ANNEXURE TO NIT: PRE-QUALIFICATION CRITERIA

Tender No- 4085/2020-2021/E21901

1.0 PRE-QUALIFICATION CRITERIA:

Only competent agencies with sound technical and financial capability meeting the respective pre-qualification requirement stated hereunder shall be prequalified for the Project.

The BIDDER shall be an EPC CONTRACTOR who shall take single point responsibility for execution of the complete project within the plant area as specified in the tender document.

No consortium will be allowed for bidding.

2.0 TECHNICAL CRITERIA

2.1 EXPERIENCE CRITERIA

The BIDDER should be an established EPC CONTRACTOR and should possess experience of having successfully completed works in Fertilizers/Chemicals/ Petrochemicals/Oil/Gas Sector as given below during last 10 years:

1. Engineering, Supply, Fabrication and Erection of Storage Tanks of 20 m diameter minimum.

2. Engineering, Procurement, Supply, and Construction of RCC Pile Foundations for storage tanks of 20 m diameter minimum.

3. The Bidders shall have completed both works as above, but not necessarily in a single work order.

2.2 The BIDDER/CONTRACTOR shall have successfully completed in last Seven (7) Years similar works of:

I) One work of value INR 18.64 Crores OR
II) Two works of value INR 11.65 Crores each OR
III) Three works of value INR 9.32 Crores each

Similar work means engineering, procurement, supply, erection and commissioning of Mechanical jobs in Fertilizers/Chemicals/ Petrochemicals/Oil/Gas Sector.

ANNEXURE TO NIT: PRE-QUALIFICATION CRITERIA

Tender No- 4085/2020-2021/E21901

3.0 FINANCIAL CRIERIA

3.1 Turnover requirement

i) The average annual turnover during the last three years i.e. 2016-17, 2017-18, 2018-19 (or for calendar years 2016, 2017, 2018 as applicable) of the BIDDER shall be at least INR 7 Crores.

ii) All BIDDERs shall submit Audited Balance Sheet and Profit & Loss statement for last three financial years 2016-17, 2017-18 and 2018-2019 (or for calendar years 2016, 2017 and 2018 as applicable). If the Audited Balance Sheet and Profit & Loss statement are prepared in foreign currency, exchange rate as on tender e-publishing date shall be taken for calculation of average annual turnover in INR (₹).

ii) Net worth of the BIDDER should be positive during the last three preceding financial years i.e. 2016-17, 2017-18 and 2018-19 or calendar years 2016, 2017 and 2018 as applicable. The bidder shall submit the documentary proof such as audited balance sheet, P&L account etc. for the same.

3.2 Financial Soundness Certificate

The BIDDER shall submit solvency certificate, from a Nationalised or scheduled Bank for a value not less than INR 7 Crore, issued as on or after the date of e-publishing of tender.

Note for Micro & Small Enterprises and Startups: Prequalification criteria specified above shall also be applicable for Micro & Small Enterprises and Startups without any relaxation.

4.0 TECHNO-COMMERCIAL EVALUATION

Only offers from Bidders meeting the specified PQ criteria shall be considered for Techno-Commercial Evaluation.

5.0 GENERAL

5.1 The cutoff date for qualification of technical and experience criteria shall be the e-publishing date of this tender. Any experience acquired subsequently will not be considered.

5.2 Bidder shall submit the following documents as proof for PQ Criteria:

a. Copy of qualifying work order for such work with work order number and date

indicating the scope of work and value completed with all relevant technical and other details.

b. Completion certificate from the Client certifying completed value, satisfactory completion, commissioning, and successful guarantee tests towards the work order of such project submitted above as proof.

5.3 The time period mentioned in above clauses shall be reckoned from the date of e-publishing of this tender.

5.4 BIDDER shall submit all supporting documents, certificates and credentials etc. in ENGLISH language only.

LIST OF ATTACHMENTS OF CONTRACT DOCUMENT
TENDER NO: 4085/2020-2021/E21901

NAME OF WORK:Construction of Additional Phosphoric Acid Storage Tanks at Q10 Berth, WI

PART-I COMMERCIAL

Sl No.	Description	Pages
	PART-1 COMMERCIAL	
1	NIT	1
2	Annexure to NIT & Prequalification Criteria	3
3	Instruction to Bidders for Single Stage 2 Bid System in 2 Cover	15
4	Vendor Data Form (For New Vendors)	1
5	Details for e-Payment (For New Vendors)	1
6	Attachment-I- Form of Bid	3
7	Attachment-II Commercial Questionnaire	5
8	Attachment-IIA - Contents Of Bid And Checklist	4
9	Attachment- EX - Exhibits	4
10	Attachment-IIB- Corporate Status Of Bidder	1
11	Attachment-IIC - Details Of Similar Works Executed	1
12	Attachment-IID- Current Commitments of the Bidder	1
13	Attachment-IIE - EXECUTION PLAN	4
14	Attachment-IIE1 - Minimum Qualification & Experience of Key Supervisory Construction Personnel.	2
15	Attachment-IIE2 - Deployment Schedule of Supervisory Personnel	7
16	Attachment-IIE3 - Deployment Schedule Of Construction Equipment.	5
17	Attachment-IIE4 - Details of Equipment Proposed to be Used for Tendered Work	1
18	Attachment-IIF- Bidder's Site Organisation	1
19	Attachment-IIG- Bidder's Key Perssonel	1
20	Attachment-IIH- Bidder's Proposed Programme of Work	1
21	Attachment-II (i) Description Of The Performance Guarantees	1
22	Attachment-IIJ Declaration Of The Bidder Regarding Bidding Document	1
23	Attachment-IIK Proforma of Certificate Of Non-Involvement Of Agent	1
24	Attachment-IIL Format Of Letter Of Waiver Of Conditions / Deviations	1
25	Attachment-IIL1 Exception/Deviation Statement	1
26	Attachment-IIQR Format of Bidder's Querries for Pre-Bid Discussion	1
27	Attachment-IIACK Acknowledgment Cum Consent Letter	3
	General Conditions of Contract & Special Conditions of Contract	
1	Cover Page	1
2	General Conditions of Contract	34
3	Schedule – A - Scope of Work	3
4	Schedule – B - Programme of Work	1
5	Schedule – C - Technical Document & Drawings	4
6	Schedule – D - Site Conditions	1
7	Schedule – E - Supplies By Owner	1
8	Schedule – F - Prices	1
9	Form- F1- Unpriced Schedule	x
10	Form-F2- Rates for Extra Items	1
11	Schedule – G - Payment Schedule	2
12	Schedule – H - Site Facilities	1

13	Schedule – L – Form of Bank Guarantee for SD	3
14	Schedule – N – Form of Release Certificate	2
15	Schedule – P - Safety Code	23
16	Schedule – Q- Special Conditions of Contract	21
COVER-2 (PRICE BID)		
1	BOQ (excel format-fill rates and relevant filelds and upload)	x

Instructions to Bidders (e-Tender) – Single Stage Two Bid System

1. **SUBMISSION OF TENDER**

i. Bidders shall study carefully the complete tender documents viz. NIT, Schedule of Work, Price Bid format (BOQ), General Conditions of Contract, All Schedules from A thru' Q including drawings if any, Instructions to Bidders, Pre-Qualification Criteria, Special Terms & Conditions of the Tender, etc. Time extensions, Corrigendum, Addendums etc if any, will be hosted in the CPP e-procure website only and will not be published in newspapers. The bidders are requested to visit the website regularly for corrigendum, addendums, time extensions etc if any.

ii. Offers against this NIT shall be submitted online in separate covers as instructed on E-Tendering portal **https://eprocure.gov.in**, with valid digital signature certificate. Tender documents and related Schedules uploaded shall be digitally signed and encrypted using the facility available at the site. Offers submitted on any other platform or in any other mode or including e-mails, physical offers etc. **SHALL NOT** be accepted

iii. All bidders are requested to register themselves on the above website with their valid digital signature certificate. It is mandatory for bidder to have valid digital signature certificate (Class II or Class III) issued by any of the Certifying Authority approved by Govt. of India for participating in the tender. Bidders may refer **Bidders Manual Kit** available on the above website for detailed information and instructions for registration, bid submission etc.

iv. The details of the payments (for EMD) made through NEFT/ RTGS shall be uploaded along with the offer submitted online, mentioning the tender number and name of bidder while making the online payment. **In case of payment by BG, the bidder shall make sure that the BG & Solvency certificate and Integrity Pact (all in original) reach the office of Senior Manager (Materials)-C, FACT, Udyogamandal, Ernakulam District, Kerala, Pin-683 501 before the due date and time of opening of part-1 (Cover-I of e-tender), of the tender enclosed in an envelope super scribed with the tender number, name of work and address of the vendor. In case the originals are not received within the stipulated time, the offer of the bidder shall not be considered for evaluation.**

v. Validity: Tenders shall be valid for the acceptance of FACT for a minimum period of **SIX MONTHS** from the date of opening of the Part-1 of the tender, during which period Tenderer shall not revoke or cancel his tender or vary the prices or any terms and conditions of his tender already submitted.

vi. Bid shall be submitted online in two (2) covers as per NIT shall contain the respective documents - Original/Copy/digitally signed/self-attested/attested by Gazetted officer and then scanned as the case may be. (Please see the checklist)

Cover I shall contain

EMD details : -

i) Details of EMD as applicable/ Claim for exemption with testimonials (upload scanned copy of instrument like BG in PDF format. Signed copies of Notice Inviting Tender, Annexure to NIT and Vendor Data Form also to be attached.

Pre-Qualification documents: -

ii) Copies of supporting documents against Pre-Qualification Criteria, like copy of Purchase and work orders with schedule of Quantities, Performance and Completion certificates etc, shall be self-attested. Copies of Audited annual Financial Statements also to be submitted. **Copies of GST Registration Certificate, PAN Card, Recent Bankers' Certificate with Cash Credit and Bank Guarantee Limit, Required Solvency Certificate, Audited Balance sheet for the last three years including Profit & Loss account, Schedules, Notes on account etc as applicable are**

also to be submitted. The originals of the self-attested documents may be produced on demand.

iii) **shall also contain the following documents (filled and signed ones as applicable)**

a. Terms and Conditions of Tender including GCC, unpriced BOQ, drawings and other documents.

b. **INFORMATION OF SIMILAR WORKS** done during the past seven years with Name of client, name of work, brief scope of work, initial & final contract value, Completion period etc.

c. Details of **PRESENT COMMITMENTS** with details of work, initial contract value, period of completion, name of client, expected date of completion, percentage progress etc.

d. Details of **CONSTRUCTION PLANT AND EQUIPMENT** available with him for using in this work.

e. **SITE ORGANIZATION CHART** in "FAMILY TREE" form, showing the number and grades of field supervisory, administrative and craft personnel to be employed in the works.

f. Resumes of all proposed **KEY PERSONNEL** of the organization to be associated with the work, detailing their qualifications and experience over the past 10 years.

g. PROGRAMME OF EXECUTION OF WORKS with respect to OWNER'S Requirement in **BAR CHART or PERT FORM** highlighting all-important milestones.

h. **Compliance Statement** with respect to Technical aspects, General Terms and conditions, Special conditions, Safety Rules etc

i. Document showing deviations, if any, in case the bidder is not complying fully with the tender conditions as above. Scanned copy of a signed document, stating the deviations against clauses applicable, shall be uploaded in the case of non-compliance.

Note: All the above documents shall be submitted on line in cover I for which sufficient file space (up to 7 files) will be provided.

<u>Cover II</u> - Only BOQ shall be uploaded in this cover

a) Price Bid i.e. BOQ attached to the e-tender shall be uploaded online after filling all relevant information such as, name of the bidder, currency, basic price and GST in relevant fields.

b) GST details shall be quoted separately in the column provided in BOQ

c) The Priced BOQ shall be uploaded strictly in the format (Excel) attached, failing which the offer is liable to be rejected. Renaming or changing the format of BOQ sheet will not be accepted by the System.

d) Bidders shall quote prices in the BOQ only. Prices indicated elsewhere shall not be considered.

e) Bidders shall quote in INR only. Payment shall be made in INR only. No deviation is allowed on this.

Note: Bidder is requested not to send/submit any hard copy of price bid.

vii. Bidders are advised to submit quotation based on the terms and conditions and other schedules contained in this tender document and not stipulate any deviations as far as possible.

viii. Any exception/ deviations, which the bidder may propose, shall accompany the quotation. FACT reserves the right to evaluate quotations containing deviations after taking into account impact of such variations in quoted price. All attachments to these tender documents as applicable will become part of any resulting contract.

Instructions to Bidders (e-Tender) – Single Stage Two Bid System

ix. Bidders are advised to complete all uploading formalities related to tenders well in advance. FACT shall not be responsible for non-submission/ uploading due to technical reasons, like non-availability of website in the closing minutes of the tender end date and time. **Care shall be taken to submit the hard copy of Cover-I as mentioned in (iv) above with original EMD & Solvency documents and Integrity pact as per clause 18.0 below, well before the due date and time of the tender.**

x. In the tender document published by FACT, the content in its entirety is relevant and the bidder shall give the compliance without deleting or altering any of the portion in the whole set of Tender Document. Failure to comply with this requirement may result in rejection of the tender.

xi. Completeness of scope of work: Tenders shall be for the complete scope of work as described in the Tender Document, without any exclusion. Only those tenders who meet this requirement will be considered for award of the Contract.

xii. The Tenderer is responsible for properly estimating the difficulty and cost of the work. The Tenderer may request and obtain from all concerned sources/ authorities the clarification of items that require additional information prior to submitting the proposal. Questions on clarifications required from FACT shall be submitted thru' email.

xiii. The Tenderer may visit the job site and acquaint himself fully of the site conditions. The Tenderer shall also satisfy himself about the availability of labour, likely labour demands, problems of weather conditions, infra structural facilities, availability of construction materials etc. **No claims whatsoever will be entertained on the plea of ignorance or difficulties involved in the execution of work or carriage of materials on account of the site conditions.**

xiv. The Tenderer shall bear all costs associated with the preparation and submission of his tender and further clarifications as needed including participation in discussions at FACT/FEDO, and FACT/FEDO shall in no case be responsible or liable for such costs regardless of the outcome of the tender evaluation.

xv. Amendments to the tender documents may be issued by FACT/FEDO prior to the date of submission of tenders for the purpose of clarification and/ or reflecting modifications in the requirements in the tender, which shall be complied with by the tenderer. Such amendments to the tender documents, if any, shall be uploaded at **https://eprocure.gov.in** only, prior to the date of submission of tenders.

xvi. FACT/FEDO shall proceed with evaluation of the Pre-qualification and / or Technical & Commercial documents based on documents as received with each tender and shall not be obliged to call for any missing documents. Bidders are requested, in their own interest, to ensure that their tenders are complete in all respects containing all requested documents and those who do not comply with this requirement would be doing so at their risk. **Also closely verify the checklist for the uploaded documents and confirm whether all requested documents are uploaded**.

xvii. FACT/FEDO reserves the right to extend the closing date of the bid without giving any reasons, but such extension shall be updated in https://eprocure.gov.in.

xviii. In case information, if any given by the bidder, is found to be untrue, FACT/FEDO reserves the right to terminate the contract without any notice or assigning any reason thereof.

xix. Any intimation to contractors will normally be sent by e-mail at their address given in their bid. FACT/FEDO will not be responsible for delay in delivery of mail or non-receipt of intimation due to any reason.

Instructions to Bidders (e-Tender) – Single Stage Two Bid System

xx. The quotations shall be submitted in English Language and the units of measurement shall be in metric system.

2. EARNEST MONEY DEPOSIT

i. EMD may be remitted through NEFT/ RTGS to the account as given below or shall be in the form of Bank Guarantee. (Form of BG attached). The details of the remittance of EMD such as UTR No./ soft copy of BG as applicable shall be uploaded along with the tender document. If payment of EMD is made by Bank Guarantee, ORIGINAL document is to be submitted at the office of SM (Materials)-C, FACT before the due date and time of opening the Part-1 of the tender (Cover-I of the e-tender), super scribing the tender number, name of the work and name of the bidder on the envelope containing the document as detailed in 1(ix) above.

ii. Account details for remittance of EMD through NEFT/ RTGS are as given below.

Name of A/c Holder	:	Fertilisers And Chemicals Travancore Ltd.
Account Type	:	Cash Credit
Account No	:	57017844467
IFS CODE	:	SBIN0070158
Name of Bank	:	State Bank of India
Branch	:	Udyogamandal
District	:	Ernakulam
State	:	Kerala

The bidder shall indicate the name of the bidder and tender number while making the online payment through NEFT/ RTGS and the details of the payment with UTR No shall be uploaded along with the offer submitted online

The Earnest Money Deposit accompanying the tender, if in the form of Bank Guarantee, shall be kept valid up to a period of **ONE MONTH beyond the validity of tender itself. (For minimum 7 Months)**. The successful Tenderer shall keep the EMD valid up to the date of entering into a formal contract with FACT and establishing the security deposit.

iii. Bids without EMD shall be rejected. EMD and document fee is exempted for Micro, Small and Medium Enterprises (MSME) having a valid certificate of registration/Udyog Aadhar issued by the National Small Industries Corporation/Govt. of India. Copy of the certificate shall be provided/ uploaded along with the bid to avail exemption. EMD is exempted for government departments/PSUs/Khadi Board/registered labour contract cooperative societies also.

iv. No interest shall be paid on the EMD.

v. If the bidder retracts from or without request of FACT, revises his bid within the validity period of the bid, the EMD shall be liable to be forfeited without prejudice to FACT's other rights to claim damages.

vi. In case the bidder whose bid is accepted, fails to deposit the prescribed Security Deposit or fails to execute the agreement or fails to commence the execution of the work within the specified time, the contract issued to him is liable to be cancelled and the Earnest Money already deposited by the contractor shall be forfeited without any further reference to the contractor and alternative arrangements made at the risk and cost of the Contractor.

vii. On the successful tenderer remitting the Security Deposit, EMD of all unsuccessful bidders will be released. The EMD of the successful Bidder will be adjusted against Security Deposit or will be released, if the bidder wishes so, upon entering into an agreement and providing the security deposit.

Instructions to Bidders (e-Tender) – Single Stage Two Bid System

viii. BANK GUARANTEES: All Bank guarantees shall be submitted as per the relevant formats attached and shall be issued/confirmed by a Nationalised / Scheduled bank in India. If the instrument is from a foreign bank, the same shall be confirmed by a Foreign Branch of Indian Nationalised/Scheduled Bank or by an Indian Branch of a foreign Bank.

3. VALIDITY

The bid shall be valid for a period of **Six Months** or for any higher period as prescribed in the tender notice / documents from the date of opening of bids during which period Tenderer shall not revoke or cancel his tender or vary the prices or any terms and conditions of his tender already submitted and in such cases, the tender / bid submitted is liable to be disqualified and the EMD furnished is liable to be forfeited.

4. PRICING

i. The quotations shall, in all respects, conform with the enclosed specifications, drawings, data sheets, terms & conditions and other schedules enclosed herein.

ii. The unit rate quoted will form the basis of compensation even if the scope of work is altered or vary within the stipulated completion period.

iii. Bidders are requested to quote firm prices / rates valid through the completion period and no escalation in prices / rates whatsoever will be permitted. In case Bidder modifies his rates / prices before placement of order, his offer is likely to be disqualified & EMD forfeited.

5. EVALUATION OF QUOTATIONS

i. The following conditions shall be considered in the evaluation of quotations:

a. Agreement with terms and conditions and schedules of Tender document
b. Price
c. Delivery / Completion period
d. Experience with the same or similar works for the intended services
e. Bidder's resources (Finance, man-power, plants & equipments) under possession for satisfactory execution of WORK.

ii. Bidders are expected not to take any deviations from the terms indicated in the tender documents. For bid evaluation, FACT/FEDO shall make Price loadings to the quoted prices of Tenderer towards deviations in terms & conditions of the tender as follows.

a. Payment Terms: No advance payment is acceptable. In case of earlier payments than the stipulated payment schedule, the same shall be loaded with 4.05% above SBI MCLR- 1 Year (as on date of PART-I bid opening) for the period & amount of earlier payment.

b. Price Reduction Clause

1. As per Tender (0.5% per each week or part there of delay sub.to a max.10 %): Nil loading
2. 0.5% per week or part thereof to a capped value: % loading for the difference from 10%.
3. Any other deviation or non-acceptance: 10% loading.

c. Any deviations in Security Deposit & Performance Guarantee terms are NOT acceptable.

Instructions to Bidders (e-Tender) – Single Stage Two Bid System

iii. Bids from bidders, against whom any criminal case, enquiry or investigation/ report by authorities like Vigilance, CBI etc., are pending in relation with FACT or bidders who are defaulting Contractors of FACT, shall be disqualified and rejected.

iv. FACT/FEDO reserves the right to reject any or all bids without assigning any reasons whatsoever, and/ or based on the past unsatisfactory performance by bidders at FACT/ other PSEs / Govt. Departments. The opinion of FACT/FEDO regarding the same shall be final and conclusive. The work may be split up if considered expedient.

v. In case more than one bidder becomes L1, the contract will be finalized based on revised lowest tendered amount, which will be obtained from the L1 bidders. However, bidders will not be allowed to increase any of the original rates quoted by them in the revised bid submitted by them as above.

vi. FACT/FEDO reserves the right to negotiate with the lowest bidder only as per CVC guidelines.

vii. FACT/FEDO shall, at its own discretion, delete any one or more item of works from the tender at any time without assigning any reason whatsoever.

viii. Evaluation of bids and determination of the L1 bidder shall be based on the combined total value of all the items of work as per the Price Bid Format (BOQ). The combined total value as above shall be arrived based on the rates quoted by the Bidder against each item and the corresponding quantities indicated.

