacity.

2.35. Incorporation of a Project Company

2.35.1. In case the Bidder wishes to incorporate a Project Company, in such a case Bidder, if selected as a Successful Bidder can incorporate a Project Company. Bidder shall be responsible to get all clearance required/obtained in the name of the Bidding Company, transferred in the name of the Project Company.

2.35.2. The aggregate equity share holding of the Successful Bidder in the issued and paid up equity share capital of the Project Company shall not be less than fifty one percent (51%) up to a period of two (2) years from the date of commissioning of the entire Sanctioned Capacity of the Project Developer.

2.36. Other Conditions

2.36.1. Bidder or owner of the building has to obtain all the necessary approvals /Consents/Clearances required for Erection, Testing, Commissioning and O&M of the project including Grid connectivity. Cochin Port Trust shall not have any responsibility in this regard.

2.36.2. Bid bond and Bid Document Fee Submission

Bid bond shall be submitted in cumulative with respect to the capacity offered in a separate envelop (along with Bid document fee) superscripted with cumulative capacity for which Bid is being quoted & other details. In same manner Bid document fee to be furnished in single DD.

2.36.3. Tax Exemptions

Price bids are invited inclusive of Taxes and duties. However, Tax exemptions including certificates of any sort, if available may be dealt with the concerned Dep't of Govt. of India by the bidder. Cochin Port Trust in no case will be responsible for providing any tax exemptions to the bidder.

2.36.4. Eligibility of Standalone System

Standalone system is not allowed under this scheme. The system should be grid connected.

2.36.5. Requirement of Approvals on Makes of the Components

The components can be procured from any source. However, these items should meet the Technical specification and standards mentioned in Bid document.

2.36.6. Operation of the System during Weekends and General Holidays and Calculation of CUF

During grid failure, the SPV system stops generating. Any instances of grid failure need to be mentioned in the monthly report and those instances need to be authorised by CoPT. Then the period will be excluded in calculation of CUF.

The Financial Bid should include all taxes and duties etc., if any. Power Producer shall be entirely responsible for all taxes, duties, license fees, etc. All taxes payable shall be payable by the bidder and Cochin Port Trust in no way responsible for the liability thereof.

2.37. Time of Completion of Allocated Capacity

- 2.37.1. Project completion shall be 5 months from the date of issue of allocation letter. However at least 50kW of the capacity of the grid connected plant shall be commissioned by 02/04/2021. Failure of non-compliance of same shall lead to forfeiture of performance security in proportion to the capacity not identified.
- 2.37.2. For any additional capacity, bidder shall complete/commission the capacity within 3 months from the date of issue of allocation letter/sanction letter for additional capacity. This will include submission of project sanction documents to the satisfaction of Cochin Port Trust.
- 2.37.3. The period of construction given in Time Schedule includes the time required for mobilisation as well as testing, rectifications if any, retesting and completion in all respects to the entire satisfaction of the Engineer-in-Charge.
- 2.37.4. A joint programme of execution of the Work will be prepared by the Engineer-in-Charge or its representative nominated for the purpose and Successful bidders based on priority requirement of this project. This programme will take into account the time of completion mentioned above and the time allowed for the priority Works by the Engineer-in-Charge.
- 2.37.5. Monthly/Weekly implementation programme will be drawn up by the Engineer-in-Charge jointly with the Successful bidder, based on availability of Work fronts. Successful bidder shall scrupulously adhere to these targets /programmes by deploying adequate personnel, tools and tackles and he shall also supply himself all materials of his scope of supply in good time to achieve the targets/programmes. In all matters concerning the extent of targets set out in the weekly and monthly programmes and the degree of achievements, the decision of the Engineer-in-Charge will be final and binding.

2.38. Penalty for Delay in Project Implementation

- 2.38.1. The Bidder shall complete the project identification, design, engineering, manufacture, supply, storage, civil work, erection, testing & commissioning of each project within 5 months from the date of issue of LoA and at least 50kW of the total capacity of the grid connected plant shall be commissioned by 02/04/2021.
- 2.38.2. If the bidder fails to commission the allocated capacity within 5 months from date of issue of LoA, the liquidated damage as ‘per day per kWp’ basis for delayed period would be levied from the Performance Security up to a period of 6 months from the SCD as per following example:

Example: In case a project of 350 kWp capacity, if commissioning of 100 kWp capacity is delayed by 18 days from scheduled date, then LD shall be as follows,

Sl. No.	Commissioned capacity as on Scheduled Commissioning date (SCD)	Capacity remaining uncommissioned as on SCD	Date of completion of respective portions	Delay from SCD (in days)
1	250 kWp	100 kWp	Commissioning date	0
2	100 kWp	0	Commissioning date+18	18

- i) Amount of Performance Security = Say 15,75,000.00
- ii) Proposed capacity = 350 kWp
- iii) Perf. Security per kWp per day for 6 months = $1575000/350/180$
= **Rs 25/- per day per kWp**
- iv) LD calculation:- In case of above commissioning schedule, for 250kWp capacity commissioned within SCD (Scenario 1) there will be no LD.

For balance 100kWp capacity for a delay of 18 days from SCD (Scenario 2), the LD calculation for encashment of Perf. Security, shall be done as follows:

Total LD= (100kWp x18x INR 25) = INR 45,000/-

2.38.3. After the expiry of 6 months from SCD allocated capacity will get cancelled and 100% of Performance Security will be forfeited excluding for the completed capacity on proportionate basis.

2.38.4. Early Commissioning:- The successful bidder shall be permitted for full commissioning as well as part commissioning of the Project even prior to the SCD. In cases of early part-commissioning, till the SCD, CoPT may purchase the generation @ 75% (Seventy Five Percent) of the Levelized tariff quoted by the bidder /PPA tariff.

2.39. User ID For Updating The Project Progress on Bi-Weekly Basis

Successful bidder authorised representative in whose name PoA has been executed and submitted along with the bid shall be provided Password and User id for updating the project progress on monthly basis in the sanction letter/Allocation letter. Successful bidder should update the info as per the requirement of the software tool. Non updating of the progress shall be considered as no progress and shall attract punitive actions as per the relevant provision of the Contract. However, the decision of Engineer –in –charge shall be final in this regard.

2.40. Inspection and Audit by The Government

2.40.1. The Successful bidder shall permit the Cochin Port Trust to inspect the Successful bidder's site, accounts and records relating to the performance of the Contractor and to have them audited by auditors appointed by Cochin Port Trust, if so required by the Cochin Port Trust any time.

2.41. Commissioning /Completion Certificate:

2.41.1. Application for completion/commissioning certificate:

When the Successful bidder fulfills his obligation under the Contract, he shall be eligible to apply for Completion Certificate. The Engineer-in-Charge shall normally issue to the Successful bidder the Completion Certificate within one month after receiving any application therefore from the Successful bidder after verifying from the completion documents and satisfying himself that the Work has been completed in accordance with and as set out in Contract documents.

2.41.2. Document Submission for Issue of Commissioning/ Completion Certificate:

For the purpose of Clause 2.41 above the following documents will be deemed to form the completion documents:

- a. Checklist for inspection of Roof top SPV power plants as per Cochin Port Trust format.

- b. Project completion report from successful bidder as per Cochin Port Trust format
- c. Project completion / satisfaction certificate from roof top owners/project developers.

2.41.3. Final Decision and Final Certificate:

Upon completion of 25 years of O&M and subject to the Engineer-in- Charge being satisfied, the Engineer-in-Charge shall (without prejudice to the rights of the Cochin Port Trust to retain the provisions of relevant Clause hereof) otherwise give a certificate herein referred to as the Final Certificate to that effect and the Successful bidder shall not be considered to have fulfilled the whole of his obligations under Contract until Final Certificate shall have been given by the Engineer-in- Charge notwithstanding any previous entry upon the Work and taking possession, working or using of the same or any part thereof by the Owner of Roof/Cochin Port Trust.

2.42. Deductions from the Contract Price

All costs, damages or expenses which Cochin Port Trust may have paid or incurred, which under the provisions of the Contract the Successful bidder is liable/ will be liable, will be claimed by the Cochin Port Trust. All such claims shall be billed by the Cochin Port Trust to the Contractor within 15 (fifteen) days of the receipt of the payment request and if not paid by the Successful bidder within the said period, the Cochin Port Trust may, then, deduct the amount from any moneys due i.e., Performance Security or becoming due to the contractor or Successful bidder under the contract or may be recovered by actions of law or otherwise, if the Successful bidder fails to satisfy the Cochin Port Trust of such claims.

2.43. Any rebate / subsidy / Financial assistance extended by the GoI / GoK or any other agencies shall be passed on to Cochin Port Trust without demur.

2.44. On commissioning of the plant fully or partly, the successful bidder shall enter a Power Purchase Agreement with Cochin Port Trust at levelized tariff as mentioned in allocation letter as per the given format.

2.45. Correspondence

Bidder requiring any clarification on bid documents may contact in writing or by Fax /E Mail.

Name:	V.Thuraipandian
Address:	Chief Mechanical Engineer, Room No. NAB 101, New Administrative Building
	Cochin Port Trust, Willingdon Island,
	Kochi -682009, Kerala
	Ph No -0484 2582300, 2666639, 2582305, 2582351
Email:	cme@cochinport.gov.in
Contact person	Chief Mechanical Engineer Cochin Port Trust, Willingdon Island, Cochin 09, Kerala Ph No 0484-258 2300/ 2305/ 2351, 2666639

SIGNATURE OF BIDDER

COCHIN PORT TRUST

SECTION I

3. FORM OF BID

To

The Board of Trustees,
Cochin Port Trust

Through

The Chief Mechanical Engineer
Cochin Port Trust, Cochin -9

Tender for the work of “Site survey, design, engineering, manufacture, supply, storage, civil work, erection, testing & commissioning of 350kWp grid connected rooftop solar PV project on the roof top of various buildings of Cochin Port Trust, including operation & maintenance(O & M) of the system for a period of 25 (twenty five) years under RESCO model After operational acceptance”

I/We have read and examined the Notice inviting tenders, Instructions to tenderers, Form of Agreement, Contract Data, General Conditions of Contract, General description of work, Special conditions of Contract, Technical Specifications, Drawings, Preamble, Bill of Quantities, & other documents and rules referred to in the General Conditions of Contract and all other contents in the tender document for the work.

I/We hereby tender for the execution of the work specified in the underwritten memorandum within the time specified in such memorandum at the rates specified in the schedule attached hereto and in accordance in all respects with the specifications designs, drawings and instructions in writing referred to in clause 16 of the General Conditions of Contract and with such materials as are provided for, by and in all other respects in accordance with such conditions so far as applicable.

M E M O R A N D U M

a)	General description of work	:	Site Survey, Design, Engineering, Manufacture, Supply, Storage, Civil Work, Erection, Testing & Commissioning Of 350 kWp Grid Connected Rooftop Solar PV Project on the Roof Top of various Buildings of Cochin Port Trust including Operation & Maintenance(O & M) of the System for a Period of 25 (Twenty Five) Years Under RESCO Model after operational acceptance.
b)	Estimated cost	:	Rs.1,57,50,000.00 (Rupees One Crore Fifty Seven Lakh fifty thousand only).
c)	Earnest Money	:	Rs. 3,15,000.00 (Rupees Three lakh fifteen thousand only)
d)	Security Deposit	:	Rs 15,75,000/- (Rupees Fifteen lakh seventy five thousand only)
e)	Percentage, if any, to be deducted from the bills	:	NA
f)	Time allowed for commencement of work from the date of `receipt of LoA	:	10 days
g)	Time allowed for the work from the date of commencement of work.	:	5 Months from date of issue of LoA, with completion of 50kWp of allocated grid connected capacity on or before 02/04/2021
h)	Schedule, specifications, conditions, drawings etc. as per contents sheet attached.	:	As per “Contents” sheet attached.

I/ We agree to keep the tender open for 120 days from the due date of submission and not to make any modifications in its terms and conditions

Should this tender be accepted, I/We hereby agree to abide by and fulfill all the terms and provisions of the said conditions of contract annexed here to so far as applicable or in default thereof forfeit and pay to the Board the sum of money mentioned in the said conditions and to execute an agreement with the Board in the prescribed form or in default thereof to forfeit the earnest money deposited by me/us.

The sum of Rs..... is hereby forwarded as demand Draft of a scheduled bank / Bank Guarantee issued by a Scheduled bank drawn in favour of Financial Adviser and Chief Accounts Officer of the Port Trust as earnest money (a) the full value of which is to be absolutely forfeited to the Board in office without prejudice to any other rights or remedies of the said Board in office should I/We fail to commence the

work specified in the Contract data or should I/We not deposit the full amount of Performance Security specified in the above Memorandum in accordance with clause 52 of the said conditions of contract otherwise the said sum of Rs. shall be retained by the Board as on account of such security deposit as aforesaid or (b) the full value of which shall be retained by the Board on account of the security deposit to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to therein and to carry out such deviations as may be ordered, upto maximum of the percentage mentioned in Clause 40.1 of General Conditions of Contract and those in excess of that limit at the rates to be determined in accordance with the provision contained in Clause 40.3 of the General Conditions of Contract.

Dated the day of 20 .

Signature of the Bidder

Address :

Witness :

Address :

Occupation :

ACCEPTANCE

The above tender (as modified by you as provided in the letters mentioned hereunder) is accepted by me for and on behalf of the Board of Trustees for a sum of Rs.....
..... (Rupees

The letters referred to below shall form part of this contract Agreement

- a) ..
- b) ..
- c)

Dated.....

**Chief Mechanical Engineer
Cochin Port Trust**

COCHIN PORT TRUST

SECTION I

4. FORM OF AGREEMENT

AGREEMENT No. ... of

AGREEMENT FOR THE WORK OF SITE SURVEY, DESIGN, ENGINEERING, MANUFACTURE, SUPPLY, STORAGE, CIVIL WORK, ERECTION, TESTING & COMMISSIONING OF 350 KWp GRID CONNECTED ROOFTOP SOLAR PV PROJECT IN THE ROOF TOP OF VARIOUS BUILDINGS OF COCHIN PORT TRUST INCLUDING OPERATION & MAINTENANCE(O & M) OF THE SYSTEM FOR A PERIOD OF 25 (TWENTY FIVE) YEARS UNDER RESCO MODEL AFTER OPERATIONAL ACCEPTANCE

THIS AGREEMENT IS MADE on this day of BETWEEN THE BOARD OF TRUSTEES OF COCHIN PORT TRUST , a body corporate under the Major Port Trust Act, 1963 having office on Willingdon Island, Cochin – 682009 represented by its Chief Mechanical Engineer Shri..... S/o aged years residing at Village Taluk District (hereinafter referred to as the Employer which expression shall include his successors, assignees and administrators in the office) of the one part and M/s. represented by Shri. aged S/o residing at Village Taluk District (hereinafter referred as “Contractors” which expression shall include their successors, assignees and administrators) of the other part.

WHEREAS the Employer invited tenders for vide Tender Notice Date and the Contractor submitted a tender for the same giving rates subject to the terms and conditions etc. of the tender document.

AND WHEREAS the said tender submitted by the Contractor has been accepted by the Employer vide work order No dated, issued to the Contractor while accepting their tender.

NOW THESE PRESENTS WITNESSETH and the parties hereby agree as follows.

1. The tender submitted by the Contractor for execution for the Board, of the work specified in the under written memorandum within the time specified in such memorandum at the rates specified in the schedule attached hereto and in accordance in all respects with the specifications, designs, drawings and instructions in writing referred to in Clause 16 of the “General Conditions of Contract” and with such materials as are provided for, by and in all other respects in accordance with such conditions is accepted.
2. It is mutually understood and agreed that, notwithstanding that the works has been sectioned, every part of it shall be deemed to be supplementary to and complementary of every other part and shall be read with it or into it.

3. The Contractor agreed to abide by and fulfill all the terms and provisions of the said Conditions of Contract or in default thereof forfeit and pay to the Board the sum of money mentioned in the said conditions.
4. The sum of Rs...../- [Rupees.....only) has been deposited by the Contractor with Financial Adviser and Chief Accounts Officer of the Port Trust as Performance Security (a) the full value of which is to be absolutely forfeited to the Board in office without prejudice to any other rights or remedies of the said Board in office should the Contractor fail to commence the work specified in under written memorandum or should the Contractor not deposit the full amount of security deposit specified in under written memorandum otherwise the said sum of Rs...../- shall be retained by the Board as on account of such security deposit as aforesaid or (b) the full value of which shall be retained by the Board on account of the security deposit to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to therein and to carry out such deviations as may be ordered, upto maximum of the percentage mentioned in Clause 40.1 of the Conditions of Contract and those in excess of that limit at the rates to be determined in accordance with the provisions contained in Clause 40.3 of the Conditions of Contract.
5. It is mutually agreed that the tender submitted in its entirety shall form part of this agreement. Apart from the tender the following shall also form part of the agreement
 - a) The Letter of Acceptance ;
 - b) Bill of Quantities and
 - c) Letters exchanged between the Employer and the Tenderer upto the issue of Letter of Acceptance as separately listed and annexed here to.
 - d) Replies to Prebid queries and amendments issued, if any.

M E M O R A N D U M

a)	General description of work	:	Site Survey, Design, Engineering, Manufacture, Supply, Storage, Civil Work, Erection, Testing & Commissioning Of 350 kWp Grid Connected Rooftop Solar PV Project on the Roof Top of various Buildings of Cochin Port Trust including Operation & Maintenance(O & M) of the System for a Period of 25 (Twenty Five) Years Under RESCO Model after operational acceptance.
b)	Estimated cost	:	Rs.1,57,50,000.00 (Rupees One Crore Fifty Seven Lakh fifty thousand only).
c)	Earnest Money	:	Rs. 3,15,000.00 (Rupees Three lakh fifteen thousand only)
d)	Security Deposit	:	Rs 15,75,000/- (Rupees Fifteen lakh seventy five thousand only)

e)	Percentage, if any, to be deducted from the bills	:	NA
f)	Time allowed for commencement of work from the date of `receipt of LoA	:	10 days
g)	Time allowed for the work from the date of commencement of work.	:	5 Months from date of issue of LoA, with completion of 50kWp of allocated grid connected capacity on or before 02/04/2021
h)	Schedule, specifications, conditions, drawings etc. as per contents sheet attached.	:	As per "Contents" sheet attached.

IN WITNESS WHEREOF THE CONTRACTOR hereunto set his hand and seal on behalf of M/s..... and on behalf of the Board of Trustees of COCHIN PORT TRUST, the CHIEF MECHANICAL ENGINEER has set his hand and seal and common seal of Trustees has been hereunto affixed the day and year first written above.

CONTRACTOR

Signed, sealed and delivered

By Shri.....

Of M/s.....

(COMMON SEAL OF THE FIRM)

Signed and affixed seal in the presence of :

1) Signature with address :

2) Signature with address :

Signed, sealed and delivered by the

CHIEF MECHANICAL ENGINEER

Cochin Port Trust

on behalf of Board of

Trustees of Port of Cochin.

EMPLOYER

Signed and affixed the common seal of

Board of Trustees of the Port of Cochin

In the presence of

1)

2)

SECTION I

5. CONTRACT DATA

[To be filled up before issuing tender document as applicable for each tender]

Items marked “N/A” do not apply in this Contract.

Sl. No.	Description	Reference Clause .No. in GCC																
1	The following documents are also part of the Contract																	
	The Schedule of other Contractors (Will be informed in due course)	(8.2)																
	The Schedule of Key personnel	(9)																
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Qualification of Staff</th> <th style="text-align: center;">No.</th> <th style="text-align: center;">Min. Experience (Years)</th> <th style="text-align: center;">Rate of recovery in case of non compliance</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Qualification of Staff	No.	Min. Experience (Years)	Rate of recovery in case of non compliance													
Qualification of Staff	No.	Min. Experience (Years)	Rate of recovery in case of non compliance															
2	The Employer is	(1)																
	The Board of Trustees, Cochin Port Trust, Cochin -9																	
	Name of Authorized Representative:																	
	Name : Dr. (Mrs.) M. Beena Chairman, Cochin Port Trust Cochin -9																	
3	The Engineer is																	
	Name : Shri. V.Thuraipandian Chief Mechanical Engineer Cochin Port Trust, Cochin-9																	
	Name of Nominee is :Will be notified in LoA																	
	Name : Shri..... Cochin Port Trust Cochin-9																	
4	Name of Contract :-“ Site survey, design, engineering, manufacture, supply, storage, civil work, erection, testing & commissioning of 350 KWp grid connected rooftop solar pv project on the roof top of various buildings of cochin port trust Including operation & maintenance(O & M) of the System For a period of 25 (twenty five) years under RESCO model After operational acceptance”	(1)																

Sl. No.	Description	Reference Clause .No. in GCC
	Tender no: F1/T-18/350KWP SOLAR-RT2/2020-M	
5	6 copies of Contract Agreement shall be furnished by the Contractor	[7.1]
6	Tender document and other data are available at Cochin Port web site, e-tender portal and Central public procurement portal. www.cochinport.gov.in , www.tenderwizard.com/CPT and www.eprocure.gov.in	(7.2)
7	The Intended completion Date for the solar power plant is 5 Months from date of issue of LoA with the following milestones:	(17,28)
8	Milestone dates:	
	Physical works to be completed	Period from the date of Issue of LoA
	SITC of 50kWp of the allocated grid connected capacity	02/04/2021
	Remaining in all respects	Within 5 months from Date of LoA
9	The following shall form part of the Contract Document: (1) Agreement (2) Letter of Acceptance (3) Bill of quantities (4) Contractor's Bid (5) Correspondence exchanged after the opening of the Bid and before the issue of Letter of Acceptance by which the Condition of Contract are amended, varied or modified in any way by mutual consent (to be enumerated). (6) Contract Data (7) Conditions of Contract (8) General Description and Special Conditions of Contract (9) Technical Specifications (10) Drawings and (11) Any other documents listed in the Contract Data as forming part of the Contract. (12) Power Purchase Agreement	(2.3)
10	The Contractor shall submit a Program for the Works within 10 days of date of the Letter of Acceptance/LoI.	(27)
11	The site possession date The site will be handed over within 10 days after issue of LoA and the site is free from encumbrances.	(21)
12	The start date shall be 10 days from the date of receipt of the Letter of Award (LoA) by the Contractor.	(1)

Sl. No.	Description	Reference Clause .No. in GCC
13	The site is located in W/Island	
14	The Defects Liability Period - NA	(35)
15	The minimum insurance cover for physical property, injury and death is Rs.15 lakh (Rupees Fifteen Lakh) per occurrence with the number of occurrences unlimited. After each occurrence, Contractor will pay additional premium necessary to make insurance valid always. This amount is for construction purpose and during O&M period, the insurance cover for entire O&M period shall be taken at completion cost.	(13)
16	The following events shall also be Compensation Events: (Add the events as applicable to the Contractor) 1. (Nil)	(44)
17	The period between Programme updates shall be 30 days.	(27)
18	The amount to be withheld for late submission of an updated Programme shall be Rs.10,000/-.	(27)
19	The language of the Contract documents is English.	(3)
20	The law, which applies to the Contract, is the law of Union of India.	(3)
21	The currency of the Contract is Indian Rupees.	(46)
22	The maximum amount of liquidated damages for the whole of the works is 10% of the contract price.	[49]
23	The amounts of the advance payments : NA	[51]

SECTION I

6. ANNEXURES

Sl. No.	Annexures	Description	Page No.
1	1	Letter of Submission - Covering Letter	47-49
2	2	Proforma of Power- of-Attorney/Letter of Authority	50
3	3	Organization Details	51
4	4a	Eligible Assignment Details for MEC	52-53
5	4b	Details of past experience of contractors for similar works	54
6	5	Financial Capability	55-56
7	5a	Certificate of Relationship of Parent Company or Affiliate with the Bidding Company	57
8	5b	Undertaking from the Financially Evaluated Entity or its Parent Company/ Ultimate Parent Company	58-59
9	6	Details of Proposed Approach & Methodology	60
10	7	Plant and Equipment Proposed for the Work	61
11	8	Declaration	62
12	9	Details of the Party opting for Refund of EMD through e-payment system	63
13	10	Format for Furnishing Bank information for e-payment	64
14	11	Proforma of Pre Contract Integrity Pact	65
15	12	Proforma of Irrevocable Bank Guarantee for Earnest Money Deposit	66-67
16	15.a	Checklist for BG	68

(On the letter Head of the bidding company)

LETTER OF SUBMISSION- COVERING LETTER

Date:

From

(Insert name and address of Bidding Company)

Tel.#: _____ Fax#: _____

E-mail address# _____

To

Cochin Port Trust
W/Island
Kochi-682009

Sub: Bid for “Site Survey, Design, Engineering, Manufacture, Supply, Storage, Civil Work, Erection, Testing & Commissioning Of 350 KWp Grid Connected Rooftop Solar PV Project on The Roof Top Of Various Buildings Of Cochin Port Trust Including Operation & Maintenance(O & M) Of The System For A Period Of 25 (Twenty Five) Years Under RESCO Model After Operational Acceptance”

Dear Sir,

We, the undersigned [insert name of the ‘Bidder’] having read, examined and understood in detail the Tender Document for Implementation of Grid connected Roof Top Solar PV System Scheme in Cochin Port Trust , W/Island , in the State of Kerala hereby submit our Bid comprising of Price Bid and Techno Commercial Bid. We confirm that neither we nor any of our Parent Company / Affiliate/Ultimate Parent Company has submitted Bid other than this Bid directly or indirectly in response to the aforesaid NIT.

1. We give our unconditional acceptance to the NIT, dated.....and NIT Documents attached thereto, issued by Cochin Port Trust, as amended. This shall also be construed as a token of our acceptance to the NIT Documents including all its amendments and clarifications uploaded on the website <http://www.cochinport.com>, www.tenderwizard.com/cpt and www.eprocure.gov.in.

We shall ensure that we execute such NIT Documents as per the provisions of the NIT and all provisions of such NIT Documents shall be binding on us.

2. Bid Capacity

We have bid for the following capacities at Cochin Port Trust and have accordingly submitted our Price Bids for the same.

Buildings Owned by Cochin Port Trust

S. No.	Name	Address	Capacity Rounded in kW	Area
1.	Residential building	RNAS area quarters, Near Ayyappa Temple, W/Island, Kochi-09, Kerala		
2.	Roof top of CISF quarters	Near CISF barrack, W/Island, Kochi, Kerala		

3. Bid Bond

We have enclosed a Bid Bond of Rs.....(Insert Amount as per Clause 2.13), in the form of DD no.....(Insert number DD) dated.....[Insert date of DD] / BG as per Formatfrom.....(Insert name of bank providing Bid Bond) and valid up toin terms of Clauseof this NIT. The offered quantum of power by us is.....kWp . (Insert total capacity offered).

(add details as per above for more than one Bid Bonds as applicable)

4. Bid Document Fee

We have enclosed DD of Rs.....{Insert Amount as per Clause 2.12 in the form of DD no.....(Insert number of the DD) dated.....[Insert date of DD] from(Insert name of bank providing DD).

5. We have submitted our Price Bid strictly, without any deviations, conditions and without mentioning any assumptions or notes for the Price Bid in the said format(s).

6. In case we are a Successful Bidder, we shall furnish a declaration at the time of commissioning of the Project to the effect that neither we have availed nor we shall avail in future any subsidy other than received from Cochin Port Trust for implementation of the project.

7. Acceptance

We hereby unconditionally and irrevocably agree and accept that the decision made by Cochin Port Trust in respect of any matter regarding or arising out of the NIT shall be binding on us. We hereby expressly waive any and all claims in respect of Bid process.

We confirm that there are no litigations or disputes against us, which materially affect our ability to fulfill our obligations with regard to execution of projects of capacity offered by us.

8. Familiarity with Relevant Indian Laws & Regulations

We confirm that we have studied the provisions of the relevant Indian laws and regulations as required to enable us to submit this Bid and execute the NIT Documents, in the event of our selection as Successful Bidder. We further undertake and agree that all such factors as mentioned in Bid Document have been fully examined and considered while submitting the Bid.

9. We are enclosing herewith the Envelope-I (Covering letter, Bid document fee and Bid Bonds) Envelope-II (Techno-Commercial documents) and (Price Bids-attached Online) containing duly signed formats, each one duly sealed separately, in one original as desired by you in the NIT for your consideration.

It is confirmed that our Bid is consistent with all the requirements of submission as stated in the Bid document and subsequent communications from Cochin Port Trust. The information submitted in our Bid is complete, strictly as per the requirements stipulated in the Bid Document and is correct to the best of our knowledge and understanding. We would be solely responsible for any errors or omissions in our Bid. We confirm that all the terms and conditions of our Bid are valid for acceptance for a period of 120 days from the Bid deadline. We confirm that we have not taken any deviation so as to be deemed non-responsive.

Dated the _____ day of _____ 20....

Thanking you,
We remain,
Yours
faithfully,

Name, Designation and Signature of Authorized Person in whose name Power of Attorney/Board Resolution is issued.

PROFORMA OF POWER- OF-ATTORNEY/LETTER OF AUTHORITY

(To be submitted on Non-judicial Stamp Paper of appropriate value)

To

The Chief Mechanical Engineer,
Cochin Port Trust,
Cochin 682009.
Kerala, India.