6. BID OPENING (Two Stage opening)

i) First stage (cover I): EMD Pre-Qualification , & Techno Commercial (un-priced) of all bidders who submit their Bids as per the instructions by the due date and time as above and which are in conformity with the Enquiry instructions shall be opened online, on the specified bid opening date & time.

iv) Second stage (Cover II): Price bids of bidders whose Part-I bids are found acceptable based on pre-qualification and techno-commercial evaluation only will be opened on a subsequent date. The Price bid opening date/time will be intimated to the bidders concerned.

7. CLARIFICATIONS

In case of any clarifications are required, the bidder shall contact FACT thru' e-mail. FACT shall give such clarifications by e-mail. All clarifications provided shall be binding on bidder. No claim shall be entertained subsequently on the grounds of insufficient knowledge at the time of submission of tender. All clarifications/ correspondences with respect to this tender enquiry shall be made to the SM (Materials)-C FACT as per NIT. If anywhere in the Tender docs found LSTK same may read/ considered as EPC.

8. AUTHORISED REPRESENTATIVE OF TENDERER

The quotation shall contain the name, address, place of business of person or persons making the tender and shall be signed by tenderer with his digital signature. Partnership firms shall furnish online the full name of all the partners. It shall be signed in the partnership's name by all the partners or by duly authorised representative followed by the name and designation of the person signing. A copy of constitution of the firm with names of all partners shall be furnished. Online Quotation by a Corporation shall be signed by an authorised representative and a Power of Attorney in that behalf shall accompany the quotation.

Instructions to Bidders (e-Tender) – Single Stage Two Bid System

9. AWARD OF CONTRACT

Contract will be awarded by FACT/FEDO to the tenderer whose tender has been determined to be in agreement with terms and conditions and schedules of Tender document and who has offered the lowest evaluated price provided that the Tenderer so selected for award has the capacity and resources to carry out the contract as judged by FACT/FEDO. Notwithstanding the above, FACT/FEDO reserves the exclusive right to accept or reject any or all tenders without any obligation or liability whatsoever to any of the tenderer.

10. ACCEPTANCE OF TENDER AND ISSUE OF LOI/ WORK ORDER

The acceptance of the bid will be intimated to the successful bidder, who will be called CONTRACTOR thereafter, through a Letter of Intent (LOI) or a Work Order. If an LOI is issued first, this will be followed by a Work Order. The duplicate copy of the Work Order will have to be returned to FACT/FEDO duly signed on all pages as token of acceptance of the Work Order. Within 15 Days from the receipt of LOI/ Work Order whichever is issued first, the CONTRACTOR shall remit the required Security Deposit for the Work. Also as prescribed in the LOI/ Work Order/ tender documents, the Contractor shall execute an agreement in stamp paper (INR 500) of the required value as per the Proforma prescribed by FACT for the satisfactory performance of the contract. In case the CONTRACTOR fails to accept the Work Order or fails to deposit the prescribed Security Deposit or fails to execute the Agreement or fails to commence the execution of the work within the time specified in the LOI/ Work Order/ Work to Proceed Notice, the LOI/ Work Order issued will be cancelled and the EMD already deposited by the Contractor shall be forfeited without any further reference to the Contractor and alternative arrangements shall be made at the risk and cost of the Contractor. The contractor whose EMD is forfeited is liable for de-listing from FACT and also shall not be eligible to participate in the other tenders invited by the company at the sole discretion of FACT. Incomplete quotations are liable to be rejected.

11. SECURITY DEPOSIT

The successful bidder (Contractor) shall be required to furnish an interest free Security Deposit (SD) equivalent to 10% of the contract value as per mode prescribed in the tender document/work (However if the amount exceeds Rs. 10,000/- Bank guarantee from a Nationalized / Scheduled Bank in INDIA is also accepted as SD). The S.D. will be released only on completion of the work (Final acceptance) and submission of Performance Bank Guarantee, provided the contractor has cleared all dues and rectified defects, if any.

12. FRAUD PREVENTION POLICY

Bidders shall comply with Fraud Prevention Policy of FACT 2012 (FPPF 2012). The said Policy is available in FACT Website www.fact.co.in

13. FACT GATE ENTRY PASS:

Entry pass to the contract workers will be issued by CISF. For entry pass, the contractor shall submit an application to CISF through work-executing department and HR department. The following documents shall be submitted along with the request.

a. Copy of age proof
b. Police clearance certificate
c. Copy of bank passbook
d. Copy of Aadhaar
e. Two copies of passport size photographs
f. Duly filled application for ESI and PF enrolment (for new members)

Instructions to Bidders (e-Tender) – Single Stage Two Bid System

14. CHANGE IN CONSTITUTION

Any change in constitution of Contractor's firm shall be done only with prior information to FACT.

15 WAGES TO CONTRACTOR WORKERS:

The Contractor shall pay the wages to the workers only through banks. Proof of bank remittance certified by banks is to be submitted along with the wage roll to the work-executing department before 5 th of every month. A copy of the same proof of bank remittance is also to be attached along with the bills to Finance Department

16 DISPUTES

a) Should there be any discrepancy, inconsistency, error or omissions in the contract or any of the contract documents the matter may be referred to the concerned Controlling Officer of FACT through the Engineer-in-charge who shall give his decision and issue to the contractor instructions directing in what manner the work is to be carried out. The decision of the Controlling Officer shall be final and conclusive and the contractor shall carry out the work in accordance with his decision.

b) Settlement of Disputes shall be as per clause 16 of Special Conditions of Contract.

c) Any legal proceedings relating to this contract shall be limited to courts of law under the jurisdiction of the Kerala High Court at Ernakulam.

17.0 **MAKE IN INDIA**

17.1 Purchase preference shall be given to local suppliers in the manner specified in the latest Revision of Public Procurement (Preference to Make in India) Order 2017, and amendments thereto, subject to orders issued by Dept. of Fertilisers, Govt. of India.

17.2 For the purpose of extending purchase preference as in Cl. 17.1 above, the minimum local content shall be 50% and margin of purchase preference shall be 20%, as defined in the above Orders, unless specified otherwise in the Enquiry.

17.3 To claim benefits under Make in India Order, the bidder shall provide self-certification or such other certificate(s) as prescribed in the Order, as applicable, that the item offered meets the minimum local content and shall give details of the location(s) at which the local value addition is made.

18.0 INTEGRITY PACT (IP)

The bidders shall execute and submit an “Integrity Pact (IP)” with Fertilisers and Chemicals Travancore Ltd. along with the bid as per attached format. IP shall be implemented through the following Independent External Monitor (IEM) for the bid.

Mr. P.K. Vijayakumar, IRS (Retd),
Madhavam, Vaniyan Lane, Punkunnam P.O, Thrissur – 680002
Mobile: 8547381122 Telephone: 0487-2381123
E-mail address: vkmenon78@gmail.com

Note:

Instructions to Bidders (e-Tender) – Single Stage Two Bid System

(1) The Original Integrity Pact on Rs.500/- stamp paper signed by the bidder is to be sent by Post / Courier to Senior Manager (Materials) Contracts, PD Administrative Building, FACT LTD- Udyogamandal, Ernakulam -683501.

(2) In case bidders require any clarification pertaining to the tender please contact Jayakumar P, Senior- Manager (Materials)- C, Phone: 0484-2568123; e-mail: jayakumarp@factltd.com or Eldose Mathew, AM(Mat)C, Phone: 0484-2568122, e-mail: eldose@factltd.com. **Kindly note that the Independent External Monitor should NOT be contacted for clarifications regarding the tenders.**

19.0 CONCESSIONAL RATE OF CUSTOMS DUTY:-

Shall be as per clause 58 of Special Conditions of Contract

20.0 NOTE

Whenever any portion of the "Special Conditions of Contract" or "Notice Inviting Tender" (NIT) is repugnant to or at variance with any provision of this document "Instructions to Bidders", the respective provisions of "Special Conditions of Contract" or "Notice Inviting Tender" (NIT) shall prevail. Similarly whenever any portion of the "General Conditions of Contract" is repugnant to or at variance with any provision of this document "Instructions to Bidders", the respective provisions of "Instructions to Bidders" shall prevail.

Instructions to Bidders (e-Tender) – Single Stage Two Bid System

PROFORMA BANK GUARANTEE FOR EARNEST MONEY DEPOIST

(` in INR 500/- Stamp Paper)

The Fertilisers And Chemicals Travancore Limited, Udyogamandal - 683 501

Kochi, India

THIS DEED made..... !day of ..... by Bank (Name & Address of the branch of the bank) a Bank incorporated in .....and having its Registered Office at .....(hereinafter called" The Bank") which expression shall include its successors and assigns).

WHEREAS.....(Name of Contractor, Place, Registered Office, if any) (hereinafter called the TENDERER) are submitting tender for the work of .....for The Fertilisers And Chemicals, Travancore Limited, Ambalamedu – 682 303 , Kochi, India (hereinafter called the OWNER) against the invitation to Tender No..... ....Dtd. .....of the Fertilisers And Chemicals Travancore Limited, Kochi Division, Ambalamedu subject to the terms and conditions therein.

AND WHEREAS the said Invitation to tender provides that Tenderer shall along with the Tender furnished an Earnest Money Deposit of Indian Rupees. .....(Rupees. .....only) in the form therein mentioned and the form of payment of Earnest Money Deposit includes guarantee by any Nationalised Bank of India / Scheduled or Foreign Bank registered in India, undertaking full responsibilities to indemnify and pay to OWNER in India in case of default by the Tenderer. And the said TENDERER has approached us and at their request and in consideration of the promises ,we, the said BANK have agreed to give such guarantee as herein-after mentioned.

1. We, the BANK do hereby unconditionally undertake to pay the OWNER merely on demand and without demur all monies to the extent of Rs.....(Rupees . ... only) on commission of any breach by the said TENDERER of any of the terms and conditions of the said tender or by any reason of the TENDERER'S failure to perform the said tender. The BANK hereby agrees that the decision and demand of the OWNER on the aforesaid matter and or as to the amount payable by the BANK shall be final, conclusive and binding on the BANK without further proof.

2. We, further undertake to pay to the OWNER any money so demanded notwithstanding any dispute or disputes raised by the TENDERER in any suit or proceeding before any Court or Tribunal relating thereto our liability under this present being absolute and unequivocal.

3. The payment so made by us under this guarantee shall be a valid discharge of our liability for payment there under and the TENDERER shall have no claim against us for making such payment.

4. This guarantee is not revocable by notice during its currency but will continue with full force until all the obligations of the TENDERER under the terms of the Tender have been met and the OWNER discharges the guarantee accordingly. This guarantee shall not be affected by any change in the constitution of the BANK or OWNER or TENDERER nor shall this guarantee be affected by any change in the constitution of the OWNER / TENDERER by absorption with any other body or corporation and this guarantee will be available to or enforceable by such body or corporation.

5. The OWNER may without affecting BANK'S liabilities and obligations hereunder grant time or other indulgence to or compound with the TENDERER or enter into any agreement or composition or agree to

forbear or forbear to enforce any of the terms and conditions of the said tender against the TENDERER or agree to vary any of the terms and conditions of the said tender.

6. Notwithstanding anything contained in the foregoing our liability under this guarantee is limited to a maximum of Rs……. (Rupees……only). Our guarantee shall remain in force to……. (7 months from the due date of tender) until-unless a claim or demand under this guarantee is made on us within six months after the expiry of the above date, all your rights under the said guarantee shall be forfeited and we shall be released and discharged from all liabilities there under.

7. We the Bank lastly undertake not to revoke this guarantee during its currency except with the previous consent of the OWNER in writing. Any notice by way of request, demand or otherwise hereunder may be sent by registered post to the BANK addressed as afore said and if sent by in registered post it shall be deemed to have been given at the time when it would be delivered in due course of post and in proving such notice when given by registered post it shall be sufficient to prove that the envelope containing the notice was sent by registered post and certificate signed by an officer of the OWNER that the envelope was so posted shall be conclusive.

8. Disputes/differences, if any, relating to or arising out of this Bank Guarantee, shall be settled by courts having jurisdiction over Udyogamandal in Kerala State, where the registered office of the company is situated and no other court shall have jurisdiction in the matter

We have the power to issue this guarantee in your favour and the undersigned has full power to do so

Full address of the Bank Issuing this Guarantee

For (Name of Bank):

Authorised official:

Date & Bank Seal

Name & Designation

(To be executed on ₹ 500/- Non-judicial Stamp Paper)

Instructions to Bidders (e-Tender) – Single Stage Two Bid System

INTEGRITY PACT

Between

The Fetilizers and Chemicals Travancore Limited (FACT), a company formed and registered under the Travancore Companies Act IX to 1114 (Companies Act, 2013) and having its registered office at Eloor, Udyogamandal-683501, Kochi, Ernakulam District, Kerala, hereinafter referred to as "The Principal".

And

..... hereinafter referred to as "The Bidder/ Contractor".

Preamble

The Principal intends to award, under laid down organization procedures, contract/s for ..... The Principal values full compliance with all relevant laws and regulations, and the principles of economic use of resources, and of fairness / transparency in its relations with its Bidder(s) and or/Contractor(s).

In order to achieve these goals, the Principal will appoint an Internal External Monitor (EIM), who will monitor the tender process and execution of the contact for compliance with the principle mentioned above.

Section 1 - Commitments of the Principal

(1) The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:

a) No employee of the Principal, personally or through family members, will in connection with the tender, or the execution of the contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.

b) The Principal will, during the tender process, treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.

c) The Principal will exclude from the process all known prejudiced/interested persons.

(2) If the Principal obtains information on the conduct of any of its employees which is a criminal offence under the India Penal Code / Prevention of Corruption Act, or if there be a substantive suspicion in this regard, the Principal will inform the Vigilance Officer and in

addition can initiate disciplinary actions.

Section 2 - Commitments of the Bidder(s) / Contractor(s)

(1)The Bidder(s) / Contractor(s) commits themselves to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.

a) The Bidder(s) / Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person, any material or immaterial benefit which he/she is not legally entitled to, in order to obtain in exchange, any advantage of any kind whatsoever during the tender process or during the execution of the contract.

b) The Bidder(s) / Contractor(s) will not enter with other Bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelisation in the bidding process.

c) The Bidder(s) / Contractor(s) will not commit any offence under the relevant IPC/PC Act; further the Bidder(s)/Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

d) The Bidder(s) / Contractor(s) of foreign origin shall disclose the name and address of the Agents / Representatives in India, if any. Similarly, The Bidder(s) / Contractor(s) of Indian Nationality shall furnish the name and address of the foreign principals, if any. All the payments made to the India agent/representative have to be in Indian rupees only.

e) The Bidder(s) / Contractor(s) will, when presenting his bid, disclose any and all payments he has made, is committed to, or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.

(2) The Bidder(s) / Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

Section 3 - Disqualification from tender process and exclusion from future contracts

If the Bidder(s)/Contractor(s), before award or during the execution of has committed a transgression through a violation of Section 2 above or in any other form such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s)/ Contractor(s) from the tender process or to terminate the contract, if already

signed, for such reason.

Section 4 - Compensation for Damages

(1) If the Principal has disqualified the Bidder(s) from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit/Bid Security.

(2) If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to Section 3, the Principal shall be entitled to demand and recover from the Contractor liquidated damages of the contract value or the amount equivalent to Performance Bank Guarantee.

Section 5 - Previous Transgression

(1) The Bidder declares that no previous transgression occurred in the last 3 years with any other Company in India conforming to the anti-corruption approach including Public Sector Enterprise in India that could justify his exclusion from the tender process.

(2) If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process and appropriate action can be taken including termination of contract, if already awarded, for such reason.

Section 6 - Equal treatment of all Bidders / Contractors / Subcontractors

(1)The Bidder(s)/Contractor(s) undertakes(s) to demand from all subcontractors a commitment in conformity with this Integrity Pact, and to submit it to the Principal before contract signing.

(2) The Principal will enter into agreements with identical conditions as this one with all Bidders, Contractors/Suppliers and Subcontractors.

(3) The Principal will disqualify from the tender process all Bidders who do not sign this Pact or violate its provisions.

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

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

Section 8 - Independent External Monitor/Monitors

(1)The Principal appoints competent and credible Independent External Monitor for this Pact. The task of the Monitor is to review independently and objectively, whether and to

what extent the parties comply with the obligations under this agreement.

(2) The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. It will be obligatory for him to treat the obligations and document of the Bidder(s)/Contractor(s) as confidential. He reports to the Chairperson and managing Director, FACT.

(3) The Bidder(s)/Contractor(s) accepts that the Monitor has the right to access without restriction to all Project documentation of the Principal including that provided by the Contractor. The Contractor will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to this project documentation. The same is applicable to Subcontractors. The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/Contractor(s)/ Subcontractor(s) with confidentially.

(4) The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.

(5) As soon as the Monitor notices, or believes to notice, a violation of this agreement, he will so inform the Management of the Principal and request the Management to discontinue or to take corrective action, or to take other relevant action. The Monitor can in this regard submit non-binding recommendation. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.

(6) The Monitor will submit a written report to the Chairman and Managing Director, FACT within 8 to 10 weeks from the date of reference or intimation to him by the Principal and, should the occasion arise, submit proposals for correcting problematic situations.

(7) Monitor shall be entitled to compensation on the same terms as being extended to / provided to Independent Director on FACT Board.

(8) If the Monitor has reported to the Chairman and Managing Director, FACT, a substantiated suspicion of an offence under relevant IPC/PC Act, and the Chairman and Managing Director, FACT has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Chief Vigilance Officer, the Monitor may also transmit this information directly to the Central Vigilance Commissioner.

(9) The word 'Monitor' would include both singular and plural.

Section 9 - Pact Duration

This Pact begins when both parties have legally signed it. It expires for the Contractor 12

months after the last payment under the contract, and for all other Bidders 6 months after the contract has been awarded.

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

Section 10 - Other provisions

(1) This agreement is subject to Indian Law. Place of performance and jurisdiction is the Registered Office of the Principal, i.e. Udyogamandal, Kerala.

(2)Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.

(3) If the Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.

(4) Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.

(5) The Bidder / Contractor signing this "Integrity Pact" shall not approach the court while representing the matters to IEMs and he/she shall wait their decisions in this matter.

(For & On behalf of the Principal)	For & On behalf of Bidder(s)/Contractor(s)
(Office Seal)	(Office Seal)
Place: Date:	
Witness1: (Name & Address)….....	Witness 2: (Name & Address)….....

THE FERTILISERS AND CHEMICALS TRAVANCORE LIMITED

VENDOR DATA FORM

Sl. No.	**Description**		**To be filled in by Vendor**
	Company Profile		
1	Name of Vendor		
2	Name and address of Chief Executive		
3	Address:	a: Regd. Office	
		b: Factory	
4	PIN Code		
5	Telephone Nos		
6	Tele Tax Nos		
7	E mail ID		
8	Contact Person		
9	Details of Local Office/ Representatives/ Liaison Agents		
10	PAN No		
11	GST Registration No.		
12	Bank Details (Payment will be made through RTGS. Please Upload the Format verified by Bank along with a cancelled Cheque)		

(New Vendors please upload this format duly filled along with Cover-1 of the offer)

Master Data required for Online Payments
(RTGS / NEFT / Fund Transfer)

To

The Deputy General Manager (Finance)
The Fertilizers and Chemicals Travancore LTD
Udyogamandal
Kerala
(Attach a cancelled Cheque leaf also)

1	Vendor Code, Name	
2	Income Tax PAN No	
3	Name of the Bank	
4	Address of bank branch	
5	City & State	
6	IFS Code of the bank branch	
7	Name of the bank branch	
8	Bank Account No.	
9	Account Holder's Name	
10	Email address	

For Name

Signature & Seal

Verification by the Bank

We hereby certify that all the above particulars relating to Bank Account are verified and found to be correct as per the records of the bank.

Signature and Seal of the Authorized signatory of the bank

(New Vendors please upload this format duly filled along with Cover.1 Techno-commercial Bid of the offer)

ATTACHMENT- I

(to be furnished in the Letter-Head of the Bidder)

BIDDER to sign the enclosed FORM OF BID and submit it along with his quotation as required.

ATTACHMENT- I
(to be furnished in the Letter-Head of the Bidder)

To

M/s.The Fertilisers and Chemicals Travancore Ltd.
Cochin Division

Sub: Construction of Additional Phosphoric Acid Storage Tanks at Q10 Berth, WI

Ref: Tender No: 4085/2020-2021/E21901 .

Sirs,

Having examined the tender documents for the above named works including Conditions of Tender, Instructions to Bidders and Proforma of Contract along with Schedules A through Q, I/ We the undersigned offer to construct and maintain the above named work in accordance with the terms and conditions set forth in this tender comprising the following documents:

1. Deviations, check list for uploaded documents, Vendor Data form & Master Data required for Online Payments etc
2. Form of Bid Attachment – 1
3. NIT And Annexure To NIT
4. Commercial Questionnaire
5. Exception/ Deviation statement
6. Instruction to Bidders for E-Tendering
7. Attachment- IIA though L
8. General Conditions of Contract along with Schedules A through Q & drawings
9. Technical Documents
10. Earnest Money Deposit

Until such time a contract is executed, this tender together with any later or amended tender as may be requested by you, correspondence in writing

between the parties and any minutes of discussions shall constitute a binding contract between us.

Signature of Tenderer:

Name & Position:

Name & address of Contractor:

Place & Date:

WITNESS:

Name: Position:

Address:

SUBJECT: CONSTRUCTION OF ADDITIONAL PHOSPHORIC ACID STORAGE TANKS AT Q10 BERTH, WI

Note:

1) The BIDDER shall submit reply to each query.
2) The BIDDER's reply/ confirmation as furnished in the Commercial Questionnaire (CQ) shall supersede the stipulation mentioned elsewhere in the bid.

Sl. No.	OWNER'S/FEDO'S QUERY	BIDDER's REPLY / CONFIRMATION
1.	Please confirm that Master Index, Commercial Part, Technical Part and Amendment, if any of NIT, duly signed and stamped on each page has been submitted, as token of having acknowledged the entire bidding document, along with the bid.	
2.	Please confirm that all pages of the Bid have been numbered in sequential manner.	
3.	Please confirm that you have studied complete Bidding Document including Pre-Qualification Criteria, Technical and Commercial Part and your Bid is in accordance with the requirements of the Bidding Document.	
4.	Please confirm that Technical and un-priced Commercial Bid has been submitted as specified in Instructions to BIDDERs.	
5.	Please confirm Bid Submission as per tender	
6.	Please confirm that the Price Part does not include any terms and condition **and Un-priced Price Schedule, duly signed and stamped, and indicating "Quoted/Not Applicable/Nil" against each head submitted in Cover-III**. In case any terms and condition is mentioned in the price part, the same shall be treated as null and void	
7.	Please confirm your compliance to total scope of work mentioned in the Bidding Document. CONTRACTOR's scope shall include supply of all materials and services required for completion of Work irrespective of whether such materials and services are mentioned in the Bidding Document or not.	
8.	Please confirm your acceptance for Time Schedule as mentioned in Instructions to BIDDERs	
9.	Please confirm your acceptance for Payment Terms as per BIDDING Documents.	
10.	Please confirm that your bid is valid for 180 days from date of opening of Technical and un-priced Commercial Bid.	

Sl. No.	OWNER'S/FEDO'S QUERY	BIDDER's REPLY / CONFIRMATION
11.	Please confirm EMD Validity as Bid Validity plus One (1) Month	
12.	Please confirm Damages for delay in completion as per Tender	
13.	Please confirm Damages for increase in works cost as per Tender	
14.	Please confirm Overall ceiling on total liability as per Tender	
15.	Please confirm Guarantee/Warranties as per Tender	
16.	Please confirm that your quoted price includes following :- i) All type of taxes / levies as per provisions of Bidding Document. ii) Insurance as per provision of Bidding Document.	
17.	Please confirm that your Bid is substantially responsive to the requirements of the Bidding Document and you have not stipulated any material deviation and submitted all details as specified in the Bidding Document.	
18.	Please confirm that while proposing the list of construction equipment's, you have considered the following equipment's: - Cranes of adequate capacity. - DG Sets. - Compressors. - Spray Painting Machines. - Test pumps. - Adequate nos. of Welding Machines. - Tractor mounted rotary boring machines for piling jobs - All civil construction equipment. - All Electrical equipment. - All Instrumentation equipment.	
19.	Please confirm that you have proposed adequate project / site organization with qualified supervisory personnel having sufficient experience.	
20.	Please confirm that all costs resulting from safe execution of Work, such as safety induction, use of protective clothing, safety glasses and helmet, safety precaution taken during monsoon, or any other safety measures to be undertaken by the CONTRACTOR for execution of Work are included in the quoted Price.	

Sl. No.	OWNER'S/FEDO'S QUERY	BIDDER's REPLY / CONFIRMATION
21.	Please confirm that all safety rules & regulations as mentioned in Bidding Document or notified at later date by OWNER during execution shall be adhered by CONTRACTOR within quoted Price, before opening of price bid	
22.	Please confirm that the following safety precautions shall be followed by CONTRACTOR as mandatory : - Use of safety goggles while grinding. - Use of helmet / safety shoes. - Crane movement area to be barricaded. - Cylinders of flammable gases to be stacked upright - Earthling of equipment to be made proper. - Toe boards to be provided in the Scaffolding platforms. - Excavations to be properly shored / slopped. - Safety net for construction - Fall Arresters - Safety Belts & Full Body Safety	
23.	Please confirm the following :- "The planning schedule, S-curves, manpower estimates, construction equipment deployment schedule etc. submitted by the BIDDER with his bid are indicative and shall not be basis for extra compensation in case actual needs are higher. Detailed planning schedule developed by CONTRACTOR after Contract award may be subject to fluctuations depending upon actual progress of the project and available Work front. Co-ordination and making available by CONTRACTOR of all staff, manpower, construction equipment, tools, cranes, etc. and materials as required for a timely completion of all Work as per OWNER's construction and priority schedule and in accordance with the available Work front are to be included in the pricing". Notwithstanding the above provision, the BIDDER shall submit these details in accordance with the volume of Work, which may be reviewed and commented by us during pre-award stage /post award stage.	

Sl. No.	OWNER'S/FEDO'S QUERY	BIDDER's REPLY / CONFIRMATION
24.	Please furnish the bio data of key personnel including nominated Project Director, Project Manager, Engineering Manager, Engineering Coordinator, Purchase Manager, QA/QC Manager, Commissioning Manager, Commissioning Engineer etc. These will be reviewed and approved by Engineer-in-Charge as detailed in Attachment II-G. Please furnish the proposed site organization chart as detailed in Attachment - IIF	
25.	Please confirm that your Quoted Price includes cost towards third party inspection required, if any.	
26.	Please note that the scope of this bid package is supply of design, detailed engineering, procurement, supply, fabrication, inspection by third party inspection agency (TPIA) as applicable, expediting, insurance, transportation of all equipment / materials to work site, storage, construction and erection of all civil structure, mechanical, electrical and instrumentation works, assembly and installation, obtaining all necessary statutory approvals, testing, mechanical completion, pre-commissioning, commissioning, performance guarantee including total project management for the work as per tender for "CONSTRUCTION OF ADDITIONAL PHOSPHORIC ACID STORAGE TANKS AT Q10 BERTH, WI" on single point responsibility basis, for The Fertilisers & Chemicals Travancore Ltd.. (FACT). The scope of work mentioned under various sections shall not be considered as limitative and CONTRACTOR's scope shall include completion of any activities of work not mentioned in the bid package but required to complete the Work in all respects and making it functional.	
27.	Deleted	
28.	Deleted	
29.	The safety measures as mentioned in GCC/SCC shall not be considered as limitative. The CONTRACTOR will be required to develop their stringent safety measures and submit the same to Engineer-in - Charge with the provision of a dedicated safety group closely monitoring the construction activities in all working shifts.	
30.	Please confirm that your sub-contractor for construction shall be meeting the requirements as specified in Special Conditions of Contract including the provision of GCC. Also that the agency for executing Electrical work shall have a valid license for carrying out the work in the state of Kerala.	

Sl. No.	OWNER'S/FEDO'S QUERY	BIDDER's REPLY / CONFIRMATION
31.	Whether your organization is Blacklisted / put on Holiday by any PSU, Govt. Organization. If yes please furnish the details	

For and on behalf of : ……

Stamp & Signature : ……

Name : ……

Designation : ……

Date : ……

Tender No- 4085/2020-2021/E21901

CONTENTS OF BID AND CHECK LIST

SUBJECT: CONSTRUCTION OF ADDITIONAL PHOSPHORIC ACID STORAGE TANKS AT Q10 BERTH, WI

BIDDER is requested to fill this check list and ensure that all details /documents have been furnished under relevant section as called for in the Bidding Document duly filled in, signed & stamped.

Please tick the box and ensure compliance:

PART-I

Pre-Qualification Bid: NIT & Annexure to NIT

i)	Documents as per Attachment-EX Submitted	☐
ii)	MOU between the Detailed Engineering Consultant (in case the Bidder themselves are not the detailed designer) and Bidder Submitted	☐
iii)	Photocopy of EMD/Earnest Money Deposit (EMD)/ as submitted in Cover-I Submitted.	☐
iv)	Solvency Certificate (Original) Submitted	☐

CONTENTS OF BID AND CHECK LIST

Technical and Un-priced Commercial Bid:

(A)	UNDER SECTION –I	
(A.3)	Vendor Data Form and Details for E-payment	☐
(A.4)	Form of Bid as per Attachment-I Submitted	☐
(A.5)	Attachment-II Commercial Questionnaire	☐
(A.6)	Attachment-IIB Corporate status of Bidder as per Submitted	☐
(A.8)	Details of Similar Works Executed as per Attachment-IIC	☐
(A.9)	Current Commitments of the Bidder as per Attachment-IID	☐
(A.10)	Bidder submitting their Bid shall not be under liquidation, court receivership or similar proceedings. Submitted	☐
(B)	UNDER SECTION – II	
(B.1)	Detailed execution philosophy of work as per Attachment-IIE, Attachment-IIE1, Attachment-IIE2, Attachment-IIE3, Attachment-IIE4 Submitted.	☐
	Attachment- IIF-Bidder's Proposed Site Organization Submitted	
	Attachment- IIG-Bidder's Key Personnel Submitted	
	Attachment-IIH- Bidder's Proposed Schedule Submitted	
(B.2)	Attachment-II(i) Description of the Performance Guarantees as per tender. Submitted.	☐
(B.4)	Attachment-IIJ Declaration by the Bidder Regarding Bidding Document Submitted.	☐

CONTENTS OF BID AND CHECK LIST

(C.) UNDER SECTION –III		
(C.1)	Attachment-IIK Proforma of Certificate Of Non-Involvement of Indian Agent Submitted.	☐
(C.2)	Attachment-IIL Format of Letter of Waiver of Conditions/ Deviations Submitted.	☐
(C.3)	The Bidder shall give a declaration that it /they have or had not been banned, or blacklisted / de-listed by any Government / Quasi-Government / Public Sector Undertaking. Submitted	☐
(D) UNDER SECTION –IV		
(D.1)	Blackened copy of Schedule of Prices indicating **"Quoted/Not Applicable"** against each head and duly stamped & signed on each page, strictly as per as per Schedule F-Form F1 of GCC, failing which bid may be rejected. Submitted	☐
(E) UNDER SECTION – V		
(E.1)	Technical Details/ documents specified under "Schedule C of GCC". Submitted	☐
(F) UNDER SECTION – VI		
(F.1)	Attachment-IIM EXCEPTIONS/DEVIATIONS The OWNER wishes to receive fully compliant bids. Exception/Deviations may only be made in relation to requirements of OWNER, which the BIDDER feels unable to comply with under any circumstances or at any price. If the BIDDER wishes to make any exception/deviations, this must be done by listing the full details of each exception/deviation in ATTACHMENT-IIL1. Unless an entry appears in the list of exception/deviations in ATTACHMENT-IIL1, OWNER will assume and consider that BIDDER has no exceptions or deviations to the Tender Documents Schedule of Deviations (if any) to the commercial and Technical bid documents, shall be submitted separately, as per ATTACHMENT-IIL1. Also, Technical deviations must be given separately for each discipline. Submitted	☐
(G) UNDER SECTION – VII		

CONTENTS OF BID AND CHECK LIST

(G.1)	Vendor List prepared by Bidder for items not covered in OWNER's Vendor List. Submitted	☐
(H) UNDER SECTION – VIII		
(H. 1)	Bidder shall furnish tentative manpower requirement with break up for operation of during commissioning, trial runs and guarantee tests. Submitted	☐
(I) UNDER SECTION – IX		
(I.1)	Any other information required in the Bidding Documents or considered relevant by the Bidder, Submitted	☐
(J) UNDER SECTION – X		
(J.1)	Attachment-IIA Contents of Bid and Check List	☐
(K) UNDER SECTION – XI		
(K.1)	One set of Tender Documents **Techno-Commercial** along with subsequent addendums if any, duly signed and stamped on each page in original as a token of its acceptance. Submitted	☐

For and on behalf of ;……

Stamp & Signature : ……

Name : ……

Designation : ……

Date : ……

PART I: COMMERCIAL

EXHIBITS

CONSTRUCTION OF ADDITIONAL PHOSPHORIC ACID STORAGE TANKS AT Q10 BERTH, WI

EXHIBIT-1

SUBJECT: CONSTRUCTION OF ADDITIONAL PHOSPHORIC ACID STORAGE TANKS AT Q10 BERTH, WI

Tender No: 4085/2020-2021/E21901

EXPERIENCE CRITERIA

BIDDER shall furnish their experience details with reference to the work, which pre-qualify them in line with Pre-qualification Criteria mentioned in Annexure to NIT document attached.

1.0 DETAILS OF PROJECT REFERENCES FOR PQC ATTACHED WITH ANNEXURE TO NIT

SL. NO.	DESCRIPTION	PROJECT – 1, 2 etc. (Separate sheets for each Project)
1.	Section I General - EPC Contractor / Bidder	
	1. Letter of submission and synopsis of the proposal. 2. Organization Profile covering (a) Name & address of the organization with telephone, fax numbers and email id's of contact persons (b) history & structure of the organizations with names of directors & chief executives (c) name & addresses of the commercial banks. 3. Copy of Article of Association of the Company or Board Resolution mentioning Chairman/ Chief Executive Officer / Managing Director of the Company. 4. Power of Attorney of Bid Signatory from the competent authority. 5. Financial Statements and other details of parent company of Bidder (if any)	

	Section II Technical Criteria: EPC Contractor / Bidder, Cl No. 2.0 of Annexure to NIT Experience Criteria: EPC Contractor / Bidder, Cl No. 2.1to 2.2 of Annexure to NIT Bidder shall submit the following documents as proof for Experience as EPC contractor (Ref Cl. No 2.1): a. Copy of qualifying work order for such project with work order number and date indicating the scope of work and value completed with all relevant technical and other details. b. Completion certificate from the Client certifying completed value, satisfactory completion, commissioning, and successful guarantee tests towards the work order of such project submitted above as proof. Bidder shall submit the following documents as proof for Experience as EPC contractor (Ref Cl. No 2.2): a. Copy of qualifying work order for such project with work order number and date indicating the scope of work and value completed with all relevant technical and other details. b. Completion certificate from the Client certifying completed value, satisfactory completion, commissioning, and successful guarantee tests towards the work order of such project submitted above as proof.	

	Section III Financial criteria Cl No. 3.0 of Annexure to NIT The following documents shall be submitted by the bidder to meet the financial criteria (Cl No. 3.0): a. Bidder shall submit Annual Report (Balance Sheet and Profit & Loss account) of the company for the last 3 financial years ending on 31st March 2019. This shall be a verifiable statement of annual accounts certified by a Chartered Accountant or Public Accountant (or equivalent in relevant countries) in the form of printed annual reports or similar document. b. The bidder shall submit Solvency certificate from Nationalized Bank in India with solvency of the specified amount in the format enclosed. The date of issue of this certificate should not be more than three months old from the e-publishing date of the tender.	
2.	Name of Owner	
	(a) Name and address of Owner's contact person	
	(b) Telephone and Fax No. (c) Mobile No. (d) Email No.	
3.	(a) Date / month / year of award / commencement of Project	
	(b) Date / month / year of scheduled Commissioning of Project.	
	(c) Date / month / year of actual Commissioning of Project.	
5.	Basis of work	As a Single Bidder/ Organization
6.	Whether document submitted in support viz. copies of work order and completion certificate identifying the successful commissioning of project.	YES/NO

2.0 DETAILS OF FINANCIAL CRITERIA AS PER CLAUSE 3.1 OF ANNEXURE TO NIT

ANNUAL TURNOVER: (The annual certified/ Audited Turnover for following years to be submitted as mentioned in clause no. 3.1 of Annexure to NIT

(1) 2018-2019 INR_____Crore
(2) 2017-2018 INR_____Crore
(3) 2016-2017 INR_____Crore

2.1 Whether copies of balance sheet and annual turnover statements for the above three financial years submitted? YES / NO

2.2 Whether latest Solvency certificate / Financial soundness certificate as per Clause 2.4 of Annexure to NIT submitted? YES / NO

Note:

1. Bidder shall furnish the experience details as above of Projects which they consider suitable for their pre-qualification. FACT / FEDO reserve the right not to evaluate any other Project details.
2. Bidder to note that this exhibit form shall be filled as per the Proformas as stated, along with wherever applicable, copies of work order and completion certificates.
3. **Bidder to note that non-submission of relevant supporting documents may lead to rejection of their bid.** It is to be ensured that all relevant supporting documents shall be submitted along with the bid in the first instance itself. Pre-qualification shall be completed based on the details so furnished without seeking any subsequent additional information.

STAMP & SIGNATURE OF BIDDER : _____

NAME OF BIDDER : _____

DATE : _____

CONSTRUCTION DEPARTMENT	CORPORATE STATUS OF BIDDER	PAGE 1 OF 1
Tender No- 4085/2020-2021/E21901		ATTACHMENT - II B

A. IN CASE OF INDIVIDUAL

1 Name , age and Father's Name:
2 Name of Buisiness
3 Whether buisiness is registered (If yes, details are to be furnished)
4 date of commencement of buisiness

B. IN CASE OF PARTNERSHIP

1 Name & Address of partner's :
2 Whether the partneship is registered:
3 Date of establishment of firm:
4 Copy of partnership deed to be attached: Attached/Not Attached

C. IN CASE OF COMPANY LIMITED BY SHARES OR BY GUARANTEES

1 Amount of paid up capital:
2 Name & Addresses of Directors:
3 Date of registration of Company:
4 Copy of memorandum of article of Association of company to be attached: Attached / Not attached

D IN THE CASE OF ALL BIDDERS

1 Copy of latest Income tax clearence certificate to be attached Attached / Not attached
2 Bankers certificate to be attached Attached / Not attached
3 Solvency certificate to be attached Attached / Not attached
4 Copy of audited balance sheet for last 3 years to be attached Attached / Not attached

Place:

Signature of Tenderer:

Date:

DETAILS OF SIMILAR WORKS EXECUTED

SUBJECT: CONSTRUCTION OF ADDITIONAL PHOSPHORIC ACID STORAGE TANKS AT Q10 BERTH, WI

Tender No: 4085/2020-2021/E21901

SL. NO.	FULL POSTAL ADDRESS OF CLIENT AND NAME OF OFFICER IN-CHARGE WITH PHONE/CELL NO AND E-MAIL	DESCRIPTION OF THE WORK	VALUE OF CONTRACT	DATE OF COMMENCEMENT OF WORK	SCHEDULED COMPLETION PERIOD	ACTUAL COMPLETION DATE	REMARKS

STAMP & SIGNATURE OF BIDDER :_____

NAME OF BIDDER : _____

DATE : _____

CURRENT COMMITMENTS OF THE BIDDER

SUBJECT: CONSTRUCTION OF ADDITIONAL PHOSPHORIC ACID STORAGE TANKS AT Q10 BERTH, WI
TENDER NO: 4085/2020-2021/E21901

SL. NO.	FULL POSTAL ADDRESS OF CLIENT AND NAME OF OFFICER IN-CHARGE WITH PHONE/CELL NO AND E-MAIL	DESCRIPTION OF THE WORK	VALUE OF CONTRACT	DATE OF COMMENCEMENT OF WORK	SCHEDULED COMPLETION PERIOD	% COMPLETION AS ON DATE	REMARKS

STAMP & SIGNATURE OF BIDDER : _____

NAME OF BIDDER : _____

DATE : _____

EXECUTION PLAN

SUBJECT: CONSTRUCTION OF ADDITIONAL PHOSPHORIC ACID STORAGE TANKS AT Q10 BERTH, WI

Tender No: 4085/2020-2021/E21901

1.0 BIDDER ORGANISATION

1.1 Company Organisation

Bid shall include a description of the organization, its management structure and organization chart of BIDDER's company with particular reference to the means whereby the execution of this project will be related to the overall company organization.

The BIDDER shall also furnish the name(s) of their partners, associated/ subsidiary companies & their activities, and whether any such associated/ subsidiary company will be involved in the execution of WORK, and if so, their scope thereof.

1.2 Project Organization

BIDDER shall give charts of organization, which he intends to use in the execution of the work. Such charts must show lines of authority and communication of senior personals who will be assigned to this work in BIDDER's home - office and other offices where WORK shall be performed (if any) and the lines connecting such Project Organization to the BIDDER's internal overall organization including partners (if any). The chart shall be supported by a narrative, which shall explain how the proposed organization will operate and in particular will provide the name of the location of the office(s) in which the Basic and Detail Engineering Design Packages of the plant shall be carried out.

If any parts of the Basic and Detail Engineering Design Packages are to be carried out in more than one office, then details of the distribution of the jobs between offices and coordination procedure shall also be presented.

A description of the facilities offered to the OWNER'S resident engineers.

2.0 Estimated project and Engineering man-hours

BIDDER shall give an estimate of the engineering man-hours and its break down for all activities

3.0 Methods and procedures

BIDDER shall summarize the methods and procedures that BIDDER intends to implement during the performance of the WORK. It shall include the proposed procedures such as Engineering, Procurement, construction strategy, WORK Progress Measurement, Pre-commissioning, Commissioning and Performance Guarantee Test Run.

BIDDER shall also furnish proposed procedures for the Project management, communication and method and frequency of reporting the progress of the WORK.

The final form for reports, which will be subject to OWNER's Approval, shall include as a minimum the following:

a) Planning and Scheduling

b) Work Progress

c) Safety and Security

NOTES:

a) Sample reporting forms and other key standard forms shall be included.

b) BIDDER shall state the extent to which he will be using computerized drafting, etc.

4.0 Job descriptions and personnel resumes

BIDDER shall include job descriptions and personnel resumes of his staff nominated to the key positions, including (where applicable) at least the followings, or BIDDER's equivalent:

Project Director
Process Engineering Coordinator
Construction Manager
Process Engineer
Project Engineering Coordinator
Senior Pre-commissioning Engineer
Senior Commissioning Engineer
Training coordinator and instructor
Construction Engineering Coordinator
Construction Quality Control Engineer Construction Project
Control Engineer Welding Specialists
Heavy Lift Rigging Specialist
Senior Specialist Engineers
Senior Planning Engineers
Materials Coordinators
Senior Construction Engineers
Senior Pre-commissioning Engineers
Warehousing Officer
Material Planning Engineers

Resumes shall give at least the name, age, nationality, education, professional exception/deviation and previous experience of each assigned personnel. Additionally, one alternative shall be offered for each position. **BIDDER shall ensure that personnel to be deployed meet the minimum criteria specified in ATTACHMENT- II E1.**

BIDDER shall confirm that these key personnel will be made available to WORK on the Project as required by the schedule on full time basis.