Dear Sir,

We _____
do hereby confirm that Mr./Ms./Messrs _____ [INSERT NAME AND ADDRESS], whose signature is given below, is /are authorized to represent us to bid, negotiate and conclude the agreement on our behalf with you against Tender for Site Survey, Design, Engineering, Manufacture, Supply, Storage, Civil Work, Erection, Testing & Commissioning Of 350 KWp Grid Connected Rooftop Solar PV Project In The Roof Top Of Various Buildings Of Cochin Port Trust Including Operation & Maintenance(O & M) Of the system For A Period Of 25 (Twenty Five) Years Under RESCO Model After Operational Acceptance

(Tender No.F1/T-18/350KWP SOLAR-RT2/2020-M).

We confirm that we shall be bound by all and whatsoever our said agents shall commit.

Signature of the authorized person :

Name & Designation :

Yours faithfully,

Signature, name and seal of the certifying authority

COCHIN PORT TRUST

SITE SURVEY, DESIGN, ENGINEERING, MANUFACTURE, SUPPLY, STORAGE, CIVIL WORK, ERECTION, TESTING & COMMISSIONING OF 350 KWp GRID CONNECTED ROOFTOP SOLAR PV PROJECT ON THE ROOF TOP OF VARIOUS BUILDINGS OF COCHIN PORT TRUST INCLUDING OPERATION & MAINTENANCE(O & M) OF THE SYSTEM FOR A PERIOD OF 25 (TWENTY FIVE) YEARS UNDER RESCO MODEL AFTER OPERATIONAL ACCEPTANCE

ORGANIZATION DETAILS

S. No.	Particulars	Details
1.	Name of the Company	
2.	Registered Office Address	
3.	Telephone, Telex, Fax No	
4.	E-mail	
5.	Web site	
6.	Authorized Contact Person(s) with name, designation Address and Mobile Phone No., E-mail address/ Fax No. to whom all references shall be made	
7.	Year of Incorporation	
8.	Bidding company PAN Number	
9.	Bidding company TAN Number	
10.	Have the bidder/Company ever been debarred By any Govt. Dept. / Undertaking for undertaking any work.	
11.	Reference of any document information attached by the Bidder other than specified in the NIT.	
12.	Whether the Bidder wishes to form a Project Company for execution of work	Yes/No/May be
13.	Bidding company is listed in India	Yes/No
14.	Details of the Ownership structure (Details of persons owning 10% or more of the Total Paid up equity of the Bidding Company in the Format as below	
15.	Bid Bond (Bank guarantee No/DD No./Details of online transfer)	
16.	Validity of Bid Bond	
17.	<ul style="list-style-type: none"> • Banker E-mail ID, • FAX No of the banker • Correspondence address & Pin Code 	

(Signature of Authorized Signatory) With Seal

COCHIN PORT TRUST

SITE SURVEY, DESIGN, ENGINEERING, MANUFACTURE, SUPPLY, STORAGE, CIVIL WORK, ERECTION, TESTING & COMMISSIONING OF 350 KW_p GRID CONNECTED ROOFTOP SOLAR PV PROJECT ON THE ROOF TOP OF VARIOUS BUILDINGS OF COCHIN PORT TRUST INCLUDING OPERATION & MAINTENANCE (O & M) OF THE SYSTEM FOR A PERIOD OF 25 (TWENTY FIVE) YEARS UNDER RESCO MODEL AFTER OPERATIONAL ACCEPTANCE

Tenderer shall furnish Details of “eligibility works experience” as per Minimum Eligible Criteria (MEC) of Instruction to Tenderer and certificates in the following format (Client Certificates/work completion certificates or any other documentary evidences with respect to the eligibility work)

ELIGIBLE ASSIGNMENT DETAILS FOR MQC

Assignment Number :

Description	Bidder to fill up the details here
Name and Address of the Client	
Title of the Eligible Assignment	
Date of completion of the Eligible Assignment	
Project Completion Cost	
Reference No. of the enclosed Client Completion Certificate/ Documentary Evidence for having successfully completed the Eligible assignment	
Name, telephone no, telefax no and email address of the client’s representative	
Description and Scope of Work	

Instructions:

- i) Bidders are expected to provide information in respect of Eligible Assignments in this Section. The assignments cited must comply with the Minimum eligibility of the Instructions to Bidders”.
- ii) A separate sheet should be filled for each of the eligible assignments.
- iii) The details are to be supplemented by documentary proof from the respective client /owner for having carried out such assignment duly certified by clients/ owner.
- iv) The works indicated in this Annexure- 4 will only be considered for evaluation. Mere submission of work completion certificate will not be considered as Eligible Assignments. The Bidder shall submit copy of work order from the issuing authority.

- v) Original or notary certified copy of completion certificates of each work issued by the owner/ the responsible officers of the owner under whom he has executed such contracts shall be attached. The certificate shall invariably contain the following among other things.
 - a) Details of work involved specifying the nature of work
 - b) The completion cost of the work and
 - c) Date of commencement ; and
 - d) Date of completion of the work.
- vi) If the experience in similar works is as a member of joint venture, notary attested copy of joint venture agreement in this respect shall be attached.
- vii) If the experience in similar works is as a subcontractor, notary attested copy(s) of approval issued by the Employer(s) authorizing as a sub-contractor; in proof of the claim of the tenderer as a sub-contractor shall be attached.
- viii) If the experience in similar work is in works executed in private sectors/organisations, the TDS certificate along with notary attested copy(s) work order and completion certificate.
- ix) The tenderer is also obliged to produce the original of the certified copy(s) on request by the department.

Signature
(Authorised Signatory)

COCHIN PORT TRUST

SITE SURVEY, DESIGN, ENGINEERING, MANUFACTURE, SUPPLY, STORAGE, CIVIL WORK, ERECTION, TESTING & COMMISSIONING OF 350 KWp GRID CONNECTED ROOFTOP SOLAR PV PROJECT ON THE ROOF TOP OF VARIOUS BUILDINGS OF COCHIN PORT TRUST, INCLUDING OPERATION & MAINTENANCE (O & M) OF THE SYSTEM FOR A PERIOD OF 25 (TWENTY FIVE) YEARS UNDER RESCO MODEL AFTER OPERATIONAL ACCEPTANCE

DETAILS OF PAST EXPERIENCE OF CONTRACTORS FOR SIMILAR WORKS

Sl. No.	Name & Location of Project	Owner’s Complete address including TeleFax No. with contact Person	Value of Contract	Duration of Contract			Details of work including major items of work involved	Reference No. & Date of letter of intent & completion certificate enclosed
				Commencement date	Scheduled completion date	Actual completion date		
1	2	3	4	5	6	7	8	9

Note: Bidder to enclose completion certificate issued by owner, certified by a Notary public or equivalent certifying authority.

SIGNATURE OF TENDERER

COCHIN PORT TRUST

SITE SURVEY, DESIGN, ENGINEERING, MANUFACTURE, SUPPLY, STORAGE, CIVIL WORK,ERECTION, TESTING & COMMISSIONING OF 350 KWp GRID CONNECTED ROOFTOP SOLAR PV PROJECT ON THE ROOF TOP OF VARIOUS BUILDINGS OF COCHIN PORT TRUST INCLUDING OPERATION & MAINTENANCE(O & M) OF THE SYSTEM FOR A PERIOD OF 25 (TWENTY FIVE) YEARS UNDER RESCO MODEL AFTER OPERATIONAL ACCEPTANCE

FINANCIAL CAPABILITY

(To be submitted on the letterhead of Bidding Company)

To,

Cochin Port Trust
W/Island
Kochi-682009

Dear Sir,

Sub: Bid for Site Survey, Design, Engineering, Manufacture, Supply, Storage, Civil Work, Erection, Testing & Commissioning Of 350 Kwp Grid Connected Rooftop Solar PV Project on The Roof Top Of Various Buildings Of Cochin Port Trust Including Operation & Maintenance(O & M) of the system For A Period Of 25 (Twenty Five) Years Under RESCO Model After Operational Acceptance in response to the NIT No: _____ dated:

- a. We submit our Bid(s) for the total capacity of kWp (Insert total offered capacity in kWp and submit details of our Financial Eligibility Criteria as follows:

Bid Details

Sl. No.	Location	Bid Capacity in kWp
1		
2		
3		
Total (Shall not exceed 0.5 MWp)		

Note: 1MWp=1000kWp

We certify that the Financially Evaluated Entity (ies) had an Annual Turnover as follows:

The maximum Annual turnover of RupeesCrore per MW in any one of the last 3 financial years preceding the Bid Deadline subject to the condition that the Bidder should at least have completed one financial year .

OR

Net worth of Rs.....Crore computed as per instructions provided in Clause 2.4.3. (Strike Out whichever Is Not Applicable)

Financial eligibility criteria

Name of Financially Evaluated Entity*	Relationship with Bidding Company**	Financial year	Year of Incorporation of the Bidding company	***Total Maximum Annual Turnover (Rs. Crore)	Net worth as per Clause 2.4.3 (in Rs. Crore)

* The Financially Evaluated Entity may be the Bidding Company itself.

** The column for “Relationship with Bidding Company” is to be filled only in case financial capability of Parent Company and/or Affiliate has been used for meeting Qualification Requirements.

*** Bidder shall furnish maximum annual turnover in any of the last three financial years.

Yours faithfully

(Signature and stamp (on each page) of Authorized Signatory of Bidding Company. Name:

.....

Date:

Place:

(Signature and stamp (on each page) of Chartered Accountant/Statutory Auditors of Bidding Company.

Name:

Date:

Place:

Notes:

Audited consolidated annual accounts of the Bidder may also be used for the purpose of financial criteria provided the Bidder has at least 26% equity in each company whose accounts are merged in the audited consolidated accounts and provided further that the financial capability of such companies (of which accounts are being merged in the consolidated accounts) shall not be considered again for the purpose of evaluation of the Bid.

Certificate of Relationship of Parent Company or Affiliate with the Bidding Company.

To,

Cochin Port Trust
W/Island
Kochi-682009

Dear Sir,

Sub: Bid for Implementation of Grid connected Roof Top Solar PV System at Cochin Port Trust

We hereby certify that M/s.....,M/s.....,M/s.....are the Affiliate(s) /Parent Company of the Bidding Company as per the definition of Affiliate/Parent Company as provided in this NIT and based on details of equity holding as on seven (7) days prior to the Bid Deadline.

The details of equity holding of the Affiliate/Parent Company/Bidding Company or vice versa as on seven (7) days prior to the Bid Deadline are given as below:

Name of Bidding Company/ applicant company	Name of the Affiliate of the Bidding Company/ Applicant company/ Name of the Parent Company of the Bidding Company	Name of the Company having common control on the Affiliate and the Bidding Company	Percentage of Equity Holding of Parent Company in the Bidding Company/ Applicant company

*Strike out whichever is not applicable.

(Insert Name and Signature of Statutory Auditor or practicing Company Secretary of the Bidder)

Undertaking from the Financially Evaluated Entity or its Parent Company/ Ultimate Parent Company

(On the Letter Head of the Financially Evaluated Entity or its Parent Company/Ultimate Parent Company)

Name:

Full Address:

Telephone No.:

E-mail address:

Fax/No.:

To,

Cochin Port Trust

W/Island

Kochi-682009

Dear Sir,

We refer to the NIT No.....dated.....for **“Site survey, design, engineering, manufacture, supply, storage, civil work, erection, testing & commissioning of 350 kWp grid connected rooftop solar PV project on the roof top of various buildings of Cochin Port Trust including operation & maintenance (O & M) of the project for a period of 25 (twenty five) years under RESCO model after operational acceptance”**

“We have carefully read and examined in detail the Bid Document, including in particular, Clauseof the Bid Document, regarding submission of an undertaking, as per the prescribed Format of the Bid Document.

We confirm that M/s.....(Insert name of Bidding Company/) has been authorized by us to use our Technical and or financial capability for meeting the Technical and or Financial Eligibility as specified in Clause....of the Bid Document referred to above.

We have also noted the amount of the Performance Security required to be submitted as per Clause....of the Bid Document the(Insert the name of the Bidding Company) in the event of it being selected as the Successful Bidder”.

In view of the above, we hereby undertake to you and confirm that in the event of failure of

.....(Insert name of the Bidding Company) to submit the Performance Guarantee in full or in part at any stage, as specified in the Bid Document, we shall submit the Performance Security not submitted by(Insert name of the Bidding Company)”.

We have attached hereto certified true copy of the Board Resolution Whereby the Board of Directors of our Company has approved issue of this Undertaking by the Company.

All the terms used herein but not defined, shall have the meaning as ascribed to the said terms under the Bid Document.

Signature of Managing Director/Authorised signatory

Common seal ofhas been affixed in my/our presence pursuant to Board of Director’s Resolution dated.....

WITNESS

.....
(Signature)
Name.....
Designation.....

.....
(Signature)
Name.....
Designation.....

COCHIN PORT TRUST

SITE SURVEY, DESIGN , ENGINEERING, MANUFACTURE, SUPPLY, STORAGE, CIVIL WORK,ERECTION, TESTING & COMMISSIONING OF 350 KWp GRID CONNECTED ROOFTOP SOLAR PV PROJECT IN THE ROOF TOP OF VARIOUS BUILDINGS OF COCHIN PORT TRUST INCLUDING OPERATION & MAINTENANCE (O & M) OF THE SYSTEM FOR A PERIOD OF 25 (TWENTY FIVE) YEARS UNDER RESCO MODEL AFTER OPERATIONAL ACCEPTANCE

DETAILS OF PROPOSED APPROACH & METHODOLOGY

Bidder shall furnish a detailed method statement (Technical Note) for carrying out of the works, along with a construction programme [Preferably in MS project / Primavera] showing sequence of operation and the time frame for various segments of temporary and permanent works.

Signature
(Authorised Signatory)

COCHIN PORT TRUST

SITE SURVEY, DESIGN , ENGINEERING, MANUFACTURE, SUPPLY, STORAGE, CIVIL WORK,ERECTION, TESTING & COMMISSIONING OF 350 KWp GRID CONNECTED ROOFTOP SOLAR PV PROJECT IN THE ROOF TOP OF VARIOUS BUILDINGS OF COCHIN PORT TRUST INCLUDING OPERATION & MAINTENANCE (O & M) OF THE SYSTEM FOR A PERIOD OF 25 (TWENTY FIVE) YEARS UNDER RESCO MODEL AFTER OPERATIONAL ACCEPTANCE

PLANT AND EQUIPMENT PROPOSED FOR THE WORK

Not Applicable

Signature
(Authorised Signatory)

COCHIN PORT TRUST

SITE SURVEY, DESIGN , ENGINEERING, MANUFACTURE, SUPPLY, STORAGE, CIVIL WORK,ERECTION, TESTING & COMMISSIONING OF 350 KWp GRID CONNECTED ROOFTOP SOLAR PV PROJECT IN THE ROOF TOP OF VARIOUS BUILDINGS OF COCHIN PORT TRUST INCLUDING OPERATION & MAINTENANCE(O & M) OF THE SYSTEM FOR A PERIOD OF 25 (TWENTY FIVE) YEARS UNDER RESCO MODEL AFTER OPERATIONAL ACCEPTANCE

DECLARATION

We M/s (Name & address of the bidder) hereby declare that:-

1. All details regarding construction plant, temporary work and personnel for site organisation considered necessary and sufficient for the work have been furnished in the Annexure 7 and that such plant, temporary works and personnel for site organisation will be available at the site till the completion of the respective work.
2. No conditions are incorporated in the financial bid. In case any conditions are specified in the financial bid, the tender will be rejected summarily without making any further reference to the bidder.
3. We have not made any payment or illegal gratification to any persons/ authority connected with the bid process so as to influence the bid process and have not committed any offence under PC Act in connection with the bid.
4. We disclose with that we have * made / not made payments or propose to be made to any intermediaries (agents) etc in connection with the bid.
5. We do hereby confirm that no changes have been made in the tender document downloaded and submitted by us for the above bid. Port Tender document will be treated as authentic tender and if any discrepancy is noticed at any stage between the Port's tender document and the one submitted by the tenderer, the Port's document shall prevail.

Signature
(Authorised Signatory)

*** Note: Delete whichever is not applicable.**

DETAILS OF THE PARTY OPTING FOR REFUND OF EMD THROUGH E-PAYMENT SYSTEM

Name of the Party :
Bank A/c No :
Account type : (Savings / Current / Overdraft)
Bank Name :
Branch :
IFSC Code Number : (11 digit code)
Centre (Location) :
FAX No. :
E-Mail ID : (For forwarding information of remittance)
Mobile No :

Signature
(Authorised Signatory)

FORMAT FOR FURNISHING BANK INFORMATION FOR e-PAYMENT

1	Name and full address of the beneficiary	
2	Credit Account No. (Should be full 14 digit)	
3	Account Type (SB or CA or OD)	
4	Name of the Bank	
5	Branch (Full address with telephone No.)	
6	MICR code (Should be 9 digit)	
7	Telephone/Mobile/Fax No. of the beneficiary	Telephone :
		Mobile :
		Fax :
8	Cancelled Cheque	

Signature with seal
(Authorised Signatory)

PROFORMA OF PRE CONTRACT INTEGRITY PACT – Not Applicable

Deleted

**PROFORMA OF IRREVOCABLE BANK GUARANTEE FOR PERFORMANCE
SECURITY**

(To be on non-judicial stamp paper of appropriate value as per Stamp Act relevant to Kerala)

In consideration of the ---- [Insert name of the Bidder] (hereinafter referred to as selected Successful Bidder(SB)) submitting the response to NIT inter alia for selection of the Project for the capacity of MW under Roof Top solar PV Project in response to the NIT No _____ dated..... issued by Cochin Port Trust (hereinafter referred to as Cochin Port Trust) and Cochin Port Trust considering such response to the NIT of[insert the name of the Successful Bidder] (which expression shall unless repugnant to the context or meaning thereof include its executors, administrators, successors and assignees) and selecting the Solar Power Project of the Solar Power Developer and issuing Letter of allocation No ----- to----- (insert the name of the Successful Bidder(SB)) as per terms of NIT and the same having been accepted by the selected SB or a Project Company, M/s ----- {a Special Purpose Vehicle (SPV) formed for this purpose}, if applicable]. As per the terms of the NIT, the _____ [insert name & address of bank] hereby agrees unequivocally, irrevocably and unconditionally to pay to Cochin Port Trust at _____ [Insert Name of the Place from the address of the Cochin Port Trust forthwith on demand in writing from Cochin Port Trust or any Officer authorised by it in this behalf, any amount upto and not exceeding Rupees _____ [Total Value] only, on behalf of M/s _____ Bidder(SB)/ Project Company] [Insert name of the selected Successful

This guarantee shall be valid and binding on this Bank up to and including.....[insert date of validity]. and shall not be terminable by notice or any change in the constitution of the Bank or the term of contract or by any other reasons whatsoever and our liability hereunder shall not be impaired or discharged by any extension of time or variations or alternations made, given, or agreed with or without our knowledge or consent, by or between parties to the respective agreement.

Our liability under this Guarantee is restricted to Rs. _____ (Rs. _____ only) Our Guarantee shall remain in force until _____ [insert date of validity) Cochin Port Trust shall be entitled to invoke this Guarantee till _____ [Insert date which is 30 days after the date in the preceding sentence].

The Guarantor Bank hereby expressly agrees that it shall not require any proof in addition to the written demand Cochin Port Trust, made in any format, raised at the above mentioned address of the Guarantor Bank, in order to make the said payment to Cochin Port Trust.

The Guarantor Bank shall make payment hereunder on first demand without restriction or conditions and notwithstanding any objection by -----[Insert name of the Successful Bidder(SB)/ Project Company as applicable] and/or any other person. The Guarantor Bank shall not require Cochin Port Trust to justify the invocation of this BANK GUARANTEE, nor shall the Guarantor Bank have any recourse against Cochin Port Trust

in respect of any payment made hereunder.

This BANK GUARANTEE shall be interpreted in accordance with the laws of India and the courts at Ernakulam shall have exclusive jurisdiction.

The Guarantor Bank represents that this BANK GUARANTEE has been established in such form and with such content that it is fully enforceable in accordance with its terms as against the Guarantor Bank in the manner provided herein.

This BANK GUARANTEE shall not be affected in any manner by reason of merger, amalgamation, restructuring or any other change in the constitution of the Guarantor Bank.

This BANK GUARANTEE shall be a primary obligation of the Guarantor Bank and accordingly Cochin Port Trust shall not be obliged before enforcing this BANK GUARANTEE to take any action in any court or arbitral proceedings against the Successful Bidder(SB) / Project Company , to make any claim against or any demand on the Successful Bidder(SB)/ Project Company or to give any notice to the Successful Bidder(SB)/ Project Company or to enforce any security held by Cochin Port Trust or to exercise, levy or enforce any distress, diligence or other process against the Successful Bidder(SB)/ Project Company .

Notwithstanding anything contained hereinabove, our liability under this Guarantee is restricted to Rs. _____ (Rs. _____ only) and it shall remain in force until

..... We are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only if Cochin Port Trust serves upon us a written claim or demand.

Signature _ _

Name

Power of Attorney No.

Email ID

For

[Insert Name of the Bank]_____ Banker's Stamp and Full Address. Dated this ___ day of __ , 20

Witness:

1..... Signature Name Address

2. Signature Name and Address

Check List for Bank Guarantees

S. No.	Details of checks	YES/NO
a)	Is the BG on non-judicial Stamp paper of appropriate value, as per applicable Stamp Act of the place of execution	
b)	Whether date, purpose of purchase of stamp paper and name of the purchaser are indicated on the back of Stamp paper under the Signature of Stamp vendor? (The date of purchase of stamp paper should be not later than the date of execution of BG and the stamp paper should be purchased either in the name of the executing Bank or the party on whose behalf the BG has been issued. Also the Stamp Paper should not be older than six months from the date of execution of BG).	
c)	Has the executing Officer of BG indicated his name, designation and Power of Attorney No./Signing Power no. on the BG?	
d)	Is each page of BG duly signed / initialed by executants and whether stamp of Bank is affixed thereon? Whether the last page is signed with full particulars including two witnesses under seal of Bank as required in the prescribed Performa?	
e)	Does the Bank Guarantees compare verbatim with the Performa prescribed in the Bid Documents?	
f)	Are the factual details such as Bid Document No. / Specification No., / LOA No. (if applicable) / Amount of BG and Validity of BG correctly mentioned in the BG	
g)	Whether overwriting/cutting if any on the BG have been properly authenticated under signature & seal of executants?	

SCHEDULE – I

LIST OF DOCUMENTS TO BE SUBMITTED BY THE BIDDER

Sl. No	Clause Ref. No.	Description of Documents	Whether submitted by the Tenderer (Yes/No.) & Ref. of page No.
1	Cl.No:2.13 of Instruction to Bidder	Bid Bond (EMD) for Rupees Rs.3.15 Lakh (Rupees Three lakh fifteen thousand only) in the form of Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee from any of the Commercial Banks or payment online in an acceptable form safeguarding the purchaser's interest in all respects, in favour of "FA&CAO , Cochin Port Trust", payable at Cochin along with the bid.	
	Cl.No:2.12 of Instruction to Bidder	Cost of tender document (bid document fee) of Rs.10,500/- (Rs. Ten thousand five hundred only) in the form of Demand Draft (DD)/ Banker's cheque drawn in favour of "FA&CAO, Cochin Port Trust", payable at Kochi along with Bid	
	Annexure-1	Letter of Submission-Covering letter indicating the Capacity quoted	
	Annexure-2	Power of Attorney	
	Annexure-3	Organization details	
	Annexure-4	Details of Experience as per Cl. No:2.4	
	Cl. No:2.10.2.14	Bid document including all addendum/corrigendum duly signed and sealed	
	2.4.3	A statement duly certified by Chartered Accountant showing Average Financial turnover of the bidder	
		Partnership deed or Memorandum and Articles of Association of the company and Registration certificate of the company	
		Copies of PAN, GST, EPF and ESI registration	
	2.4.4	A copy of A class license or furnish an undertaking that the tenderer will tie-up with a contractor having A class license in case of award of contract	
	Annexure-8	Declaration	
	Annexure-10	Bank Information	

Note : All the documents submitted by the tenderer shall be neatly bound / filed and page numbered or properly marked. Tenderer is required to mention relevant page numbers / marking of his offer while filling up the above format

Tenderers Signature.....
Withseal

SECTION II

COCHIN PORT TRUST

MECHANICAL ENGINEERING DEPARTMENT

Tender no: F1/T-18/350KWP SOLAR-RT2/2020-M

Tender for **SITE SURVEY, DESIGN , ENGINEERING, MANUFACTURE, SUPPLY, STORAGE, CIVIL WORK,ERECTION, TESTING & COMMISSIONING OF 350 KWp GRID CONNECTED ROOFTOP SOLAR PV PROJECT IN THE ROOF TOP OF VARIOUS BUILDINGS OF COCHIN PORT TRUST INCLUDING OPERATION & MAINTENANCE(O & M) OF THE SYSTEM FOR A PERIOD OF 25 (TWENTY FIVE) YEARS UNDER RESCO MODEL AFTER OPERATIONAL ACCEPTANCE**

Volume-I

Section I	1.	Notice Inviting Tenders	6-10
	2.	Instructions to Tenderers	11-36
	3.	Form of Bid	37-39
	4.	Form of Agreement	40-42
	5.	Contract Data	43-45
	6.	Annexure (1 to 15)	46-68
	7.	Schedule-I	69
Section II	1.	General Conditions of Contract: Part A - G	73-117
	2.	Form of Securities (Annexure A & B)	118-121
Section III	1.	General Description of work	124-132
	2.	Special Conditions of Contract	133-141

Volume-II

Section IV	1.	Technical Specifications	144-154
------------	----	--------------------------	---------

Volume-III

Section V	1.	Drawings	
-----------	----	----------	--

Volume-IV

Section VI	1.	Preamble	
	2.	Bill of Quantities	157-159

INDEX
SECTION -II

Sl. No.	Clause/ Sections	DESCRIPTION	Page No.
1	II.1.	General Conditions of Contract - Part A - G	73-119
2	II.2.	Form of Securities (Annexure A & B)	120-123

SECTION -II
COCHIN PORT TRUST

1. GENERAL CONDITIONS OF CONTRACT - PART A - G

Sl. No.	Part	DESCRIPTION	Page No.
1	A	Part A - General	
2	B	Part B - Time Control	
3	C	Part C - Quality Control	
4	D	Part D - Cost Control	
5	E	Part E - Finishing the Contract	
6	F	Part F - Labour Laws and Miscellaneous Clauses	
7	G	Part G - Salient features of some major laws applicable to establishments engaged in construction work.	

SECTION II
GENERAL CONDITIONS OF CONTRACT
TABLE OF CONTENTS

Sl. No.	Description	Page No.
A	General	77
1	Definitions	77
2	Interpretation	78
3	Language and Law	78
4	Engineer or his nominee's Decisions	78
5	Delegation	79
6	Communications	79
7	Contract Agreement	79
8	Subcontracting	79
9	Personnel	79
10	Employer's & Contractor's Risks	80
11	Employer's Risks	80
12	Contractor's Risks	80
13	Insurance	80
14	Site Investigation Reports	81
15	Queries about the Contract Data	81
16	Contractor to Construct the works	81
17	The works to be completed by the Indented Completion Date	81
18	Approval by the Engineer or his nominee	81
19	Safety	81
20	Discoveries	81
21	Possession of the Site	81
22	Access to the Site	82
23	Instructions	82
24	Disputes	82
25	Settlement of Disputes & Arbitration	82
26	Computerised Measurement Book	83
B.	Time Control	85
27	Program	85
28	Revised Program	85
29	Extension of the Intended Completion Date	85
30	Delays Ordered by the Engineer or his nominee	86
31	Management Meetings	86
32	Early warning	86
33	Force Majeure	86
C	Quality Control	87
34	Identify Defects	87
35	Tests	87
36	Defect Liability	87
D	Cost Control	88
37	Bill of Quantities	88
38	Changes in the Quantities	88
39	Variations	89
40	Payments for Variations	89
41	Cash Flow Forecasts	90
42	Payment Certificates	90
43	Payments	90
44	Compensation Events	92

Sl. No.	Description	Page No.
45	Rates for items to be inclusive of Taxes	93
46	Currencies	93
47	Price Adjustment	93
48	Retention	94
49	Liquidated Damages	94
50	Nominated Sub Contractors	95
51	Advance Payment	95
52	Securities	96
53	Removal of Craft or Plant which has Sunk	96
54	Cost of Repairs	97
E	Finishing the Contract	97
55	Completion	97
56	Taking Over	97
57	Final Account	98
58	Submission of 'As-built drawings'	98
59	Termination	99
60	Payment upon Termination	99
61	Property	100
62	Release from Performance	100
F	Labour Laws and Miscellaneous Clauses	100
63	Labour	100
64	Compliance with Labour Regulations	100
65	Safety, Security and Protection of the Environment	101
66	Insurance of Works and Contractor's Equipment	101
67	War Risks Insurance	102
68	Royalties	102
69	Transport of Contractor's Equipment or Temporary Works	102
70	Transport of Materials or Plant	102
71	Labour Laws & Regulations	102
72	Life Saving Appliances and First Aid	105
73	Action in case work not done as per Specifications	105
74	Actions where no Specifications are specified	106
75	Bribes	106
76	Details to be Confidential	106
77	Contractor's Temporary works, office etc.	106
78	Water Supply	107
79	Power Supply	107
80	Taxes and Duties	107
81	Noise and Disturbance	108
82	Safety Code	108
83	Port Trust Rules	108
84	Execution of Work	109
85	Drawings and Designs	109
86	Monsoon Period	110
87	Reports	110
88	Completion Documents	111
89	Changes in Firm's Constitution to be intimated	111
90	Indemnities	111
G	Salient features of some major laws applicable to establishments engaged in construction work.	111

GENERAL GUIDELINES

1. This book of “General Conditions of Contract (GCC)“ is applicable to both types of tenders i.e. “Percentage rate tenders and item rate tenders”.
2. This GCC is applicable to Civil, Electrical and Mechanical works, except dredging work.
3. All blanks are confined to Contract Data. The blanks provided therein shall be filled up carefully for each tender as applicable.
4. Authority approving the Notice Inviting Tenders(NIT) shall fill up all the blanks in Contract Data before issue of tender document.
5. Additional clauses or modifications to the clauses in the GCC, as applicable specifically to the work shall be incorporated under Special Conditions of Contract.