BIDDER shall furnish Summary of its Deployment Schedule Personnel as per **ATTACHMENT- II E2.**

BIDDER understands that the said proposal represents the minimum deployment

and the BIDDER acknowledges that the said deployment may have to be augmented with additional number and/or categories, if required, if directed by Engineer-in-Charge in order to complete the work within the completion schedule and quoted lump sum price.

5.0 Construction equipment and machinery

The BIDDER shall furnish details of construction equipment & machinery, testing equipment, tools/tackles, etc., which will be made available by the BIDDER at the Site. BIDDER shall furnish Summary of such details as per **ATTACHMENT- II E3, ATTACHMENT- II E4.**

Such list shall, in no way limit the CONTRACTOR's responsibility to arrange & provide any additional construction equipment, tools, tackle, etc., which might be required to execute and complete the WORK as per contractual schedule.

BIDDER shall furnish the procedures and his tools for erection of the Heavy Lift Equipment including tall columns.

6.0 Heavy lifts

BIDDER shall furnish his proposed, site transportation, lifting, along with preliminary rigging schemes and erection procedure for the heavy lifts.

Such plans / schemes shall be furnished along with detailed write -up on heavy cranes proposed to be deployed by CONTRACTOR, duly supported by relevant technical literature.

7.0 BIDDER experience & exception/deviation to perform the work

The BIDDER should have experience in the construction of similar Plants. The BIDDER should have successfully executed and completed construction of at least one similar Plant with his own project management and with complete responsibility of construction / erection and pre- commissioning, commissioning.

The BIDDER shall furnish, as a part of his Tender Documents establishing the BIDDER'S experience and exception/deviation to perform the CONTRACT. Such documentary evidence shall also establish to OWNER's satisfaction that the BIDDER has the necessary financial, technical, project management capabilities and the requisite resources to execute the Work.

Such documentary evidence shall also be furnished for BIDDER'S proposed Subcontractors, if any. The BIDDER shall furnish, in a tabular from, a list of jobs of similar type and magnitude executed by them in the past. BIDDER shall also furnish details of their experience in erection of heavy lifts. The BIDDER shall furnish documentary evidence, establishing to OWNER satisfaction, that such jobs have been timely and successfully executed by them. The BIDDER shall also furnish the details of their present major commitments.

8.0 QA/QC Program

BIDDER shall furnish a summary description of their proposed QA/QC Program.

BIDDER shall furnish any other technical information / details as per the requirements of ITB.

9.0 Technical assistance

The extent of the Technical Services and Assistance to be rendered by CONTRACTOR for, commissioning and performance test run, etc., is to be proposed.

.

For and on behalf of: ……

Stamp & Signature: ……

Name : ……

Designation :……

Date : ……

MINIMUM QUALIFICATION & EXPERIENCE OF KEY SUPERVISORY CONSTRUCTION PERSONNEL

SUBJECT: CONSTRUCTION OF ADDITIONAL PHOSPHORIC ACID STORAGE TANKS AT Q10 BERTH, WI

Tender No: 4085/2020-2021/E21901

SL. NO.	CATEGORY	QUALIFICATION & EXPERIENCE
1	RESIDENT CONSTRUCTION MANAGER / RESIDENT ENGINEER / SITE-IN-CHARGE	Degree in Engg. With minimum 20 years relevant experience in construction should successfully constructed & commissioned at least one process unit in hydrocarbon / fertilizer sector.
2	LEAD DISCIPLINE ENGINEER	Degree in relevant Engg. Discipline with minimum 15 years' experience in Construction or Diploma in relevant Engg. Discipline with minimum 20 years' experience in Construction.
3	LEAD WELDING / NDT ENGINEER	Degree in Mechanical Engg./Metallurgy with minimum 15 years' experience in Welding / NDT (Non-Destructive Testing) plus Level-II in RT (Radiographic Testing) or diploma in Mechanical Engg. / Metallurgy with minimum 20 years' experience in Welding / NDT plus Level–II in RT.
4	LEAD QA/QC ENGINEER	Degree in Engg. With 15 years Construction Experience of which 5 years should be as QA Manager.
5	LEAD PLANNING ENGINEER	Degree in Engg. With 15 years' experience in Planning & Scheduling.
6	LEAD SAFETY OFFICER	Degree / Diploma in Engg. And Diploma in Industrial Safety with min. 10 years relevant experience in Construction Safety.
7	WAREHOUSE-IN-CHARGE / MATERIALS MANAGER	Graduate in Science or Diploma in Engg. / Materials Management with 15 years' experience in Warehousing / Stores Management of similar nature.
8	DISCIPLINE SURVEYORS	Degree in relevant Engineering Discipline with minimum 3 years' experience in Construction or diploma in relevant Engineering Discipline with minimum 6 years' experience in Construction.
9	QUANTITY SURVEYORS	Degree in relevant Engineering Discipline with minimum 3 years' experience or diploma in relevant Engineering Discipline with minimum 6 years' experience in quantity estimation, field measurement, rate analysis etc. in construction field.

MINIMUM QUALIFICATION & EXPERIENCE OF KEY SUPERVISORY CONSTRUCTION PERSONNEL

Note: BIDDER shall submit Name, Resume and Experience details of key supervisory construction personnel as above along with their offer.

For and on behalf of ……

Stamp & Signature : ……

Name : ……

Designation : ……

Date : ……

DEPLOYMENT SCHEDULE OF SUPERVISORY PERSONNEL

SUBJECT: **CONSTRUCTION OF ADDITIONAL PHOSPHORIC ACID STORAGE TANKS AT Q10 BERTH, WI**

SL. NO.	DESCRITPION	DEPLOYMENT SCHEDULE																					Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
1	**PROJECT MANAGEMENT**																						
1.1	PROJECT MANAGER																						
1.2	PLANNING MANAGER																						
1.3	PLANNING ENGINEERS																						
2	**RESIDUAL DESIGN AND DETAILED ENGINEERING**																						
2.1	PROJECT ENGINEERING MANAGER																						
2.2	ENGINEERING COORDINATOR																						
2.3	ENGG. PERSONNEL FOR VARIOUS DISCIPLINE																						
2.3.1	CIVIL STRUCTURAL																						
(i)	ENGINEERS																						
2.3.2	PRESSURE VESSELS																						

DEPLOYMENT SCHEDULE OF SUPERVISORY PERSONNEL

SL. NO.	DESCRITPION	DEPLOYMENT SCHEDULE																					
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total
2.3.3	MECHANICAL EQPT/ ROTARY EQPT.																						
2.3.4	PIPING																						
(i)	ENGINEERS																						
2.3.5	ELECTRICAL																						
(i)	ENGINEERS																						
2.3.6	INSTRUMENTA-TION																						
(i)	ENGINEERS																						
2.3.7	MISCELL-ANEOUS																						
3	**PROCUREMENT**																						
3.1	PURCHASE																						
3.1.1	PURCHASE MANAGER																						
3.1.2	PURCHASE COORDINATOR																						
3.1.3	PURCHASE OFFICER																						
3.2	INSPECTION																						

DEPLOYMENT SCHEDULE OF SUPERVISORY PERSONNEL

SL. NO.	DESCRITPION	DEPLOYMENT SCHEDULE																					Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
3.2.1	INSPECTION MANAGER																						
3.2.2	INSPECTORS																						
3.3	EXPEDITING																						
3.3.1	EXPEDITING COORDINATOR																						
3.3.2	EXPEDITORS																						
3.4	CUSTOM CLEARANCE, IMPORT LICENCE, TRANSPORTA -TION PERSONNEL																						
4	**SITE CONSTRUCTION**																						
4.1	PROJECT MANAGER																						
4.2	CONSTRUC-TION MANAGER																						
4.3	CIVIL STRUCTURAL																						
4.3.I	LEAD ENGINEER																						

DEPLOYMENT SCHEDULE OF SUPERVISORY PERSONNEL

SL. NO.	DESCRITPION	DEPLOYMENT SCHEDULE																					
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total
4.3.2	SITE ENGINEER																						
4.3.3	SUPERVISORS																						
4.4	MECHANICAL WORKS																						
4.4.1	LEAD ENGINEER																						
4.4.2	SITE ENGINEER																						
4.4.3	SUPERVISORS																						
4.5	PIPING WORK																						
4.5.1	LEAD ENGINEER																						
4.5.2	SITE ENGINEER																						
4.5.3	SUPERVISORS																						
4.6	ELECTRICAL WORK																						
4.6.1	LEAD ENGINEER																						
4.6.2	SITE ENGINEER																						
4.6.3	SUPERVISORS																						
4.7	INSTRUMENTA-TION WORK																						

DEPLOYMENT SCHEDULE OF SUPERVISORY PERSONNEL

SL. NO.	DESCRITPION	DEPLOYMENT SCHEDULE																					
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total
4.7.1	LEAD ENGINEER																						
4.7.2	SITE ENGINEER																						
4.7.3	SUPERVISORS																						
4.8	QUALITY ASSURANCE/ QUALITY CONTROL																						
4.8.1	QC/QA MANAGER																						
4.8.2	INSPECTOR (CIVIL)																						
4.8.3	INSPECTOR (PIPING)																						
4.8.4	INSPECTOR (MECH EQPT)																						
4.9	SAFETY ENGINEER																						
4.10	SITE ENGINEERING WORKS																						
4.10.1	ENGINEERS																						
4.10.2	SUPERVISORS																						

DEPLOYMENT SCHEDULE OF SUPERVISORY PERSONNEL

SL. NO.	DESCRITPION	DEPLOYMENT SCHEDULE																					
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total
4.11	COMPUTER ENGINEER																						
4.12	ADMINISTRA – TION MANAGER																						
4.13	MISCELLAN-EOUS																						
4.14	WAREHOUSE PERSONNEL																						
4.15	MATERIAL MANAGER																						
4.16	COMMISSION-ING																						
i)	COMMISSION-ING COORDINATOR																						
ii)	COMM ENGINEER (SHIFT- IN-CHARGE)																						
iii)	CONTROL ROOM COORDINATOR																						
iv)	FIELD SUPERVISOR																						

DEPLOYMENT SCHEDULE OF SUPERVISORY PERSONNEL

SL. NO.	DESCRITPION	DEPLOYMENT SCHEDULE																					
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total
v)	TECHNICIAN																						

For and on behalf of ……

Stamp & Signature : ……

Name : ……

Designation : ……

Date : ……

DEPLOYMENT SCHEDULE OF CONSTRUCTION EQUIPMENT

SUBJECT: CONSTRUCTION OF ADDITIONAL PHOSPHORIC ACID STORAGE TANKS AT Q10 BERTH, WI

Tender No: 4085/2020-2021/E21901

DEPLOYMENT SCHEDULE OF CONSTRUCTION EQUIPMENT

SL. NO.	DESCRIPTION	CAPA -CITY	DEPLOYMENT SCHEDULE																															
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21											TOTAL
1	CRANES																																	
1.1	2000 MT																																	
1.2	1000 MT																																	
1.1	500 MT																																	
1.2	300 MT																																	
1.3	150 MT																																	
1.4	75 MT																																	
1.5	50 MT																																	
1.6	20 MT																																	
1.7	15 MT																																	
1.8	10 MT																																	
1.9	5 MT																																	
2	DIESEL GENERATOR S																																	
2.1	500 KVA																																	

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DEPLOYMENT SCHEDULE OF CONSTRUCTION EQUIPMENT

SL. NO.	DESCRIPTION	CAPA-CITY	DEPLOYMENT SCHEDULE																																			TOTAL
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21																
2.2	300 KVA/250KV																																						
2.3	150 KVA/125KV																																						
3	COMPRESSORS																																						
3.1	600 CFT																																						
3.2	350 CFT																																						
4	WELDING M/CS																																						
4.1	DIESEL WELDING M/C																																						
4.2	DIESEL GENERATOR																																						
4.3	WELDING TRANS FORMERS/REC-TIFIERS																																						
4.4	TIG WELDING M/CS																																						
5	GRIT BLASTING M/CS																																						
6	SPRAY PAINTING M/CS																																						
7	STRESS RELIEVING M/CS																																						

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DEPLOYMENT SCHEDULE OF CONSTRUCTION EQUIPMENT

SL. NO.	DESCRIPTION	CAPA -CITY	DEPLOYMENT SCHEDULE																															
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21											TOTAL
8	RADIO-GRAPHY M/CS																																	
9	TEST PUMP																																	
10	WATER PUMP																																	
11	TRANSPORTA -TION EQPT																																	
11.1	TRACTOR - TRAILOR																																	
11.2	TRUCKS																																	
11.3	BUS																																	
12	JACKS																																	
12.1	MECHANICAL																																	
12.2	HYDRAULIC																																	
13	CIVIL																																	
13.1	EXCAVATORS																																	
13.2	DUMPERS																																	
13.3	BATCHING PLANT																																	
13.4	CONCRETE PUMP CAR																																	

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DEPLOYMENT SCHEDULE OF CONSTRUCTION EQUIPMENT

SL. NO.	DESCRIPTION	CAPA -CITY	DEPLOYMENT SCHEDULE																																			TOTAL
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21																
13.5	TRANSIT MIXER																																						
13.6	MIXER																																						
13.7	VIBRATORS																																						
13.8	COMPACTORS																																						
13.9	THEODOLITES																																						
14.0	OTHERS																																						
14.1	INSULATION TESTING EQUIPMENT																																						
14.2	SECONDARY INJECTION TESTING KIT																																						
14.3	METERS, TOOLS & TACKLES ETC.																																						
14.4	CALIBRATION EQUIPMENT																																						
14.5	OTHER TOOLS & TACKLES																																						
14.6	MULTI																																						

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DEPLOYMENT SCHEDULE OF CONSTRUCTION EQUIPMENT

SL. NO.	DESCRIPTION	CAPA -CITY	DEPLOYMENT SCHEDULE																																TOTAL
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21													
	METERS CALIBERAT-ORS ETC.																																		
14.7	INDUCTION PIPE BENDING PLANTS																																		
14.8	METALOGRAP HY																																		
14.9	SPECTRO-METERS																																		

For and on behalf of ……

Stamp & Signature : ……

Name : ……

Designation : ……

Date : ……

DETAILS OF EQUIPMENT PROPOSED TO BE USED FOR TENDERED WORK

SUBJECT: CONSTRUCTION OF ADDITIONAL PHOSPHORIC ACID STORAGE TANKS AT Q10 BERTH, WI

Tender No: 4085/2020-2021/E21901

The BIDDER confirms that, they shall use the following MAJOR equipment owned by the BIDDER for the work, if awarded to them:

Sl. No.	Description	Quantity. (Numbers)	Make	Capacity	Owner	Approximate date when it will be deployed at site	Period of retention at site

For and on behalf of:……

Stamp & Signature : ……

Name : ……

Designation : ……

Date : ……

CONSTRUCTION DEPARTMENT	BIDDER'S SITE ORGANISATION	PAGE 1 OF 1
Tender No: 4085/2020-2021/E21901		ATTACHMENT - II F

Tenderer shall attach his proposed site organisation chart in " Family Tree" Form, showing the number and grades of field supervisory, administrative and crafts personnel to be employed in the works

Place :

Signature of Tenderer

Date:

CONSTRUCTION DEPARTMENT	BIDDER'S KEY PERSONNEL	PAGE 1 OF 1
Tender No: 4085/2020-2021/E21901		ATTACHMENT - II G

Tender shall attach resumes of all proposed key personnel of his Organisation to be associated with the work, detailing their qualifications and experience over the past 10 years

Place :

Signature of Tenderer

Date:

CONSTRUCTION DEPARTMENT	BIDDER'S PROPOSED PROGRAMME OF WORK	PAGE 1 OF 1
Tender No: 4085/2020-2021/E21901		ATTACHMENT - II H

Tenderer shall attach his detailed programme of execution of works with respect to OWNERS requirement given in Schedule - B. This shall be in BAR CHART or PERT FORM highlighting all important milestones

Place:

Signature of Tenderer

Date:

DESCRIPTION OF THE PERFORMANCE GUARANTEES

SUBJECT: CONSTRUCTION OF ADDITIONAL PHOSPHORIC ACID STORAGE TANKS AT Q10 BERTH, WI

Tender No: 4085/2020-2021/E21901

The BIDDER shall submit all the data pertaining to Performance Guarantees as sought in detail under Technical of the NIT and SCC.

For and on behalf of: ……

Stamp & Signature : ……

Name : ……

Designation : ……

Date : ……

DECLARATION BY THE BIDDER REGARDING BIDDING DOCUMENT

SUBJECT: CONSTRUCTION OF ADDITIONAL PHOSPHORIC ACID STORAGE TANKS AT Q10 BERTH, WI

Tender No: 4085/2020-2021/E21901

We_____(Name of the BIDDER) hereby represent that we have gone through and understood the Bidding Documents, **TENDER NO: 4085/2020-2021/E21901 Dated 07.08.2020 (including but not limited to)** the Commercial & Technical Requirements/ Specifications in the Tender documents and amendments, if any, and that our Bid has been prepared accordingly in compliance with the requirements stipulated in the said documents.

We are submitting the Table of Contents of Bidding Documents, Part-I and Part-II of the Bidding documents and amendments, if any, as part of our Bid duly signed and stamped on each page in token of our acceptance. Further we undertake that in the event of award of work to us, all the parts shall be considered for constitution of Contract Agreement.

For and on behalf of: ……..…

Stamp & Signature : ……

Name : ……

Designation : ……

Date : ……

NOTE: This declaration should be signed by the Bidder's authorized representative who is signing the Bid.

PROFORMA OF CERTIFICATE OF NON- INVOLVEMENT OF AGENT

SUBJECT: CONSTRUCTION OF ADDITIONAL PHOSPHORIC ACID STORAGE TANKS AT Q10 BERTH, WI

Tender No : 4085/2020-2021/E21901

Where Indian Agent/Consultant/Representative/Retainer/Associates is not involved, the BIDDER shall certify in the proforma given below on its letterhead.

This is to certify that we have not engaged/involved any Indian agent/representative/ consultant/retainer/Associates who is not our employee for the purposes of accompanying bid or any resultant Contract and therefore, no Agent's/Retainer's/representative's/consultant's/associate's commission is payable in India or abroad against or in connection with any resultant Contract.

For and on behalf of: ……

Stamp & Signature : ……

Name : ……

Designation : ……

Date : ……

FORMAT OF LETTER OF WAIVER OF CONDITIONS / DEVIATIONS

(ON COMPANY'S LETTERHEAD)

SUBJECT : CONSTRUCTION OF ADDITIONAL PHOSPHORIC ACID STORAGE TANKS AT Q10 BERTH, WI

Tender No : 4085/2020-2021/E21901

We ** hereby agree to fully comply with, abide by and accept without variation, deviation or reservation all technical, commercial and other condition whatsoever of the Bidding Documents and all Addenda / Corrigenda / Clarifications issued by OWNER.

We further hereby waive, withdraw and abandon any and all deviations, variations, objections or reservations whatsoever hereto set out, given or indicated in our offer, clarifications, correspondence, communications, or otherwise with a view that the final price bid submitted may be treated to conform to, in all respects, with the terms and conditions of the said tender documents including all Addenda / Corrigenda / Clarifications.

For and on behalf of** :…….....……

Stamp & Signature*** : ……

Name : ……

Designation : ……

Date : ……

** **Here fill in the name of BIDDER.**

*** **The Letter of Waiver must be signed by the person (s) authorised to sign and submit the offer.**

EXCEPTION / DEVIATION STATEMENT

SUBJECT: CONSTRUCTION OF ADDITIONAL PHOSPHORIC ACID STORAGE TANKS AT Q10 BERTH, WI

Tender No: 4085/2020-2021/E21901

BIDDER shall either stipulate in this form

1. We make no exception/deviation to this bid **OR**
2. This bid is subject to the following exception/deviations and fill in the below

Sl. No	Section No. of bid doc.	Page No.	Clause No.	Article , Paragraph No.	Requirement	Exception/ Deviation
1						
2						
3						

NOTES:

1. If unavoidable, BIDDER may stipulate deviations to the requirements of the Bidding Document only in this format.
2. Bidder shall furnish Technical and Commercial deviations, if any, separately. Also, Technical deviations shall be furnished separately for each discipline i.e. Process, General Civil, Structural, Architectural, Piping, Mechanical Equipment, Pressure Vessels, Rotating Equipment, Electrical, Instrumentation, Construction etc.
3. Any deviations stated elsewhere in the bid shall not be taken into account and may render the bid non-responsive and liable to be rejected.

For and on behalf of: .....……

Stamp & Signature: ……

Name: ……

Designation: ……

Date: ……

FORMAT FOR BIDDER'S QUERIES FOR PRE-BID DISCUSSION

SUBJECT: CONSTRUCTION OF ADDITIONAL PHOSPHORIC ACID STORAGE TANKS AT Q10 BERTH, WI

Tender No: 4085/2020-2021/E21901

SL. NO.	REFERENCE OF BIDDING DOCUMENT				BIDDER'S QUERY	OWNER'S / PMC REPLY
	Part/ Sec	Page No.	Clause No.	Subject		

NOTE: The Pre-Bid Queries shall be sent through e-mail to: jayakumarp@factltd.com

For and on behalf of ……

Stamp & Signature : ……

Name : ……

Designation : ……

Date : ……

ACKNOWLEDGEMENT CUM CONSENT LETTER

Ref. No. ***4085/2020-2021/E21901***

FERTILISERS AND CHEMICALS TRAVANCORE LIMITED,
UDYOGAMANDAL PO, KOCHI-683501

Kind Attention: **DGM (Materials) RM-II**
E-mail: sivaram@factltd.com

SUBJECT: CONSTRUCTION OF ADDITIONAL PHOSPHORIC ACID STORAGE TANKS AT Q10 BERTH, WI (*Tender No: 4085/2020-2021/E21901*)

Dear Sir,

We hereby acknowledge, as placed at CPPP Website the complete set of Bidding Document **Techno- Commercial,** for subject works for our use in preparing the Bid.

We undertake that the contents of the above Tender Document are to be used only for the purpose for which they are intended.

A) We intend to bid as requested for the subject works and furnish the following details with respect to our quoting office.

i. Postal Address	
ii. Telephone Number	
iii. Telefax Number	
iv. Contact Person	

ACKNOWLEDGEMENT CUM CONSENT LETTER

v. Designation of Contact Person	
vi. Mobile no.	
vii. E-mail Address	

B) Contact Person, preferably at Delhi and/or Mumbai for INDIAN BIDDERS and anywhere in INDIA for FOREIGN BIDDERS.

i. Postal Address	
ii. Telephone Number	
iii. Telefax Number	
iv. Contact Person	
v. Designation of Contact Person	
vi. Mobile No.	
vii. E-mail address	

ACKNOWLEDGEMENT CUM CONSENT LETTER

Name of the authorized signatory

Signature

Stamp

Designation

Date

GENERAL CONDITIONS OF CONTRACT

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ARTICLE-1 DEFINITIONS

The following expressions shall have the meanings specified against the respective item, wherever used in this document, unless repugnant to the context and meaning thereof.

1.1 CONTRACT means this Agreement including the Articles, Schedules, Annexes and Appendices as listed in the List of Titles forming part hereof and any written amendments thereto executed by authorized signatories on behalf of the parties hereto.

1.2 'DATE OF CONTRACT' means the Date on which CONTRACT is signed by either party after signature by the other.

1.3 'WORK' means all duties, responsibilities and obligations to be discharged by CONTRACTOR pursuant to CONTRACT.

1.4 'EQUIPMENT' means any item of plant and machinery, equipment accessory or thing to be supplied by OWNER and erected / installed by CONTRACTOR or to be supplied and erected / installed by CONTRACTOR.

1.5 'PROJECT' means the facility being set up by OWNER as per details and location in SCHEDULE-D.

1.6 'SITE' means the land in possession of OWNER where PROJECT is being set up and WORK is to be performed by CONTRACTOR.

1.7 'INITIAL CONTRACT PRICE' means the value of WORK contracted initially as per SCHEDULE-F and excluding value of EQUIPMENT, services and any material provided by OWNER/CONSULTANT free of cost to CONTRACTOR.

1.8 'CONTRACT PRICE' means the aggregate sum payable by OWNER / CONSULTANT to CONTRACTOR for work performed as per CONTRACT but excluding value of EQUIPMENT, services and any material provided by OWNER/CONSULTANT free of cost to CONTRACTOR.

1.9 'OWNER/CONSULTANT'S REPRESENTATIVE' shall have same meaning as defined in Article-6.1 hereof.

1.10 'ENGINEER-IN-CHARGE' shall have same meaning as defined in Article-6.2 hereof.

1.11 'CONTRACTOR'S REPRESENTATIVE' shall have the same meaning as defined in Article-7 hereof.

1.12 'ZERO DATE' means the date on which CONTRACTOR'S responsibilities for time- schedule commence as defined in Article-4.1.

ARTICLE-2 PERFORMANCE BOND

2.1 Within fifteen (15) days of the ZERO DATE, CONTRACTOR shall provide OWNER with a Bank Guarantee as per proforma given in SCHEDULE-L hereof, from a Nationalized Bank in India for a sum calculated at ten (10) percent of the initial Contract Price, towards security for due and faithful performance of CONTRACTOR. The Bank Guarantee shall be kept valid until all obligations of CONTRACTOR including the warranties vide Article-30 are fulfilled and a discharge certificate is issued by OWNER/CONSULTANT (also refer Schedule–B).

2.2 However, in case the amount of Performance Bond is less than Rs.10, 000- CONTRACTOR shall deposit with OWNER either in cash or as Demand Draft drawn in favour of OWNER and payable at State Bank of India, Udyogamandal, Kerala State, for a sum calculated at ten (10) percent of the initial Contract Price in lieu of the Bank Guarantee referred to in Article-2.1 within 15 days of ZERO DATE. No interest is payable by OWNER/CONSULTANT to CONTRACTOR for such deposits.

ARTICLE-3 SCOPE OF SERVICES

3.1. CONTRACTOR shall carry out WORK as described in detail in the SCHEDULE-A, Schedule of Work, all in conformity with the drawings, specifications, codes, standards and instructions provided by OWNER/CONSULTANT from time to time or specified herein as applicable.

3.2. CONTRACTOR'S responsibility includes preparation of any detailed working drawings, cutting diagrams, fabrication drawings and / or such other technical documentation as may be necessary to elaborate the information provided by OWNER/CONSULTANT in the manner described in Article-5.4 hereof.

3.3. CONTRACTOR shall also purchase and provide for use in carrying out WORK, pre-fabricated or otherwise, such items of materials and supplies as are required for carrying out WORK in addition to EQUIPMENT and materials directly provided by OWNER/CONSULTANT.

3.4. The quantities indicated in SCHEDULE-A and / or Schedule-F are only approximate and CONTRACTOR shall carry out all items of WORK in required quantities as per drawings and specifications provided by OWNER/CONSULTANT, subject to provisions of Article-15 hereof.

3.5. Work shall be executed with all due diligence, in the manner specified herein, to the satisfaction of OWNER/CONSULTANT'S REPRESENTATIVE within the time schedule agreed to herein for the respective item. CONTRACTOR shall post at SITE appropriate number of qualified and competent supervisory staff for day-to day supervision of work.

3.6. Workmen engaged by CONTRACTOR shall be qualified, experienced and competent for the respective item of works and will be subject to craft-test prescribed by ENGINEER-IN-CHARGE. Where necessary, supervisors and workmen engaged by CONTRACTOR shall hold licenses / permits for carrying out the respective work.

3.7. CONTRACTOR further undertakes to co-operate with OWNER / CONSULTANT as well as other Contractors appointed by OWNER / CONSULTANT and operating at SITE and agrees to freely exchange technical information as may be reasonably asked for by OWNER / CONSULTANT.

ARTICLE-4 TIME-SCHEDULE

4.1. CONTRACTOR shall carry out work in a phased manner and hand over the respective items to OWNER/CONSULTANT after carrying out such tests as are prescribed herein within the programme given in SCHEDULE-B, PROGRAMME OF WORK. The responsibilities of CONTRACTOR in respect of programme vide SCHEDULE-B will be effective from the date on which Letter of Intent has been issued by OWNER/CONSULTANT and indicated as 'ZERO DATE' in the said SCHEDULE–B, provided that OWNER / CONSULTANT gives CONTRACTOR, any mobilisation advance if agreed to herein within 15 days of receipt from CONTRACTOR the related invoice along with the Performance Bond vide Article-2 hereof and the Bank Guarantee towards Security for such advance payment vide Article-14 hereof, both in the prescribed proforma.

4.2. Time is the essence of the CONTRACT and CONTRACTOR understands the necessity of achieving the stage-wise targets in the specified sequence as set-forth in SCHEDULE-B and hereby undertakes to mobilise the required resources and exercise due diligence to adhere to them. During the implementation of CONTRACT, OWNER/CONSULTANT may issue to CONTRACTOR, where applicable, instructions/ requirements in respect of priorities and sequence in the overall interest of the PROJECT and CONTRACTOR shall fully co-operate with OWNER/CONSULTANT in following these instructions and submit to OWNER/CONSULTANT detailed working programmes for achievement of these, which shall be reviewed and approved by ENGINEER-IN-CHARGE.

4.3. Within 30 days of ZERO DATE, CONTRACTOR shall give to OWNER / CONSULTANT in triplicate a detailed programme for assembling materials, submission of fabrication drawing/cutting diagrams, etc. mobilisation of

Construction Equipment, Tools and Tackles, mobilisation of skilled and unskilled labour in various categories / disciplines at various phases of work, pre-fabrication in shop, pre-fabrication at SITE, assignment of supervisory personnel and such other activities, matching with the Programme of work vide SCHEDULE-B. In the event OWNER/CONSULTANT is not satisfied that the programme proposed by CONTRACTOR is adequate to meet targets set forth in SCHEDULE-B, CONTRACTOR shall modify the programme suitably to the satisfaction of OWNER/CONSULTANT and carry out the activities accordingly.

4.4 CONTRACTOR recognizes possibility of inclement weather conditions at SITE and agrees to take all reasonable precautions and measures necessary to permit execution of WORK as per agreed programme despite such adverse conditions and CONTRACTOR shall not be entitled for any additional payment what so ever, on this account.

4.5 CONTRACTOR shall not be entitled for extension of time schedule for any reason whatsoever except as provided in Articles -15.7, 32.2 and 40.3 hereof.

ARTICLE-5 TECHNICAL DOCUMENTS

5.1. The Technical Documents enclosed as part of SCHEDULE-C hereof are, unless otherwise specified, preliminary and typical and are intended only to generally represent the nature of WORK to be executed. OWNER / CONSULTANT will be issuing to CONTRACTOR, from time to time, final and more detailed drawings and documents as are listed in SCHEDULE-C as also new drawings whenever necessary to depict the scope of work. CONTRACTOR shall execute WORK only based on documents bearing the stamp "GOOD FOR CONSTRUCTION".

5.2 Documents once issued by OWNER/CONSULTANT for construction may subsequently be revised without prejudice to Article-15 hereof; and as soon as the revised issues are received CONTRACTOR shall withdraw the previous issue from the field and return to OWNER/CONSULTANT for cancellation.

5.3 CONTRACTOR shall carryout the WORK in strict conformity with the drawings, specifications and such other documents and instructions provided by OWNER/CONSULTANT and standards and codes of practice prescribed by OWNER/CONSULTANT for the respective items of WORK. Where OWNER/CONSULTANT'S own standards are referred to, the same will be provided by OWNER/CONSULTANT; but where other published standards/codes of practice are prescribed, CONTRACTOR shall make own arrangements to be equipped with copies of such documents for use in execution of WORK and failure to do so shall be deemed negligence in performance of CONTRACT. In the event of any conflict or contradiction between any two or more of the documents provided by OWNER/CONSULTANT or between such documents and the prescribed

codes/standards, CONTRACTOR shall bring the same to the attention of ENGINEER-IN CHARGE as soon as it is noticed by CONTRACTOR; and the decision of the ENGINEER-IN-CHARGE shall be followed.

5.4 Wherever necessary, CONTRACTOR shall prepare detailed working drawings, cutting diagrams, fabrication drawings and/ or such other technical documents all in conformity with Technical Information provided by OWNER/CONSULTANT and as may be necessary for execution of WORK and submit same to OWNER/CONSULTANT in required number of copies well in advance in commencement of related WORK. OWNER/CONSULTANT shall return one copy to CONTRACTOR with comments, if any, within Ten (10) working days of receipt from CONTRACTOR and CONTRACTOR shall execute WORK only based on documents reviewed/ approved by OWNER/CONSULTANT. However, CONTRACTOR is solely responsible to ensure that WORK is executed as per designs; drawings, specifications and other technical information provided by OWNER/CONSULTANT and review /comments by OWNER/CONSULTANT in the aforesaid manner of CONTRACTOR'S documents shall not absolve CONTRACTOR of his responsibility.

5.5 Installation of special items of EQUIPMENT shall be taken up only after thorough study of Manufacturer's instructions for handling, assembly and installation, detailed circuit diagram, etc. as may be applicable as per SCHEDULE-A and CONTRACTOR shall ensure availability of such information for EQUIPMENT supplied by the CONTRACTOR.

ARTICLE-6 OWNER/CONSULTANT'S REPRESENTATIVE

6.1 All obligations of OWNER under CONTRACT shall, unless otherwise specifically mentioned, be carried out through FACT Engineering & Design Organization (FEDO) the Design & Engineering CONSULTANT of OWNER. The Resident Construction Manager appointed by FEDO at SITE shall be OWNER/CONSULTANT'S REPRESENTATIVE, and shall represent OWNER/CONSULTANT for all matters concerning this CONTRACT except as otherwise provided herein.

6.2 All instructions and orders to CONTRACTOR shall be issued by OWNER/CONSULTANT'S REPRESENTATIVE and/or an ENGINEER-IN-CHARGE nominated by him and communicated in writing to CONTRACTOR'S REPRESENTATIVE, if available at SITE or to CONTRACTOR at the address given in Article-47. WORK shall be executed under direction and to the satisfaction of the ENGINEER-IN-CHARGE, all in accordance with the provisions. CONTRACTOR shall proceed with WORK in accordance with the decisions, orders and/or instructions issued by OWNER/CONSULTANT'S REPRESENTATIVE or the ENGINEER-IN CHARGE provided that;

i) If the CONTRACTOR shall without undue delay after being given a decision, order or instruction otherwise than in writing, require it to be confirmed in writing, such decision, order or instruction shall not be effective until written confirmation thereof has been received by CONTRACTOR, and

ii) If the CONTRACTOR disagrees with or questions a written decision, order or instruction given by ENGINEER-IN-CHARGE he may give notice in writing to ENGINEER-IN-CHARGE within seven (7) days of receipt of such decision, order or instruction stating reasons there for; but issue of such notice shall not relieve CONTRACTOR of the obligation to proceed with WORK in accordance with the decision, order or instruction in respect of which the notice has been issued, without prejudice to other remedial measures provided herein.

6.3 OWNER/CONSULTANT may change the OWNER/CONSULTANT'S REPRESENTATIVE and/or ENGINEER-IN-CHARGE at any time, and shall inform CONTRACTOR promptly, in writing, of such changes.

ARTICLE-7 CONTRACTOR'S REPRESENTATIVE

7.1 CONTRACTOR shall be represented at SITE by a technically qualified, competent and experienced Engineer whose name along with qualification and experience shall be intimated to OWNER/CONSULTANT in writing at least two (2) weeks prior to commencement of CONTRACTOR'S activities at SITE for approval by OWNER/CONSULTANT. The said representative shall be present at SITE during working hours and any orders, instructions or other communications delivered to him by OWNER/CONSULTANT, OWNER / CONSULTANT'S REPRESENTATIVE and/or ENGINEER-IN-CHARGE shall be deemed to have been received by CONTRACTOR.

7.2 Any communication received by OWNER/CONSULTANT from CONTRACTOR'S REPRESENTATIVE shall be deemed issued by CONTRACTOR and shall be binding on CONTRACTOR.

7.3 CONTRACTOR shall not change the Representative at SITE without prior written approval of OWNER/CONSULTANT.

ARTICLE-8 CONTRACTOR TO INFORM HIMSELF

8.1 Certain information pertaining to SITE and considered relevant for the execution of WORK are given in SCHEDULE-D, SITE CONDITIONS. Some of the information given therein are likely to be typical and are intended only to give a general idea about SITE. CONTRACTOR is deemed to have visited the SITE and the locality and to have gathered clear idea of the locality, weather conditions, and access to SITE, space availability, sub-soil conditions, availability of materials, availability and terms of service by labour and such other information that may have influence on execution of WORK.

8.2 CONTRACTOR is deemed to have carefully examined specifications, schedules and drawings and also to have satisfied himself on the nature and extend of WORK to be executed before submission of a tender and entering into CONTRACT.

ARTICLE-9 SUPPLIES BY OWNER/CONSULTANT

9.1 EQUIPMENT

9.1.1 EQUIPMENT and any materials to be provided by OWNER / CONSULTANT will be issued by OWNER/CONSULTANT and handed over to CONTRACTOR at the place of storage. Place of storage will be OWNER/CONSULTANT'S store at SITE or the open storage yard at SITE or at ground level near the plant premises where EQUIPMENT is to be erected depending upon OWNER/CONSULTANT'S convenience and all moving and handling from the place of storage to the actual place of WORK or the basement on which EQUIPMENT is to be erected, is to be carried out by CONTRACTOR.

9.1.2 It is likely that EQUIPMENT stored out-door are in the packing case and CONTRACTOR shall have to open the packing cases and inspect the items before taking over.

9.1.3 EQUIPMENT items which are shipped in parts will have to be assembled by CONTRACTOR prior to installation. Any special tools provided by Manufacturer for this purpose will be made available to CONTRACTOR against appropriate receipt; but all other tools and tackles will have to be provided by CONTRACTOR. Special tools, if any provided by OWNER/CONSULTANT shall be returned to OWNER/CONSULTANT immediately after use.

9.1.4 EQUIPMENT shall be handled by CONTRACTOR very carefully in a professional and workman like manner. In the event of any damage to EQUIPMENT or part thereof due to negligence or use of wrong tool or wrong practices in dismantling, handling, assembling and / or installation or careless storage after taking over by CONTRACTOR, CONTRACTOR shall not only be liable to pay the cost of repair/ replacement but also liquidated damages vide Article-31 hereof for delay in completion of the related WORK beyond the guaranteed date to the extent such delay as occurred on account of repair/ replacement.

9.2 MATERIALS

9.2.1 Materials issued by OWNER/CONSULTANT for use in fabrication / installation by CONTRACTOR are listed in SCHEDULE-E.

9.2.2 Materials will be issued to CONTRACTOR from OWNER / CONSULTANT'S Store at SITE against appropriate indent in the form provided by OWNER/CONSULTANT, countersigned by the ENGINEER-IN-CHARGE and transport from store to place of WORK will have to be done by CONTRACTOR. CONTRACTOR shall hold such material in safe

custody and shall maintain proper accounts of its use. Such accounts shall be available for inspection by OWNER/CONSULTANT, if required. No material shall be removed from SITE without written approval of OWNER/CONSULTANT.

9.2.3 Materials will be issued only during normal working hours of the SITE Store.

9.2.4 The maximum cutting allowance and wastages permissible for each item of material is shown in SCHEDULE-Q. CONTRACTOR is not entitled to receive from OWNER/CONSULTANT quantities in excess of those legitimately required including the cutting allowance and wastages and OWNER/CONSULTANT may refuse issue of excess quantities required consequent to wastage in any manner by CONTRACTOR. In such cases CONTRACTOR may have to make his own arrangements for the additional quantities, required at his own cost and carry out WORK within the agreed time. However, OWNER/CONSULTANT may issue such additional quantities, if available, and recover from the bills of CONTRACTOR at rate specified for this purpose in SCHEDULE–E in the absence of such rates at OWNER/CONSULTANT'S book value or market rate whichever is higher, plus 15% thereof.

9.2.5 In case of urgency, OWNER/CONSULTANT may at the request of CONTRACTOR and at the sole discretion of OWNER/CONSULTANT issue to CONTRACTOR any material required for the WORK but not included in SCHEDULE-E and cost of such issues shall be paid by CONTRACTOR to OWNER/CONSULTANT'S account in advance at price specified by OWNER/CONSULTANT.

9.2.6 Any excess materials drawn by CONTRACTOR, but not used in WORK shall be returned to OWNER/CONSULTANT'S Store at SITE and receipt obtained; and credit will be given for the quantity so returned.

9.2.7 CONTRACTOR shall return to OWNER the cut pieces and scraps of material issued by OWNER/CONSULTANT as well as any containers in which they are issued. Such items shall be properly accounted and delivered at the dump-yard at SITE indicated by OWNER/CONSULTANT and no credit will be given to CONTRACTOR on this account.

9.2.8 In case it is observed that CONTRACTOR has used materials in quantity less than what is legitimately required and the ENGINEER-IN-CHARGE is not satisfied with the reason given by CONTRACTOR, CONTRACTOR shall have to dismantle the work so executed and re-do the same at no cost to OWNER/CONSULTANT. In any case the contract price will be adjusted for such short-usage.

9.2.9 OWNER/CONSULTANT gives no assurance that material to be issued by OWNER/CONSULTANT will be readily available as and when indented by CONTRACTOR, CONTRACTOR is advised to give a monthly programme

of his requirement for each calendar month at least 30 days prior to the first of the calendar month. This programme should indicate the expected requirement in sizes, and quantities and the dates on which required. If CONTRACTOR fails to take such advance action, he shall not be entitled for any extension of time-schedule consequent to delay by OWNER/CONSULTANT in issue of materials, even if such delay has affected WORK.

ARTICLE-10 MATERIALS / EQUIPMENT BY CONTRACTOR

10.1 CONTRACTOR shall procure in time at his own cost and use in WORK all MATERIALS / EQUIPMENT required in carrying out WORK other than EQUIPMENT and materials issued by OWNER/CONSULTANT vide Article-9 hereof. Materials so procured and brought to SITE shall be stored by CONTRACTOR at place allotted for the purpose by ENGINEER-IN-CHARGE and security arrangements shall be made by CONTRACTOR. CONTRACTOR shall provide such materials in sufficient quantities and in time so that WORK can be proceeded with uninterruptedly and shall take advance action in procurement of items which are in scarce supply or availability of which are seasonal.

10.2 MATERIALS / EQUIPMENT provided by CONTRACTOR shall be brand new and of specification agreed to herein or as approved by ENGINEER-IN-CHARGE. MATERIALS / EQUIPMENT brought to SITE shall be used in WORK only after approval by ENGINEER-IN-CHARGE and if so required by him, CONTRACTOR shall provide test certificates and / or samples for verifying the quality. Mill certificates covering physical and analytical tests are to be produced as called for by ENGINEER-IN-CHARGE at no extra cost. If any further tests are to be carried out CONTRACTOR shall arrange for the same at no additional cost to OWNER/CONSULTANT. CONTRACTOR shall declare the manufacturer's name of such MATERIALS / EQUIPMENT and provide, if asked for, evidence relating to the source and purchase there from. Decision by ENGINEER-IN-CHARGE shall be final and binding on CONTRACTOR in respect of whether the material provided is conforming to agreed specification or not.