GENERAL CONDITIONS OF CONTRACT

A. General

1 Definitions

Terms which are defined in the Contract Data are not also defined in the Conditions of Contract but keep their defined meanings. Capital initials are used to identify defined terms.

Bill of Quantities means the priced and completed Bill of Quantities forming part of the Bid.

Compensation Events are those defined in Clause 44

The **Completion Date** is the date of completion of the Works as certified by the Engineer or his nominee in accordance with Sub Clause 55.1

The **Contract** is the contract between the Employer and the Contractor to execute, complete and maintain the Works. It consists of the documents listed in Clause 2.3 below.

The **Contract Data** defines the documents and other information which comprise the Contract

The **Contractor** is a person or corporate body whose Bid to carry out the Works has been accepted by the Employer.

The **Contractor's Bid** is the completed Bidding documents submitted by the Contractor to the Employer.

The **Contract Price** is the price stated in the letter of acceptance and thereafter as adjusted in accordance with the provisions of the Contract.

Days are calendar days, **months** are calendar months.

A **Defect** is any part of the Works not completed in accordance with the Contract.

The **Defects Liability Period** is the period named in the Contract Data and calculated from the Completion Date.

The **Employer** is the party who will employ the Contractor to carry out the Works.

Equipment is the Contractor's machinery and vehicles brought temporarily to the Site to construct the Works.

The **Initial Contract Price** is the Contract Price listed in the Employer's Letter of Acceptance.

The **Intended Completion Date** is the date on which it is intended that the Contractor shall complete the works. The Intended Completion Date is specified in the Contract Data. The Intended Completion Date may be revised only by the Engineer or his nominee by issuing an extension of time.

Market Rate is the rate as decided by the Engineer on the basis of the cost of materials and labour at the site where the work is to be executed plus 10% to cover all overheads and profits.

Materials are all supplies, including consumables, used by the Contractor for incorporation in the Works.

The **Engineer or his nominee** is the person named in the Contract Data (or any other competent person appointed and notified to the Contractor to act in replacement of the Engineer or his nominee) who is responsible for supervising the Contractor, administering the Contract, certifying payments due to the Contractor, issuing and valuing Variations to the Contract, awarding extensions of time and valuing the Compensation Events.

Plant is any integral part of the Works which is to have mechanical, electrical, electronic or chemical or biological function.

Ruling Percentage is the percentage by which the tendered amount of the works actually awarded

is higher or lower than the corresponding estimated amount of the works actually awarded.

The **Site** is the area defined as such in the Contract Data.

Site Investigation Reports are those which were included in the Bidding documents and are factual interpretative reports about the surface and sub-surface conditions at the site.

Specification means the Specification of the Works included in the Contract and any modification or addition made or approved by the Engineer or his nominee.

The **Start Date** is given in the Contract Data. It is the date when the Contractor shall commence execution of the works. It does not necessarily coincide with any of the Site Possession Date.

A **Sub Contractor** is a person or corporate body who has a Contract with the Contractor to carry out a part of the work in the Contract which includes work on the Site.

Temporary Works are works designed, constructed, installed and removed by the Contractor which are needed for construction or installation of the Works

A **Variation** is an instruction given by the Engineer or his nominee which varies the Original Works.

The **Works** are what the Contract requires the Contractor to construct, install and turn over to the Employer as defined in the Contract Data.

2. Interpretation

2.1 In interpreting these Conditions of Contract, singular also means plural, male also means female or neuter and the other way around. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Engineer or his nominee will provide instructions clarifying queries about the Conditions of Contract.

2.2 If sectional completion is specified in the Contract Data, references in the Conditions of Contract to the Works, the Completion Date, and the Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion date for the whole of the Works).

2.3 The documents forming the Contract shall be interpreted in the following order of priority:

- (1) Agreement
- (2) Letter of Acceptance and notice to proceed with works
- (3) Contractor's Bid
- (4) Contract Data
- (5) Conditions of Contract including Special Conditions of Contract
- (6) Specifications
- (7) Drawings
- (8) Bill of quantities and
- (9) Any other documents listed in the Contract Data as forming part of the Contract.

3 Language and Law

3.1 The language of the Contract and the law governing the Contract are stated in the Contract Data.

4 Engineer or his nominee's Decisions

4.1 Except where otherwise specifically stated, the Engineer or his nominee will decide contractual matters between the Employer and the Contractor in the role representing the Employer.

5 Delegation

- 5.1 The Engineer or his nominee may delegate any of the duties and responsibilities to other people after notifying the Contractor and may cancel any delegation after notifying the Contractor.

6 Communications

- 6.1 Communications between parties which are referred to in the conditions are effective only when in writing. A notice shall be effective only when it is delivered (in terms of Indian Contract Act 1872).

7. Contract Agreement

- 7.1 A suitable form is annexed as "FORM OF AGREEMENT" to the Tender Document. Upon signing the Contract Agreement, the Contractor shall make copies of Contract Documents, as indicated in the Contract Data, in hardbound cover which shall cover documents used in Contract/Agreement and provide the same to the Employer at no extra cost.

- 7.2 Data made available by the Employer in accordance with provisions of the Condition of Contract shall be deemed to include data listed elsewhere in the Contract and open for inspection at the office of the Engineer as indicated in the Contract data of the Cochin Port Trust (by prior appointment with the Engineer).

8 Subcontracting

- 8.1 The Contractor may subcontract with the approval of the Engineer or his nominee but may not assign the Contract without the approval of the Employer in writing. Subcontracting does not alter the Contractor's obligations.

Notwithstanding any subcontracting with such approval as required under above and notwithstanding that the Engineer shall have received copies of any sub-contract, the Contractor shall be solely responsible for the quality and proper execution of the works, performance of all conditions of contract in all respects as if such subletting had not taken place and as if such work has been done directly by the Contractor.

If any Sub-Contractor engaged upon the works at the site executes any work, which in the opinion of the Engineer or his nominee is not in accordance with the Contract condition, written notice may be given to the Contractor requesting him to terminate such sub contract and the Contractor, upon receipt of such notice shall terminate such sub contract and the said Sub Contractor shall forthwith leave the works, failing which the Employer shall have right to remove such Sub Contractors from site. No action taken by the Employer under this clause shall relieve the Contractor of any of his liabilities under the contract or give rise to any compensation, extension of time or otherwise.

8.2 Other Contractors

The Contractor shall co-operate and share the site with other Contractors, public authorities, utilities and the Employer between the dates given in the Schedule of other Contractors. The Contractor shall as referred to in the Contract Data, also provide facilities and services for them as described in the Schedule. The Employer may modify the schedule of other Contractors and shall notify the Contractor of any such modification.

9 Personnel

- 9.1 The Contractor shall employ the key personnel named in the Schedule of Key Personnel as referred to in the Contract Data to carry out the functions stated in the Schedule or other personnel approved by the Engineer or his nominee. The Engineer or his nominee will approve any proposed replacement of key personnel only if their qualifications, abilities, and relevant experience are substantially equal to or better than those of the personnel listed in the schedule.

- 9.2 If the Engineer or his nominee asks the Contractor to remove a person who is a member of the Contractor's staff or from his work force stating the reasons, the Contractor shall ensure that the person leaves the site within seven days and has no further connections with the work in the contract.

10 Employer's and Contractor's Risks

10.1 The Employer carries the risks which this Contract states are Employer's risks and the Contractor carries the risks which this Contract states are Contractor's risks.

11 Employer's Risks

11.1 The Employers risks are

- (a) Loss or damage due to the use or occupation by the Employer of any Section or part of the Permanent Works, except as may be provided for in the Contract;
- (b) Loss or damage to the extent that it is due to the design of the Works, other than any part of the design provided by the Contractor or for which the Contractor is responsible; and
- (c) Any operation of the forces of nature (in so far as it occurs on the Site) which an experienced Contractor:
 - (i) could not have reasonably foreseen, or
 - (ii) could reasonably have foreseen, but against which he could not reasonably have taken at least one of the following measures:
 - (A) prevent loss or damage to physical property from occurring by taking appropriate measures, or
 - (B) insure against.

12 Contractor's Risks

12.1 All risks of loss of or damage to physical property and of personal injury and death which arise during and in consequence of the performance of the Contract other than the excepted risks are the responsibility of the Contractor.

12.2 Excepted risks are riot (in so far as it is uninsurable) war, invasion, act of foreign enemies, hostilities (whether war be declared or not), civil war, rebellion, revolution, insurrection or military usurped power or a cause solely due to use of occupation by the Employer of any portion of the work, any operation of the forces of nature that the Contractor could not have foreseen or reasonably provided against. (All of such are herein collectively referred to as the excepted risks).

13 Insurance

13.1 The Contractor shall provide in the joint names of the Employer and the Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts and deductibles stated in the Contract Data for the following events which are due to the Contractors risks.

- a) loss of or damage to the Works, Plant and Materials
- b) loss of or damage to Equipment;
- c) loss of or damage of property (except the Works, Plant, Materials and Equipment) in connection with the Contract; and
- d) personal injury or death.

13.2 Policies and certificates for insurance shall be delivered by the Contractor to the Engineer or his nominee for approval before the start date. All such insurances shall provide for compensation to be payable in the types and proportions of currencies required to rectify the loss or damage incurred.

13.3 If the Contractor does not provide any of the policies and certificates required, the Employer may effect the insurance which the Contractor should have provided and recover the premiums the Employer has paid from any payments due to the Contractor or, if no payment is due, the payment of the premiums shall be a debt due.

13.4 Alterations to the terms of insurance shall not be made without the approval of the Engineer or his nominee.

13.5 Both parties shall comply with all conditions of the insurance policies.

14 Site Investigation Reports

- 1.1 The Contractor, in preparing the Bid, shall rely on the Site Investigation Report referred to in the Contract Data, supplemented by any information available to the Bidder.

15. Queries about the Contract Data

- 15.1 The Engineer or his nominee will clarify queries on the Contract Data.

16 Contractor to Construct the Works

- 16.1 The Contractor shall construct and install the works in accordance with the Specification and Drawings.

- 16.2 The Contractor shall execute the whole and every part of the work in the most substantial and workmanlike manner both as regards materials and otherwise in every respect in strict accordance with the Specifications. The Contractor shall also conform exactly, fully and faithfully to the design, drawings and instructions in writing in respect of the work signed by the Engineer or his nominee and the Contractor shall be furnished free of charge one copy of the contract documents together with specifications, designs, drawings and instructions as are not included in the Specifications specified in Contract Data or in any Bureau of Indian Standard or any other published standard or code or, Schedule of Rates or any other printed publication referred to elsewhere in the Contract.

- 16.3 The Contractor shall comply with the provisions of the contract and with the care and diligence execute and maintain the works and provide all labour and materials, tools and plants including for measurements and supervision of all works, structural plans and other things of temporary or permanent nature required for such execution and maintenance in so far as the necessity for providing these, is specified or is reasonably inferred from the contract. The Contractor shall take full responsibility for adequacy, suitability and safety of all the works and methods of construction.

17 The Works to be Completed by the Intended Completion Date

- 17.1 The Contractor may commence execution of the works on the Start Date and shall carry out the works in accordance with the program submitted by the Contractor as updated with the approval of the Engineer or his nominee, and complete them by the Intended Completion Date.

18 Approval by the Engineer or his nominee

- 18.1 The Contractor shall submit Specifications and Drawings showing the proposed Temporary Works or Permanent Works, in the case of Contractor's design to the Engineer or his nominee, who is to approve them if they comply with the specifications and Drawings.

- 18.2 The Contractor shall be responsible for design of Temporary Works.

- 18.3 The Engineer or his nominee's Approval shall not alter the Contractor's responsibility for design of the Temporary Works.

- 18.4 All Drawings prepared by the Contractor for the execution of the temporary works, are subject to prior approval by the Engineer or his nominee before their use.

19 Safety

- 19.1 The Contractor shall be responsible for the safety of all activities on the Site.

20 Discoveries

- 20.1 Anything of historical or other interest or of significant value unexpectedly discovered on the Site is the property of the Employer. The Contractor is to notify the Engineer or his nominee of such discoveries and carry out the Engineer or his nominee's instructions for dealing with them.

21 Possession of the Site

- 21.1 The Employer shall give possession of all parts of the Site to the Contractor, free from

encumbrances. If possession of a part is not given by the date stated in the Contract Data the Employer is deemed to have delayed the start of the relevant activities and this will be a Compensation Event.

22 Access to the Site

- 22.1 The Contractor shall allow the Engineer or his nominee and any person authorised by the Engineer or his nominee access to the Site or to any place where work in connection with the Contract is being carried out or is intended to be carried out and to any place where materials or plant are being manufactured, fabricated and /or assembled for the works.

23 Instructions

- 23.1 The Contractor shall carry out all instructions of the Engineer or his nominee which comply with the applicable laws where the Site is located.

24 Disputes

- 24.1 If the Contractor believes that a decision taken by the Engineer or his nominee was either outside the authority given to the Engineer or his nominee by the Contract or that the decision was wrongly taken, the decision shall be referred to the Employer within 28 days of the notification of the Engineer or his nominee's decision.

25. Settlement of Disputes & Arbitration

25.1 General

Except where otherwise provided in the contract all questions and disputes relating to the meaning of the specifications, design, drawings and instructions here-in before mentioned and as to the quality of workmanship or materials used on the work or as to any other question, claim, right, matter or thing whatsoever in any way arising out of or relating to the contract, designs, drawings, specifications, estimates, instructions, orders or these conditions or otherwise concerning the works or the execution or failure to execute the same whether arising during the progress of the work or after the cancellation, termination, completion or abandonment thereof shall be dealt with as mentioned hereinafter:-

If the Contractor considers any work demanded of him to be outside the requirements of the contract, or disputes any drawings, record or decision given in writing by the Engineer on any matter in connection with or arising out of the contract or carrying out of the work, to be unacceptable, he shall promptly within 15 days request the Engineer in writing for written instruction or decision. Thereupon, the Engineer shall give his written instructions or decision within a period of one month from the receipt of the Contractor's letter.

If the Engineer fails to give his instructions or decision in writing within the aforesaid period or if the Contractor is dissatisfied with the instructions or decision of the Engineer, the Contractor may, within 15 days of the receipt of Engineer's decision, appeal to the Chairman who shall afford an opportunity to the Contractor to be heard, if the latter so desires, and to offer evidence in support of his appeal. The Chairman shall give his decision within 30 days of receipt of Contractor's appeal. If the Contractor is dissatisfied with this decision then:

- a) The Dispute in respect of contract of value upto Rs. 1crore shall not be referred for adjudication through arbitration and.
- b) If the value of the contract is exceeding Rs. 1 crore and upto Rs.5 crores,
 - (i) The Dispute shall be resolved through arbitration by a sole arbitrator appointed by the Chairman of Cochin Port Trust :
 - (ii) The Contractor shall within a period of 30 days from receipt of the decision of the Chairman, give notice to the Chairman for appointment of arbitrator, failing which, the said decision shall be final, binding and conclusive and not referable to adjudication by the arbitrator.

If the arbitrator so appointed is unable or unwilling to act or resigns his appointment or vacates his office due to any reason whatsoever another sole arbitrator shall be

appointed in the manner aforesaid. Such person shall be entitled to proceed with the reference from the stage at which it was left by his predecessor.

- c) If the value of the Contract is above Rs. 5 crores, the Contractor shall within 30 days of receipt of the decision of the Chairman, appoint an arbitrator and give notice to the Chairman and the dispute shall be resolved through Arbitral Tribunal as detailed below:

The Arbitral Tribunal shall be a panel of three arbitrators, one to be appointed by each Party and the third to be appointed by the two Arbitrators appointed by the Parties. A Party requiring Arbitration shall appoint an Arbitrator in writing, inform the other Party about such appointment and call upon the other Party to appoint its Arbitrator. If the other Party fails to appoint its Arbitrator, the Party appointing Arbitrator shall take steps in accordance with Arbitration and Conciliation Act, 1996 or any statutory modifications or reenactment thereof

- d) In case of the dispute or difference is relating to interpretation and application of the provisions of commercial contract between Central Public Sector Enterprises (CPSE), Port Trust inter se or CPSE and Government Department shall be referred by either party for arbitration to the Permanent Machinery of Arbitrators in the Department of Public Enterprises through the Secretary to the Government of Public Enterprises as per the guidelines issued by Department of Public Enterprises OM No.4 (1) 2011- DPE (PMA) – GL dtd. 12.06.2013 or any statutory amendment thereof.

- 25.2.1 It is a term of this contract that the party invoking arbitration shall give a list of disputes with amounts claimed in respect of each such dispute along with the notice for appointment of arbitrator and giving reference to the rejection by the Chairman of the appeal.
- 25.2.2 It is also a term of this contract that no person other than person / persons appointed as aforesaid should act as arbitrator / arbitrators and if for any reason that is not possible, the matter shall not be referred to arbitration at all.
- 25.2.3 It is also a term of this contract that if the Contractor does not make any demand for appointment of arbitrator in respect of any claims in writing as aforesaid within 120 days of receiving the intimation from the Engineer that the final bill is ready for payment, the claim of the Contractor shall be deemed to have been waived and absolutely barred and the Employer or his authorized representative shall be discharged and released of all liabilities under the contract in respect of these claims.
- 25.2.4 The arbitration shall be conducted in accordance with the provisions of the Arbitration and Conciliation Act, 1996 (26 of 1996) or any statutory modifications or reenactment thereof and the rules made there under and for the time being in force shall apply to the arbitration proceeding under this clause.
- 25.2.5 It is also a term of this contract that the Arbitrator / Arbitral Tribunal shall adjudicate only on such disputes as are referred to him/them and give separate award against each dispute and claim referred and in all cases where the total amount of the claims by any party exceeds Rs. 1,00,000/- the arbitrator shall give reasons for the award.
- 25.2.6 It is also a term of the contract that if any fees are payable to the arbitrator these shall be paid equally by both the parties.

It is also a term of the contract that the arbitrator/arbitrators shall be deemed to have entered on the reference on the date he / they issues notice to both the parties calling them to submit their statement of claims and counter statement of claims. The venue of the arbitration shall be at Cochin. The fees, if any, of the arbitrator shall, if required to be paid before the award is made and published, be paid half and half by each of the parties. The cost of the reference and of the award (including the fees, if any, of the arbitrator) shall be in the discretion of the arbitrator who may direct to any party by whom and in what manner, such costs or any part thereof shall be paid and fix or settle the amount of costs to be so paid.”

26. Computerised Measurement Book

Engineer or his nominee shall, except as otherwise provided, ascertain and determine by measurement, the value of work done in accordance with the contract.

All measurement of all items having financial value shall be entered by the Contractor and compiled in the shape of the Computerised Measurement Book having pages of A-4size as per the format of the department so that a complete record is obtained of all the items of works performed under the Contract.

All such measurements and levels recorded by the Contractor or his authorized representative from time to time, during the progress of the work, shall be got checked by the Contractor from the Engineer or his authorized representative as per interval or program fixed in consultation with Engineer or his authorized representative. After the necessary corrections made by the Engineer or his nominee, the measurement sheets shall be returned to the Contractor for incorporating the corrections and for resubmission to the Engineer for the dated signatures by the Engineer or his nominee and the Contractor or their representatives in token of their acceptance.

Whenever bill is due for payment, the Contractor would initially submit draft computerized measurement sheets and these measurements would be got checked/test checked from the Engineer- and/or his authorized representative. The Contractor will, thereafter, incorporate such changes as may be done during these checks/test checks in his draft computerized measurements, and submit to the department a computerized measurement book, duly bound, and with its pages machine numbered. The Engineer and/or his authorized representative would thereafter check this MB, and record the necessary certificates for their checks/test checks.

The final, fair, computerized measurement book given by the Contractor, duly bound, with its pages machine numbered, should be 100% correct, and no cutting or over-writing in the measurements would thereafter be allowed. If at all any error is noticed, the Contractor shall have to submit a fresh computerized MB with its pages duly machine numbered and bound, after getting the earlier MB cancelled by the department. Thereafter, the MB shall be taken in the Divisional Office records, and allotted a number as per the Register of Computerised MBs. This should be done before the corresponding bill is submitted to the Division Office for payment. The Contractor shall submit two spare copies of such computerized MB's for the purpose of reference and record by the various officers of the department.

The Contractor shall also submit to the department separately his computerized Abstract of Cost and the bill based on these measurements, duly bound, and its pages machine numbered along with two spare copies of the bill. Thereafter, this bill will be processed by the Division Office and allotted a number as per the computerized record in the same way as done for the measurement book meant for measurements.

The Contractor shall, without extra charge, provide all assistance with every appliance, labour and other things necessary for measurements and recording levels.

Except where any general or detailed description of the work expressly shows to the contrary, measurements shall be taken in accordance with the procedure set forth in the Specifications notwithstanding any provision in the relevant Standard Method of measurement or any general or local custom. In the case of items which are not covered by specifications, measurements shall be taken in accordance with the relevant standard method of measurement issued by the Bureau of Indian Standards and if for any item no such standard is available then a mutually agreed method shall be followed.

The Contractor shall give not less than seven days' notice to the Engineer or his authorised representative in charge of the work before covering up or otherwise placing beyond the reach of measurement any work in order that the same may be measured and correct dimensions thereof be taken before the same is covered up or placed beyond the reach of measurement and shall not cover up and place beyond reach of measurement any work without consent in writing of the Engineer or his authorised representative in charge of the work who shall within the aforesaid period of seven days inspect the work, and if any work shall be covered up or placed beyond the reach of measurements without such notice having been given or the Engineer's consent being obtained in

writing the same shall be uncovered at the Contractor's expense, or in default thereof no payment or allowance shall be made for such work or the materials with which the same was executed.

Engineer or his authorised representative may cause either themselves or through another officer of the department to check the measurements recorded jointly or otherwise as aforesaid and all provisions stipulated herein above shall be applicable to such checking of measurements or levels.

It is also a term of this Contract that recording of measurements of any item of work in the measurement book and/or its payment in the interim, on account or final bill shall not be considered as conclusive evidence as to the sufficiency of any work or material to which it relates nor shall it relieve the Contractor from liabilities from any over measurement or defects noticed till completion of the Defects Liability Period.

B. Time Control

27. Program

- 27.1 Within the time stated in the Contract Data the Contractor shall submit to the Engineer or his nominee for approval a Program showing the general methods, arrangements, order, and timing for all the activities in the works along with monthly cash flow forecast.
- 27.2 An update of the Program shall be a program showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work including any changes to the sequence of the activities.
- 27.3 The Contractor shall submit to the Engineer on the first day of each week or such longer period as the Engineer may from time to time direct, a progress report in an approved form showing up-to-date total progress, progress achieved against planned progress, during the previous week and progress forecast for the following week for all important items in each section or portion of the Works, in relation with the approved Program.
- 27.4 The Contractor shall submit to the Engineer or his nominee, for approval an updated Program at intervals no longer than the period stated in the Contract Data. If the Contractor does not submit an updated Program within this period, the Engineer or his nominee may withhold the amount stated in the Contract Data from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program has been submitted.

28. Revised Program

- 28.1 The Engineer or his nominee's approval of the Program shall not alter the Contractor's obligations. The Contractor may revise the Program and submit it to the Engineer or his nominee again at any time for approval. A revised Program is to show the effect of Variations and Compensation Events.

29. Extension of the Intended Completion Date

- 29.1 The Engineer or his nominee shall extend the Intended Completion Date if a Compensation Event occurs or a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining work and which would cause the Contractor to incur additional cost.
- 29.2 The Engineer or his nominee shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Contractor asking the Engineer or his nominee for a decision upon the effect of a Compensation Event or Variation or any other events causing delay, beyond the control of the Contractor and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.
- 29.3 Such Request for extension of time, to be eligible for consideration, shall be made by Contractor in writing within fourteen days of the happening of the event causing delay on the prescribed form. The Contractor may also, if practicable, indicate in such a request the period for which extension is desired.

30. Delays Ordered by the Engineer or his nominee

30.1 The Engineer or his nominee may instruct the Contractor to delay the start or progress of any activity within the Works.

31. Management Meetings

31.1 Either the Engineer or his nominee or the Contractor may require the other to attend a management meeting. The business of a management meeting shall be to review the plans for remaining work and to deal with matters raised in accordance with the early warning procedure.

31.2 The Engineer or his nominee shall record the business of management meetings and is to provide copies of his record to those attending the meeting and to the Employer. The responsibility of the parties for actions to be taken is to be decided by the Engineer or his nominee either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.

32. Early Warning

32.1 The Contractor is to warn the Engineer or his nominee at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the work, increase the Contract Price or delay the execution of works. The Engineer or his nominee may require the Contractor to provide an estimate of the expected effect of the event or circumstance on the Contract Price and Completion Date. The estimate is to be provided by the Contractor as soon as reasonably possible.

32.2 The Contractor shall cooperate with the Engineer or his nominee in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the work and in carrying out any resulting instruction of the Engineer or his nominee.

32.3 The Contractor shall immediately give notice in writing to the Engineer or his nominee upon happening of any event as detailed below if the work is delayed by:

- i) Force majeure, or
- ii) Abnormally bad weather, or
- iii) Serious loss or damage by fire, or
- iv) Civil commotion, local commotion of workmen, strike or lockout, affecting any of the trades employed on the work, or
- v) Delay on the part of other Contractors or tradesmen engaged by Engineer in executing work not forming part of the Contract, or
- vi) Any other cause which, in the absolute discretion of Engineer, is beyond the Contractor's control.

33. Force Majeure

"Force Majeure" means an exceptional event or circumstance:

- (a) Which is beyond a Party's control,
- (b) Which such Party could not reasonably have provided against before entering into the Contract,
- (c) Which, having arisen, such Party could not reasonably have avoided or overcome, and
- (d) Which is not substantially attributable to the other Party.

Force Majeure may include, but is not limited to, exceptional events or circumstances of

the kind listed below, so long as conditions (a) to (d) above are satisfied:

- (i) War and hostilities (whether war be declared or not), invasion, act of foreign enemies;
- (ii) Rebellion, revolution, insurrection, or military or usurped power, or civil war;
- (iii) Ionizing radiations, or contamination by radioactivity from any nuclear fuel, or from any nuclear waste, from the combustion of nuclear fuel, radioactive toxic explosive or other hazardous properties of any explosive nuclear assembly or nuclear component thereof;
- (iv) Pressure waves caused by aircraft or other aerial devices travelling at sonic or supersonic speeds; and
- (v) Riot, commotion or disorder, unless solely restricted to the employees of the Contractor or of his Sub Contractors and arising from the conduct of the Works;
- (vi) Floods, tornadoes, earthquakes and landslides.

C. Quality Control

34. Identify Defects

34.1 The Engineer or his nominee shall check the Contractor's work and notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The Engineer or his nominee may instruct the Contractor to search for a Defect and to uncover and test any work that the Engineer or his nominee considers may have a Defect.

35. Tests

35.1 If the Engineer or his nominee instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a Defect and if the test shows that it has defect, the Contractor shall pay for the test and any samples. If there is no Defect the test shall be a Compensation Event.

36. Defect Liability

36.1 The Engineer or his nominee shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at Completion and is defined in the Contract Data. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.

36.2 Every time notice of a Defect is given, the Contractor shall correct the notified defect within the length of time specified by the Engineer or his nominee's notice. To the intent that the works shall, at or as soon as practicable after the expiration of the Defects Liability Period, be delivered to the Employer in the condition required by the Contract, fair wear and tear excepted, to the satisfaction of the Engineer, the Contractor shall :

- (a) Complete the work, if any, outstanding on the date stated in the Taking-Over Certificate within the date to be intimated by the Engineer and
- (b) Execute all such work of amendment, reconstruction, and remedying defects, shrinkages or other faults as the Engineer may, during the Defects Liability Period or within 14 days after its expiration, as a result of an inspection made by or on behalf of the Engineer prior to its expiration, instruct the Contractor to execute.