10.3 Rejected MATERIALS / EQUIPMENT shall be removed by CONTRACTOR from SITE immediately.

10.4 Approval by ENGINEER-IN-CHARGE or any other representative of OWNER/CONSULTANT shall not relieve CONTRACTOR of his responsibility to use material of specified quality suitable for WORK and re-work necessitated consequent to use of sub-standard MATERIALS / EQUIPMENT shall be promptly carried out by CONTRACTOR, free of cost to OWNER/CONSULTANT, irrespective of whether the item was approved by OWNER/CONSULTANT or not.

ARTICLE-11 QUALITY OF WORK

11.1 CONTRACTOR shall execute WORK in the most substantial, professional and

workman-like manner in full conformity to the drawing and specifications and instructions provided by OWNER/CONSULTANT.

11.2 CONTRACTOR shall be responsible for the dimensional accuracy of WORK carried out within the measurement tolerance specified. In case where no measurement tolerance is specified, decision of ENGINEER-IN-CHANGE shall be final in respect of whether an item of WORK carried out conforms to required standard of dimensional accuracy or not.

11.3 Any designs carried out by CONTRACTOR shall be done in a professional and engineer-like manner in conformity with applicable standards and codes of practice.

11.4 CONTRACTOR shall be responsible to ensure that WORK executed conforms to applicable statutory regulations in force on the date on which Letter of Intent is issued by OWNER/CONSULTANT. In the event of any change in such statutory regulations or any new regulations becoming effective after the date of Letter of Intent that have influence on WORK, CONTRACTOR shall promptly notify OWNER/CONSULTANT of the consequent changes required in WORK and its impact, if any, on cost and time-schedule agreed to herein and the provisions of Article-15 hereof will thereafter apply

ARTICLE-12 INSPECTION BY OWNER/CONSULTANT

12.1 ENGINEER-IN-CHARGE or any other designated representative of OWNER/CONSULTANT shall at all reasonable times be entitled to inspect WORK or any part thereof. CONTRACTOR shall provide all necessary assistance to OWNER/CONSULTANT and shall make available all necessary scaffolding, tools and testing equipment to enable OWNER/CONSULTANT to carry out such inspection / tests. CONTRACTOR shall uncover any part of WORK or make openings for inspection as ENGINEER-IN-CHARGE may direct and make good such part to the reasonable satisfaction of OWNER/CONSULTANT.

12.2 On receiving notice from CONTRACTOR that WORK or part thereof is ready for inspection, ENGINEER-IN-CHARGE shall without unreasonable delay attend for the purpose of inspecting the related item of WORK. When tests are completed satisfactorily, CONTRACTOR shall give the test certificates within Five (5) days of completion of tests for signature by ENGINEER-IN-CHARGE. ENGINER-IN-CHARGE may waive at his discretion, right to attend any tests; but this shall not relieve CONTRACTOR of his responsibility to carry out necessary tests at each stage of WORK and provide the test certificates.

12.3 Whenever it is necessary to cover up any item or WORK in respect of which previous inspection is desired and CONTRACTOR has been notified accordingly in writing, CONTRACTOR shall give five (5) days' notice in writing to ENGINEER-IN-CHARGE before the said item is covered up. No such WORK shall be covered up or built upon unless it has been inspected and approved by ENGINEER-IN-CHARGE or his consent in writing to this being

done without prior inspection has been obtained.

12.4 CONTRACTOR will, if so required by OWNER/CONSULTANT, provide specified numbers of test certificates, material analysis certificates and / or radiographic / NDT examination reports at no extra cost.

12.5 All tests shall be carried out as per procedure agreed to herein. If no such procedure is agreed to herein the procedure laid out in applicable standards / codes and as approved by ENGINEER-IN-CHARGE shall be followed. If in the opinion of ENGINEER-IN–CHARGE any tests carried out are not properly conducted, CONTRACTOR shall have to repeat the same at no additional cost to OWNER/CONSULTANT.

12.6 If in the opinion of ENGINEER-IN-CHARGE results of any tests carried out is not reasonably satisfactory, he may reject the portion of WORK for which the test is not satisfactory and CONTRACTOR shall dismantle the rejected portion and redo the same at no additional cost and such repair/ rework shall be subjected to further inspection/test in the above-said manner.

12.7 That an item of WORK has been approved at the time of setting out or in stage-wise inspection/test does not relieve CONTRACTOR of his responsibilities under Article-21 and Article–30 thereof.

12.8 OWNER/CONSULTANT reserves the right to engage or for participation of representatives of OWNER/CONSULTANT'S Licensor or collaborator or any third party inspection agency that OWNER/CONSULTANT may appoint for the purpose, in inspection and testing of WORK and such representative may exercise with CONTRACTOR such authorities as OWNER/CONSULTANT may delegate to them.

ARTICLE-13 PRICE

13.1 In consideration of WORK, OWNER shall pay CONTRACTOR the sum specified in SCHEDULE-F, PRICES. The sum specified in SCHEDULE-F include all costs to CONTRACTOR in carrying out WORK except cost of any material to be issued free of cost by OWNER/CONSULTANT vide Article-9 hereof.

13.2 The price specified in SCHEDULE-F is inclusive of all costs such as labour, materials to be supplied by CONTRACTOR, materials to be provided by OWNER/CONSULTANT at CONTRACTOR'S cost, supervision, incidental charges such as loading and unloading, hoisting, setting out, temporary facilities, protective works, safety measures, tools and implements, construction equipment, hire charges of construction equipment provided by OWNER/CONSULTANT, royalties, licenses, testing and calibration, removal of debris and clearing SITE on completion of WORK and maintenance of WORK required hereunder and any other cost incidental to carrying out WORK.

13.3 Without prejudice to provisions under Article-15, all prices shall remain firm till completion of WORK and shall not be subject to escalation of any description including those on account of delays due to Force Majeure, unless otherwise stated in SCHEDULE-F.

13.4 All statutory deductions will be made at source in accordance with the rules and regulations prevailing from time to time.

13.5 Amounts specified in SCHEDULE-F are subject to deduction of Income Tax and OWNER/CONSULTANT shall withhold from the same such amount as is due at rates prevailing at the time of payment and remit the same to income tax authorities to the account of CONTRACTOR and provide CONTRACTOR with appropriate certificate of tax deduction. Any statutory variation in the rate of deduction of income tax shall not lead to any adjustment in Price.

ARTICLE-14 TERMS OF PAYMENT

14.1 OWNER/CONSULTANT shall make payments to CONTRACTOR in installments as specified in SCHEDULE-G PAYMENT SCHEDULE

14.2 CONTRACTOR shall make all claims in the standard printed bill form prescribed by the OWNER/CONSULTANT and claims shall be serially numbered. Claims shall be made in triplicate copies and shall be submitted to the ENGINEER-IN-CHARGE.

14.3 In case mobilisation advance is agreed to in SCHEDULE-G, CONTRACTOR shall submit along with the invoice a Bank Guarantee from a Nationalised Bank in India, in the proforma vide SCHEDULE-M and payment will be made within 15 days of receipt of the said documents.

14.4 Claims for part - payments shall not be more frequent than once a month. Any deduction to be made for materials issued by OWNER/CONSULTANT or for hire changes of construction equipment provided by OWNER/CONSULTANT will be deducted from the respective part bill and CONTRACTOR shall show such deductions also in the bill.

14.5 All part - payments shall be treated as payments on account and not as value of WORK done and on satisfactory completion of WORK and issue of taking over certificate CONTRACTOR will be paid the total amount due after deduction of any liquidated damages due under CONTRACT, less payments already made and any other recoveries due from the CONTRACTOR.

ARTICLE-15 CHANGE IN WORK

15.1 Any modification in specification and / or quantity of WORK due to any of the following reasons will constitute a CHANGE IN WORK.

i) Increase or decrease in quantity of WORK as per final designs provided

by OWNER/CONSULTANT as compared to those specified in SCHEDULE-F hereof, hereinafter referred to as "Variation in Quantity"

ii) Variation in specifications for any item of WORK as per final design given by OWNER/CONSULTANT as compared to SCHEDULE-F hereof or consequent to changes made after date of Letter of Intent in applicable statutory regulations hereinafter referred to as "Variation in Specification"

iii) Any new items of WORK not specified or included in SCHEDULE-A and for which any price or rate of cost is not specified in SCHEDULE-F hereinafter referred to as" Extra Item".

iv) Any re-work necessitated by change in design by OWNER / CONSULTANT of an item of WORK already executed by CONTRACTOR as per CONTRACT, hereinafter referred to as "Requested Re-work".

Any modification or rework executed by CONTRACTOR by way of rectification of mistakes or making good defective WORK shall not be treated as CHANGE IN WORK.

15.2 In the case of "Variation in Quantity" of an item of WORK the Contract value for the item shall be adjusted pro-rata. In case aggregate increase or decrease in value of Contract due to Variation in Quantity and / or any other reason exceeds 25% of the Initial Contract Price as per Schedule-F the adjustment in price for such variations beyond the Initial 25% margin shall be discussed and agreed between the parties. However, CONTRACTOR'S prices shall be firm for variation up to (+) 25% of Initial Contract value.

15.3 In the event CONTRACTOR is called upon to carry out WORK with variation in specification but generally falling within the categories of WORK covered by CONTRACT, CONTRACTOR shall carry out the related CHANGE IN WORK without any extension of time-schedule. However, the price payable for the items affected by said variation in specification shall be determined based on rates agreed to in CONTRACT for other similar items; and in the absence of agreed rates for similar items it shall be determined in such manner as is specified for the purpose in SCHEDULE-F.

15.4 If CONTRACTOR is called upon to carry out any extra item, consideration receivable by CONTRACTOR for extra items shall be determined in the same manner as specified in Article 15.3 above.

15.5 In the event CONTRACTOR is called upon to carry out any Requested Re-work, he shall be compensated for any dismantling, demolishing or reconstruction as is applicable and determined in the same manner as provided in Article 15.3 above.

15.6 Notwithstanding the above, if specific provisions are made for the adjustment of price or method of determining the same in SCHEDULE-F or the Special Conditions of Contract vide SCHEDULE-Q provisions therein shall prevail over such

provisions in the Article-5 which are in conflict with them.

15.7 In the event CHANGE IN WORK is of a substantial nature and is likely to affect CONTRACTOR'S obligations in respect of Time Schedule, CONTRACTOR shall request ENGINEER-IN-CHARGE in writing of any extension of time schedule require giving reasons therefore as such extension shall be effective only when approved by OWNER/CONSULTANT.

ARTICLE–16 VARIATIONS & OMISSIONS

16.1 CONTRACTOR shall not alter any of WORK except as directed in writing by ENGINEER-IN-CHARGE. OWNER/CONSULTANT shall have full powers during execution of CONTRACT to alter, amend, omit, add or otherwise vary WORK, from time to time by issue of written notice therefore to CONTRACTOR and CONTRACTOR shall carry out such variations and be bound by CONTRACT so far as applicable as though the said variation is stated in CONTRACT. In case, in the opinion of CONTRACTOR, the said variation will involve an increase or decrease in the Contract Price or any of the other obligations of CONTRACTOR hereunder, subject to provisions under Article-15, CONTRACTOR shall within seven (7) days of receipt of the said notice advise ENGINEER-IN-CHARGE of that effect and only on receipt of written acceptance of same from ENGINEER-IN-CHARGE, CONTRACTOR shall give effect to the requested variation.

16.2 The difference in Contract Price; if any, occasioned by such variations shall be added to or decreased from the Contract price and paid in the same manner as Contract Price.

ARTICLE-17 ACCESS TO SITE

17.1 OWNER/CONSULTANT shall provide CONTRACTOR access to SITE and place within SITE where WORK is to be performed at all reasonable times, subject to Article-24 and 26 hereof. Unless specified elsewhere to the Contrary, OWNER/CONSULTANT shall also provide suitable road for transport of EQUIPMENT and Materials from the nearest public thoroughfare or OWNER/CONSULTANT'S Store to the place of work. Any approach road, bridges over trenches, ladders or such other means of access required in the area of work shall be made by CONTRACTOR at no cost to OWNER / CONSULTANT.

17.2 The access to SITE or place of work shall not be exclusive to CONTRACTOR but only such as to enable him to execute WORK. OWNER/CONSULTANT reserves the right to grant access to SITE and place of WORK to other contractors engaged by OWNER/CONSULTANT for carrying out work relating to PROJECT and CONTRACTOR shall fully co-operate with such other contractors and carry out WORK without causing any hardship to others. OWNER/CONSULTANT'S representatives and / or representative of any third-party engaged by OWNER/CONSULTANT for inspection and/ or any statutory authorities shall at all reasonable times have access to SITE and place of work.

17.3 Access to SITE granted herein shall not be construed as grant of any right of possession or Title to CONTRACTOR over SITE or part thereof.

AR TICLE-18 CONSTRUCTION POWER & WATER

18.1 OWNER/CONSULTANT shall provide CONTRACTOR with supply of electric power at nominal supply voltage of 415 V in 3 phase 50 C/s, 4 wire system at one points at the outgoing terminals of OWNER/CONSULTANT'S switchgear in the manner and for the purposes specified in SCHEDULE-H.

18.2 CONTRACTOR shall make his own arrangements to lay cables along such routes and in such manner as ENGINEER-IN-CHARGE approves and to distribute the power to various consuming units and lighting system installed by CONTRACTOR, all in accordance with applicable statutory rules and regulations, CONTRACTOR shall apply for, pay any fees related thereto and obtain statutory approvals for such installations that CONTRACTOR sets up and engage, where necessary, licensed electricians for attending to operation and up-keep for the said installation.

18.3 OWNER/CONSULTANT shall provide CONTRACTOR with supply of water for use in WORK carried out at SITE at one point in a manner and for the purposes as specified in SCHEDULE-H. CONTRACTOR shall make his own arrangements for laying pipelines from the above point to place of WORK and for distribution therein along a route and in manner approved by ENGINEER-IN-CHARGE. CONTRACTOR shall ensure that the installations made by CONTRACTOR are leak proof and that proper valves are provided at all distribution points in order to avoid any wastage of water. For use in higher elevations necessary surface tank and pumping arrangements shall be provided by CONTRACTOR at his cost.

18.4 Supply of power and water by OWNER/CONSULTANT in the above-said manner is free of cost to CONTRACTOR. OWNER/CONSULTANT shall endeavour to maintain supply of power and water uninterruptedly so that WORK can be proceeded with without interruption. However, in the event of any interruption in these supplies for short intervals of time due to any repair or maintenance of OWNER/CONSULTANT'S supply system or due to extraneous reasons, CONTRACTOR shall fully co-operate by re-scheduling the day's WORK and shall not be entitled for any extension of Time -Schedule or compensation for idle wages.

ARTICLE-19 CONSTRUCTION EQUIPMENT

19.1 CONTRACTOR shall provide all tools, tackles, hoisting equipment, safety appliances, ladders, scaffolding, test equipment and such other facilities as are required for carrying out WORK and OWNER/CONSULTANT does not undertake to provide any such facility except as provided hereunder CONTRACTOR'S equipment shall be used solely for the purpose of WORK and shall not be removed from SITE by CONTRACTOR without written permission of OWNER/CONSULTANT. CONTRACTOR shall be responsible to maintain and

safeguard CONTRACTOR'S equipment against damage or loss.

19.2 Construction equipment available with OWNER/CONSULTANT and the hire charges for each are described in SCHEDULE-J. These equipment will be operated by OWNER/CONSULTANT'S crew and the hire changes include all running expenses. The hire changes will be reckoned for the period commencing with the time at which it is released for use by CONTRACTOR up to time when it is released by CONTRACTOR or time up to which CONTRACTOR has intended for his use whichever is later.

19.3 Construction equipment available with OWNER/CONSULTANT are limited and are intended for the common use of the PROJECT and OWNER/CONSULTANT does not undertake .to place these at the disposal of CONTRACTOR without specific prior commitment. CONTRACTOR shall discuss with ENGINEER-IN-CHARGE the requirements and programme of use well in advance and the equipment will be made available only during such times as the ENGINEER-IN-CHARGE agrees to. That OWNER/CONSULTANT'S construction equipment was not available in the time or for adequate duration shall not entitle CONTRACTOR for any increase in price or extension of Time Schedule unless agreed to otherwise in SCHEDULE-F and in such cases CONTRACTOR shall have to make his own alternative arrangements.

19.4 OWNER/CONSULTANT'S construction equipment placed at the disposal of CONTRACTOR shall be used by CONTRACTOR only for the purposes they are intended for and within its prescribed limits of application and CONTRACTOR shall be liable to bear cost of repair / replacement in case of any damage due to misuse or wrong application.

ARTICLE-20 ACCOMMODATION AT SITE & COMMUNICATION FACILITIES

20.1 OWNER/CONSULTANT does not undertake to provide any covered area or protected accommodation of any kind for use by CONTRACTOR for office, store, shop or residential accommodation.

20.2 OWNER/CONSULTANT shall allot leveled ground at convenient place in SITE within reasonable distance of the place of WORK where CONTRACTOR may build temporary structures for site office; store and fabrication shop and CONTRACTOR shall make arrangements for fencing and security. CONTRACTOR shall also make suitable arrangements for sanitation and hygiene in the place allotted to CONTRACTOR.

20.3 CONTRACTOR shall make his own arrangements for residential accommodation of staff and workmen, facilities for food and canteen and shall not set up any hutments, barracks or other form of residential units at any place within SITE or on other land belonging to OWNER/CONSULTANT unless specifically agreed to.

20.4 CONTRACTOR shall make his own arrangements for any telephone / telex / fax / email communication facilities he needs in carrying out WORK. In case of

emergency, OWNER/CONSULTANT may permit use of available facility for which charges if any shall be borne by CONTRACTOR.

ARTICLE-21 TESTS ON COMPLETION & TAKING OVER

21.1 CONTRACTOR shall give ENGINEER-IN-CHARGE fifteen (15) days' notice in writing of the date on which he will be ready to carry out tests specified in SCHEDULE-A for the WORK or section of WORK if WORK is so divided in SCHEDULE-A. Unless otherwise agreed, these tests shall take place within ten (10) days after the date so notified by CONTRACTOR on such day / days as ENGINEER-IN-CHARGE notifies CONTRACTOR in writing. Tests shall be held as per procedure laid out in SCHEDULE-K hereof and within three (3) days of completion of tests CONTRACTOR shall submit to ENGINEER-IN-CHARGE three (3) copies of the report of the tests for his approval.

21.2 If in the opinion of ENGINEER-IN-CHARGE the tests on completion are being unduly delayed he may by notice in writing call upon the CONTRACTOR to make such tests within ten (10) days of receipt of such notice; and unless otherwise agreed, CONTRACTOR shall make the said tests on such day within the said 10 days as the ENGINEER-IN-CHARGE may fix and of which he shall give notice to ENGINEER-IN-CHARGE. If CONTRACTOR shall fail to make the tests within the time aforesaid, OWNER/CONSULTANT shall be entitled to proceed with the tests and all tests as made shall be at the risk and expense of CONTRACTOR.

21.3 ENGINEER-IN-CHARGE may require CONTRACTOR at any time before commencement of a test or during the performance of the test to postpone or suspend the test if in his opinion the arrangements made by CONTRACTOR for carrying out the tests are inadequate or unsatisfactory; and in such case CONTRACTOR shall re-schedule the tests and conduct it in such manner as ENGINEER-IN-CHARGE approves.

21.4 Should any part of WORK fail to achieve the performance specified or to pass the tests prescribed in any other manner, CONTRACTOR shall at his own expense effect such changes consistent with good engineering practice, as are necessary to enable the WORK to pass further tests and conduct a fresh test after duly notifying ENGINEER-IN-CHARGE. If during the further tests, the WORK or any part thereof fails to achieve the performance specified, the WORK shall not be considered acceptable and CONTRACTOR shall replace, re-do or otherwise rectify them entirely at his own cost until they become acceptable, all within the time schedule agreed to vide Article–4, provided that in case the failure to pass tests is within permissible limits as Engineer-in-charge considers acceptable, OWNER/CONSULTANT may at its own discretion accept the WORK upon appropriate deduction in Contract price as may be provided for elsewhere in CONTRACT or as mutually agreed to.

21.5 As soon as WORK has been completed in all respects in accordance with CONTRACT and has passed the prescribed tests, OWNER/CONSULTANT shall issue a certificate taking over the WORK (hereinafter referred to as

Taking Over Certificate), stating the date on which WORK has been so completed and passed the tests, and the WORK shall be deemed taken over by OWNER/CONSULTANT on the said date. In the event of WORK being divided by this CONTRACT into two or more sections or not being completed in all respects but only to such an extent that it can be put to use by OWNER/CONSULTANT without hindering or being hindered by the execution of part remaining to be completed, OWNER/CONSULTANT shall be entitled to take over any section or sections before the other or the others by issuing a Taking Over Certificate in respect thereof.

21.6 If by reason of any default on the part of CONTRACTOR a Taking Over Certificate has not been issued in respect of every portion of WORK or every portion of a section of W ORK within Thirty (30) days of the date on which it should have been issued as per Time Schedule agreed in CONTRACT, OWNER/CONSULTANT shall be at liberty, without prejudice to other rights herein of OWNER/CONSULTANT to use the WORK of any portion thereof in respect of which a Taking Over Certificate has not been issued, provided that CONTRACTOR is afforded reasonable opportunity to take such steps as may be necessary to permit issue of Taking Over Certificate.

21.7 Issue of Taking Over Certificate or acceptance of WORK or part thereof in any other manner after passing prescribed tests or otherwise shall not relieve CONTRACTOR of his warranty obligations vide Article-30 hereof.

ARTICLE-22 TEMPORARY STRUCTURES

22.1 Any temporary structure set up at SITE by CONTRACTOR shall be of sound construction taking into account safety of EQUIPMENT and workmen and CONTRACTOR shall be solely responsible for any damage or consequence thereof of the same. If in the opinion of ENGINEER-IN-CHARGE such constructions are not of appropriate design or construction and are likely to imperil safety of EQUIPMENT and/or workmen he may notify CONTRACTOR accordingly and Contractor shall forthwith forbid its use until it is replaced or suitably modified in an acceptable manner.

22.2 Any temporary construction made by CONTRACTOR in connection with WORK shall be dismantled and removed by CONTRACTOR and the entire area where WORK was performed cleared of any surplus or scrap materials, rubbish or debris within Thirty (30) days of issue of Taking over Certificate or such earlier date as ENGINEER-IN-CHARGE may require.

22.3 If any temporary structure set up by CONTRACTOR at SITE including any power and water lines obstruct implementation of PROJECT in any manner at any stage of WORK, CONTRACTOR shall immediately on receipt of notice thereof from ENGINEER-IN-CHARGE dismantle and remove or shift the temporary structure or line, at his own cost, in such a manner that the obstruction is removed.

ARTICLE-23 INSURANCE AND LIABILITY FOR DAMAGE

23.1 CONTRACTOR shall during execution of WORK, properly cover up and protect any part of work liable to damage by exposure to weather and shall take every reasonable precaution against accident or damage to work from any cause.

23.2 All equipments and materials brought to SITE by CONTRACTOR for use in execution of WORK shall be at sole risk of CONTRACTOR. Only such materials as are actually used in WORK so as to form part thereof will be covered by the insurance cover arranged by OWNER/CONSULTANT.

23.3 OWNER/CONSULTANT shall have covered by storage-cum-erection insurance policies EQUIPMENT, materials supplied by OWNER / CONSULTANT, OWNER/CONSULTANT'S construction equipment, WORK executed at SITE and OWNER/CONSULTANT'S personnel. These policies apply only to insurance risks at SITE and no other location.

23.4 CONTRACTOR shall take care not to cause any damage to any equipment, materials and or construction of and or any work executed by any other Contractors or other third parties doing work at SITE and CONTRACTOR Indemnifies OWNER/CONSULTANT against any liabilities, whatsoever, consequent to damage caused by CONTRACTOR or CONTRACTOR'S workmen in the aforesaid manner.

23.5 CONTRACTOR indemnifies OWNER/CONSULTANT against any loss, damage or other liabilities in consequence of any negligent act or omission by CONTRACTOR or CONTRACTOR'S Workmen or theft or pilferage of any material and / or EQUIPMENT handed over to CONTRACTOR by OWNER/CONSULTANT. CONTRACTOR shall take appropriate insurance as may be required to cover the above responsibilities.

ARTICLE-24 WORKING HOURS

24.1 All days observed as Holidays by OWNER/CONSULTANT shall be Holidays and all other days shall be working days at SITE, CONTRACTOR shall be given, on request, the calendar of such Holidays for each year. CONTRACTOR shall carry out WORK normally on working days.

24.2 Working hours shall be 8 hours per day on all working days and timing will be as ENGINEER-IN-CHARGE may notify from time to time. Contractor's workmen will be permitted to enter SITE only thirty (30) minutes prior to commencement of working hours and shall leave SITE within thirty (30) minutes of close of working hours. However in special circumstances such as when ENGINEER-IN-CHARGE is satisfied that nature of WORK for the time being carried out is such that it shall have to be proceeded with uninterruptedly even beyond normal working hours or when CONTRACTOR is behind schedule and would not be able to complete WORK within normal working hours. OWNER/CONSULTANT shall permit CONTRACTOR to and CONTRACTOR shall perform WORK beyond normal working hours and any overtime wages or other costs receivable by CONTRACTOR'S workmen shall be fully borne by CONTRACTOR.

CONTRACTOR shall seek for permission for engaging in WORK beyond normal hours well in advance.

ARTICLE-25 SAFETY

25.1 CONTRACTOR shall execute WORK in a safe and secure manner always ensuring safety of personnel engaged in WORK, EQUIPMENT, Materials, Construction Equipment and the WORK itself in all its phases. Safety codes for Construction specified in SCHEDULE-P shall be strictly adhered to and any violation of these will be deemed willful negligence on the part of CONTRACTOR.

25.2 In the event of any accident occurring at SITE in connection with WORK, CONTRACTOR shall submit a report of same to ENGINEER-IN-CHARGE immediately, and/in any case within 24 hours of its occurrence, and shall fully co-operate with OWNER/CONSULTANT in any enquiry held in connection with the same.

ARTICLE-26 CONSULTANT'S REGULATIONS & RULES

26.1 CONTRACTOR shall observe and ensure that his supervisors and workmen observe all rules and regulations of OWNER/CONSULTANT applicable to SITE as may be communicated by OWNER/CONSULTANT from time to time. CONTRACTOR shall ensure that his supervisors and workmen engaged at SITE function in a disciplined manner.

26.2 Entry to SITE of CONTRACTOR'S men shall at all times be subject to security regulations of OWNER/CONSULTANT and controlled by issue of passes. Passes will be issued against application by CONTRACTOR in appropriate form within seven days of receipt of such application. OWNER/CONSULTANT may reject issue of pass or cancel a pass issued earlier to any person whose presence at SITE, in the opinion of OWNER/CONSULTANT is detrimental to the interest of OWNER/CONSULTANT.

26.3 In the event of any person or persons including CONTRACTOR'S REPRESENTATIVE engaged by CONTRACTOR for WORK violates any of the regulations of OWNER/CONSULTANT or does not function in a disciplined manner or is not, in the assessment of OWNER/CONSULTANT, competent to carry out the work for which he is engaged OWNER / CONSULTANT, may cancel the entry passes issued to such person / persons without any notice and CONTRACTOR shall make arrangements for substitutes immediately.

ARTICLE-27 STATUTORY REGULATIONS

27.1 CONTRACTOR shall in all matters arising out of performance of CONTRACT confirm at his own expense with all Acts, Orders, Regulations, Rules and By-Laws of Government of India, State Governments, local bodies and other authorities there under for the time being in force and applicable to WORK.

27.2 Where any temporary installations, facilities or apparatus set up by CONTRACTOR for carrying out WORK is subject to statutory regulations. CONTRACTOR shall ensure that these conform to such regulations applicable and also apply for pay necessary fees and obtain any approval required there under, prior to putting the same into use.

27.3 Where WORK or any part thereof, other than those covered by Article-27.2 above, is subject to statutory regulations / approval, OWNER shall apply for such approvals and pay the fees; but CONTRACTOR shall provide at his own expense all information and assistance necessary to make such applications and to satisfy the Inspecting Authority representing the related statutory body that WORK carried out conforms to applicable regulation. Any WORK or part thereof rejected for non-compliance with statutory regulations shall be modified or replaced by CONTRACTOR at no cost to OWNER/CONSULTANT within the agreed Time-Schedule so as to make it conform to applicable regulations. CONTRACTOR shall not be responsible for any such liability if it has occurred due to the sole reason that EQUIPMENT, designs or materials supplied by OWNER / CONSULTANT do not conform to such applicable regulations.

ARTICLE-28 LAWS RELATING TO LABOUR

28.1 CONTRACTOR shall comply with all Acts, Rules, Orders, Regulations, By-laws of Government of India; State Government. Local Bodies or an Office, authority or unit, there under pertaining to employment or labour at SITE and procure any license that is required for such employment.

28.2 CONTRACTOR shall be deemed Employer for these purposes and shall discharge all obligations of Employer. CONTRACTOR shall maintain such registers and records and display such information and notices as are required under these provisions and such registers shall at all-time be available for inspection by OWNER/CONSULTANT. Where the law require that any act of CONTRACTOR shall be carried out only in the presence of a representative of OWNER/CONSULTANT and witnessed by OWNER / CONSULTANT it shall be so carried and CONTRACTOR shall request ENGINEER-IN-CHARGE for the presence of OWNER/CONSULTANT'S representative. Any information or reports required from CONTRACTOR by OWNER/CONSULTANT, periodically or otherwise, for discharge of OWNER/CONSULTANTS obligations under such laws shall be provided promptly.

28.3. Payment of workmen Compensation and implementation of labour laws with regard to workmen employed by CONTRACTOR are CONTRACTOR'S liability and in case OWNER/CONSULTANT is compelled to incur any expense or any other amount on behalf of CONTRACTOR'S workmen, OWNER/CONSULTANT is entitled to recover that amount from any bills payable to CONTRACTOR or in any other manner as is provided in Article - 44 hereof or otherwise.

28.4 Contractor shall be responsible for all obligations under ESI Act, P. F. Act, Building and Other Construction Worker's Welfare Cess Act, 1996, Rules and Regulations there under and such other Acts and Regulations as may be relevant. Deduction towards ESI, PF, Building and Other Construction Worker's Welfare Cess etc. required as per applicable statutory regulations shall be made by the Contractor and the amounts so deducted along with the Contractor's own contributions as applicable shall be deposited with appropriate authorities. Evidence of this shall be produced by the Contractor when called upon to do so by OWNER/CONSULTANT and in any case every quarter. In case OWNER/CONSULTANT is called upon to pay any such expenses, these shall be reimbursed fully by CONTRACTOR and OWNER/CONSULTANT shall be entitled to recover the same from CONTRACTOR.

28.5 CONTRACTOR indemnifies OWNER/CONSULTANT against any claims from any person or persons engaged by CONTRACTOR in connection with WORK and in the event OWNER/CONSULTANT becomes directly liable for any payment consequent to breach or non-observance by CONTRACTOR of the provisions hereof, such amounts shall be payable by CONTRACTOR to OWNER/CONSULTANT, AND OWNER/CONSULTANT may recover such dues from any amount receivable by CONTRACTOR under CONTRACT without prejudice to any other mode of recovery.

28.6 In the event of any dispute between CONTRACTOR and persons engaged by CONTRACTOR at SITE, CONTRACTOR shall amicably resolve such disputes in such a way that WORK can be proceeded with uninterruptedly. In the event such disputes cannot be resolved in the above-said manner, CONTRACTOR shall immediately notify ENGINEER-IN-CHARGE of the existence of such a dispute and the nature thereof; but CONTRACTOR shall himself be responsible to take such measures as are necessary and permissible to have the situation resolved.

28.7 CONTRACTOR may have access to OWNER'S qualified first-aid personnel and ambulance in case of accidents where such facility is available. CONTRACTOR shall however provide a first-aid post for attending to minor injuries.

ARTICLE-29 APPRENTICES ACT

29.1 CONTRACTOR shall comply with provisions of the Apprentices Act, 1961 and any amendments thereto as well as any Rules made or orders issued there under from time to time.

29.2 CONTRACTOR shall submit to OWNER / CONSULTANT periodically statement giving the number of workmen engaged by CONTRACTOR in each category and the number of apprentices engaged in the corresponding category.

ARTICLE–30 WARRANTY AND MAINTENANCE PERIOD

30.1 CONTRACTOR warrants that WORK will be carried out in full conformity with drawings, designs and specifications provided by OWNER/CONSULTANT, in compliance with applicable statutory regulations for the time being in force, in accordance with recognized standards and codes of practice, as per good engineering practice and in a professional and workman-like manner.

30.2 In the event of any defect being noticed in the quality or workmanship of WORK or any part thereof or any material provided and used by CONTRACTOR in WORK, within a period twelve (12) months from the date if issue of completion certificate by OWNER/CONSULTANT it shall be rectified or replaced by CONTRACTOR at his own expense as deemed necessary by the Engineer-in-Charge. If CONTRACTOR fails to do so within reasonable period or if in the opinion of OWNER/CONSULTANT, CONTRACTOR is unable to do so, or the repair / replacement cannot wait till CONTRACTOR is able to do it, OWNER/CONSULTANT may either directly or through such other agencies as OWNER/CONSULTANT may deem fit, get defective part of WORK made good, all at the risk and cost of CONTRACTOR. Notwithstanding the period specified above, in case of civil constructions, the period of warranty will extend at least up to the end of first monsoon after the WORK is taken over vide Article-21.

30.3 An item of WORK so repaired or replaced shall carry a further warranty as per Article-30.2 above.

30.4 During the period of warranty, CONTRACTOR'S representative shall be available at SITE or at such place from where he can come to SITE immediately on request by OWNER/CONSULTANT and he shall be authorized by CONTRACTOR to carry out any repairs or maintenance as CONTRACTOR is obliged to carry out under the above warranty.

30.5 CONTRACTOR shall not be liable for any defect owing to defective design, specifications, drawings or information provided by OWNER/CONSULTANT in writing based on which WORK has been executed or to defective EQUIPMENT or material provided by OWNER/CONSULTANT or to improper use of WORK by OWNER/CONSULTANT. Normal wear and tear shall not be treated as defect in WORK.

30.6 On expiry of the said warranty period or on completion of CONTRACTOR'S obligations under the warranty, whichever is later, OWNER/CONSULTANT shall issue to CONTRACTOR a Discharge Certificate, stating that CONTRACTOR is discharged of these warranties and release any amounts retained or other form of security held by OWNER/CONSULTANT in lieu of security by CONTRACTOR for said warranties.

ARTICLE-31 GUARANTEE FOR TIME SCHEDULE

31.1 CONTRACTOR guarantees that WORK will be executed as per time schedule agreed to herein vide Article-4.

31.2 In the event of any delay in completion of WORK or part thereof as per agreed schedule, due to reasons other than those specifically exempted vide Articles-15.7, 32.2 and 40.3 hereof, OWNER/CONSULTANT may deduct from the considerations due to CONTRACTOR under CONTRACT or otherwise recover from CONTRACTOR in lieu of liquidated damages, a sum calculated at half of one percent (0.5%) of the Contract Price due to CONTRACTOR for the portion of WORK agreed to be carried out by CONTRACTOR till the date on which the delayed item is due to be completed, for each week of delay, subject to a maximum of seven and a half (7.5%) percent of total Contract Price. Any payments recovered from CONTRACTOR by way of Liquidated damages for delays in earlier stages of WORK shall be reduced from the sums due under this Article-31.2. It is understood and agreed that such amounts due represent the losses suffered by OWNER/CONSULTANT because of delay in WORK by CONTRACTOR and it shall not be necessary for OWNER/CONSULTANT to establish the actual amount of losses suffered, irrespective of whether the WORK or part thereof could be put to any use by OWNER/CONSULTANT had it been completed by CONTRACTOR as per schedule.

31.3 For the purposes of Article-31.2 completion of WORK or part thereof shall mean taking over by OWNER/CONSULTANT of WORK or part thereof (as is applicable) after satisfactory completion of tests vide Article-21 hereof.

ARTICLE-32 DELAY BY CONSULTANT

32.1 In case of any delay in supply by OWNER/CONSULTANT of Designs and Drawings, EQUIPMENT, materials, Construction Equipment, Power and water for construction and/or any other item to be supplied by OWNER / CONSULTANT as per CONTRACT, or in the interruption of supply thereof, CONTRACTOR shall be informed in advance of such delay, wherever possible, and CONTRACTOR shall re-schedule WORK in such a manner that no infructuous expenditure is incurred.

32.2 In case delay by OWNER/CONSULTANT is of a substantial nature and has affected WORK or part thereof in such a manner that it cannot be proceeded with as per agreed schedule, the time-schedule for the part so affected shall be extended correspondingly. Decision of ENGINEER-IN-CHARGE shall be final in respect of any extension of time.

32.3 In any case CONTRACTOR shall not be entitled for any financial compensation or increase in Contract Price in consequence of such delay or interruption.

ARTICLE-33 SPECIAL CONDITIONS OF CONTRACT

33.1 The Special Conditions of CONTRACT specified vide SCHEDULE-Q hereof shall form part of CONTRACT; and wherever the provisions under Special Conditions of CONTRACT are in conflict with any of the provisions vide Article-2 to Article-48 hereof, provisions in the Special Conditions of Contract

shall prevail.

33.2 Definitions vide Article-1 hereof shall apply to special Conditions of contract also and any supplementary Definitions given therein need not necessarily apply to other sections of CONTRACT.

ARTICLE-34 SUB-LETTING AND ASSIGNMENT

34.1 CONTRACT shall be binding and inure to the benefit of the parties hereto and to their successors in right and shall not be assignable by either unless the other party has given its consent in writing to such assignment.

34.2 CONTRACTOR shall not sub-let or sub-contract any or all of its obligations under CONTRACT to any other party without prior written consent of OWNER/CONSULTANT. In the event of CONTRACTOR sub-letting the WORK or part thereof to any other party or engaging any sub-contractor, CONTRACTOR shall still be responsible to OWNER/CONSULTANT for performance of the whole CONTRACT and shall ensure that such other party to whom WORK or part thereof is sub-let or sub-contracted perform the portion of WORK so sub-let or sub-contracted as per provisions herein and the persons employed at SITE by such other party shall be deemed employed by CONTRACTOR.

ARTICLE-35 CLAIMS

35.1 Claims by CONTRACTOR for any disputed items shall be lodged with ENGINEER-IN-CHARGE within thirty (30) days of disallowance of the same failing which the claim shall be deemed to have been waived.

ARTICLE-36 PATENTS

36.1 OWNER/CONSULTANT warrant on their part that any design or instruction given by OWNER/CONSULTANT shall not be such as will cause CONTRACTOR to infringe any Letters of Patent, Registered Designs, Trade Marks, Copy-right or other protected right valid in India, in the performance of WORK.

36.2 Subject to Article-36.1 CONTRACTOR indemnifies OWNER/CONSULTANT against any claim for infringement by CONTRACTOR of any Letters of Patent, Registered Design, Registered trade mark of Copy-right or other protected right valid in India in performance of CONTRACT. In the event of any action being brought against or claims or demands being made on OWNER / CONSULTANT because of any infringement or alleged infringement by CONTRACTOR of any of the said rights, CONTRACTOR shall immediately be notified of the same and CONTRACTOR shall within a reasonable period of time and at its own cost, make such modifications in WORK as would make it non-infringing upon any such rights or any such claims or demands or otherwise procure for OWNER/CONSULTANT such rights as would enable OWNER/CONSULTANT to continue with the use of WORK without infringement of such rights. OWNER/CONSULTANT shall not settle such action or satisfy or compromise any such claims without the written consent of CONTRACTOR

and in the event of any such infringement or alleged infringement leading to litigation CONTRACTOR shall conduct the same and OWNER/CONSULTANT shall co-operate with CONTRACTOR in all reasonable manner.

ARTICLE-37 SECRECY

37.1 All drawings, designs, specifications, and other documents and information contained herein and any instruction given by OWNER/CONSULTANT in the performance of CONTRACT, whether patented or patentable or not, shall always remain the exclusive property of OWNER/CONSULTANT and CONTRACTOR at no time shall question or dispute such right of OWNER/CONSULTANT. For a period of fifteen (15) years from the DATE OF CONTRACT, CONTRACTOR shall keep the above documents and information and the knowledge that OWNER/CONSULTANT'S employees information contained in said documents for PROJECT as secret and confidential and shall not reproduce them or divulge them to any third-party without the specific written approval of OWNER/CONSULTANT and shall not use them for any purpose other than those covered by the intents of CONTRACT. Such documents are given on loan by OWNER/CONSULTANT to CONTRACTOR for the limited purpose of execution of WORK and are subject to return on demand.

37.2 CONTRACTOR shall not publish or cause to be published any information on PROJECT, CONTRACT and WORK covered by CONTRACT or CONTRACTOR'S participation in it without the prior written consent of OWNER / CONSULTANT.

37.3 The provisions of this article shall survive expiry or earlier termination / suspension of CONTRACT.

ARTICLE-38 NON-WAIVER

38.1 Any failure by either party at any time, or from time to time to enforce or require strict observance performance of any of the terms and conditions of CONTRACT, or to exercise any rights hereunder, shall not constitute a waiver of such terms and conditions or rights, unless such rights have lapsed under specific provisions elsewhere in CONTRACT, and shall not affect or impair same or the right of either party any time to avail the same.

AR TICLE-39 LANGUAGE & UNITS

39.1 CONTRACT is drawn up in the English Language. All correspondence between the parties in performance of CONTRACT shall be in the English Language. Metric system of measurement shall be followed.

ARTICLE-40 FORCE MAJEURE

40.1 Neither CONTRACTOR nor OWNER/CONSULTANT shall be considered in default in performance of CONTRACT if such performance is prevented or delayed due to circumstances of force Majeure provided that the party so

affected notifies the other in writing promptly, in any case within fifteen (15) days of its occurrence, of the existence of a situation of Force Majeure giving evidence there for. For the purposes of this Article Force Majeure means:

i) War or hostilities

ii) Riot or civil commotion

iii) Earthquake, flood, tempest, lightning or other natural calamities

iv) Accident, fire or explosion on SITE not caused by willful negligence of CONTRACTOR, and/or

v) Labour strike or lock-out exceeding ten (10) days in duration not caused by any deliberate act of indiscretion by CONTRACTOR.

40.2 If the situation of Force Majeure extends for a period exceeding thirty (30) days the parties shall meet together and discuss the further course of action, provided that if CONTRACTOR'S performance is affected OWNER / CONSULTANT may at his option and at any time remove from the scope of CONTRACTOR the portion of WORK so affected and have it executed by any other agency as OWNER/CONSULTANT may deem fit and reduce from the consideration payable to CONTRACTOR a proportionate amount.

40.3 CONTRACTOR shall be entitled for extension of time-schedule vide Article-4 for the performance of the portion of WORK affected by the situation of Force Majeure by a reasonable period but shall not be entitled to any financial compensation such as idle wages or escalation in cost. Decision by ENGINEER-IN-CHARGE shall be final in respect of any extension of time.

ARTICLE-41 SETTLEMENT OF DISPUTES AND ARBITRATION

41.1 If any dispute (s) arises out of or in connection with this contract, or in respect of any defined legal relationship associated therewith or derived there from, the parties agree to submit the disputes to arbitration under the ICADR (International Centre for Alternative Dispute Resolution) Arbitration Rules 1996. The authority to appoint the Arbitrator shall be the International Centre for Alternative Dispute Resolution. The number of Arbitrator shall be one and the language of the arbitration proceedings shall be English. The place of arbitration proceedings shall be Ernakulam in Kerala.