36.3 Cost of Remedying Defects

All work referred to in Sub-Clause 36.2 shall be executed by the Contractor at his own cost if the necessity thereof is, in the opinion of the Engineer, due to:

- (a) The use of materials, Plant or workmanship not in accordance with the Contract, or
- (b) Where the Contractor is responsible for the design of part of the Permanent Works, any fault in such design, or the neglect or failure on the part of the Contractor to comply with any obligation, expressed or implied, on the Contractor's part under the Contract.

36.4 Defects Liability Certificate

The Contract shall not be considered as completed until a Defects Liability Certificate shall have been signed by the Engineer and delivered to the Employer, with a copy to the Contractor, stating the date on which the Contractor shall have completed his obligations to execute and complete the Works and remedy any defects therein to the Engineer's satisfaction. The Defects Liability Certificate shall be given by the Engineer within 28 days after the expiration of the Defects Liability Period, or, if different defects liability periods shall become applicable to different Sections or parts of the Permanent Works, the expiration of the latest such period, or as soon thereafter as any works instructed, pursuant to Clauses 36, have been completed to the satisfaction of the Engineer.

36.5 Unfulfilled Obligations

Notwithstanding the issue of the Defects Liability Certificate the Contractor and the Employer shall remain liable for the fulfillment of any obligation incurred under the provisions of the Contract prior to the issue of the Defects Liability Certificate which remains unperformed at the time such Defects Liability Certificate is issued and, for the purposes of determining the nature and extent of any such obligation, the Contract shall be deemed to remain in force between the parties to the Contract.

36.6 Uncorrected Defects.

If the Contractor has not corrected a Defect within the time specified in the Engineer's or his nominee's notice the Engineer or his nominee will assess the cost of having the Defect corrected, and the Contractor will pay this amount.

D. Cost Control

37. Bill of Quantities

~~37.1 The Bill of Quantities shall contain items for the construction, supply, installation, testing and commissioning work to be done by the Contractor.~~

~~37.2 The Bill of Quantities is used to calculate the Contract Price. The Contractor is paid for the quantity of the work done at the rate in the Bill of Quantities for each item.~~

38. Changes in the Quantities

~~38.1 If the final quantity of the work done differs from the quantity in the Bill of Quantities for the particular item by more than 25 % provided the change exceeds (+)10% of initial Contract Price, the Engineer or his nominee shall adjust the rate(s), to allow for the change.~~

~~38.2 The Engineer or his nominee shall not adjust rates for changes in quantities if thereby the Initial Contract Price is exceeded by more than 10% except with the prior approval of the~~

Employer.

~~38.3 If requested by the Engineer or his nominee where the quoted rate (s) of any item(s) is abnormally high, the Contractor shall provide the Engineer or his nominee with a detailed cost breakdown of such rate in the Bill of Quantities.~~

39. Variations

~~39.1 The Engineer shall make any Variation of the form, quality or quantity of the Works or any part thereof that may, in his opinion, be necessary and for that purpose, or if for any other reason it shall, in his opinion, be appropriate, he shall have the authority to instruct the Contractor to do and the Contractor shall do any of the following:~~

- ~~(a) increase or decrease the quantity of any work included in the Contract,~~
- ~~(b) omit any such work,~~
- ~~(c) change the character or quality or kind of any such work,~~
- ~~(d) change the levels, lines, position and dimension of any part of the Works,~~
- ~~(e) execute additional work of any kind necessary for the completion of the Works,~~
- ~~(f) change any specified sequence or timing of construction of any part of the Works.~~

~~No such Variation shall in any way vitiate or invalidate the Contract, by the effect, if any, of all such Variations shall be valued in accordance with Clause 40. Provided that where the issue of an instruction to vary the works is necessitated by some default of or breach of contract by the Contractor or for which he is responsible, any additional cost attributable to such default shall be borne by the Contractor. All Variations shall be included in updated Programs produced by the Contractor.~~

39.2 Instructions for Variations

~~The Contractor shall not make any such Variation without an instruction of the Engineer. Provided that no instruction shall be required for increase or decrease in the quantity of any work where such increase or decrease is not the result of an instruction given under this clause, but is the result of the quantities exceeding or being less than those stated in the Bill of Quantities.~~

40. Payments for Variations (Not applicable)

~~40.1 Variation permitted shall not exceed (+) 25% in quantity of each individual item, and (+)10% of the total contract price. Within 14 days of the date of instruction for executing varied work, extra work or substitution, and before the commencement of such work, notice shall be given either (a) by the Contractor to the Employer of his intention to claim extra payment or a varied rate or price, or (b) by the Employer to the Contractor of his intention to vary rate or price.~~

~~40.2 For items not existing in the Bill of Quantities or substitution to items in the Bill of Quantities, rate payable should be determined by methods given below and in the order given below:~~

- ~~i) Rates and prices derived from the rate of similar items in Contract.~~
- ~~ii) Rates and prices in the Schedule of Rates applicable to the Contract plus Ruling percentage.~~
- ~~iii) Market rates of materials and labor, hire charges of plant and machinery used, plus~~

~~10% for overheads and profits of Contractor.~~

~~40.3 For items in the Bill of Quantities but where quantities have increased beyond the variation limits, the rate payable for quantity in excess of the quantity in the Bill of Quantity plus the permissible variation shall be as determined by methods given below:~~

- ~~i) Rates and prices in the Schedule of Rates applicable to the Contract plus Ruling percentage.~~
- ~~ii) Market rates of material and labor, hire charges of plant and machinery used plus 10% for overheads and profits of Contractor.~~

~~whichever is lower, but not less than the rate in the Bill of Quantities~~

~~40.4 If there is delay in the Employer and the Contractor coming to an agreement on the rate of an extra item, rates as proposed by the Employer shall be payable provisionally till such time as the rates are finally determined or till date mutually agreed.~~

~~40.5 If the Engineer or his nominee decides that the urgency of varying the work prevent a quotation being given and considers not delaying the work, no quotation shall be given and the Variation shall be treated as a Compensation Event.~~

41. Cash flow forecasts

~~41.1 When the Program is updated, the Contractor is to provide the Engineer or his nominee with an updated cash flow forecast.~~

42. Payment Certificates

~~42.1 The Contractor shall submit to the Engineer or his nominee monthly statements of the estimated value of the work completed less the cumulative amount certified previously.~~

~~42.2 The Engineer or his nominee shall check the Contractors' monthly statement within 14 days and certify the amount to be paid to the Contractor after taking into account any credit or debit for the month in question in respect of materials for the works in the relevant amounts and under conditions set forth in sub-clause 51.6 of the Contract Data (Secured Advance).~~

~~42.3 The value of work executed shall be determined by the Engineer or his nominee.~~

~~42.4 The value of work executed shall comprise the value of the quantities of the items in the Bill of quantities completed.~~

~~42.5 The value of work executed shall include the valuation of variations and Compensation Events.~~

~~42.6 The Engineer or his nominee may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.~~

43. Payments

~~43.1 Bills shall be prepared and submitted by the Contractor. Joint measurements shall be taken continuously and need not be connected with billing stage. System of 4 copies of measurements, one each for Contractor, Employer and Engineer or his nominee, and signed by both Contractor and Engineer or his nominee shall be followed.~~

~~43.2 Payment of Bills for civil works shall be regulated as detailed hereunder:~~

~~43.2.1 Interim Bills shall be paid within 21 days of date of submission of bills in full shape by the~~

~~Contractor. 75% of the bill amount shall be paid within 7 days of submission of the bill, if on request by the Contractor. Balance amount of the verified bill shall be paid within 21 days of the submission of the bill.~~

~~43.2.2 Final Bill shall be paid within 3 months as detailed below on issue of Taking Over Certificate by the Engineer or his nominee. The Contractor shall submit final Bill within 30 days of issue of Taking Over Certificate. Engineer or his nominee shall check the bill within 30 days after its receipt and return the bill to Contractor for corrections, if any. The Contractor should re-submit the bill with corrections within 15 days of its return by the Engineer or his nominee. The re-submitted bill shall be checked and paid within 30 days of its receipt.~~

~~43.3 Payment for Electrical and Mechanical works shall be regulated as detailed below:~~

~~43.3.1 The Contractor shall be entitled upon certificates of the Engineer or his nominee to payments in accordance with the following provisions:~~

~~1) **For supply portion :** 75% of the value, as certified by the Engineer or his nominee, of the materials from time to time delivered on the site.~~

~~Balance 25% after completing the work in all respects, commissioning and handing over the installation to the Employer to the satisfaction of the Engineer and his nominee and his certification.~~

~~2) **For erection portion :**~~

~~i) 85% of the value as certified by the Engineer or his nominee, of the installation portion on completion of the erection work under contract, for which payments are claimed.~~

~~ii) Balance 15% along with other payments if any, after completing the work in all respects, commissioning and taking over the installation by the Employer to the satisfaction of the Engineer and his nominee and his certification.~~

~~43.3.2 For HT works, the work shall not be considered as completed until the installation is energized after obtaining approval certificate from Central Electrical Authority(CEA) and upon the issuance of taking over certificate by Engineer or his nominee. The final payment shall be made only after taking over the installation by the Employer.~~

~~43.4 All the interim payments shall be regarded as payment by way of advances against final payment only and shall not preclude the requiring of bad, unsound and imperfect or unskilled work to be rejected, removed, taken away and reconstructed or re-erected. Any certificate given by the Engineer or his nominee relating to the work done or materials delivered forming part of such payment, may be modified or corrected by any subsequent such certificate(s) or by the final certificate and shall not by itself be conclusive evidence that any work or materials to which it relates is/are in accordance with the contract and specifications. Any such interim payment, or any part thereof shall not in any respect conclude, determine or affect in any way powers of the Engineer or his nominee charge under the contract or any of such payments be treated as final settlement and adjustment of accounts or in any way vary or affect the contract.~~

~~43.5 Pending consideration of extension of date of completion interim payments shall continue to be made as herein provided, without prejudice to the right of the department to take action under the terms of this contract for delay in the completion of work, if the extension of date of completion is not granted by the competent authority.~~

~~43.6 No further claims shall be made by the Contractor after submission of the final bill and these shall be deemed to have been waived and extinguished.~~

~~43.7 If an amount certified is increased in a later certificate as a result of an award by the Arbitrator, the Contractor shall be paid interest upon the delayed payment as set out in the award. Interest shall be calculated from the date upon which the increased amount would have been certified in the absence of dispute.~~

~~43.8 Items of the Works for which no rate or price has been entered in will not be paid for by the Employer and shall be deemed covered by other rates and prices in the Contract.~~

~~43.9 All payments to the Contractor under the contract shall unless otherwise stated elsewhere be made to the Contractor in Indian currency through e payments through designated Bank.~~

44 Compensation Events

44.1 The following mutually agreed Compensation Events unless they are caused by the Contractor would be applicable:

- (a) The Employer does not give access to a part of the Site by the Site Possession Date stated in the Contract Data.
- (b) The Employer modifies the schedule of other Contractors in a way which affects the work of the Contractor under the contract.
- (c) The Engineer or his nominee orders a delay or does not issue drawings, specifications or instructions required for execution of works on time.
- (d) The Engineer or his nominee instructs the Contractor to uncover or to carry out additional tests upon work which is then found to have no Defects.
- (e) Ground conditions are substantially more adverse than could reasonably have been assumed before issuance of Letter of Acceptance from the information issued to Bidders (including the Site Investigation Reports), from information available publicly and from a visual inspection of the site.
- (f) The Engineer or his nominee gives an instruction for dealing with an unforeseen condition, caused by the Employer, or additional work required for safety.
- (g) Other Contractors, public authorities, utilities or the Employer does not work within the dates and other constraints stated in the Contract that cause delay or extra cost to the Contractor.
- (h) The effect on the Contractor of any of the Employer's Risks.
- (i) Any other Compensation Events listed in the Contract Data or mentioned in the contract.

Whenever any compensation event occurs, the Contractor will notify the Employer, within 14 days and provide a forecast cost of the compensation event.

44.2 If a Compensation Event would cause additional cost or would prevent the work being completed in the Intended Completion Date, the Contract Price shall be increased and/or the Intended Completion Date shall be extended. The Engineer or his nominee shall decide whether and by how much the Contract Price shall be increased and whether and by how much the Intended Completion Date shall be extended.

44.3 As soon as information demonstrating the effect of each Compensation Event upon the Contractor's forecast has been provided by the Contractor, it is to be assessed by the Engineer or his nominee and the Contract Price shall be adjusted accordingly. If the

Contractor's forecast is deemed unreasonable the Engineer or his nominee shall adjust the Contract Price based on Engineer or his nominee's own forecast. The Engineer or his nominee will assume that the Contractor will react competently and promptly to the event.

45. Rates for items to be inclusive of Taxes

45.1 The rates quoted by the Contractor shall be deemed to be inclusive of the sales tax and other taxes, but excluding service tax that the Contractor will have to pay for the performance of this Contract. The Employer will perform such duties in regard to the deduction of such taxes at sources as per applicable law. Any new Taxes, levies, duties imposed after signing the Contract shall be reimbursed by the Employer on production of documentary evidence.

Service Tax shall be claimed by the Contractor in the invoice except for those services which are covered under Negative list of Services under section 66D of the Finance Act and Mega Exemption Notification No 25/2012-ST dated 20.06.2012. The rate of Service Tax shall be as per the provisions of Point of Taxation Rules, 2011 and value on which service tax to be applied shall be as per the provisions of Service Tax (Determination of Valuation Rules), 2006. Where the contractor is an individual, HUF, Partnership firm or Association of Person, Service Tax shall be claimed under Reverse Charge Mechanism.

46. Currencies

46.1 All payments shall be made in Indian Rupees unless specifically mentioned.

47 Price Adjustment.

47.1 ~~No price adjustment shall be made for works except for the provisions under clause 47.1.A herein under and clause 47.2 for any subsequent change in legislation.~~

~~47.1.A For Civil contract works, with intended completion period of the contract more than 12 months, Price adjustment shall be made for the variation in price of materials such as cement, reinforcement steel, structural steel, bitumen and bitumen emulsion. Compensation for variation in cost of the materials shall be regulated as described below subject to the condition that such compensation for variation in prices shall be only for the work done during the stipulated period of the contract including such period for which the validity of the contract is extended.~~

~~The rates quoted for the items in the Schedule of Quantities shall be based on the Base rates of the materials provided in the Contract Data and these base rates are applicable at the Supplier's local delivery point and shall not include cost of loading to Contractor's vehicle, transporting to work site and unloading and stacking at work site.~~

~~During execution and actual procurement by the Contractor, increase or decrease in the cost of materials over the Base rate (which results in an increase or decrease of cost to the Contractor in carrying out the works) shall form an addition or reduction as the case may be to or from the contract price and shall be paid to or allowed by the Contractor accordingly, provided that such increase or decrease shall relate only to the quantities of material which the Engineer is satisfied as reasonably required for the works. While considering the reasonable requirement of the materials for the work, allowance towards wastage/unusable cutting bits shall be permitted as provided in the Contract Data. The prices of materials considered for regulating the payment as aforesaid shall be the price charged by the suppliers approved by the Engineer at the supplier's local delivery point and this shall not include the cost of loading to the Contractor's vehicle, transporting to the work site and unloading and stacking at work site~~

47.2 Subsequent Legislation

If, after 28 (Twenty eight) days prior to the last date for submission of tenders for the contract, there occur changes to any National or State Statute, Ordinance or Decree or other Law or any regulation or bye law of any local or other duly constituted authority or introduction of any such state statute, Ordinance, Decree, Law, regulation or bye law which causes additional or reduced cost to the Contractor in execution of the contract, such additional or reduced cost shall, after due consultation with the Employer and the Contractor be determined by the Engineer or his nominee and shall be added to or deducted from the contract price and the Engineer or his nominee shall notify the Contractor accordingly with a copy to the Employer.

48 Retention

~~48.1 The Employer shall retain from each payment due to the Contractor the proportion stated in the Contract Data until Completion of the whole of the Works.~~

~~48.2 For civil works, Retention Money shall be deducted at 5% of the gross amount of the bill from the first Running Account bill onwards till the recovered sum amounts to 5% of the contract value or the value of the work done whichever is higher. Retention money shall be refunded to the Contractor within 14 days from the date of payment of final bill.~~

~~48.3 No retention money shall be deducted for Electrical and Mechanical works.~~

49 Liquidated Damages (As per clause 2.38 of Section I)

~~49A In case of delay in completion of the contract, liquidated damages (L.D) may be levied at the rate of half per cent (½%) of the contract price per week of delay, subject to a maximum of 10 per cent of the contract price. The amount of Liquidated damages can be adjusted or set off against any sum payable to the Contractor.~~

~~49A(i) The Employer, if satisfied, that the works can be completed by the Contractor within a reasonable time after the specified time for completion, may allow further extension of time at its discretion with or without the levy of L.D. In the event of extension granted being with L.D, the Employer will be entitled without prejudice to any other right or remedy available in that behalf, to recover from the Contractor as agreed damages equivalent to half per cent (½%) of the contract value of the works for each week or part of the week subject to the ceiling defined in sub-Clause 49 A.~~

~~49A(ii) The Employer, if not satisfied that the works can be completed by the Contractor, and in the event of failure on the part of the Contractor to complete work within further extension of time allowed as aforesaid, shall be entitled, without prejudice to any other right, or remedy available in that behalf, to rescind the contract.~~

~~49A(iii) The Employer, if not satisfied with the progress of the contract and in the event of failure of the Contractor to recoup the delays in the mutually agreed time frame, shall be entitled to terminate the contract.~~

~~49A(iv) In the event of such termination of the contract as described in clauses 49A(ii) or 49A(iii) or both the Employer shall be entitled to recover L.D. upto ten per cent (10%) of the contract value and forfeit the security deposit made by the Contractor besides getting the work completed by other means at the risk and cost of the Contractor.~~

49B Reduction of Liquidated Damages

~~If, before the Time for Completion of the whole of the Works or, if applicable, any Section, Taking Over Certificate has been issued for any part of the Works or of a Section, the~~

~~liquidated damages for delay in completion of the remainder of the Works or of that section shall, for any period of delay after the date stated in such Taking Over Certificate, and in the absence of alternative provisions in the Contract, be reduced in the proportion which the value of the part so certified bears to the value of the whole of the Works or Section, as applicable. The provisions of this Sub Clause shall only apply to the rate of liquidated damages and shall not affect the limit thereof.~~

50 Nominated Sub Contractors

50.1 All specialists, merchants, tradesmen and others executing any work or supplying any good, materials, Plant or services for which provisional Sums are included in the Contract, who may have been or be nominated or selected or approved by the Employer or the Engineer, and all persons to whom by virtue of the provisions of the Contract, the Contractor is required to subcontract shall, in the execution of such work or the supply of such goods, materials, Plant or services, be deemed to be Sub Contractors to the Contractor and are referred to in this Contract as “Nominated Sub Contractors”.

51 Advance payment (Not applicable)

The Employer shall make the following advance payments (as admissible in the contract data) if requested by the Contractor in writing:

- 51.1 Mobilisation Advance shall be paid upto 5% of Contract price, payable in two equal installments. The first installment shall be paid after mobilisation has started and next installment shall be paid after satisfactory utilisation of earlier advance for which, the Contractor shall furnish proof of the satisfactory utilization of the amount.
- 51.2 Construction/ installation equipment Advance shall be paid upto 5% of Contract price, limited to 90% of assessed cost of machinery. Equipment advance will be paid in two or more installments. First installment shall be paid after Construction Equipment has arrived at the site and next installment shall be paid after satisfactory utilisation of earlier advance (s).
- 51.3 Mobilisation Advance and Construction Equipment Advance shall be paid at 14% interest rate and against Bank Guarantee for Mobilisation Advance and against hypothecation of Construction Equipment to the Employer.
- 51.4 Recovery of Mobilisation and Construction Equipment advance will start when 15% of the work is executed and recovery of total advance should be completed by the time 80% of the original Contract work is executed.
- 51.5 The above advance payments shall be admissible only for the works where estimated cost put to tender is more than Rs. 5.0 crores.

51.6 Secured Advance

The Engineer or his nominee shall make advance payment in respect of materials and plant brought to site but not yet incorporated and installed in the Works in accordance with conditions stipulated in the Contract Data.

75% of cost of materials and plant brought to site for incorporation into the works only shall be paid as Secured Advance. Materials which are of perishable nature should be adequately insured.

The Contractor, on signing an indenture in the form to be specified by the Engineer, shall be entitled to be paid during the progress of the execution of the work upto 75% of the assessed value of any materials which are in the opinion of the Engineer nonperishable,

non-fragile and noncombustible and are in accordance with the contract and which have been brought on the site in connection therewith and are adequately stored and/or protected against damage by weather or other causes but which have not at the time of advance been incorporated in the works. When materials on account of which an advance has been made under this sub-clause are incorporated in the work the amount of such advance shall be recovered/deducted from the next payment made under any of the clause or clauses of this contract.

Such secured advance shall also be payable on other items of perishable nature, fragile and combustible with the approval of the Engineer provided the Contractor provides a comprehensive insurance cover for the full cost of such materials. The decision of the Engineer shall be final and binding on the Contractor in this matter. No secured advance, shall however, be paid on high-risk materials such as ordinary glass, sand, petrol, diesel etc.

52 Securities

52.1 Security Deposit (SD) shall be at 10% of the contract value or value of the work done whichever is higher ~~and it shall consist of two parts:~~

- a) Performance Security to be submitted at award of the work
- b) ~~Retention Money to be recovered from Running Bills as detailed in Clause 48 above.~~

The total amount thus deposited towards SD will be retained as security for the due and proper fulfillment of the contract and will not carry any interest. Such deposit shall be forfeited on failure to perform or non-fulfillment by the Contractor of the terms and conditions of the contract.

52.2 **Performance Security** shall be as below:

- a) For civil works : 5% of the Contract value
- b) For all Electrical and Mechanical works : 10% of the Contract value

52.3 The Performance Security shall be provided by the Contractor to the Employer not later than 21 days for domestic bids and 28 days for international bids from the date of letter of acceptance and shall be furnished in one of the following forms:

- i) Demand Draft of a Scheduled Bank.
- ii) An irrevocable Bank Guarantee(BG) enforceable and encashable at Cochin, drawn from any scheduled bank operating in India as per the proforma.

52.4 The BG furnished towards the Performance Security shall be valid for a period until a date 30days from the day of expiry of the defect liability period stipulated as per the terms of the contract.

52.5 Unless performance Security is furnished within the period as specified in clause 52.3 above or such extension of that period as may be permitted by the Engineer in writing, the Earnest Money will be liable to forfeiture and the contract to cancellation.

52.6 Performance Security will be released / refunded to the Contractor not later than 30 days from the date of completion of Defect Liability / warranty period of the work.

53 Removal of Craft or Plant which has sunk

The Contractor shall forthwith and with dispatch at his own cost raise and remove any craft or plant (floating or otherwise) belonging to him or to any sub-Contractor employed by

him (including also any plant which is held by the Contractor or any sub-Contractor under agreement for hire or hire-purchase) which may be sunk in the course of the construction completion or maintenance of the Works or otherwise deal with the same as the Engineer may direct or until the same shall be raised and removed, the Contractor shall set all such buoys and display at night such lights and do all such things for the safety of navigation as may be required by the Engineer or by Employer. In the event of the Contractor not carrying out his obligation imposed upon him by this clause the Employer may provide buoy and light such sunken craft or plant and raise and remove the same (without prejudice to the right of the Employer to hold the Contractor liable under General Conditions) and the Contractor shall refund to the Employer all costs incurred in connection therewith.

Contractor's Temporary Moorings

Should the Contractor need, in connection with implementing the Works, to provide temporary moorings for his craft he may be allowed to do so in location and manner approved by the Engineer subject to all necessary permissions being first obtained by the Contractor from the authorities concerned. The Contractor shall not lay his temporary moorings such as to interfere with the port traffic and such moorings shall be removed if and when required by the Employer.

54 Cost of Repairs

54.1 Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Liability period shall be remedied by the Contractor at the Contractor's cost if the loss or damage arises from the Contractor's acts or omissions.

E. Finishing The Contract

55 Completion

55.1 After completion of the work, the Contractor will serve a written notice to the Engineer or his nominee/Employer to this effect. The Engineer or his nominee/Employer upon receipt of this notice shall conduct a complete joint survey of the work within 7 days and prepare a defects list jointly. The defects pointed out by the Engineer or his nominee/ Employer would be rectified by the Contractor within 14 days and thereafter acceptance report be signed jointly by the Contractor and the Employer. This joint acceptance report shall be treated as 'Completion Certificate'.

55.2 Substantial Completion of Parts

If any part of the Permanent Works has been substantially completed and satisfactorily passed any Tests on Completion prescribed by the Contract, the Engineer may issue a Taking-Over Certificate in respect of that part of the Permanent works before completion of the whole of the Works and, upon the issue of such Certificate, the Contractor shall be deemed to have undertaken to complete with due expedition any outstanding work in that part of the Permanent Works during the Defects Liability Period.

55.3 Surfaces Requiring Reinstatement

Provided that a Taking Over Certificate given in respect of any Section or part of the Permanent Works before completion of the whole of the Works shall not be deemed to certify completion of any ground or surfaces requiring reinstatement, unless such Taking Over Certificate shall expressly so state.

56 Taking Over

56.1 The Engineer or his nominee shall take over the Site and the Works within seven days of the Engineer or his nominee issuing a certificate of Completion.

56.2 **Taking Over Certificate**

When the whole of the Works have been substantially completed and have satisfactorily passed any Tests on Completion prescribed by the Contract, the Contractor may give a notice to that effect to the Engineer, with a copy to the Employer, accompanied by a written undertaking to finish with due expedition any outstanding work during the Defects Liability Period. Such notice and undertaking shall be deemed to be a request by the Contractor for the Engineer or his nominee to issue a Taking-over Certificate in respect of the Works. The Engineer or his nominee shall, within 21 days of the date of delivery of such notice, either issue to the Contractor, with a copy to the Employer, a Taking-Over Certificate, stating the date on which, in his opinion, the Works were substantially completed in accordance with the Contract, or give instruction in writing to the Contractor specifying all the work which in the Engineer's opinion, is required to be done by the Contractor before the issue of such Certificate. The Engineer or his nominee shall also notify the Contractor of any defects in the Works affecting substantial completion that may appear after such instructions and before completion of the Works specified therein. The Contractor shall be entitled to receive such Taking Over Certificate within 21 days of completion, to the satisfaction of the Engineer or his nominee, of the Works so specified and remedying any defects so notified.

56.3 **Taking Over of Sections or Parts**

Similarly, in accordance with the procedure set out in above Clause 55, the Contractor may request and the Engineer or his nominee shall issue a Taking Over Certificate in respect of :

- (a) Any Section in respect of which a separate Time for Completion is provided in the Contract Data , or
- (b) Any substantial part of the Permanent Works which has been both completed to the satisfaction of the Engineer and, otherwise than as provided for in the Contract, occupied or used by the Employer, or
- (c) Any part of the Permanent Works which the Employer has elected to occupy or use prior to completion (where such prior occupation or use is not provided for in the Contract or has not been agreed by the Contractor as a temporary measure).

57 **Final Account**

57.1 The Contractor shall supply to the Engineer or his nominee a detailed account of the total amount that the Contractor considers payable under the Contract within 30 days of issue of Taking Over Certificate and the Engineer or his nominee shall certify any final payment that is due to the Contractor within 60 days of receiving the Contractor's account if it is correct and complete. If it is not, the Engineer or his nominee shall issue within 30 days a schedule that states the scope of the corrections or additions that are necessary for the correction. If the Final Account is still unsatisfactory after it has been resubmitted the Engineer or his nominee shall decide on the amount payable to the Contractor and issue a payment certificate, within 60 days of receiving the Contractor's revised account.

58 **Submission of 'As-built Drawings'**

58.1 "As built" Drawings are required to be submitted by the Contractor by the dates stated in the Contract Data. If the Contractor does not supply the Drawings and/or manuals by the dates stated in the Contract Data, or they do not receive the Engineer or his nominee's approval, the Engineer or his nominee shall withhold the amount stated in the Contract Data from payments due to the Contractor.

59 Termination

- 59.1 The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract.
- 59.2 Fundamental breaches of Contract include, but shall not be limited to the following:
- (a) The Contractor stops work for 28 days when no stoppage of work is shown on the current Program and the stoppage has not been authorised by the Engineer or his nominee:
 - (b) The Engineer or his nominee instructs the Contractor to delay the progress of the Works and the instruction is not withdrawn within 28 days.
 - (c) The Employer or the Contractor becomes bankrupt or goes into liquidation other than for a reconstruction restructure or amalgamation.
 - (d) A payment certified by the Engineer or his nominee is not paid by the Employer to the Contractor within 50 days of the date of the Engineer or his nominee's certificate:
 - (e) The Engineer or his nominee gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Engineer or his nominee.
 - (f) The Contractor does not maintain a security which is required.
 - (g) The Contractor has delayed the completion of works by the number of days for which the maximum amount of liquidated damages can be paid as defined in the Contract data and
 - (h) If the Contractor, in the judgment of the Employer has engaged in corrupt or fraudulent practices in competing for or in the executing the Contract.
 - (i) The Contractor threatens or misbehaves with or physical attack on any of the employee / officer of the Port

For the purpose of this paragraph: "corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution. "Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Employer, and includes collusive practice. Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Employer of the benefits of free and open competition."

- 59.3 When either party to the Contract gives notice of a breach of contract to the Employer for a cause other than those listed under Sub Clause 59.2 above, the Employer shall decide whether the breach is fundamental or not.
- 59.4 Notwithstanding the above, the Employer may terminate the Contract for convenience subject to payment of compensation to the Contractor including loss of profit on uncompleted works. Loss of profit shall be calculated on the same basis as adopted for calculation of extra/additional items.
- 59.5 If the Contract is terminated the Contractor shall stop work immediately, make the Site safe and secure and leave the Site as soon as reasonably possible.

60 Payment upon Termination

- 60.1 If the Contract is terminated because of a fundamental breach of Contract by the

Contractor, the Engineer or his nominee shall issue a certificate for the value of the work done less advance payments received upto the date of the issue of the certificate, less other recoveries due in terms of the contract, less taxes due to be deducted at source as per applicable law and less any extra cost of completing the Works through other means which may be incurred by the Employer. If the total amount due to the Employer exceeds any payment due to the Contractor, the difference shall be a debt payable to the Employer.

- 60.2 If the Contract is terminated at the Employer's convenience or because of a fundamental breach of Contract by the Employer, the Engineer or his nominee shall issue a certificate for the value of the work done, the reasonable cost of removal of Equipment repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's costs of protecting and securing the Works and loss of profit on uncompleted works less advance payments received up to the date of the certificate, less other recoveries due in terms of the contract and less taxes due to be deducted at source as per applicable law.

61 Property

- 61.1 All materials on the Site, Plant, Equipment, Temporary Works and Works for which payment has been made to the Contractor by the Employer, are deemed to be the property of the Employer, if the Contract is terminated because of a Contractor's default.

62 Release from Performance

- 62.1 If the Contract is frustrated by the outbreak of war or by other event entirely outside the control of either the Employer or the Contractor, the Engineer or his nominee shall certify that the Contract has been frustrated. The Contractor shall leave the Site and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which commitment was made.

F. Labour Laws And Miscellaneous Clauses

63 Labour

- 63.1 The Contractor shall, unless otherwise provided in the Contract, make his own arrangements for the engagement of all staff and labour, local or other, and for their payment, housing, feeding and transport.
- 63.2 The Contractor shall, if required by the Engineer or his nominee, deliver to the Engineer or his nominee a return in detail, in such form and at such intervals as the Engineer or his nominee may prescribe, showing the staff and the numbers of the several classes of labour from time to time employed by the Contractor on the Site and such other information as the Engineer or his nominee may require.

64 Compliance with labour regulations.

- 64.1 During continuance of the contract, the Contractor and his sub Contractors shall abide at all times by all existing labour enactment and rules made there under, regulations, notifications and bye laws of the State or Central Government or local authority and any other labour law (including rules) regulations, bye laws that may be passed or notification that may be issued under any labour law in future either by the State or Central Government or the local authority. Salient features of some of the major labour laws that are applicable to construction industry are given below. The Contractor shall keep the Employer indemnified in case any action is taken against the Employer by the competent authority on account of contravention of any of the provisions of any Act or rules made

there under, regulations or notifications including amendments. If the Employer is caused to pay or reimburse such amounts as may be necessary to cause or observe, or for non-observance of the provisions stipulated in the notifications/ bye laws/ Acts/ Rules/ regulations including amendments, if any, on the part of the Contractor the Engineer or his nominee/Employer shall have the right to deduct any money due to the Contractor including his amount of performance security. The Employer/Engineer or his nominee shall also have right to recover from the Contractor any sum required or estimated to be required for making good the loss or damage suffered by the Employer.

64.2 The employees of the Contractor and the Sub-Contractor in no case shall be treated as the employees of the Employer at any point of time.

65 Safety, Security and Protection of the Environment.

65.1 Subject and without prejudice to any other provision of the Contract, the Contractor shall take all reasonable precautions:

- a) In connection with the sea or any harbours, docks, rivers, streams waterways drains, watercourses, lakes, reservoirs and the like to prevent:
 - (i) Silting
 - (ii) Erosion of their beds or balks
 - (iii) Pollution of the water so as to affect adversely the quality or appearance thereof or cause injury or death to animal and plant life.
- b) In connection with underground water resources (including percolating water) to prevent
 - (i) Any interference with the supply to or abstraction from such sources
 - (ii) Pollution of the water so as to affect adversely the quality thereof.
- (c) All works shall be carried out without unreasonable noise and disturbance. The Contractor shall indemnify the Employer from and against any liability for damages on account of noise or other disturbance created while or in carrying out the work and from and against all claims, demands, proceedings, damages, costs, charges and expenses whatsoever in regard or in relation to such liability.
- (d) The Contractor at his own cost shall make such provisions for lighting of Works, Temporary Works, Materials and Plant and shall provide all such marks and lights as may be required by the Employer or the Engineer or any other authority having jurisdiction over the Site together with all labour stores and services required for their efficient working and use at any time, day or night.
- (e) The Contractor shall also provide at his own cost every description of watching and maintenance required in connection with the foregoing, and all other services for protecting and securing all places dangerous whether to Contractor's workmen or to other persons until the Works are handed over to the Employer, or till such time when the Engineer decides that such services are no longer required.
- (f) All lights provided by the Contractor shall be placed or screened such as not to interfere with any navigation lights or with any traffic or signal lights of any local or other authority.

66 Insurance of Works and Contractor's Equipment

66.1 The Insurance shall be issued by any Insurance Company from its Branch at Cochin which has been determined by the Contractor to be acceptable to the Employer.

67 War Risks Insurance

- 67.1 If the Contractor receives instructions from the Employer to insure against war risks, such insurance if normally available shall be effected, at the cost of the Employer, with the Insurance Company acceptable to the Employer and shall be in the joint names of the Employer and the Contractor.

68 Royalties

Except where otherwise stated, the Contractor shall pay all tonnage and other royalties, rent and other payments or compensation. If any, for getting stone, sand, gravel, clay or other materials by him and his subordinates and his sub contractors and required for the works, at the rates and such conditions as notified by the State Government and shall be realized from the Contractor by way of deductions from the interim certificates and/or final certificate for payments to the Contractor for the gross quantity of material used for or in connection with the work. The royalty will not be deducted if the Contractor submits the Mineral Dispatch Permit (MDP) for the quantity executed by the Contractor for the requisite quantity of material incorporated in works for which MDPB issued.

69 Transport of Contractor's Equipment or Temporary Works

- 69.1 If it is found necessary for the Contractor to move one or more loads of heavy constructional plant or equipment materials or pre-constructed units or parts of units of work over roads, highways or bridges on which such oversized and overweight items are not normally allowed to be moved, the Contractor shall obtain prior permission from the concerned authorities. Payments for complying with the requirements, if any, for protection of or strengthening of the roads, highways or bridges shall be deemed to be included in his contract price.

70 Transport of Materials or Plant

- 70.1 The Contractor shall save harmless and indemnify the Employer in respect of all claims, proceedings, damages, costs, charges and expenses whatsoever arising out of or in relation to any claim made by the concerned authorities in respect of damage or injury to roads, highways or bridges. In case of failure of the Contractor to settle such claims and in case the Employer is held responsible for payment to the authorities, then the Employer shall settle the claim and the Employer's expenses in this regard, as certified by the Engineer, may be deducted by the Employer from any money due or to become due to the Contractor and the Engineer shall notify the Contractor accordingly with a copy to the Employer.

71 Labour Laws & Regulations

The Contractor shall at all times during the continuance of the Contract comply fully with all existing Acts, regulations and bye-laws including all statutory amendments and re-enactment of State or Central Govt. and other local authorities and any other enactments and act that may be passed in future either by the State or the Central Govt. or local authority, including Indian Workmen's Compensation Act, Contract Labour (Regulation And Abolition) Act 1970 and Equal Remuneration Act 1976, Employees' State Insurance Act, 1948, Factories Act, Minimum Wages Act, Provident Fund Regulations. Employees' Provident Fund Act and schemes made under the same Act, Health and Sanitary Arrangements for Workmen, Insurance and other benefits and shall keep the Employer indemnified in case any action is commenced for contravention by the Contractor. If the Employer is caused to pay or reimburse any amounts as may be necessary to cause or observe, or for non-observance of the provisions stipulated here-forth on the part of the Contractor, the Engineer shall have the right to recover from the Contractor any sum

required estimated to be required for making good the loss or damage suffered by the Employer. The Contract shall maintain the records prescribed under ESI Regulations & EPF scheme and make the contribution towards ESI and EPF in respect of persons employed by Contractor. The Contractor shall also make available such records for inspection by ESI Inspector and EPF organization during the inspection and furnish copies of all such records to the Employer regularly.

71.1. Accident Prevention Officer

The Contractor shall have on his staff on site an officer dealing with all matters regarding safety and protection against, accidents of all staff and labour. This officer shall be qualified for this work and shall have the authority to issue instructions and shall take protective measures to prevent accidents.

71.2 Disorderly Conduct

The Contractor shall at all times take all reasonable precautions to prevent any unlawful, riotous or disorderly conduct by or amongst his staff and labour and for the preservation of peace and protection of Persons and property in the neighborhood of the Works from the same.

71.3 Health and Safety

Due precautions shall be taken by the Contractor, and at his own cost, to ensure the safety of his staff and labour and, in collaboration with and to the requirements of the local health authorities, to ensure that medical staff, first aid equipment and stores, sick bay and suitable ambulance services are available at the camps, housing and on the site at all times throughout the period of the Contract and that suitable arrangements are made for the prevention of epidemics and for all necessary welfare and hygiene requirements.

71.4 Supply of Water

The Contractor shall, so far as is reasonably practicable, having regard to local conditions provide on the Site, to the satisfaction of the Engineer's Representative, an adequate supply of drinking and other water for the use of the Contractor's staff and work people.

71.5 Alcoholic Liquor or Drugs

The Contractor shall not import, sell, give, barter or otherwise dispose of any alcoholic liquor, or drugs or permit or suffer any such importation, sale, gift, barter disposal by his sub-contract agents or employees.

71.6 Arms and Ammunition

The Contractor shall not give, barter or otherwise dispose of to any persons or person, any arms or ammunition of any kind or permit or suffer the same as aforesaid.

71.7 Festivals and Religious Customs

The Contractor shall in all dealings with labour in his employment have due regard to all recognised festivals, days of rest and religious or other customs.

71.8 Epidemics

In the event of any outbreak of illness of 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.

71.9 Employment of Person in the Service of Others

The Contractor shall not recruit or attempt to recruit his staff and labour from amongst persons in the service of the Employer or other agencies engaged for any works of the Employer.

71.10 Housing for Labour

Save in so far as the Contract otherwise provides, the Contractor shall provide and maintain such accommodation and amenities as he may consider necessary for all his staff and labour employed for the purposes of or in connection with the Contract, including all fencing water supply (both for drinking and other purposes), electricity supply, sanitation, cook houses fire prevention and fire-fighting equipment, furniture other requirements in connection with such accommodation or amenities. On completion of the Contract, unless otherwise agreed with the Employer, the temporary camps/housing provided by the Contractor, shall be removed and the site reinstated to its original condition, all to the approval of the Engineer. The land for construction of labour camps shall be allotted only outside the security area to the extent available and such areas allotted as per the prevailing lease rent.

71.11 Fair Wages, Records, Inspection

The Contractor shall pay the labourers engaged by him on the work not less than a fair wage which expression shall mean whether for time or piecework the respective rates of wages as notified under the provisions of the Minimum Wages Act from time to time.

The Contractor shall maintain records of Wages and other remuneration paid to his employee in such form as may be convenient and to the requirements of the Employer/Engineer and the Labour Enforcement Officer (Central), Ministry of Labour, Govt. of India, or such other authorized person appointed by the Central Govt. The Contractor shall allow inspection of the aforesaid Wage Records and Wage Slips to the Engineer and to any of his workers or to his agent at a convenient time and place after due notice is received, or to any other person authorized by him on his behalf.

71.12 Reporting of Accidents

The Contractor shall report to the Engineer details of any accident as soon as possible after its occurrence. In the case of any fatality or serious accident, the Contractor shall, in addition, notify the local police authorities immediately by the available means.

71.13 Observance by Sub-Contractors

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

71.14 Port Entry Permission

The Contractor shall submit prior application for Port entry passes to the concerned Port authority for his labours and the staffs engaged in the works.

The Contractor shall retain the original passes obtained by them in respect of their labour and staff engaged in the Works and produce the same to the Engineer as and when called for. It should not be either destroyed or allowed to be taken by the labour/staff after its use.

71.15 Site - Protected Area

The Site of Work is a protected area. Entry to the Port premises is regulated by entry passes. These passes will be issued by the Central Industrial Security Force or any other

authority authorized by the Employer. The Contractor should furnish a list of person for whom the passes are to be issued to the Engineer and arrange to obtain the passes from the appropriate authority, based on the recommendation of the Engineer and abide by the Rules of the Cochin Port Trust with regard to entry etc. For the entry of trucks and other vehicles also, the Contractor should obtain necessary permits at his own cost .

The Contractor shall retain the original passes obtained by them in respect of their labour and staffs engaged in the Works and produce the same to the Engineer as and when called for. It should not be either destroyed or allowed to be taken by the labour/staff after its use.

72 Life Saving Appliances And First Aid

72.1 The Contractor shall provide and maintain upon the Works sufficient proper and efficient life saving appliances and first aid equipment to the approval of the Engineer. The appliances and equipment shall be available for use at all times.

73 Action in case Work not done as per Specifications

All works under or in course of execution or executed in pursuance of the contract shall at all times be open and accessible to the inspection and supervision of the Engineer or his authorised subordinates in charge of the work and all the superior officers, officer of the Quality Control Organisation of the Department, Vigilance Commissions, and the Contractor shall, at all times, during the usual working hours and at all other times at which reasonable notice of the visit of such officers has been given to the Contractor, either himself be present to receive orders and instructions or have a responsible agent duly accredited in writing, present for that purpose. Orders given to the Contractor's agent shall be considered to have the same force as if they had been given to the Contractor himself.

If it shall appear to the Engineer or his nominee or his authorised subordinates in charge of the work or to the Chief Vigilance Commissioner or his subordinate officers, that any work has been executed with unsound, imperfect, or unskillful workmanship, or with materials or articles provided by him for the execution of the work which are unsound or of a quality inferior to that contracted or otherwise not in accordance with the contract the Contractor shall, on demand in writing which shall be made within twelve months of the completion of the work from the Engineer or his nominee specifying the work, materials or articles complained of notwithstanding that the same may have been passed, certified and paid for forthwith rectify, or remove and reconstruct the work so specified in whole or in part, as the case may require or as the case may be, remove the materials or articles so specified and provide other proper and suitable materials or articles at his own charge and cost. In the event of the failing to do so within a period specified by the Engineer or his nominee in his demand aforesaid, then the Contractor shall be liable to pay compensation at the same rate as under Clause 49 of the contract (for non-completion of the work in time) for this default.

In such case the Engineer or his nominee may not accept the item of work at the rates applicable under the contract but may accept such items at reduced rates as the competent authority may consider reasonable during the preparation of on account bills or final bill if the item is so acceptable without detriment to the safety and utility of the item and the structure or he may reject the work outright without any payment and/or get it and other connected and incidental items rectified, or removed and re-executed at the risk and cost of the Contractor. Decision of the Engineer or his nominee to be conveyed in writing in respect of the same will be final and binding on the Contractor.

74 Action where no Specifications are specified

In the case of any class of work for which there are no such specifications as referred to in Clause 16, such work shall be carried out in accordance with the Bureau of Indian Standards Specifications. In case there is no such specification in Bureau of Indian Standards, the work shall be carried out as per manufacturer's specifications. In case there are no such specifications as required above, the work shall be carried out in all respects in accordance with the instructions and requirements of the Engineer or his nominee.

75 Bribes

75.1 If the Contractor, or any of his Sub Contractors, agents or servants gives or offers to give to any person any bribe, gift, gratification or commission as an inducement or reward for doing or forbearing to do any action in relation to the Contract or any other contract with the Employer, or for showing or forbearing to show favour or disfavor to any person in relation to the Contract or to any other contract with the Employer, then the Employer may enter upon the Site and the works and terminate the employment of the Contractor and the provisions of Clause 59 hereof shall apply as if such entry and termination had been made pursuant to that Clause.

(i) The bidders shall give an undertaking 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 in connection with the bid.

(ii) The bidders shall disclose any payments made or proposed to be made to any intermediaries (agents etc) in connection with the bid.

76 Details to be Confidential

76.1 The Contractor shall treat the details of the contract as private and confidential, save insofar as may be necessary for the purposes thereof, and shall not publish or disclose the same or any particulars thereof in any trade or technical paper or elsewhere without the previous consent in writing of the Employer. If any dispute arises as to the necessity of any publication or disclosure for the purpose of the Contract the same shall be referred to the decision of the Employer whose award shall be final.

77 Contractor's Temporary works, office etc

77.1 The Contractor shall submit to the Engineer for his approval not less than 15 days before commencement of erection of any part of Temporary Works, drawings and detailed proposals for the method of construction of Temporary works such as office, store, false work and temporary platforms, pre-casting yard, workshop, etc. which he intends to construct for the execution of the contract and no such work shall be constructed before obtaining the written approval of Engineer or his nominee. These temporary works, office, store etc. shall be erected at or near the work area subject to approval of the Employer and the land space for the same will be allotted free of ground rent to the extent available. The Contractor shall obtain permission for any Temporary Works and would ensure that during execution of works the statutory requirements of the concerned authorities such as Cochin Port Trust, Police, Customs, etc. would be complied with.

77.2 Submission of Reports, Returns etc

All reports, statements, returns, drawings, diagrams etc. which the Contractor is required to submit to the Engineer during the progress of the Works, shall be furnished in triplicate without any additional cost.

78 Water Supply

78.1 Water required for the construction works including curing work shall be arranged by the Contractor on his own at his cost.

79 Power Supply

79.1 The Electricity connection for lighting, welding and other mechanical works to the extent available will be made available by the Employer within the Port area. Drawing of power lines/cables etc from the available source of supply of power to the actual work site, providing switches and making connections etc. shall be arranged by the Contractor at his cost. The temporary lines and connections by the Contractor shall be approved by the Engineer's representative before availing power. The Contractor shall provide Energy Meter to read consumption in units.

79.2 The Contractor shall indicate his requirement of power to the Engineer within 15 days from the date of the letter of acceptance of the tender. The Contractor shall pay to the Employer, the power charges as per the prevailing Tariff schedule of Cochin Port Trust in force during the work of the Contractor. The Contractor shall also pay the connection and disconnection charges as applicable.

79.3 The Contractor shall submit a complete drawing of the power points, wiring, diagram indicating all electrical loads, earthing etc. in complete shape along with the completion report. The Energy Meter provided is calibrated by Kerala State Electrical Inspectorate /TMR division, KSEB and such a Certificate to be produced. For non supply of power at any stage port will not be responsible and the Contractor shall not have any claim whatever for loss or damage.

79.4 If there is any disruption in the power supply due to supply failure/restrictions imposed by the Kerala State Electricity Board, the department shall not be held responsible and the Contractor has to make suitable alternative arrangements like generator, welding set etc. at their cost.

80 Taxes and Duties

80.1 The Contractor shall pay Sales Tax, Excise Duty and other levies as applicable from time to time in respect of all materials, equipment and other items purchased for the work.

80.2 Sales / Turnover Tax on Works Contract

Deduction of Sales/Turnover tax on works Contract shall be made by the Employer from each certificate of payment to the Contractor at the rate applicable for such Contractors, as TDS or such other rates as may be specified by the State Government from time to time. TDS certificates will be issued to the Contractor which he may produce before the Tax Authority for adjustment against his tax liability as per assessment.

80.3 Income Tax

The Contractor and his staff shall be responsible for payment of all personal income taxes to the concerned authorities as per the law in force from time to time. Deduction of Income Tax shall be made by the Employer from each certificate of payment to the Contractor at the rate of 2% plus surcharge or such other rates as may be specified by the Central Government from time to time, on the gross amount of the Contractor's bill for payment.

81 Noise and Disturbance

81.1 All works shall be carried out without unreasonable noise and disturbance. The Contractor shall indemnify the Employer from and against any liability for damages on account of noise or other disturbance created while or in carrying out the work and from and against all claims demands proceedings damages costs charges and expenses whatsoever in regard or in relation to such liability.

82 Safety Code

82.1 Necessary Indian Dock Safety regulations for the safety purpose shall be adhered to by the Contractor and he will be held responsible for any violations of the same. The set of such conditions (regulation) is available with Cochin Port Trust and the Contractor is required to go through it before tendering.

82.2 Besides the above, the Contractor shall also scrupulously adhere to and observe the following safety codes:

- (i) The Contractor has to provide sufficient barricades to site of work so that traffic plying nearby should not damage the recently concreted work. In case of any damage on account of above, the entire responsibility will remain with Contractor and nothing extra will be paid on this account.
- (ii) Suitable and strong scaffolds should be provided for the workmen for all work that cannot be safely done from ground.
- (iii) No portable single ladder shall be over 8 meters in length. The width between the side rails shall not be less than 30 cm (clear) and the distance between the two adjacent rungs shall not be more than 30 cm.
- (iv) Hoisting machines and tackles used in the works including their attachments, anchorage and supports shall be in perfect condition as per stipulations of the relevant Rules. The ropes used an hoisting or lowering materials or as means or suspension shall be of durable quality and adequate strength and free from defects.
- (v) The excavated material shall no be placed within 1.5 meters of the edge of the trench or half of the depth of the trench, whichever is more. All trenches and excavation shall be provided with necessary fencing to lighting. Every opening in the floor of a building or in a working platform be provided with suitable fence to prevent the fall of persons or materials. No floor, roof or other parts of the structure shall be so overloaded with debris or materials as to render it unsafe.
- (vi) Workers employed on mixing and handling materials such cement, cement mortars concrete, lime mortar and asphalt shall be provided with protective footwear and rubber hand gloves and thin cloth for covering face and head.
- (vii) Those engaged in welding work shall be provided with welder protective eye shield and glove.
- (viii) All safety rules shall be strictly followed while working on live electrical systems or installations as stipulated in the relevant Rules.

83 Port Trust Rules

83.1 The Contractor shall observe the Conservancy Rules relating to the harbour and shall always take such necessary additional steps to keep the harbour waters free of noxious or unhygienic matters coming from his works as are required by the Employer. Under no circumstances shall inflammable materials be allowed to spill into the harbour waters.

83.2 The Contractor shall always observe and comply with the working rules and regulations of the Port Trust in force or as issued from time to time.

83.3 The Contractor's plants, equipments, floating crafts, dredgers, materials etc. which are brought to site for facilitating the proper execution of the contract work within the port area are not liable to port dues and charges like wharfage, berth hire and other charges during the period of contract and until expiry of defect liability period.

84 Execution of work

84.1 The Contractor shall be required to execute the work in such a way so as not to cause any damage, hindrance or interference with port activities going on in the area or nearby. He should not also deposit the materials at such places which may cause inconvenience to the public and the work going on in the nearby area. The Contractor shall have to make good all damages done by him to the structures nearby while executing the work and no extra payment shall be made to him on that account.

84.2 All the materials required to be used in the work shall have to be got approved from the Engineer-in-Charge before stacking at the site of work.

84.3 Barricading, including proper lighting arrangement in the night at the required places shall have to be provided by the Contractor at his own cost, including necessary arrangements for proper movement of traffic by carefully maintained approaches and road diversions with suitable sign boards for indications of road signs etc. as directed by the Engineer-in-Charge.

85 Drawings & Designs

(a) General details of the works are shown on the drawings accompanying the tender document. The Engineer will supply to the Contractor from time to time during the progress of the works such further working drawings as will be necessary in his opinion for the proper and adequate execution and maintenance of the Works in accordance with the Engineer's designs and/or any modification thereof as decided by the Engineer and the Contractor shall carry out the work in accordance with the said working drawings. Two sets of such working drawings will be issued. If the Contractor requires more sets he will have to make his own arrangement at his cost.

Residual Design, Detailing & Engineering: - Generally, detailed design and engineering of the work shall be provided by the Engineer. During execution of the work the residual design, detailing and engineering, if needed, is to be carried out by the Contractor at no extra cost to the Employer. Such design, detailing & engineering shall be got approved by the Contractor from the Engineer. For equipments/ Installations detailed drawings need to be produced by the Contractor at no extra cost to the Employer. Such detailing & engineering shall be got approved by the Contractor from the Engineer.

(b) In the event of the Contractor proposing any alteration/ modification to the Engineer's design, detail, method of construction, he shall at his own expenses prepare and submit for approval of the Engineer copies in duplicate (in the first instance) of detailed working drawings which may be required for such alteration/ modification and at the same time call the attention of the Engineer to any alternative detail or modification of the contract drawings which the Contractor may wish to make at least 30 days prior to the commencement of the work or part of the work to which such drawings relate. The Contractor shall at the same time, if so required by the Engineer, furnish calculation sheets in duplicate relating to the strength and anticipated deflections in respect of such altered/ modified works. The Engineer will, after any such alteration which he may approve, record on the copies as amended his approval and will return one copy of the

drawings and calculation sheets to the Contractor, who shall carry out the work in accordance therewith. The Contractor shall forward to the Engineer three additional copies of the working drawings and calculation sheets as approved in addition to these working drawings and calculation sheets as approved. In addition to these, working drawings are also to be submitted (the same procedure as in the case of the Contractor) in respect of any work proposed to be executed by sub-Contractors. The approval of the Engineer of all or any of the calculation sheets, drawings shall not relieve the Contractor of responsibility in connection with the execution of the altered/ modified or Sub Contractor's work.

- (c) Three complete sets of tracing film of all drawings showing every and all works 'As Made' under the Contract shall be made by the Contractor at his own expense and delivered to the Engineer within one month of the completion of the various sections of the work or at such times as directed by the Engineer. All departure /alteration /modifications from the Contract Drawings and supplementary working drawings issued by the Engineer also shall be incorporated in the "As Built" drawings. The drawings shall be fully dimensioned, of an approved size and as approved by the Engineer.

86 Monsoon Period

- 86.1 Normally Monsoon period will be reckoned from 1st June to 30th September.

87 Reports

The following reports shall be submitted for review as an input to the Management meeting to be held as per Clause No 31 of Conditions of Contract

87.1 Daily reports

The Contractor shall submit daily report indicating daily activities, weather condition, actual manpower, equipment and the materials arriving on site.

87.2 Monthly Reports

Monthly progress reports shall be prepared by the Contractor and submitted to the Engineer in triplicate. The first report shall cover the period up to the end of the first calendar month following the Commencement Date. Reports shall be submitted monthly thereafter, each within 7 days after the last day of the period to which it relates. Reporting shall continue until the Contractor has completed all work, which is known to be outstanding at the completion date, stated in the Taking-Over Certificate for the Works.

Each report shall include:

- a) Charts and detailed descriptions of progress, including each stage of design (if any), Contractor's Documents, procurement, manufacture, delivery to Site, construction, erection and testing; and including these stages for work by each Sub-Contractor,
- b) Photographs in hardcopy & digital copy and videography in two sets showing the various stages of progress on the Site monthly;
- c) For the supply of manufactured items, the name of the manufacturer, manufacture location, percentage progress, and the actual or expected dates of:
 - (i) Commencement of manufacture,
 - (ii) Contractor's/ Engineer's inspections,
 - (iii) Tests,
 - (iv) Shipment and arrival at the Site;
- d) Copies of quality assurance documents, test results and certificates of Materials;
- e) Safety statistics, including details of any hazardous incidents and activities relating to environmental aspects and public relations; and

- f) Comparisons of actual and planned progress, with details of any events or circumstances which may jeopardise the completion In accordance with the Contract, and the measures being (or to be) adopted to overcome delays.

88 Completion Documents

88.1 To treat that the work has been completed and issue a final payment certificate, the following documents will be deemed to form the completion documents:

- i) The Technical documents according to which the work was carried out.
- ii) The set of construction drawings showing therein the modifications and corrections made during the course of execution signed by the Engineer.
- iii) Certificates of final levels and dimensions as set out for various works.
- iv) Certificates of tests performed for various works.
- v) "As Built" Drawings.

89 Changes in firm's Constitution to be intimated

The Contractor shall intimate the Engineer in writing of any change made in the constitution of the firm

90 Indemnities

The Contractor shall indemnify and hold harmless the Employer, the Employer's Personnel, and their respective agents, against and from all claims, damages, losses and expenses (including legal fees and expenses) in respect of:

- (a) Bodily injury, sickness, disease or death, of any person whatsoever arising out of or in the course of or by reason of the Contractor's design (if any), the execution and completion of the Works and the remedying of any defects, unless attributable to any negligence, willful act or breach of the Contract by the Employer, the Employer's Personnel, or any of their respective agents, and
- (b) Damage to or loss of any property, real or personal (other than the Works), to the extent that such damage or loss:
 - (i) Arises out of or in the course of or by reason of the Contractor's design (if any), the execution and completion of the Works and the remedying of any defects, and
 - (ii) Is attributable to any negligence, willful act or breach of the Contract by the Contractor, the Contractor's Personnel, their respective agents, or anyone directly or indirectly employed by any of them.

G. Salient Features Of Some Major Laws Applicable To Establishments Engaged In Construction Work.

- (a) Workmen Compensation Act 1923:- The Act provides for compensation in case of injury by accident arising out of and during the course of employment.
- (b) Payment of Gratuity Act 1972: Gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if an employee has completed 5 years service or more on death at the rate of 15 days wages for every completed year of service. The Act is applicable to all establishments employing 10 or more employees.
- (c) Employees P.F and Miscellaneous Provision Act 1952: The Act Provides for monthly contributions by the Employer plus workers @ 12% / 8.33%. The benefits payable under the Act are:
 - (i) Pension or family pension on retirement or death, as the case may be.
 - (ii) Deposit linked insurance on the death in harness of the worker.
 - (iii) Payment of P.F accumulation on retirement/death etc.

The employees employed by the Contractor for the work of Port Trust have to be enrolled under the relevant scheme of the EPF & MP Act 1952. The Contractor shall produce documents pertaining to the same for verification to the Engineer/ his nominee. Further the Contractor has to pay the necessary monthly contributions to the said scheme in respect of the employees employed by him for the work of CoPT and shall produce necessary document to show that the monthly contribution in respect of these employees due to the said scheme are paid.

In case the contractor has not paid the EPF contribution same will be recovered in the running bill and paid to the EPF Organization. Any delay in payment of contribution payable under the Act may be recovered as an arrear of Land Revenue

- (d) Maternity Benefit Act 1951:-The Act provides for leave and some other benefits to workmen/ employees in case of confinement or miscarriage etc.
- (e) Contract Labour (Regulation & Abolition) Act 1970:-The Act provides for certain welfare measures to be provided by the Contractor to contract labour and in case the Contractor fails to provide, the same are required to be provided, by the Principal Employer by Law. The Principal Employer is required to- take Certificate of Registration and the Contractor is required to take license from the designated Officer. The Act is applicable to the establishments or Contractor of Principal Employer if they employ 20 or more contract labor.
- (f) Minimum Wages Act 1948: The Employer is supposed to pay not less than the Minimum Wages fixed by appropriate Government as per provisions of the Act if the employment is a scheduled employment Construction of Buildings, Roads, Runways are scheduled employment.
- (g) Payment of Wages Act 1936:-It lays down as to by what date the wages are to be paid when it will be paid and what deductions can be made from the wages of the workers.
- (h) Equal Remuneration Act 1979:-The Act provides for payment of equal wages for work of equal nature to Male and Female workers and for not making discrimination against Female employees in the matters of transfers, training and promotions etc.
- (i) Payment of Bonus Act 1965: The Act is applicable to all establishments employing 20 or more employees. The Act provides for payments of annual bonus subject to a minimum of As per the provision of the Act and amendment issued from time to time. The Act does not apply to certain establishments. The newly set-up establishments are exempted for five years in certain circumstances. Some of the State Governments have reduced the employment size from 20 to 10 for the purpose of applicability of this Act.
- (j) Inter-State Migrant workmen's (Regulation of Employment & Conditions of Service) Act 1979:The Act is applicable to an establishment which employs 5 or more inter-state migrant workmen through an intermediary (who has recruited workmen in one state for employment in the establishment situated in another state). The Inter-State migrant workmen, in establishment to which this Act becomes applicable, are required to be provided certain facilities such as housing, medical aid, travelling expenses from home upon the establishment and back,
- (k) The Building and Other Construction workers (Regulation of Employment and Conditions of Service) Act 1996 and the Cess Act of 1996:-All the establishments who carry on any building or other construction work and employs 10 or more workers are

covered under this Act. All such establishments are required to pay cess at the rate not exceeding 2% of the cost of construction as may be modified by the Government. The Employer of the establishment is required to provide safety measures at the Building or Construction work and other welfare measures, such as Canteens, First-Aid facilities. Ambulance, Housing accommodations for workers near the work place etc. The Employer to whom the Act applies has to obtain a registration certificate from the Registering Officer appointed by the Government.

(1) ESI Act, 1948:-

- (i). As per the Govt. Notification dt. 20.7.09, Cochin Port Trust has registered under the ESI Act with ESI Corporation and provision of ESI Act, 1948 are applicable to contract/casual employees drawing wages/Salary upto Rs.15,000/- per month and working in Cochin Port Trust . Workers covered under ESI Act, are entitled for full medical care for self and family. Besides, cash benefit in the event of sickness, maternity and employment injury. Accordingly, the contractual/casual employees drawing wages upto Rs. 15,000/-per month employed either directly by Port Trust or through contractor are covered under ESI Act, 1948. It is obligatory on the part of the employer to calculate and remit ESI contribution comprising of employers' share of 4.75% plus employees' share of 1.75% which is payable on or before 21st of the following month, to which the salary relates.
- (ii). In case the Contractor employs more than 20 employees, they should register their name with ESI scheme as per ESI Act, 1948 and obtain ESI Code. Both Employers share of 4.75% and Employees contribution of 1.75 % (recovered from employees), totally 6.5% to be paid as contribution to ESI in their Code on or before 21st of following month to which the salary relates and acknowledgment for the same shall be submitted to the Port while claiming the bill. The bill without the acknowledgement of ESI contribution will not be entertained. In case the contractor has not paid the ESI contribution same will be recovered in the running bill and paid to the ESI Corporation in contractor's code. Any delay in payment of contribution payable under the Act may be recovered as an arrear of Land Revenue.
- (iii). In case the contractor employs less than 20 employees, the list of employees' name, their father's name, identification proof, one passport photo shall be submitted to the Port Trust. The contribution of ESI amount, both Employers share of 4.75% and Employees of 1.75% (recovered from Employees salary), totally 6.5% shall be paid by the contractor in the Cochin Port Trust Code on or before 21st of the following month to which the salary relates or otherwise payment to the contractor will be withheld. If the contractor fails to comply with the above instruction, then the Principal Employer (Cochin Port Trust) will make payment to the ESI Corporation. Such amount will be deducted from any amount due to the contractor. Any delay in payment of contribution payable under the Act may be recovered as an arrear of Land Revenue.
- (iv). As per the above Government Notification
 - i) All intending tenderer at the time of tender shall disclose all necessary documents as to whether they are covered under ESI Act or not.
 - ii) in case they are covered under ESI Act, they have to furnish the details of registration.

CONTRACT DATA

Items marked “N/A” do not apply in this Contract.

Sl. No.	Description	Reference Cl. No.
1	The following documents are also part of the Contract	
	The Schedule of other Contractors i) ii)	(8.2)
	The Schedule of Key personnel i) ii)	(9)
2	The Employer is	(1)
	The Board of Trustees, Cochin Port Trust, Cochin -9	
	Name of Authorized Representative:	
	Name : Shri / Smt..... [INSERT NAME] The Chairman, Cochin Port Trust Cochin -9	
3	The Engineer is	
	Name : Shri [INSERT NAME] Chief Mechanical Engineer/Chief Mechanical Engineer Cochin Port Trust, Cochin-9	
	Name of Nominee is	
	Name : Shri..... [INSERT NAME] [INSERT DESIGNATION OF THE OFFICER] Cochin Port Trust Cochin-9	
4	Name of Contract :- Tender no: [INSERT TENDER NO.]	(1)
5[INSERT NUMBER] copies of Contract Agreement shall be furnished by the Contractor	[7.1]
6	Tender document and other data are available at [INSERT ADDRESS OF OFFICE]	(7.2)
7	The Intended completion Date for the whole of the Work is [INSERT CONTRACT PERIOD] Months / Days with the following milestones:	(17,28)
8	Milestone dates:	

Sl. No.	Description	Reference Cl. No.								
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">Physical works to be completed</td> <td style="width: 50%; text-align: center;">Period from the date of receipt of LoA to proceed with the work</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </table>	Physical works to be completed	Period from the date of receipt of LoA to proceed with the work							
Physical works to be completed	Period from the date of receipt of LoA to proceed with the work									
9	<p>The following shall form part of the Contract Document:</p> <ol style="list-style-type: none"> (1) Form of Agreement (2) Letter of Acceptance (3) Contractor's Bid (4) Contract Data (5) Conditions of Contract including Special Conditions of Contract (6) Specifications (7) Drawings (8) Bill of quantities and (9) Any other documents listed in the Contract Data as forming part of the Contract. (10) Correspondence exchanged after the opening of the Bid and before the issue of Letter of Acceptance by which the Condition of Contract are amended, varied or modified in any way by mutual consent (to be enumerated). 	(2.3)								
10	The Contractor shall submit a Program for the Works within ---- days [INSERT PERIOD] of date of the Letter of Acceptance.	(27)								
11	<p>The site possession date The site will be handed over withindays [INSERT PERIOD] after issue of LoA and the site is free from encumbrances.</p>	(21)								
12	The start date shall be days [INSERT PERIOD] from the date of receipt of the Letter of Acceptance (LoA) by the Contractor.	(1)								
13	The site is located at Shown in drawing no.									
14	The Defects Liability Period is [INSERT PERIOD AS APPLICABLE]	(35)								
15	The minimum insurance cover for physical property, injury and death is Rs.lakhs (Rupeeslakhs) [INSERT AMOUNT] per occurrence with the number of occurrences unlimited. After each occurrence, Contractor will pay additional premium necessary to make insurance valid always.	(13)								
16	The following events shall also be Compensation Events:	(44)								

Sl. No.	Description	Reference Cl. No.
	(Add the events as applicable to the Contractor) 1.	
17	The period between Programme updates shall be 30 days.	(27)
18	The amount to be withheld for late submission of an updated Programme shall be Rs. [INDICATE THE AMOUNT]	(27)
19	The language of the Contract documents is English.	(3)
20	The law, which applies to the Contract, is the law of Union of India.	(3)
21	The currency of the Contract is Indian Rupees.	(46)
22	The proportion of payments retained (retention money) shall be 5% from each bill subject to a maximum of 5% of the contract price or value of work done whichever is higher.	(48)
23	The maximum amount of liquidated damages for the whole of the works is 10% of the contract price.	[49]
24	The amounts of the advance payments :	[51]
	The advance payments as applicable to the contract are: [INSERT AS APPLICABLE] 1. 2. 3.	
25	Repayment of advance payment for mobilization : [INSERT ANY SPECIAL CONDITIONS]	[51]
26	Repayment of advance payment for Construction and equipment: [INSERT ANY SPECIAL CONDITIONS]	[51]
27	Repayment of secured advance: [INSERT ANY SPECIAL CONDITIONS]	
28	The date by which “as-built” drawings are required is within 90 days of issue of certificate of completion of whole or section of the work, as the case may be.	(58)
29	The amount to be withheld for failing to supply “as built” drawings and/or operating and maintenance manuals by the date required is Rs..... [INDICATE THE AMOUNT]	(58)
30	Schedule of Rates Applicable: DSR..... +%	
31	Base Rate for materials to be considered for price variation (i) Cement consumed for various items of work : Rs.per tonne	(47)

Sl. No.	Description	Reference Cl. No.
	(ii) Reinforcement steel used under various items :Rs per tonne (iii) Structural Steel used under various items: Rs. per tonne (iv) Bitumen under various items in : Rs..... per tonne (v) Bitumen emulsion (MS &RS) under various items in : Rs..... per tonne [STRIKE OFF AS APPLICABLE]	
32	Permissible wastage on theoretical quantities of (a) Cement : 2% (b) Steel Reinforcement and structural steel sections for each diameter, section and category : 5.99 % (a) Bitumen/Bitumen emulsion : 2.5%	(47)

**SECTION -II
COCHIN PORT TRUST**

2. FORM OF SECURITIES (ANNEXURE A & B)

Sl. No.	Annexures	Description	Page No.
1	A	Proforma of Bank Guarantee for Performance Guarantee/ Security Deposit	119-120
2	B	Draft Power Purchase Agreement	Attached Separately

**PROFORMA OF BANK GUARANTEE FOR PERFORMANCE GUARANTEE/
SECURITY DEPOSIT**

(To be executed on non-judicial Stamp Paper of appropriate value)

[The bank, as requested by the successful Tenderer, shall fill in this form in accordance with the instructions indicated]

In consideration of the Board of Trustees of the Port of **[insert name of Port]** incorporated by the Major Port Trusts Act, 1963 as amended by Major Port Trust (Amendment) Act 1974 (hereinafter called "The Board" which expression shall unless excluded by or repugnant to the context or meaning thereof be deemed to include the Board of Trustees of the Port of **[insert name of Port]**, its successors and assigns) having agreed to exempt _____ (hereinafter called the "Contractor")

(Name of the Contractor/s)

from the demand under the terms and conditions of the Contract, vide _____ 's letter No. _____

(Name of the Department)

date _____ made between the Contractors and the Board for execution of _____ covered under Tender

No. _____ dated _____ (hereinafter called "the said contract") for

the payment of Security Deposit in cash or Lodgement of Government Promissory Loan Notes for the due fulfilment by the said Contractors of the terms and conditions of the said Contract, on production of a Bank Guarantee for Rs. _____

(Rupees _____) only we, the (Name of the Bank and Address) _____

_____ (hereinafter referred

to as "the Bank") at the request of the Contractors do hereby undertake to pay to the Board an amount not exceeding Rs. _____ (Rupees

_____) only against any loss or damage caused to or

suffered or which would be caused to or suffered by the Board by reason of any breach by the Contractors of any of the terms and conditions of the said contract.

2. We, _____, _____, do hereby

(Name of Bank)

(Name of Branch)

undertake to pay the amounts due and payable under this guarantee without any demur merely on a demand from the Board stating that the amount claimed is due by way of loss or damage caused to or which would be caused to or suffered by the Board by reason of any breach by the Contractors of any of the terms and conditions of the said contract or by reason of the Contractors failure to perform the said contract. 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 any amount not exceeding Rs. _____ (Rupees _____) only.

3. We, _____(Name of Bank and Branch)_____, undertake to pay to the

Board any money so demanded notwithstanding any dispute or disputes raised by the Contractor(s) in any suit or proceeding pending 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.

4. We, _____(Name of Bank and Branch) further agree with the Board that the guarantee herein contained shall remain in full force and effect during the period that would be taken for performance of the said contract and that it shall continue to be enforceable till all the dues of the Board under or by virtue of the said contract have been fully paid and its claims satisfied or discharged or till the _____ (Name

of the user department)

of the said certifies that the terms and conditions of the said contract have been fully and properly carried out by the said Contractors and accordingly discharge this guarantee. PROVIDED HOWEVER that the Bank shall be the request of the Board but at the cost of the Contractors, renew or extend this guarantee for such further period or periods as the Board may require from time to time.

5. We, _____ further agree with the Board
(Name of Bank and Branch)

that the Board shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said contract or to extend the time of performance by the said contract or to extend the time of performance by the said Contractors from time to time or to postpone for any time or from time to time any of the powers exercisable by the Board against the said Contractors and to forebear or enforce any of the terms and conditions relating to the said contract and we shall not be relieved from our liability by reason of any such variation or extensions being granted to be Contractors or for any forbearance, act or omission on the part of the Board or any indulgence shown by the Board to the Contractors or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

6. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s).

7. It is also hereby agreed that the Courts in [insert city] would have exclusive jurisdiction in respect of claims, if any, under this Guarantee.

8. We, _____ Bank lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Board in writing.

9. Notwithstanding anything contained herein :

a) Our liability under this Bank Guarantee shall not exceed Rs. _____

(Rupees _____ only);

b) this Bank Guarantee shall be valid upto ___* _____; and

c) we are liable to pay the guarantee amount or any part thereof under this Bank Guarantee only and only if you serve upon us a written claim or demand on or before _____ (date of expiry of Guarantee).”

Date _____ day of _____ 20

For

(Name of Bank)

(Name)

Signature

* The date will be thirty (30)days after the end of the period of Defect Liability as specified in the Contract.

DRAFT POWER PURCHASE AGREEMENT (PPA) BETWEEN
RESCO _____

AND
COCHIN PORT TRUST

FOR

SITE SURVEY, DESIGN , ENGINEERING, MANUFACTURE, SUPPLY, STORAGE, CIVIL
WORK, ERECTION, TESTING & COMMISSIONING OF 350 KWP GRID CONNECTED
ROOFTOP SOLAR PV PROJECT ON THE ROOF TOP OF VARIOUS BUILDINGS OF
COCHIN PORT TRUST INCLUDING OPERATION & MAINTENANCE (O & M) OF THE
SYSTEM FOR A PERIOD OF 25 (TWENTY FIVE) YEARS UNDER RESCO MODEL AFTER
OPERATIONAL ACCEPTANCE

Attached Separately

SECTION III

SECTION III
COCHIN PORT TRUST

MECHANICAL ENGINEERING DEPARTMENT

Tender No: F1/T-18/350KWP SOLAR-RT2/2020-M

Tender for SITE SURVEY, DESIGN, ENGINEERING, MANUFACTURE, SUPPLY, STORAGE, CIVIL WORK, ERECTION, TESTING & COMMISSIONING OF 350 KWP GRID CONNECTED ROOFTOP SOLAR PV PROJECT ON THE ROOF TOP OF VARIOUS BUILDINGS OF COCHIN PORT TRUST INCLUDING OPERATION & MAINTENANCE (O & M) OF THE SYSTEM FOR A PERIOD OF 25 (TWENTY FIVE) YEARS UNDER RESCO MODEL AFTER OPERATIONAL ACCEPTANCE

Volume-I

Section I	1.	Notice Inviting Tenders	6-10
	2.	Instructions to Tenderers	11-36
	3.	Form of Bid	37-39
	4.	Form of Agreement	40-42
	5.	Contract Data	43-45
	6.	Annexure (1 to 15)	46-68
	7.	Schedule-I	69
Section II	1.	General Conditions of Contract: Part A - G	73-117
	2.	Form of Securities (Annexure A & B)	118-121
Section III	1.	General Description of work	124-132
	2.	Special Conditions of Contract	133-141

Volume-II

Section IV	1.	Technical Specifications	144-154
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Volume-III

Section V	1.	Drawings	
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Volume-IV

Section VI	1.	Preamble	
	2.	Bill of Quantities	157-159

INDEX

SECTION -III

Sl. No.	Clause/ Sections	Description	Page No.
1	1.	General Description of work	124-135
2	2.	Special Conditions of Contract	136-145

**SECTION -III
COCHIN PORT TRUST**

1. GENERAL DESCRIPTION OF WORK

Sl. No.	Clause/ Sections	Description	Page No.
1	1	Scope of work	126
2	2	Site Conditions	128
3	2.1	Location	128
4	2.2	Tide and Flood Levels	128
5	2.3	Waves	129
6	2.4	Wind	129
7	2.5	Rainfall	129
8	2.6	Temperature	129
9	3	Time Schedule and monitoring of progress	129
10	4	Facilities to be provided by the Port	129
11	4.1	Power	129
12	5	Contractor's responsibility	130
13	6	Workmanship	133
14	7	Temporary works	133
15	8	Time For Completion	134
16	9	Working time	134
17	10	Method of Execution	134
18	11	Alterations and Additions	134

**SECTION -III
COCHIN PORT TRUST**

1. GENERAL DESCRIPTION OF WORK

1. Scope of work

The scope of work for the bidder include, obtaining No Objection Certificate (NOC) from Estate Division of the Cochin Port Trust and from other agencies for grid connectivity, complete design, engineering, manufacture, supply, storage, civil work, erection, testing & commissioning of the grid connected rooftop solar PV project including operation and maintenance (O&M) of the project for a period of Twenty Five years after commissioning. There is no lease/ license involved in this project for the installation of roof top solar power panels.

2. Site condition

2.1. Location

The locations, where the projects are required to be installed along with the respective capacities are indicated in the table below.

Buildings Owned by Cochin Port Trust

S. No.	Name	Address	Capacity Rounded in kWp
1.	Residential building	RNAS area quarters, Near Ayyappa Temple, W/Island, Kochi-09, Kerala	250
2.	Roof top of CISF quarters	Near CISF barrack, W/Island, Kochi, Kerala	100

2.2. Tide and Flood Levels

The various tidal levels in the area as per Naval Hydrographic Chart No.2004 are as indicated below for the general guidance to the tenderer.

<u>Tide</u>	<u>Levels with reference to Port Chart datum (in metres)</u>
Highest High Water Level	: +1.20m
Mean High Water Spring (MHWS)	: +0.92m
Mean Low Water Spring (MLWS)	: +0.80m
Mean Sea Level (MSL)	: +0.582m
Mean High Water Neap (MHWN)	: +0.60m
Mean Low Water Neap (MLWN)	: +0.30m
Lowest Low Water Level	: +0.20m

2.3. Waves

2.3.1. The work site is in the inner harbour area where generally calm conditions prevail throughout the year

2.4. Wind

2.4.1. Wind at Cochin is highly influenced by the land and sea breezes. Wind direction changes from north-east during morning hours to west during evening for the period of October to May. During peak of south-west monsoon, especially from June to September, predominant wind direction remains south-west both during morning and evening hours. Due to strong monsoon winds, effect of land winds is not dominant during south-west monsoon. During the non-monsoon periods, the predominant wind direction is from north east during the morning and west during the evening which shows influence of land breeze.

2.5. Rainfall

2.5.1. The climate is characterized by dry and wet seasons. The wet seasons starts in late May and ends in November. During this period, two monsoons pass by one after another. The major monsoon is south-west monsoon which lasts from June to September. This is followed by north-east monsoon during October and November. The average annual rainfall is about 3000mm; and the major portion is during south-west monsoon.

2.6. Temperature

2.6.1. Cochin experiences moderate temperatures throughout the year. The temperature varies from 22°C to 36°C. The low temperature occurs during the southwest monsoon, December and January. Daytime temperature goes upto 30°C even during this period. The hot months are from March to May.

3. Time Schedule and monitoring of progress

Tenderer shall prepare and attach with the tender a detailed work schedule [preferably in MS Project / Primavera] indicating key activities and critical items for completing the work within the stipulated contract period. This time schedule forms the basis for monitoring the progress of work. Issue of working drawings by the department will be regulated as per the time schedule approved by the department.

The contractor shall furnish to the Engineer monthly progress reports of the work during execution in the approved proforma indicating delay, if any, its reason and proposal to cover up the delay.

4. Facilities to be provided by the Port

4.1 Power

Electric power required for the work can be supplied by the department from the nearest existing line of the Port Trust at prevailing rates. The cost of drawing temporary lines/ cables/ providing switches and making connection and metering arrangements etc, shall be borne by the Contractor. If there is any disruption in the power supply due to supply failure/ restrictions imposed by the Kerala State Electricity Board, the department shall not be held responsible and the Contractor has to make suitable alternative arrangements at their cost.

5. Contractor's responsibility

5.1. All materials for use on the works shall be supplied and provided by the contractor at his own cost and shall conform to relevant BIS Specification unless otherwise specified.

5.2. Samples of all materials including fixtures, if any, to be incorporated in the work shall be got approved by the Engineer-in-Charge before procurement.

- 5.3.** The contractor shall thoroughly study the specifications and drawings and errors/omissions/modifications if any shall be brought to the notice of the Engineer-in-Charge well in advance so that a final decision in the matter could be given in time.
- 5.4.** All labour, skilled or unskilled shall be provided by the contractor. Settling any dispute with the labour will be contractor's responsibility.
- 5.5.** The contractor shall be solely responsible for any damage or injury to the persons or things caused or suffered during the execution of the work and these shall be made good or compensated at his risk & cost.
- 5.6.** The contractor shall take all care and precautionary measures for avoiding any kind of damage/accident in the work site on any account. The department shall not entertain any claim from the contractor whatsoever towards compensation for any damage/accidents at the site due to negligence from his part, during the execution of work.
- 5.7.** The contractor shall prior to commencement of the work insure in the joint names of the Employer and the contractor against all loss or damage from whatever cause arising for which he is responsible under the terms of contract.
- 5.8.** The work shall be arranged by the contractor without causing any damage to Port's/ any other structures. Any damage caused by the contractor's operation shall be compensated/made good at contractor's risk and cost to the satisfaction of the Engineer-in-Charge of the works, failing which department will do the rectification work and the cost incurred will be recovered from any sum due to him from the Port.
- 5.9.** All plants and equipments and consumables required for the whole work shall be provided by the contractor at his own cost.
- 5.10.** The contractor shall not construct any structure, even of temporary nature, for any purpose at site, except with the written permission of the Engineer-in-Charge of the work and any construction so put up shall be removed by the contractor whenever the Engineer-in-Charge calls upon the contractor to do so.
- 5.11.** Qualified Engineers with sufficient experience in works of similar nature shall be available at site throughout the contract period during working hours in order to receive instructions from department and to implement them properly and in time.
- 5.12.** The contractor shall take all care and precautionary measures for avoiding damage or accidents to the work from ship or other water crafts movements or other operations in the area. The department will not entertain any claim from the contractor whatsoever, towards compensation for any such damage or accident occurring during the execution of the contract.
- 5.13.** The contractor shall observe all safety regulations during the execution of the work. Safety measures, precautions, warning signals etc. shall be done at the contractor's cost as directed by the Engineer-in-charge of the work. The contractor shall provide all necessary personnel protection equipments such as helmet, lifeguard, goggles, boots etc. to the workmen at his own risk and cost.
- 5.14.** The work shall be arranged by the contractor without causing any hindrance to the ship and other water craft operating in the area. No damage shall be caused to the structures in the area, water crafts operating in the area or otherwise by the contractor's operations. Any damage or accident caused by the contractor's operations shall be compensated / made good at the contractor's risk and cost.

- 5.15.** The contractor shall supply at his own cost monthly or at intervals as directed by the Engineer-in-charge, well executed photographs in standard size (approximately 24x18 cm) showing the progress of the work and also such other particular item of the work.
- 5.16.** No information or photograph concerning the works shall be published without the prior permission of the Chief Mechanical Engineer and drafts of all such proposal/ publication shall be submitted for approval.
- 5.17.** The information and data shown in the drawing and detailed elsewhere in the tender document are furnished for general information and guidance only and the Port Trust in no case will be held responsible for the strict accuracy thereof or any deduction, interpretation or conclusion drawn by the tenderer.
- 5.18.** The contractor shall observe the conservancy rules relating to the Port and shall always take necessary steps to keep the Port water free of noxious or unhygienic matter due to the work, as are required by the Engineer-in-Charge. Under no circumstances, inflammable materials be allowed to spill into Port area.
- 5.19.** The Cochin Port is an International Ship & Port Facility Security (ISPS) code compliant Port and the contractor is obliged to comply with the provisions of the code in force and as amended from time to time. The site for the proposed work is a protected area and hence security rules and regulations including obtaining entry / exit passes including photo passes if any for vehicles, men and materials etc. for entering the area shall be observed by the contractor at his cost.
- 5.20.** Deleted.
- 5.21.** The contractor shall provide necessary arrangements as desired by the Engineer-in-Charge for inspection of work without any extra cost from commencement till completion of work.
- 5.22.** The Contractor shall ensure that no labourers with criminal background are engaged for the work.
- 5.23.** All fossils, coins, articles of value or antiques and structures and other remains or things of geological or archaeological interest discovered in the site of work shall be deemed to be the absolute property of the Port Trust and the contractor shall take responsible precautions to prevent his workmen or any other persons from removing or damaging any such article or thing and shall immediately upon discovery thereof and before removal, acquaint the departmental officers of such recovery and carry out at the expense of the department, the Engineer-in-Charge's orders as to the disposal of the same.
- 5.24.** The contractor shall remove any plant (floating or otherwise) belonging to him or to any person employed by him which might have sunk in the course of work or otherwise deal with the same as directed by the Engineer-in-Charge and until the same is raised and removed, the contractor shall set on such buoys and display at night such lights for avoiding any mishaps.
- 5.25.** Water required for the construction works including curing work shall be arranged by the contractor on his own cost.
- 5.26.** The contractor shall take all precautions for not to damage any cables/pipes etc. passing through the area of work.
- 5.27.** While carrying out hot works such as welding, cutting, chipping the concrete etc. the following conditions shall be strictly observed by the contractor:

- (i) Hot work shall be carried out with the approval of the Marine department and the work shall be done as per the instruction of the fire service personnel.
- (ii) Welding /gas cutting work shall also be carried out only with the prior permission of the Marine Dept. and only when vessel carrying inflammable materials is not berthed at the existing berths near to it.

5.28. The contractor shall remove all materials brought to work site / stacked at the work site or anywhere else within the Port area and clear the site at his cost to the full satisfaction of the Engineer-in-Charge before the site is returned to the Port Trust. All such materials including debris, tools & plants etc. shall be disposed off to any place as pointed out by the Engineer-in-Charge or be taken away from the location and shall be cleared in every respect and to reinstate to its original condition at no extra cost to the Port Trust immediately after completion of the work. In case, any such material is found left in the work site or anywhere in the Port area, rent for the storage space occupied by the contractor, either for stacking the materials /debris or for areas used for such purpose but not cleared thereafter, will be recovered as per the prevailing Scale of Rate of Cochin Port Trust, for the rent applicable for open storage space for commercial purpose, for the period for which the area had been occupied by the contractor. In addition to the above, in case the Port requires the area immediately for its use, Port will repossess the land after restoring it to its original condition, material will be confiscated and disposed off at the risk and cost of the contractor, after issuing two notices giving 15 days' time each for removing the material. All expenses incurred on this shall be recovered by disposing off the material if any confiscated. If any balance amount still remains to be realized that will be recovered from the contractor by appropriate means.

5.29. The contractor shall extend all the facilitations and cooperation for other contractors for simultaneous execution of other works in the area entrusted by Cochin Port Trust.

5.30. The contractor shall comply with all the provisions of the Indian Workmen's Compensations Act, Provident Fund Regulations, Employees Provident Fund and ESI Act etc. amended from time to time and rules framed there under and other laws affecting the contract labour that may be brought in to force from time to time."

5.31. The contractor shall be registered under EPF and ESI Act and the employees employed under them shall be covered in the EPF and ESI scheme. Work Order shall be issued only to the contractors who are registered under EPF organisation and ESI Corporation. The contractors shall regularly remit the employer and employee contribution to the authorities. If not, the Department would remit the same and the amount so remitted shall be deducted from the part/final bill of contractors.

5.32. The contractor shall provide, at every work place, at which 20 or more women workers are ordinarily employed, crèches of reasonable size and with adequate facility for the use of their children under at the age of six years at his risk and cost.

6. Workmanship

6.1. All the works shall be done strictly according to relevant B.I.S. specifications unless otherwise specified.

6.2. The whole work shall be completed in a diligent manner within the contract period and defect or imperfection if any, observed during the defect liability period/ guarantee period,

shall be rectified at contractor's cost to the full satisfaction of the Engineer-in-Charge within the time allowed.

- 6.3. The work shall be arranged in the order of preference as directed by the Engineer-in-Charge of work. In addition to above, contractor shall submit a Quality Assurance Plan (QAP) for the work and it shall be approved by the Engineer-in-Charge before commencing the work and shall be ensured strict compliance of the same. The QAP shall contain the details of tests to be conducted for each material to be used in the work and work.**
- 6.4. All the works shall be done strictly as per the protocol issued by disaster management authority in the case of all pandemics, including Covid-19.**

7. Temporary works

- 7.1.** All scaffolding, staging, bracing and other temporary works required for proper execution of the works, shall be provided by the contractor at his own cost, unless stated otherwise and that should be inclusive of all materials, labour, supervision and other facilities. The layout and details of such temporary works shall have prior approval of the Engineer-in-Charge, but the contractor shall be responsible for proper strength and safety of the same. All temporary works shall be so constructed as not to interfere with any permanent work or with the work of other agencies. If it is necessary to remove any of the temporary works at any time to facilitate execution of works or work by other agencies, such removal and erection, if required, shall be carried out by the Contractor at the direction of Engineer-in-Charge without any delay and any extra cost on this account shall be borne by the contractor.
- 7.2.** On completion of the works, temporary works if any provided by the contractor shall be removed from the site and the area shall be reinstated to the original condition at his own risk and cost.

8. Time For Completion

- 8.1.** The time allowed for carrying out the work as mentioned in the memorandum shall be strictly observed by the contractor. The work shall throughout the time period be proceeded with diligence, time being deemed to be the essence of the contract.
- 8.2.** The completion of work may entail working in monsoon period/rainy season without any extra cost. The contractor shall take such an eventuality into consideration while quoting for the work. Normally, no extension of time will be admissible for work in monsoon.
- 8.3.** The whole work shall be completed in the stipulated time, accordance with the provisions under Memorandum included under "Form of Tender" or such extended time as may be allowed under clause 29 of Conditions of Contract included in the GCC.

9. Working time

The normal working time of the Port Trust is from 8 a.m. to 5.00 p.m. on all working days with no interval in between. If the Contractor wishes to carry out the work beyond normal working hours and or on holidays, he should get specific approval from the Engineer-in-Charge for the same. Necessary supervision will be arranged by the department and the expenditure to be incurred in this connection will be borne by the department.

10. Method of Execution

The contractor shall clearly indicate in their tender the method proposed by them for executing the various items of works. During the actual execution of the works if

modifications or changes in the method of execution of work is found necessary the contractor shall obtain approval from the Engineer-in-charge of work for such modifications or changes in the method. No claim from the contractor for additional payment shall be entertained by the department on the above account.

The detailed list of equipment/machineries/tools & plants proposed to be mobilized for the deployment in the work as furnished as per **Annexure** of Section- I and method of execution furnished under clause above, are considered only for the technical appreciation of the proposal of the contractors and it shall not relieve the contractor of his responsibility of executing the work with the quality specified in the tender and any discrepancy occurs, the construction procedures detailed/specified in the tender will prevail. In case, any additional equipment are required to be mobilised than those listed in the tender for deployment in the work, it shall be arranged and the work executed as per the tender specifications without any extra cost to the Department.

11. Alterations and Additions

The Employer shall have power and authority from time to time and at all times to make amendments or additions or alternations or changes in the scope of the work, and specifications, drawings and bill of quantities and give such further instructions and directions as may appear to the Employer necessary and proper for the guidance of the Contractor and the good and efficient execution of the works and the contractor shall receive, obey and be bound by the same according to the true intent and meaning thereof as if the same had been mentioned or referred to in the scope of the work, specifications, Bill of Quantities and Schedules and drawings. The Employer may also vary or alter the lines, levels or positions of any of the works contemplated or may order any of the works contemplated thereby to be omitted, with or without the substitution of any other works in lieu thereof, or may order any work or any portion of works executed or partially executed to be removed, changed or altered, if required, and may order that other work shall be substituted in lieu thereof and any difference in the cost occasioned by any such diminution or alteration so ordered and directed shall be added to or deducted from the Contract Price based on rates available in the contract or where the rates are not specified a suitable rate backed up by rate analysis shall be submitted by the contractor and agreed upon between the contractor and the Employer. In the event of disagreement, the Employer shall fix such rates or prices as shall in their opinion, be reasonable and proper having regard to the circumstances. The contractor shall give to the Employer before the tenth day of every month, a statement in writing of any extra work which he may have performed during the preceding month, failing which any claim for which he may afterwards make for payment on account of any such extra work will not be allowed.

SECTION -III
COCHIN PORT TRUST

2. SPECIAL CONDITIONS OF CONTRACT

Sl. No.	Clause/ Sections	Description	Page No.
1	1.	General	137
2	2.	Levellised Tariff	137
3	3.	Insurance	138
4	4.	Warranty and Guarantee	138
5	5.	Type and Quality of Materials and Workmanship	138
6	6.	Operation & Maintenance (O&M)	139
7	7.	Metering and Grid Connectivity	139
8	8.	Plant Performance Evaluation	139
9	9.	Progress Report	139
10	10.	Project Inspection	139
11	11.	Care of Works	140
12	12.	Excepted Risks	140
13	13	Works Executed Through Subletting	140
14	14	Secured Advance	140
15	15	Settlement of Disputes and Arbitration	141
16	16	Liquidated Damages	141
17	17	Measurements of Work Done	141
18	18	Payments of Salary / Wages and Other Benefits etc. to Contract / Casual Workers	142
19	19	Security deposit and Retention Money	143
20	20	Force Majeure	143
21	21	Other Conditions	144

**SECTION -III
COCHIN PORT TRUST**

2. SPECIAL CONDITIONS OF CONTRACT

1. GENERAL

Special Conditions shall be read in conjunction with the General Conditions of Contract, Specifications, Drawings and any other document forming part of this Contract wherever the context so requires.

Notwithstanding the Sub-division of the documents into these separate section and volume every part of each shall be deemed to be supplementary to and complementary of every other part and shall be read with and into the Contract so far as it may be practicable to do so.

Where any portion of the General Conditions of Contract is repugnant to or at variance with any provision of the Special Conditions, the provisions of the Special Conditions shall be deemed to over-ride the provisions of the General Conditions of Contract and shall to the extent of such repugnancy of variations, prevail.

2. LEVELIZED TARIFF

- 2.1 The Levelized tariff shall include all the costs related to above Scope of Work. Bidder shall quote for the entire facilities on a “single responsibility” basis such that the total Bid Price covers all the obligations mentioned in the Bidding Documents in respect of Design, Supply, Erection, Testing and Commissioning including Warranty, Operation & Maintenance for a period of 25 years under RESCO model, goods and services including spares required if any during O&M period. The Bidder has to take all permits, approvals, Insurance etc., provide training and such other items and services required to complete the scope of work mentioned above.
- 2.2 The levelized tariff quoted is on lump sum turnkey basis and the bidder is responsible for the total Scope of Work.
- 2.3 The levelized tariff shall remain firm and fixed and shall be binding on the Successful Bidder till completion of period of contract. If any subsidy extended for the plant by the Govt. agencies shall be fully transferred to CoPT irrespective of his actual cost of execution of the project. No escalation will be granted on any reason whatsoever. The bidder shall not be entitled to claim any additional charges, even though it may be necessary to extend the completion period for any reasons whatsoever.
- 2.4 The levelized tariff shall be inclusive of all duties and taxes, insurance etc. The prices quoted by the firm shall be complete in all respect and no price variation/adjustment shall be payable
- 2.5 The operation & maintenance of Solar Photovoltaic Power Plant would include wear, tear, overhauling, machine breakdown, insurance, and replacement of defective modules, invertors / Power Conditioning Unit (PCU), spares, consumables & other parts for a period of 25 years under RESCO model.
- 2.6 The levelized tariff shall be specified in sanction letter based on Successful Bidder’s quote. The project cost shall be in accordance with all terms, conditions, specifications and other conditions of the Contract as accepted by the Cochin Port Trust and incorporated into the sanction letter.

2.7 The Bidder shall complete the Price Bid for RESCO as per Format-B: Price Bid is (Section-IV) furnished in the NIT Documents.

3. Insurance

3.1 The Bidder shall be responsible and take an Insurance Policy for transit-cum- storage-cum-erection for all the materials to cover all risks and liabilities for supply of materials on site basis, storage of materials at site, erection, testing and commissioning. The bidder shall also take appropriate insurance during O&M period.

3.2 The Bidder shall also take insurance for Third Party Liability covering loss of human life, engineers and workmen and also covering the risks of damage to the third party / material / equipment / properties during execution of the Contract. Before commencement of the work, the Bidder will ensure that all its employees and representatives are covered by suitable insurance against any damage, loss, injury or death arising out of the execution of the work or in carrying out the Contract. Liquidation, Death, Bankruptcy etc., shall be the responsibility of bidder.

4. Warranty and Guarantee

The Bidder shall warrant that the goods supplied under this contract are new, unused, of the most recent or latest technology and incorporate all recent improvements in design and materials. The bidder shall provide system warrantee covering the rectification of any and all defects in the design of equipment, materials and workmanship including spare parts for a period of 25 years from the date of commissioning. The successful bidder has to transfer all the Guarantees / Warrantees of the different components to the Owner of the project. The responsibility of operation of Warrantee and Guarantee clauses and Claims/ Settlement of issues arising out of said clauses shall be joint responsibility of the Successful bidder and the owner of the project and Cochin Port Trust will not be responsible in any way for any claims whatsoever on account of the above.

5. Type and Quality of Materials and Workmanship

5.1 The Design, engineering, manufacture, supply, installation, testing and performance of the equipment shall be in accordance with latest appropriate IEC/Indian Standards as detailed in the Section- III (Technical specifications) of the bid document. Where appropriate Indian Standards and Codes are not available, other suitable standards and codes as approved by the MNRE shall be used.

5.2 The specifications of the components should meet the technical specifications mentioned in Section III.

5.3 Any supplies which have not been specifically mentioned in this Contract but which are necessary for the design, engineering, manufacture, supply & performance or completeness of the project shall be provided by the Bidder without any extra cost and within the time schedule for efficient and smooth operation and maintenance of the SPV plant.

6. Operation & Maintenance (O&M)

6.1 The bidder shall be responsible for Operation and Maintenance of the Roof top Solar PV system for a period of 25 years, during which Cochin Port Trust will monitor the project for effective performance in line with conditions specified elsewhere in the bid

document. During this period, the bidder shall be responsible for supply of all spare parts as required from time to time for scheduled and preventive maintenance, major overhauling of the plant, replacement of defective modules, inverters, PCU's etc and maintaining log sheets for operation detail, deployment of staff for continuous operations and qualified engineer for supervision of O&M work, complaint logging & its attending.

7. Metering and Grid Connectivity

Metering and grid connectivity of the roof top solar PV system under this scheme would be the responsibility of the Bidder in accordance with the prevailing guidelines of the concerned DISCOM and / or CEA (if available by the time of implementation). Cochin Port Trust could facilitate connectivity; however, the entire responsibility lies with bidder only.

8. Plant Performance Evaluation

The successful bidder shall be required to meet minimum guaranteed generation with Performance Ratio (PR) at the time of commissioning and related Capacity Utilization Factor (CUF) as per the GHI levels of the location during the O&M period. PR should be shown minimum of 75% at the time of inspection for initial commissioning acceptance. Minimum CUF of 15% should be maintained with an annual degradation of 1% b) i. The bidder should send the periodic plant output details to Cochin Port Trust for ensuring the CUF. The PR will be measured at Inverter output level during peak radiation conditions.

9. Progress Report

The bidder shall submit the progress report monthly to Cochin Port Trust in Prescribed Proforma. Cochin Port Trust will have the right to depute his/their representatives to ascertain the progress of contract at the premises of works of the bidder.

10. Project inspection.

- 10.1 The project progress will be monitored by Cochin Port Trust and the projects will be inspected for quality at any time during commissioning or after the completion of the project either by officer(s) from Cochin Port Trust or any authorized agency/ experts.
- 10.2 Project(s) shall be inspected by the Cochin Port Trust or its designated third party agency as per the checklist requirement of Cochin Port Trust for release of subsidy, if required by Cochin Port Trust. All the expenses for inspection in this regard shall be borne by the Bidder only.
- 10.3 Cochin Port Trust reserves the right to do sample inspection checks for the projects commissioned by the Bidder.
- 10.4 Cochin Port Trust may also depute a technical person(s) for inspection, Third party verification, monitoring of system installed to oversee, the implementation as per required standards and also to visit the manufactures facilities to check the quality of products as well as to visit the system integrators to assess their technical capabilities as and when required.

11. CARE OF WORKS

From the commencement to the completion of the work the contractor shall take full responsibility for the care of the work and his employees in connection with the work thereof and in case any damage, loss or injury shall happen to the works or any part thereof or to any temporary work from any cause whatsoever (save and except the excepted risks as defined in clause 5 given below shall at his own cost repair and make good the same so that the work shall be completed in good order and in conformity in every respect with requirement of the contract. In the event of any such damage, loss or injury happening from any of the excepted risks, the Contractor shall if and to the extent required by the Engineer-in-Charge, make good the same as aforesaid and it will be to the account of the Board.

12. EXCEPTED RISKS

The excepted risks are riot (in so far as it is uninsurable) war, invasion, act of foreign enemies, hostilities (whether war be declared or not), civil war, rebellion, revolution, insurrection or military usurped power or a cause solely due to use of occupation by the Board of any portion of the work, any operation of the forces of nature that the contractor could not have foreseen or reasonably provided against. (All of such are herein collectively referred to as the excepted risks).

13. WORKS EXECUTED THROUGH SUBLETTING

- 13.1 The contractor may sublet any portion of the contract, as per clause 8 of Conditions of Contract of GCC.
- 13.2 Notwithstanding any subletting with such approval as required under above and notwithstanding that the Engineer-in-Charge shall have received copies of any sub-contract, the contractor shall be solely responsible for the quality and proper execution of the works, performance of all conditions of contract in all respects as if such subletting had not taken place and as if such work has been done directly by the contractor.
- 13.3 If any sub-contractor engaged upon the works at the site executes, any work which, in the opinion of the Engineer-in-Charge, is not in accordance with the contract condition, written notice may be given to the contractor requesting him to terminate such sub contract and the contractor upon receipt of such notice shall terminate such sub contract and the said sub contractor shall forthwith leave the works, failing which the department shall have right to remove such sub contractors from site. No action taken by the department under this clause shall relieve the contractor of any of his liabilities under the contract or give rise to any compensation, extension of time or otherwise.

14. SECURED ADVANCE. (Not applicable)

15. SETTLEMENT OF DISPUTES AND ARBITRATION

15.1 Settlement of Dispute

The settlement of disputes and arbitration shall be as per clause 25 of General Conditions of Contracts. However the venue of the arbitration shall be at Cochin.

Settlement of Disputes through Conciliation In the event of any dispute or differences between the parties which could not be resolved amicably by mutual consultations /Arbitration, then the Chairman of Cochin Port Trust may refer such unresolved disputes or differences to a Conciliation Committee / Council comprising of independent subject experts, set up by the Port Trust to enable speedy disposal of pending / new cases. Recourse to such conciliation shall be open before, during or after the arbitration proceedings. The award of the Conciliation Committee / Council, if agreed by both the

parties, shall then be placed for consideration of the Board of Trustees of Cochin Port subject to the delegation of powers.”

16. LIQUIDATED DAMAGES

For levying compensation as per Clause-49 of General Conditions of Contract, the employer is not required to have documentary evidence to quantify or prove the losses suffered by the Employer due to delay in completion of work by the contractor, as per agreement conditions.

17. MEASUREMENTS OF WORK DONE

- 17.1 In addition to the Clause-26 of GCC- ‘Computerised Measurement Book’, measurement of the work can also be done as detailed below
- 17.2 Executive Engineer (hereinafter called the Engineer’s Nominee) shall, except as otherwise provided, ascertain and determine by measurement the value in accordance with the Contract of work done.
- 17.3 All measurement of all items having financial value shall be entered in Measurement Book and/or level field book so that a complete record is obtained of all works performed under the Contract.
- 17.4 All measurements and levels shall be taken jointly by the Engineer’s Nominee or his authorised representative and by the Contractor or his authorised representative from time to time during the progress of the work and such measurements shall be signed and dated by the Engineer’s Nominee and the Contractor or their representatives in token of their acceptance. If the Contractor objects to any of the measurements recorded, a note shall be made to that effect with reason and signed by both the parties.
- 17.5 Department shall not entertain any claim from Contractor for any loss or damages on this account. If the Contractor or his authorised representative does not remain present at the time of such measurements after the Contractor or his authorised representative has been given a notice in writing three (3) days in advance or fails to countersign or to record objection within a week from the date of the measurement, then such measurements recorded in his absence by the Engineer’s Nominee or his representative shall be deemed to be accepted by the Contractor.
- 17.6 The Contractor shall, without extra charge, provide all assistance with every appliance, labour and other things necessary for measurements and recording levels.
- 17.7 Except where any general or detailed description of the work expressly shows to the contrary, measurements shall be taken in accordance with the procedure set forth in the specifications notwithstanding any provision in the relevant Standard Method of measurement or any general or local custom. In the case of items which are not covered by specifications, measurements shall be taken in accordance with the relevant standard method of measurement issued by the Bureau of Indian Standards and if for any item no such standard is available then a mutually agreed method shall be followed.
- 17.8 The Contractor shall give not less than seven days' notice to the Engineer’s Nominee or his authorised representative in charge of the work before covering up or otherwise placing beyond the reach of measurement any work in order that the same may be measured and correct dimensions thereof be taken before the same is covered up or placed beyond the reach of measurement and shall not cover up and place beyond reach of measurement any work without consent in writing of the Engineer’s Nominee or his authorised representative in charge of the work who shall within the aforesaid period of seven days

inspect the work, and if any work shall be covered up or placed beyond the reach of measurements without such notice having been given or the Engineer's Nominee's consent being obtained in writing the same shall be uncovered at the Contractor's expense, or in default thereof no payment or allowance shall be made for such work or the materials with which the same was executed.

- 17.9 Engineer's Nominee or his authorised representative may cause either themselves or through another officer of the department to check the measurements recorded jointly or otherwise as aforesaid and all provisions stipulated herein above shall be applicable to such checking of measurements or levels.
- 17.10 It is also a term of this Contract that recording of measurements of any item of work in the measurement book and/or its payment in the interim, on account or final bill shall not be considered as conclusive evidence as to the sufficiency of any work or material to which it relates nor shall it relieve the Contractor from liabilities from any over measurement or defects noticed till completion of the defects liability period.

18. PAYMENTS OF SALARY / WAGES AND OTHER BENEFITS ETC. TO CONTRACT / CASUAL WORKERS

- 18.1 The Contractors shall make all payments of salary/wages and other benefits etc. to the contract / casual workers deployed for the work through Bank / Cheque only.
- 18.2 All the payments to the contractors would be released only on submission of undertaking to comply with the clause 18.1 above.
- 18.3 Clause 45 and Clause 80 of General Conditions of Contract (GCC) shall be modified as below;

(i) Clause 45-Rates for items to be inclusive of Taxes

The rate quoted by the Contractor shall be inclusive of the cost of provision of plant and equipment, materials, labour, execution, supervision, maintenance, overheads and profits and every incidental and contingent cost and charges whatsoever excluding Goods and Service Tax (GST). GST as may be applicable from time to time shall be shown separately in the invoice. The Employer will perform such duties in regard to the deduction of such taxes at sources as per applicable law. Any new Taxes, levies, duties imposed after signing the Contract shall be reimbursed by the Employer on production of documentary evidence. The invoice to be submitted by the Contractor should include the GST Registration Number of the Contractor as well as the Employer.

(ii) Clause 80-Taxes and Duties

Income Tax

The Contractor and his staff shall be responsible for payment of all personal income taxes to the concerned authorities as per the law in force from time to time. Deduction of Income Tax shall be made by the Employer from each certificate of payment to the Contractor at the rate of 2% plus surcharge or such other rates as may be specified by the Central Government from time to time, on the gross amount of the Contractor's bill for payment.

The Contractor shall comply all the GST Regulations viz. timely uploading of bills, issue of debit/ credit notes etc.

19. SECURITY DEPOSIT AND RETENTION MONEY

The Clauses 48 and 52 of the General Conditions of Contract related to the Retention Money and Security Deposit, stands modified to the extent detailed below:

In all cases, the Performance Guarantee retained till end of Defect Liability Period shall be 10 % of the Contract Value or Cost of Work Done, whichever is higher.

20. Force Majeure

20.1 Notwithstanding the provisions of clauses contained in this NIT document; the contractor shall not be liable to forfeit (a) Security deposit for delay and (b) termination of contract; if he is unable to fulfill his obligation under this contract due to force majeure conditions.

20.2 For purpose of this clause, "Force Majeure" means an event beyond the control of the contractor and not involving the contractor's fault or negligence and not foreseeable, either in its sovereign or contractual capacity. Such events may include but are not restricted to Acts of God, wars or revolutions, fires, floods, epidemics, quarantine restrictions and fright embargoes etc. Whether a "Force majeure" situation exists or not, shall be decided by Cochin Port Trust and its decision shall be final and binding on the contractor and all other concerned.

20.3 In the event that the contractor is not able to perform his obligations under this contract on account of force majeure, he will be relieved of his obligations during the force majeure period. In the event that such force majeure extends beyond six months, Cochin Port Trust has the right to terminate the contract in which case, the security deposit shall be refunded to him.

20.4 If a force majeure situation arises, the contractor shall notify Cochin Port Trust in writing promptly, not later than 14 days from the date such situation arises. The contractor shall notify Cochin Port Trust not later than 3 days of cessation of force majeure conditions. After examining the cases, Cochin Port Trust shall decide and grant suitable additional time for the completion of the work, if required.

20.5 Language

All documents, drawings, instructions, design data, calculations, operation, maintenance and safety manuals, reports, labels and any other data shall be in English Language. The contract agreement and all correspondence between the Cochin Port Trust and the bidder shall be in English language.

21. Other Conditions

21.1 The Successful bidder shall not transfer, assign or sublet the work under this contract or any substantial part thereof to any other party without the prior consent of Cochin Port Trust in writing.

21.2 The Successful bidder shall not display the photographs of the work and not take advantage through publicity of the work without written permission of Cochin Port Trust and owner of the Rooftop.

21.3 The Successful bidder shall not make any other use of any of the documents or information of this contract, except for the purposes of performing the contract.

21.4 The successful bidder shall get sanction from the Estate division of the Cochin Port Trust for using the rooftop and installing the panels and equipments. The allotment of area shall be at free of cost.

21.5 The successful bidder shall give an undertaking that the contract will be terminated at any

time with a notice period of 6 months if CoPT requires the assets for its development project without any compensation to the contractor. The contractor shall dismantle the solar plants at his cost and risk.

21.6 Successors and Assigns

In case the Cochin Port Trust or Successful bidder may undergo any merger or amalgamation or a scheme of arrangement or similar re-organization & this contract is assigned to any entity (ies) partly or wholly, the contract shall be binding mutatis mutandis upon the successor entities & shall continue to remain valid with respect to obligation of the successor entities.

21.7 Severability

It is stated that each paragraph, clause, sub-clause, schedule or annexure of this contract shall be deemed severable & in the event of the unenforceability of any paragraph, clause sub-clause, schedule or the remaining part of the paragraph, clause, sub-clause, schedule annexure & rest of the contract shall continue to be in full force & effect.

21.8 Counterparts

This contract may be executed in one or more counterparts, each of which shall be deemed an original & all of which collectively shall be deemed one of the same instrument.

21.9 Rights & Remedies under the Contract only for the Parties:

This contract is not intended & shall not be construed to confer on any person other than the Cochin Port Trust & Successful bidder hereto, any rights and / or remedies herein.

21.10 Price Preference for M.S.M.E

All benefits are available to MSMEs subject to compliance of provision of MSMED Act,2006 and its amendment thereof except price preference.

21.11 Termination of the contract

The successful bidder shall get sanction from the Estate division of the Cochin Port Trust for using the rooftop and installing the panels and equipments. The allotment of area shall be at free of cost. The RESCO model contract will be terminated upon completing the 25 years as per terms and conditions of the Power Purchase agreement. However, the contract may be terminated at any time if the land / roof top leased to the contractor, if CoPT requires the assets for its development project without any compensation and it shall be returned to the CoPT in its original condition as per the terms of the agreement.

21.12 The electricity required for energizing the inverter units and other auxiliary equipments shall be provided by CoPT on chargeable basis as per the terms and conditions and amendments thereto issued by KSERC or any other regulatory agencies for providing supply to the consumers.

21.13 Necessary storing facility/ office establishment shall be arranged by the successful bidder at his cost and risk.

SIGNATURE OF TENDERER

SECTION IV

SECTION-IV
COCHIN PORT TRUST
MECHANICAL ENGINEERING DEPARTMENT

Tender No: **F1/T-18/350KWP SOLAR-RT2/2020-M**

Tender for

“Site survey, design, engineering, manufacture, supply, storage, civil work, erection, testing & commissioning of 350 KWp grid connected rooftop solar pv project In the roof top of various buildings of cochin port trust Including operation & maintenance”

Volume-I

Section I	1.	Notice Inviting Tenders	6-10
	2.	Instructions to Tenderers	11-36
	3.	Form of Bid	37-39
	4.	Form of Agreement	40-42
	5.	Contract Data	43-45
	6.	Annexure (1 to 15)	46-68
	7.	Schedule-I	69
Section II	1.	General Conditions of Contract: Part A - G	73-117
	2.	Form of Securities (Annexure A & B)	118-121
Section III	1.	General Description of work	124-132
	2.	Special Conditions of Contract	133-141

Volume-II

Section IV	1.	Technical Specifications	144-154
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Volume-III

Section V	1.	Drawings	
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Volume-IV

Section VI	1.	Preamble	
	2.	Bill of Quantities	157-159

SECTION IV

MECHANICAL ENGINEERING DEPARTMENT

Tender No: **F1/T-18/350KWP SOLAR-RT2/2020-M**

TECHNICAL SPECIFICATIONS

1. Introduction.

The proposed projects shall be commissioned as per the technical specifications given below. Any shortcomings will lead to cancelation of subsidy in full or part as decided by Cochin Port Trust & Competent Authority's decision will be final and binding on the bidder.

2. Definition

2.1. A Grid Tied Rooftop Solar Photo Voltaic (SPV) power plant consists of SPV array, Module Mounting Structure, Power Conditioning Unit (PCU) consisting of Maximum Power Point Tracker (MPPT), Inverter, and Controls & Protections, interconnect cables and switches. PV Array is mounted on a suitable structure. Grid tied SPV system is without battery and should be designed with necessary features to supplement the grid power during day time. Components and parts used in the SPV power plants including the PV modules, metallic structures, cables, junction box, switches, PCUs etc., should conform to the BIS or IEC or international specifications, wherever such specifications are available and applicable.

2.2. Solar PV system shall consist of following equipments/components.

- a) Solar PV modules consisting of required number of Crystalline PV modules.
- b) Grid interactive Power Conditioning Unit with Remote Monitoring System
- c) Mounting structures
- d) Junction Boxes.
- e) Earthing and lightening protections.
- f) IR/UV protected PVC Cables, pipes and accessories

2.3. Solar Photovoltaic Modules

2.3.1. The PV modules used must qualify to the latest edition of IEC PV module qualification test or equivalent BIS standards Crystalline Silicon Solar Cell Modules IEC 61215/IS14286. In addition, the modules must conform to IEC 61730 Part-2-requirements for construction & Part 2 – requirements for testing, for safety qualification or equivalent IS.

- a) For the PV modules to be used in a highly corrosive atmosphere throughout their lifetime, they must qualify to IEC 61701/IS 61701.
- b) The total solar PV array capacity should not be less than allocated capacity (kWp) and should comprise of solar crystalline modules of minimum 300 Wp and above wattage. Module capacity less than minimum 300 watts should not be accepted.
- c) Protective devices against surges at the PV module shall be provided. Low voltage drop bypass diodes shall be provided.
- d) PV modules must be tested and approved by one of the IEC authorized test centers and the certificates in this regard shall be furnished.

- e) The module frame shall be made of corrosion resistant materials, preferably having anodized aluminum.
- f) The bidder shall carefully design & accommodate requisite numbers of the modules to achieve the rated power in his bid. Cochin Port Trust /owners shall allow only minor changes at the time of execution.
- g) Other general requirement for the PV modules and subsystems shall be the Following:
 - I. The rated output power of any supplied module shall have tolerance of +/- 3%.
 - II. The peak-power point voltage and the peak-power point current of any supplied module and/or any module string (series connected modules) shall not vary by more than 2 (two) per cent from the respective arithmetic means for all modules and/or for all module strings, as the case may be.
 - III. The module shall be provided with a junction box with either provision of external screw terminal connection or sealed type and with arrangement for provision of by-pass diode. The box shall have hinged, weather proof lid with captive screws and cable gland entry points or may be of sealed type and IP-65 rated.
 - IV. I-V curves at STC should be provided by bidder.

2.3.2. Modules deployed must use a RF identification tag. The following information must be mentioned in the RFID used on each module (This can be inside or outside the laminate, but must be able to withstand harsh environmental conditions).

- a) Name of the manufacturer of the PV module
- b) Name of the manufacturer of Solar Cells.
- c) Month & year of the manufacture (separate for solar cells and modules)
- d) Country of origin (separately for solar cells and module)
- e) I-V curve for the module Wattage, I_m , V_m and FF for the module
- f) Unique Serial No and Model No of the module
- g) Date and year of obtaining IEC PV module qualification certificate.
- h) Name of the test lab issuing IEC certificate.
- i) Other relevant information on traceability of solar cells and module as per ISO 9001 and ISO 14001

2.3.3. Warranties:

- a) Material Warranty:
 - i. Material Warranty is defined as: The manufacturer should warrant the Solar Module(s) to be free from the defects and/or failures specified below for a period not less than five (05) years from the date of sale to the original customer ("Customer")
 - ii. Defects and/or failures due to manufacturing
 - iii. Defects and/or failures due to quality of materials
 - iv. Non conformity to specifications due to faulty manufacturing and/or inspection processes. If the solar Module(s) fails to conform to this warranty, the manufacturer will repair or replace the solar module(s), at the Owners sole option

- b) Performance Warranty:
 - i. The predicted electrical degradation of power generated not exceeding 20% of the minimum rated power over the 25 year period and not more than 10% after ten years period of the full rated original output.

2.4. Array Structure

- a) Hot dip galvanized MS mounting structures may be used for mounting the modules/ panels/arrays. Each structure should have angle of inclination as per the site conditions to take maximum isolation. However to accommodate more capacity the angle inclination may be reduced until the plant meets the specified performance ratio requirements.
- b) The Mounting structure shall be so designed to withstand the speed for the wind zone of Kochi where a PV system is proposed to be installed. It may be ensured that the design has been certified by a recognized Lab/ Institution in this regard and submit wind loading calculation sheet to Cochin Port Trust. Suitable fastening arrangement such as grouting and calming should be provided to secure the installation against the specific wind speed.
- c) The mounting structure steel shall be as per latest IS 2062: 1992 and galvanization of the mounting structure shall be in compliance of latest IS 4759.
- d) Structural material shall be corrosion resistant and electrolytically compatible with the materials used in the module frame, its fasteners, nuts and bolts. Aluminium structures also can be used which can withstand the wind speed of respective wind zone. Necessary protection towards rusting need to be provided either by coating or anodization.
- e) The fasteners used should be made up of stainless steel. The structures shall be designed to allow easy replacement of any module. The array structure shall be so designed that it will occupy minimum space without sacrificing the output from the SPV panels
- f) Regarding civil structures the bidder need to take care of the load bearing capacity of the roof and need arrange suitable structures based on the quality of roof.
- g) The total load of the structure (when installed with PV modules) on the terrace should be less than 60 kg/m^2 .
- h) The minimum clearance of the structure from the roof level should be 300 mm.

2.5. Junction Boxes (JBs)

- a) The junction boxes are to be provided in the PV array for termination of connecting cables. The J. Boxes (JBs) shall be made of GRP/FRP/Powder Coated Aluminium/cast aluminium alloy with full dust, water & vermin proof arrangement. All wires/cables must be terminated through cable lugs. The JB's shall be such that input & output termination can be made through suitable cable glands.
- b) Copper bus bars/terminal blocks housed in the junction box with suitable termination threads conforming to IP65 standard and IEC 62208 Hinged door with EPDM rubber gasket to prevent water entry. Single / double compression cable glands. Provision of earthings. It should be placed at 5 feet height or above for ease of accessibility.
- c) Each Junction Box shall have High quality Suitable capacity Metal Oxide Varistors (MOVs) / SPDs, suitable Reverse Blocking Diodes. The Junction Boxes shall have suitable arrangement monitoring and disconnection for each of the groups.
- d) Suitable markings shall be provided on the bus bar for easy identification and the cable ferrules must be fitted at the cable termination points for identification

2.6. DC Distribution Board

- a) DC Distribution panel to receive the DC output from the array field.
- b) DC DPBs shall have sheet from enclosure of dust & vermin proof conform to IP 65 protection. The bus bars are made of copper of desired size. Suitable capacity MCBs/MCCB shall be provided for controlling the DC power output to the PCU along with necessary surge arrestors.

2.7. AC Distribution Panel Board

- a) AC Distribution Panel Board (DPB) shall control the AC power from PCU/ inverter, and should have necessary surge arrestors. Interconnection from ACDB to mains at LT Bus bar while in grid tied mode.
- b) All switches and the circuit breakers, connectors should conform to IEC 60947, part I, II and III/ IS60947 part I, II and III.
- c) The changeover switches, cabling work should be undertaken by the bidder as part of the project.
- d) All the Panel's shall be metal clad, totally enclosed, rigid, floor mounted, air - insulated, cubical type suitable for operation on three phase / single phase, 415 or 230 volts, 50 Hz
- e) The panels shall be designed for minimum expected ambient temperature of 45 degree Celsius, 80 percent humidity and dusty weather.
- f) All indoor panels will have protection of IP54 or better. All outdoor panels will have protection of IP65 or better.
- g) Should conform to Indian Electricity Act and rules (till last amendment).
- h) All the 415 AC or 230 volts devices / equipment like bus support insulators, circuit breakers, SPDs, VTs etc., mounted inside the switchgear shall be suitable for continuous operation and satisfactory performance under the following supply conditions

Variation in supply voltage	+/- 10 % Variation
in supply frequency	+/- 3 Hz

2.8. PCU/Array Size Ratio

- a) The combined wattage of all inverters should not be less than rated capacity of power plant under STC.
- b) Maximum power point tracker shall be integrated in the PCU/inverter to maximize energy drawn from the array.

2.9 PCU/ Inverter

As SPV array produce direct current electricity, it is necessary to convert this direct current into alternating current and adjust the voltage levels to match the grid voltage. Conversion shall be achieved using an electronic Inverter and the associated control and protection devices. All these components of the system are termed the "Power Conditioning Unit (PCU)". In addition, the PCU shall also house MPPT (Maximum Power Point Tracker), an interface between Solar PV array & the Inverter, to the power conditioning unit/inverter should also be DG set interactive, if necessary.

Inverter output should be compatible with the grid frequency. Typical technical features of the inverter shall be as follows:

- Switching devices : IGBT/MOSFET
 - Control : Microprocessor /DSP
 - Nominal AC output voltage and frequency : 415V, 3 Phase, 50 Hz
(In case single phase inverters are offered, suitable arrangement for balancing the phases must be made.)
 - Output frequency : 50 Hz
 - Grid Frequency Synchronization range : + 3 Hz or more
 - Ambient temperature considered : -20o C to 50o C
 - Humidity : 95 % Non-condensing
 - Protection of Enclosure : IP-20(Minimum) for indoor.
IP-65(Minimum) for outdoor.
 - Grid Frequency Tolerance range : + 3 or more
 - Grid Voltage tolerance : - 20% & + 15 %
 - No-load losses : Less than 1% of rated power
 - Inverter efficiency(minimum) : >93% (In case of 10kW or above)
 - Inverter efficiency (minimum) : > 90% (In case of less than 10 kW)
 - THD : < 3%
 - PF : > 0.9
- a) Three phase PCU/ inverter shall be used with each power plant system (10kW and/or above) but in case of less than 10kW single phase inverter can be used.
 - b) PCU/inverter shall be capable of complete automatic operation including wake-up, synchronization & shutdown.
 - c) The output of power factor of PCU inverter is suitable for all voltage ranges or sink of reactive power; inverter should have internal protection arrangement against any sustainable fault in feeder line and against the lightning on feeder.
 - d) Built-in meter and data logger to monitor plant performance through external computer shall be provided.
 - e) The power conditioning units / inverters should comply with applicable IEC/ equivalent BIS standard for efficiency measurements and environmental tests as per standard codes IEC 61683/IS 61683 and IEC 60068-2(1,2,14,30) /Equivalent BIS Std.
 - f) The charge controller (if any) / MPPT units environmental testing should qualify IEC 60068-2(1, 2, 14, 30)/Equivalent BIS std. The junction boxes/ enclosures should be IP 65(for outdoor)/ IP 54 (indoor) and as per IEC 529 specifications.
 - g) The PCU/ inverters should be tested from the MNRE approved test centres / NABL/BIS /IEC accredited testing- calibration laboratories. In case of imported power conditioning units, these should be approved by international test houses.

2.10 Integration of PV Power with Grid

The output power from SPV would be fed to the inverters which converts DC produced by SPV array to AC and feeds it into the main electricity grid after synchronization. In case of grid failure, or low or high voltage, solar PV system shall be out of synchronization and shall be disconnected from the grid. Once the DG set comes into service PV system shall again be synchronized with DG supply and load requirement would be met to the extent of availability of power. 4 pole isolation of inverter output with respect to the grid/ DG power connection need to be provided.

2.11 Data Acquisition System / Plant Monitoring

- i. Data Acquisition System shall be provided for the project.
- ii. Data Logging Provision for plant control and monitoring, time and date stamped system data logs for analysis with the high quality, suitable PC. Metering and Instrumentation for display of systems parameters and status indication to be provided.
- iii. Solar Irradiance: An integrating Pyranometer / Solar cell based irradiation sensor (along with calibration certificate) provided, with the sensor mounted in the plane of the array. Readout integrated with data logging system.
- iv. Temperature: Temperature probes for recording the Solar panel temperature and/or ambient temperature to be provided complete with readouts integrated with the data logging system
- v. One set of data acquisition system with data logging provision and weather monitoring system capturing the data as mentioned above, should be installed at a central location suggested by Cochin Port Trust serving as a central monitoring system and weather monitoring system for the projects commissioned by one bidder.
- vi. The following parameters are accessible via the operating interface display in real time separately for solar power plant:
 - a. AC Voltage.
 - b. AC Output current.
 - c. Output Power
 - d. Power factor.
 - e. DC Input Voltage.
 - f. DC Input Current.
 - g. Time Active.
 - h. Time disabled.
 - i. Time Idle.
 - j. Power produced
 - k. Protective function limits (Viz-AC Over voltage, AC Under voltage, Over frequency, Under frequency ground fault, PV starting voltage, PV stopping voltage.
- vii. All major parameters available on the digital bus and logging facility for energy auditing through the internal microprocessor and read on the digital front panel at any time) and logging facility (the current values, previous values for up to a month and the average values) should be made available for energy auditing through the internal microprocessor and should be read on the digital front panel.
- viii. PV array energy production: Digital Energy Meters to log the actual value of AC/ DC voltage, Current & Energy generated by the PV system provided. Energy meter along with CT/PT should be of 0.5 accuracy class.
- ix. Computerized DC String/Array monitoring and AC output monitoring shall be provided as part of the inverter and/or string/array combiner box or separately.
- x. String and array DC Voltage, Current and Power, Inverter AC output voltage and current (All 3 phases and lines), AC power (Active, Reactive and Apparent), Power Factor and AC energy (All 3 phases and cumulative) and frequency shall be monitored.
- xi. Computerized AC energy monitoring shall be in addition to the digital AC energy meter.

- xii. The data shall be recorded in a common work sheet chronologically date wise. The data file shall be MS Excel compatible. The data shall be represented in both tabular and graphical form.
- xiii. All instantaneous data shall be shown on the computer screen.
- xiv. Software shall be provided for USB download and analysis of DC and AC parametric data for individual plant.
- xv. Provision for Internet monitoring and download of data shall be also incorporated.
- xvi. Remote Server and Software for centralized Internet monitoring system shall be also provided for download and analysis of cumulative data of all the plants and the data of the solar radiation and temperature monitoring system.
- xvii. Ambient / Solar PV module back surface temperature shall be also monitored on continuous basis.
- xviii. Simultaneous monitoring of DC and AC electrical voltage, current, power, energy and other data of the plant for correlation with solar and environment data shall be provided.
- xix. Remote Monitoring and data acquisition through Remote Monitoring System software at the owner / Cochin Port Trust location with latest software/hardware configuration and service connectivity for online / real time data monitoring/control complete to be supplied and operation and maintenance/control to be ensured by the supplier. Provision for interfacing these data on Cochin Port Trust server and portal in future shall be kept.

2.12 TRANSFORMER “IF REQUIRED” & METERING

- a) Dry/oil type relevant kVA, 11kV/415V, 50 Hz Step up along with all protections, switchgears, Vacuum circuit breakers, cables etc. along with required civil work.
- b) The bidirectional electronic energy meter (0.5 S class) shall be installed for the measurement of import/Export of energy.
- c) The bidder must take approval/NOC from the Concerned DISCOM for the connectivity, technical feasibility, and synchronization of SPV plant with distribution network and submit the same to Cochin Port Trust before commissioning of SPV plant.
- d) Reverse power relay shall be provided by bidder (if necessary), as per the local DISCOM requirement.

2.13 Power consumption

Regarding the generated power consumption, priority need to give for internal consumption first and thereafter any excess power can be exported to grid. Finalization of tariff is not under the purview of Cochin Port Trust or MNRE. Decisions of appropriate authority/ state regulator may be followed.

2.14 Protections

The system should be provided with all necessary protections like earthing, Lightning, and grid islanding as follows:

2.14.1 Lightning Protection

The SPV power plants shall be provided with lightning & overvoltage protection. The main aim in this protection shall be to reduce the over voltage to a tolerable value before it reaches the PV or other sub system components. The source of over voltage can be lightning, atmosphere disturbances etc. The entire space occupying the SPV array shall

be suitably protected against Lightning by deploying required number of Lightning Arrestors. Lightning protection should be provided as per IEC62305 standard. The protection against induced high-voltages shall be provided by the use of metal oxide varistors (MOVs) and suitable earthing such that induced transients find an alternate route to earth.

2.14.2 Surge Protection

Internal surge protection shall consist of three MOV type surge-arrestors connected from +ve and –ve terminals to earth (via Y arrangement)

2.14.3 Earthing Protection

- i. Each array structure of the PV yard should be grounded/ earthed properly as per IS:3043-1987. In addition the lighting arrester/masts should also be earthed inside the array field. Earth Resistance shall be tested in presence of the representative of Department/Cochin Port Trust as and when required after earthing by calibrated earth tester. PCU, ACDB and DCDB should also be earthed properly.
- ii. Earth resistance shall not be more than 5 ohms. It shall be ensured that all the earthing points are bonded together to make them at the same potential.

2.14.4 Grid Islanding

- i. In the event of a power failure on the electric grid, it is required that any independent power-producing inverters attached to the grid turn off in a short period of time. This prevents the DC-to-AC inverters from continuing to feed power into small sections of the grid, known as “islands.” Powered islands present a risk to workers who may expect the area to be unpowered, and they may also damage grid-tied equipment. The Rooftop PV system shall be equipped with islanding protection. In addition to disconnection from the grid (due to islanding protection) disconnection due to under and over voltage conditions shall also be provided.
- ii. A manual disconnect 4pole isolation switch beside automatic disconnection to grid would have to be provided at utility end to isolate the grid connection by the utility personnel to carry out any maintenance. This switch shall be locked by the utility personnel

2.15 Cables

Cables of appropriate size to be used in the system shall have the following characteristics:

- i. Shall meet IEC 60227/IS 694, IEC 60502/IS1554 standards
- ii. Temp. Range: –10°C to +80°C.
- iii. Voltage rating 660/1000V
- iv. Excellent resistance to heat, cold, water, oil, abrasion, UV radiation
- v. Flexible
- vi. Sizes of cables between array interconnections, array to junction boxes, junction boxes to Inverter etc. shall be so selected to keep the voltage drop (power loss) of the entire solar system to the minimum. The cables (as per IS) should be insulated with a special grade PVC compound formulated for outdoor use.
- vii. Cable Routing/ Marking: All cable/wires are to be routed in a GI cable tray and suitably tagged and marked with proper manner by good quality ferule or by other means so that the cable easily identified.

- viii. The Cable should be so selected that it should be compatible up to the life of the solar PV panels i.e. 25years.
- ix. The ratings given are approximate. Bidder to indicate size and length as per system design requirement. All the cables required for the plant provided by the bidder. Any change in cabling sizes if desired by the bidder/approved after citing appropriate reasons. All cable schedules/layout drawings approved prior to installation.
- x. Multi Strand, Annealed high conductivity copper conductor PVC type 'A' pressure extruded insulation or XLPE insulation. Overall PVC/XLPE insulation for UV protection Armoured cable for underground laying. All cable trays including covers to be provided. All cables conform to latest edition of IEC/ equivalent BIS Standards as specified below: BoS item / component Standard Description Standard Number Cables General Test and Measuring Methods, PVC/XLPE insulated cables for working Voltage up to and including 1100 V, UV resistant for outdoor installation IS /IEC 69947.
- xi. The size of each type of DC cable selected shall be based on minimum voltage drop however; the maximum drop shall be limited to 1%.
- xii. The size of each type of AC cable selected shall be based on minimum voltage drop however; the maximum drop shall be limited to 2 %.

2.16 Connectivity

The maximum capacity for interconnection with the grid at a specific voltage level shall be as specified in the Distribution Code/Supply Code of the State and amended from time to time. Following criteria have been suggested for selection of voltage level in the distribution system for ready reference of the solar suppliers.

Plant Capacity	Connecting voltage
Up to 10 kW	240V-single phase or 415V-three phase at the option of the consumer
Above 10kW and up to 100 kW	415V – three phase
Above 100kW	At HT/EHT level (11kV/33kV/66kV) rules

- i. The maximum permissible capacity for rooftop shall be 1 MW for a single net metering point.
- ii. Utilities may have voltage levels other than above, DISCOM/State Regulatory authority may be consulted before finalization of the voltage level and specification be made accordingly.
- iii. For large PV system (Above 100 kW) for commercial installation having large load, the solar power can be generated at low voltage levels and stepped up to 11 kV level through the step up transformer. The transformers and associated switchgear would require to be provided by the SPV bidders.
- iv. The connectivity upto the power evacuation point with suitable cables, switches, meters etc shall also be in the scope of the successful bidder. The location of the power evacuation point is as below.

Location -1

Block No	Distance from solar plant to the proposed ACDB in Mtrs	Distance of existing power DB of CoPT from proposed ACDB of solar plant
1	40	40
2	65	40
3	90	40
4	65	40
5	90	40
6	115	40

Location -2

Block No	Distance from solar plant to the proposed ACDB in Mtrs	Distance of existing power DB of CoPT from proposed ACDB of solar plant
1	40	40
2	65	40

2.17 Tools & Tackles and Spares

- i. After completion of installation & commissioning of the power plant, necessary tools & tackles are to be provided free of cost by the bidder for maintenance purpose. List of tools and tackles to be supplied by the bidder for approval of specifications and make from Cochin Port Trust / owner.
- ii. A list of requisite spares in case of PCU/inverter comprising of a set of control logic cards, IGBT driver cards etc. Junction Boxes. Fuses, MOVs / arrestors, MCCBs etc along with spare set of PV modules be indicated, which shall be supplied along with the equipment. A minimum set of spares shall be maintained in the plant itself for the entire period of warranty and Operation & Maintenance which upon its use shall be replenished.

2.18 Danger Boards and Signages

Danger boards should be provided as and where necessary as per IE Act. /IE rules as amended up to date. Three signage shall be provided one each at battery –cum- control room, solar array area and main entry from administrative block. Text of the signage may be finalized in consultation with Cochin Port Trust / owner.

2.19 Fire Extinguishers

The firefighting system for the proposed power plant for fire protection shall be consisting of:

- a) Portable fire extinguishers in the control room for fire caused by electrical short circuits
- b) Sand buckets in the control room
- c) The installation of Fire Extinguishers should confirm to TAC regulations and BIS standards. The fire extinguishers shall be provided in the control room housing PCUs as well as on the Roof or site where the PV arrays have been installed.

2.20 Drawings & Manuals

- i. Two sets of Engineering, electrical drawings and Installation and O&M manuals are to be supplied. Bidders shall provide complete technical data sheets for each

equipment giving details of the specifications along with make/makes in their bid along with basic design of the power plant and power evacuation, synchronization along with protection equipment.

- ii. Approved ISI and reputed makes for equipment be used.
- iii. For complete electro-mechanical works, bidders shall supply complete design, details and drawings for approval to Cochin Port Trust/owners before progressing with the installation work

2.21 Planning and Designing

- i. The bidder should carry out Shadow Analysis at the site and accordingly design strings & arrays layout considering optimal usage of space, material and labor. The bidder should submit the array layout drawings along with Shadow Analysis Report to Cochin Port Trust /Owner for approval.
- ii. Cochin Port Trust reserves the right to modify the landscaping design, Layout and specification of sub-systems and components at any stage as per local site conditions/requirements.
- iii. The bidder shall submit preliminary drawing for approval & based on any modification or recommendation, if any. The bidder submit three sets and soft copy in CD of final drawing for formal approval to proceed with construction work.

2.22 Drawings to be Furnished by Bidder after Award of Contract

- i. The Contractor shall furnish the following drawings Award/Intent and obtain approval
- ii. General arrangement and dimensioned layout
- iii. Schematic drawing showing the requirement of SV panel, Power conditioning Unit(s)/ inverter, Junction Boxes, AC and DC Distribution Boards, meters etc.
- iv. Structural drawing along with foundation details for the structure.
- v. Itemized bill of material for complete SV plant covering all the components and associated accessories.
- vi. Layout of solar Power Array
- vii. Shadow analysis of the roof

2.23 Solar PV System on the Rooftop for Meeting the Annual Energy Requirement

The Solar PV system on the rooftop of the selected buildings will be installed for meeting upto 90% of the annual energy requirements depending upon the area of rooftop available and the remaining energy requirement of the office buildings will be met by drawing power from grid at commercial tariff of DISCOMs.

- 2.24 All the equipments, such as solar panels, inverters, batteries, DC DB and AC DB, DC cables, AC cables etc. used in the plant shall be approved by the MNRE/SECI. The statutory test and inspection by CEA shall be arranged by the contractor at his cost and risk.

2.25 Safety Measures

The bidder shall take entire responsibility for electrical safety of the installation(s) including connectivity with the grid and follow all the safety rules & regulations applicable as per Electricity.

SECTION-VI

COCHIN PORT TRUST

MECHANICAL ENGINEERING DEPARTMENT

Tender No: **F1/T-18/350KWP SOLAR-RT2/2020-M**

Tender for

“SITE SURVEY, DESIGN, ENGINEERING, MANUFACTURE, SUPPLY, STORAGE, CIVIL WORK, ERECTION, TESTING & COMMISSIONING OF 350 KWP GRID CONNECTED ROOFTOP SOLAR PV PROJECT ON THE ROOF TOP OF VARIOUS BUILDINGS OF COCHIN PORT TRUST INCLUDING OPERATION & MAINTENANCE (O & M) OF THE SYSTEM FOR A PERIOD OF 25 (TWENTY FIVE) YEARS UNDER RESCO MODEL AFTER OPERATIONAL ACCEPTANCE”

Volume-I

Section I	1.	Notice Inviting Tenders	6-10
	2.	Instructions to Tenderers	11-36
	3.	Form of Bid	37-39
	4.	Form of Agreement	40-42
	5.	Contract Data	43-45
	6.	Annexure (1 to 15)	46-68
	7.	Schedule-I	69
Section II	1.	General Conditions of Contract: Part A - G	73-117
	2.	Form of Securities (Annexure A & B)	118-121
Section III	1.	General Description of work	124-132
	2.	Special Conditions of Contract	133-141

Volume-II

Section IV	1.	Technical Specifications	144-154
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Volume-III

Section V	1.	Drawings	
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Volume-IV

Section VI	1.	Preamble	
	2.	Bill of Quantities	157-159

SECTION - VI

Price Bid

(To be submitted online only)

NIT No: _____

Dated: _____

Year of Operation	Tariff (Rs/kWh)	Discount Factor at 11% (or as applicable)	Discounted Tariff (Rs/kWh)
(1)	(2)	(3)	(4)=(2)X(3)
Year 1 w.e.f. date of commercial operation to 31 st March of immediately succeeding financial year		1.000	X1
Year 2 w.e.f 1 st April to 31 st March of immediately succeeding financial year		0.901	X2
Year 3 w.e.f 1 st April to 31 st March of immediately succeeding financial year		0.812	X3
Year 4 w.e.f 1 st April to 31 st March of immediately succeeding financial year		0.731	X4
Year 5 w.e.f 1 st April to 31 st March of immediately succeeding financial year		0.659	X5
Year 6 w.e.f 1 st April to 31 st March of immediately succeeding financial year		0.593	X6
Year 7 w.e.f 1 st April to 31 st March of immediately succeeding financial year		0.535	X7
Year 8 w.e.f 1 st April to 31 st March of immediately succeeding financial year		0.482	X8
Year 9 w.e.f 1 st April to 31 st March of immediately succeeding financial year		0.434	X9
Year 10 w.e.f 1 st April to 31 st March of immediately succeeding financial year		0.391	X10
Year 11 w.e.f 1 st April to 31 st March of immediately succeeding financial year		0.352	X11
Year 12 w.e.f 1 st April to 31 st March of immediately succeeding financial year		0.317	X12

Year of Operation	Tariff (Rs/kWh)	Discount Factor at 11% (or as applicable)	Discounted Tariff (Rs/kWh)
Year 13 w.e.f 1st April to 31st March of immediately succeeding financial year		0.286	X13
Year 14 w.e.f 1st April to 31st March of immediately succeeding financial year		0.258	X14
Year 15 w.e.f 1st April to 31st March of immediately succeeding financial year		0.232	X15
Year 16 w.e.f 1st April to 31st March of immediately succeeding financial year		0.209	X16
Year 17 w.e.f 1st April to 31st March of immediately succeeding financial year		0.188	X17
Year 18 w.e.f 1st April to 31st March of immediately succeeding financial year		0.170	X18
Year 19 w.e.f 1st April to 31st March of immediately succeeding financial year		0.153	X19
Year 20 w.e.f 1st April to 31st March of immediately succeeding financial year		0.138	X20
Year 21 w.e.f 1st April to 31st March of immediately succeeding financial year		0.124	X21
Year 22 w.e.f 1st April to 31st March of immediately succeeding financial year		0.112	X22
Year 23 w.e.f 1st April to 31st March of immediately succeeding financial year		0.101	X23
Year 24 w.e.f 1st April to 31st March of immediately succeeding financial year		0.091	X24
Year 25 w.e.f 1st April to 31st March of immediately succeeding financial		0.082	X25
Total		9.351	X=X1+X2+X3+X25
Levellized Tariff for 25 years (in Rs /kWh) = X / 9.351			
Levellized Tariff for 25 years in words			

Note:

- a. The levelized tariff shall be calculated up to three decimal places. However in case of a tie it may be expanded to break the tie.
- b. Tariff stream quoted by the bidder shall be levelized with a discounting rate of 11% (or as applicable) only.
- c. Maximum allowable levelized tariff for this part is Rs_____Per kWh.
- d. Bids not in conformity with above provisions will be rejected.

Date:

Signature:.....

..

Place:

Printed Name.....

Designation:.....

Business Address:

(Company Stamp).....