ARTICLE-42 LAW AND LEGAL JURISDICTION

42.1 CONTRACT shall be governed and construed by Laws of India.

42.2 Any legal proceedings relating to CONTRACT shall be limited to courts of law under the jurisdiction of the Kerala High Court at Ernakulam.

ARTICLE-43 SUSPENSION AND TERMINATION

43.1 In the event OWNER/CONSULTANT is unable or unwilling to complete or is compelled to postpone its activities relating to PROJECT at any stage during the currency of CONTRACT, OWNER/CONSULTANT may either suspend or terminate CONTRACT by giving CONTRACTOR thirty (30) days' notice.

43.2 If CONTRACTOR shall fail or neglect to execute work with all due diligence and expedition or shall refuse or neglect to comply with any reasonable orders given to him in writing by OWNER/CONSULTANT in connection with work or shall otherwise commit breach of any of the provisions of CONTRACT, OWNER/CONSULTANT may give CONTRACTOR notice in writing requiring to make good such failure, neglect or breach. Should CONTRACTOR fail to comply with the notice within the time specified therein, then OWNER/CONSULTANT shall, without prejudice to other rights of OWNER/CONSULTANT under CONTRACT, be at liberty to have such WORK or portion of WORK as CONTRACTOR has failed or neglected to execute, executed directly or through any other agency OWNER/CONSULTANT deems fit at the risk and cost of CONTRACTOR; and OWNER/CONSULTANT shall have the free use of all of CONTRACTOR'S equipment, materials and other things for the time being available at SITE for getting the WORK completed in the above-said manner to the exclusion of any right of CONTRACTOR for fair wear and tear thereof.

OWNER/CONSULTANT shall further be entitled to apply the proceeds of such equipment and unused materials of CONTRACTOR and any balance amount that may be due to CONTRACTOR for WORK actually executed towards any claims on OWNER/CONSULTANT from third parties in consequence of failure, neglect, refusal or contravention by CONTRACTOR and / or towards any expense that OWNER/CONSULTANT might have incurred in getting the WORK completed in the above-said manner, in excess of what OWNER / CONSULTANT would have had to pay CONTRACTOR as per CONTRACT.

43.3 If CONTRACTOR shall become bankrupt or insolvent or have a receiving order made against him or shall compound with his creditors or shall commence to be wound up otherwise than for the purpose of reconstruction or shall carry on its business under a Receiver for the benefit of its creditors, OWNER/CONSULTANT may at its sole discretion either;

a) terminate CONTRACT forthwith by notice in writing to CONTRACTOR or the Receiver or the Liquidator or to any other person in whom the CONTRACT may become rested and have the remaining WORK executed at the risk and cost of CONTRACTOR in the same manner as specified in Article-43.2 above, or

b) give such Receiver, Liquidator or other person as aforesaid the option of carrying out the CONTRACT subject to his providing security for the due and faithful performance of CONTRACT up to such amount as may be mutually agreed upon.

43.4 In the event of suspension of CONTRACT vide Article-43.1 above,

immediately on receipt of notice therefore from OWNER/CONSULTANT, CONTRACTOR shall suspend all activities at SITE expect those essentially to be carried out to safe-guard and secure WORK for the time being in progress in a safe manner without wastage of materials and temporarily disband or reassign CONTRACTOR'S workmen except those essentially required at SITE such as for security of CONTRACTOR'S equipments and materials. CONTRACTOR shall re-mobilise its workmen and re-commence WORK within fifteen (15) days of receipt of notice from OWNER/CONSULTANT requiring CONTRACTOR to do so. All costs reasonably incurred by CONTRACTOR in connection with temporarily winding up WORK, maintenance of SITE during period of suspension and remobilisation on withdrawal of suspension order shall be paid by OWNER/CONSULTANT in addition to Contract Price specified herein, and the amount of such additional sum shall be mutually agreed to between the parties base on detailed information provided by CONTRACTOR. CONTRACTOR shall further be entitled for extension of time- schedule corresponding to the period of suspension including permitted period for re-mobilisation.

43.5 In the event of termination of CONTRACT vide Article-43.1 above, immediately on receipt of notice therefore from OWNER/CONSULTANT, CONTRACTOR shall take all steps for winding up work such as cancellation of any pending orders and termination of any sub-contracts that CONTRACTOR might have entered into with others in connection with WORK, safe-guarding and securing of any WORK in progress in a safe manner, disbanding of workmen, removal of temporary construction made by CONTRACTOR at SITE and return of all EQUIPMENT, special tools, un-used materials and documents that OWNER/CONSULTANT has supplied to CONTRACTOR. OWNER/CONSULTANT shall pay CONTRACTOR for the portion of WORK executed till such termination less amounts already paid, together with any reasonable cost necessarily incurred by CONTRACTOR pursuant to such termination as may be mutually agreed upon between the parties hereto based on detailed information provided by CONTRACTOR. CONTRACTOR shall not be entitled for any payment in respect of the portion of WORK left unexecuted.

43.6 Upon termination of CONTRACT for any reason, obligations of the parties hereto shall cease except for the liabilities of either party to the other in respect of obligations that accrued prior to, the date of such termination.

ARTICLE-44 RECOVERY OF DUES FROM CONTRACTOR

44.1 OWNER/CONSULTANT shall have recourse to CONTRACTOR for any costs, claims, demands, proceedings, damages and expenses whatsoever arising out of or in connection with any failure of CONTRACTOR to perform any of his obligations under the terms of CONTRACT.

44.2 Any amount due from CONTRACTOR as per CONTRACT shall be deducted

from money due or becoming due to CONTRACTOR under CONTRACT or under any other account or may be recovered by arbitration vide Article-41 or by action at law.

ARTICLE-45 CONSEQUENTIAL LOSSES

45.1 Liabilities of either party to the other are limited to those specifically provided for herein.

45.2 Neither OWNER/CONSULTANT nor CONTRACTOR shall under any circumstances be liable in respect of any in direct or consequential loss or loss of business or loss of profit suffered by the other party in connection with or arising out of CONTRACT except as specified in Article-31 hereof.

AR TICLE-46 EFFECTIVE DATE AND VALIDITY

46.1 CONTRACT shall become effective on signature by either party after the other.

46.2 Unless terminated by OWNER/CONSULTANT, CONTRACT shall remain valid till obligations of both parties are fulfilled.

ARTICLE-47 NOTICES & ADDRESSES

47.1 All notices under CONTRACT shall be in writing.

47.2 Except as otherwise specified in CONTRACT, it shall be sufficient in all respects if notices are either delivered at or sent by registered post at following addresses;

a) To OWNER/CONSULTANT:

b) To CONTRACTOR:

47.3 Any telegram or telex messages sent shall be confirmed in writing in the above-said manner.

ARTICLE-48 ENTIRE AGREEMENT

48.1 CONTRACT to the exclusion of all prior arrangements, statements or representation, whether oral or written constitutes the full agreement between the parties hereto relating of WORK.

48.2 No variations to the terms of CONTRACT shall be valid unless it is made in writing and signed on behalf of both OWNER/CONSULTANT and CONTRACTOR by their respective authorized representatives.

SCOPE OF WORK

Tender No: 4085/2020-2021/E21901

Name of Work: CONSTRUCTION OF ADDITIONAL PHOSPHORIC ACID STORAGE TANKS AT Q10 BERTH, WI

1. Introduction

1.1 **The Fertilisers and Chemicals Travancore Limited (FACT)** hereinafter also referred to as "OWNER" is a Government of India Public Sector undertaking involved in the manufacture and marketing of nitrogenous, phosphatic and potassic fertilizers as well as a variety of industrial chemical products. The company has presently two manufacturing units, one at FACT-CD, Ambalamugal and the other at FACT-UC, Udyogamandal, both located in the state of Kerala.

1.2 FACT intends to install Two (2) Additional Phosphoric Acid Storage Tanks of operating capacity 5900 MT each along with Phosphoric Acid Transfer Pumps and associated Piping System at their raw materials handling facilities located at Q10 Berth of Cochin Port.

1.3 FACT has assigned the Project Management Consultancy (PMC) works to its own Engineering Division – The FACT Engineering and Design Organisation (herein after referred to as FEDO).

2.0 SCOPE OF WORK

The scope of work envisaged under this contract shall include but not limited to the following:

2.1 Design & Preparation of drawings, Supply, Fabrication, Erection including all structural & Accessories, Inspection, Testing including Hydro testing, Painting, Rubber lining, Calibration, Commissioning and supply of spares of two (2) Additional Phosphoric Acid Storage Tanks (Tag Nos: T 1201 D/E) as per Tender Documents (22 M ID X 10.5 M Height).

2.2 Design as per Tender specifications, Detailed Engineering, Preparation and approval of drawings & documents, Procurement of all raw materials, Manufacture, Surface preparation & Painting, inspection and testing, Supply of all material including spares, Packaging & Forwarding, performance testing (FAT & SAT), submission of production test certificate, installation and Commissioning of Horizontal Centrifugal Phosphoric Acid Transfer Pumps P-3202A/B (Capacity 175 M3/Hr, Discharge pressure 4.0 Kg/cm2G and MOC CD4MCu) with Electric drive motor, with the operating parameters specified in data sheet and as per the technical requirements furnished along with the tender document.

2.3 Design, Detailed Engineering, Preparation and approval of drawings & documents, Procurement of all raw materials, Manufacture, Surface preparation & Painting, inspection and testing, , Supply of all material including spares, Packaging & Forwarding, performance testing (FAT & SAT), submission of production test certificate, installation and Commissioning of Vertical Centrifugal Phosphoric Acid Sump Pump, P-3203 A/B (Capacity 25 M3/Hr, Discharge pressure 4.4Kg/cm2G and MOC CD4MCu) with Electric drive motor,

SCOPE OF WORK

with the operating parameters specified in data sheet and as per the technical requirements furnished along with the tender document.

2.4 Design, Detailed Engineering, Preparation and approval of drawings & documents, Procurement of all raw materials, Manufacture, Surface preparation & Painting, inspection and testing, , Supply of all material including spares, Packaging & Forwarding, performance testing (FAT & SAT), submission of production test certificate, installation and Commissioning of Vertical Centrifugal Rain Water Pit Pump, P-3204 (Capacity 25 M3/Hr, Discharge pressure 1.0 Kg/cm2G and MOC CD4MCu) with Electric drive motor, with the operating parameters specified in data sheet and as per the technical requirements furnished.

2.5 Design & Preparation of drawings, Supply, Fabrication, Erection including all structural & Accessories, Inspection, Testing including Hydro testing, Painting, Rubber lining, Commissioning of associated piping for the Phosphoric Acid Storage Tanks (T 1201 D/E) and Pumps which mainly consist of inlet line to new tanks, line from new tanks to pump suction, recirculation lines, line to barge, erection of new truck loading bay and its associated piping, utility piping etc.

2.6 Civil & Structural works required for Phosphoric Acid Storage Tanks (T 1201 D/E), Pumps and associated Piping in the scope of the Contractor are: Design, Engineering and preparation of Good-for-Construction drawings for the various Structure and Foundation as indicated “Part-II Technical” satisfying the requirements mentioned in Doc-32644-12-PS-003-DB and Tender drawings, Arranging and conducting routine pile load test on Single pile. Casting of bored cast in-situ concrete piles in appropriate depth and dimension for the proposed tank foundation, Construction of Pile cap and Grillage beams over the pile cap, Construction of Dyke wall for the Phosphoric Acid Storage Tanks, Construction of Acid spill drain around tanks and from tank to drain pit with appropriate length and dimensions along with required drain pipes, Construction of drain pit inside dyke wall for meeting contingency, Construction of Pipe rack from tank area to shore side, Truck loading piping, Barge loading piping, Construction of Pipe sleepers as Utility supports within and around dyke for laying suction lines and unloading lines, Construction of crossover platforms, approach ladders, stairs for providing access to the tank from outside the dyke wall, Construction of truck loading platforms and roof.

2.7 Design, detailed engineering, procurement, manufacturing, testing at works, supply, dispatch, storage, handling erection, testing and commissioning of all electrics required for the package, fully conforming to standards and specifications mentioned “Part-II Technical” of this tender. The Electrics include but not limited to the following: Supply and installation of MV switch boards/MCC, Testing and commissioning of MV Motors, Supply and installation of Local control stations (push button stations), welding receptacles etc., Supply and installation of 650/1100V, XLPE insulated, PVC sheathed armoured, FRLS aluminium & 650/1100V, XLPE insulated PVC sheathed armoured FRLS copper cables, Earthing and lightning protection, Lighting including supply and installation of lighting fixtures, DBs etc., Supply and installation of GRP cable trays and steel structural supports, Miscellaneous civil works, Supply and installation of miscellaneous items, Providing service personnel, Preparation of detailed drawings and documents for approval, Furnishing vendor drawings for approvals for supply items, Preparation of drawings, Site test reports, Rendering necessary assistance and preparation of documents for statutory approval covering all Electrical installation.

SCOPE OF WORK

2.8 Scope of Instrumentation jobs are: Design and detailed engineering of total instrumentation required for the tank and its interfacing to existing control room, Supply of instrument erection material like cable tray, cable, cable glands, junction box, structural steel, consumables etc., erection, commissioning, Testing, calibration, painting etc. Documentation and as built preparation. Scope of anticipated work with quantity is detailed in instrumentation schedule of work attached. Note that the work mentioned in schedule of work is to be treated for reference. Major items and services only are listed in this document. The supply, erection and integration of instrumentation for the safe operation of the system shall be in the scope of the Contractor.

2.9 Contractor shall carry out Design conforming to the requirements mentioned in data sheets, drawings, technical documents and specifications attached with “Part-II Technical” of the Tender and got approved by FACT/FEDO. All the works mentioned above shall be executed strictly as per design, detailed engineering, specifications and Good-for-Construction Drawings reviewed and approved by FACT/FEDO. The above referred work is not conclusive. Any other items of work as provided in the schedule of items of work and items for the successful completion of the project shall be under the scope of the Contractor.

PROGRAMME OF WORK

Tender No: 4085/2020-2021/E21901

Name of Work: CONSTRUCTION OF ADDITIONAL PHOSPHORIC ACID STORAGE TANKS AT Q10 BERTH, WI

i. The work shall be completed in all respects within a period of **10 (Ten) MONTHS** from the date of **LOI or Work–to–Proceed Notice** issued by the Engineer–in–Charge, whichever is later and this shall be reckoned as the **ZERO DATE** of the Contract.

ii. The BIDDER shall adhere to the Programme of Work as per Bar Chart attached.

iii. The priorities of execution shall be as fixed by the Engineer – in – Charge at the time of execution.

iv.

Name, Signature & Address
of BIDDER (or digitally signed)

TECHNICAL DOCUMENT

Tender No: 4085/2020-2021/E21901

Name of Work: CONSTRUCTION OF ADDITIONAL PHOSPHORIC ACID STORAGE TANKS AT Q10 BERTH, WI

The technical documentation applicable for the WORK is attached herewith:

1. PART-II TECHNICAL OF THE TENDER DOCUMENT

FEDO

LIST OF ATTACHMENTS OF CONTRACT DOCUMENT
Tender No: 4085/2020-2021/E21901

NAME OF WORK:CONSTRUCTION OF ADDITIONAL PHOSPHORIC ACID STORAGE TANKS AT Q10 BERTH, WI

Sl No	Doc. No.	Description	Pages
		(PART-II - TECHNICAL DOCUMENT)	
I		**SECTION-1 (PROCESS)**	
1	32644-11-SE-001	SPEC.OF PHOSPHORIC ACID TANK (T-1201D)	1
2	32644-11-SE-P3202_R0	PUMP DATA SHEET	1
3	32644-11-PD-001	P&ID FOR PROPOSED PHOSPHORIC ACID STORAGE TANKS (T-	1
4	32644-11-SE-P3203_R0	PUMP DATA SHEET	1
5	32644-11-SN-L002	LEVEL SWITCH DATA SHEET	1
6	32644-11-SN-P001	PRESSURE INSTRUMENTS	1
7	32644-11-SP-001	PIPING SPECIFICATION	
8	32644-11-PC-L001	PIPING MATERIAL CLASSIFICATION	
II		**SECTION -II (MECHANICAL)**	
1	32644-02-PS-001 SW	SCOPE OF WORK - STORAGE TANKS	2
2	32644-01-PS-001 SW	SCOPE OF WORK- PUMPS	2
3	32644-02-PS-001 SPL	SPECIAL REQUIREMENT OF THE PROJECT- STORAGE TANKS	5
4	32644-01-PS-001 SPL	SPECIAL REQUIREMENT OF THE PROJECT- PUMPS	5
5	32644-02-PS-001 VDR	VENDOR DATA REQUIREMENTS -STORAGE TANKS	1
6	32644-01-PS-001 VDR	VENDOR DATA REQUIREMENTS- PUMPS	1
7	32644-01-PS-001 INS	SCOPE OF INSPECTION AND TESTS- PUMPS	1
8	32644-02-PS-001 VDI	VENDOR DATA INDEX	1
9	32644-02-PS-001 SPR	SPARES- STORAGE TANKS	1
10	32644-01-PS-001 SPR	SPARES-PUMPS	1
11	32644-01-PS-001 LD	EQUIPMENT LUBRICATION DATA SHEET	1
12	32644-01-PS-001 SV	SUB VENDOR LIST	1
	DATA SHEET & DRAWINGS		
13	32644-01-DA-001	DATA SHEET PHOSPHORIC ACID TRANSFER PUMPS	3
14	32644-01-DA-002	DATA SHEET PHOSPHORIC ACID SUMP PUMP	4
15	32644-02-DG-10618	DWG. FOR PHOSPHORIC ACID STORAGE TANK (T-1201 D/E)	1
	ENGINEERING SPECIFICATIONS		
16	02 ES 001 / 2010	VENDOR DATA SUBMISSION PROCEDURE	4
17	02 ES 032 / 2010	STORAGE TANK	11
18	02 ES 023 / 2010	PAINTING	13
19	02 ES 030 / 2010	RUBBER LINING	9
20	02 ES 041 / 2010	ANCHOR BOLT	2
21	01ES 010 / 94	CENTRIFUGAL PUMP FOR GENERAL PURPOSE	7
22	01ES067 / 19	CENTRIFUGAL PUMP HEAVY DUTY SERVICE	5
	DESIGN STANDARDS		
23	02 DS 002 / 2010	ANCHOR BOLT	3
24	02 DS 006 / 2010	EARTHING BOSS	1
25	02 DS 020 / 2010	NAME PLATE	3
26	02 DS 022 / 2010	PLATFORMS	1
27	02 DS 027 / 2010	SPIRAL STAIRWAY	2
28	02 DS 029 / 2010	STORAGE TANK ACCESSORIES	5
29	02 DS 007 / 2010	FLOAT LEVEL INDICATOR	2

FEDO

LIST OF ATTACHMENTS OF CONTRACT DOCUMENT
Tender No: 4085/2020-2021/E21901

NAME OF WORK:CONSTRUCTION OF ADDITIONAL PHOSPHORIC ACID STORAGE TANKS AT Q10 BERTH, WI

Sl No	Doc. No.	Description	Pages
III		**SECTION-III (PIPING)**	
1	32644-03-PS-001 VDR	VENDOR DATA REQUIREMENT	1
2	32644-03-PS-001 SPL	SPECIAL REQUIREMENT (PIPING)	3
3	03ES001/10	PIPING DESIGN	11
4	03ES010/10	PIPING TURNKEY PACKAGE	2
5	03ES014/15	RUBBER LINING FOR PIPES& PIPE FITTINGS	14
6	03DS003	PIPING SPACING	1
7	03DS013	VENTS & DRAINS FOR PIPE LINES	1
8	03DS202	PIPING TRUNNION SELECTION	6
9	03DS305	TABLE OF BASIC SPANS AND UNIT LIGHT WEIGHT WITHIN BATTERY LIMITS	3
10	02ES023/10	PAINTING	13
11	25ES205/10	FABRICATION , ERECTION OF STEEL PIPING	28
12	32644-03-PS-001 SV	SUB VENDOR LIST	3
13	32644-03-OP-00001_Rev.0	OVERALL PLOT PLAN	1
IV		**SECTION-IV (CIVIL)**	1
1	32644-12-DA-003	SPECIFIC REQUIREMENTS OF WORK	4
2	32644-12-PS-003-DB	DESIGN PHILOSOPHY AND BASIS FOR CIVIL & STRUCTURAL WORK	69
3	32644-12-PS-003-SIW_A	SCHEDULE OF ITEMS OF WORK (UNPRICED)	3
4	12ES001/18	ENGINEERING SPECIFICATION- CIVIL & STRUCTURAL WORKS	14
5	32647- 03 -PS-001 SV	SUB VENDOR LIST	3
	Drawings		
6	32644-12-DG-00001	CONSTRUCTION OF PHOSPHORIC ACID STORAGE TANKS AT Q10 BERTH, WI-DETAILS OF DYKE WALL, PIPE RACK AND DRAINS	1
7	32644-12-DG-00002	CONSTRUCTION OF PHOSPHORIC ACID STORAGE TANKS AT Q10 BERTH,WI -LAYOUT AND DETAILS OF PILE AND FOUNDATION DETAILS OF PHOSPHORIC ACID TANKS	1
8	32644-12-DG-00010	CONSTRUCTION OF PHOSPHORIC ACID STORAGE TANKS AT Q10 BERTH,WI -TRUCK LOADING PLATFORM-PLAN,ELEVATION AND SECTION	1
		SECTION-V (ELECTRICAL)	
	Technical Documents		
1	32644-13-PS-001 SIW	SCHEDULE OF WORK- SUPPLY AND INSTALLATION OF ELECTRICS	1
2	32644-13-PS-001 SW	SCOPE OF WORK & SPECIAL REQUIREMENTS	4
3	32644-13-PS-001 SPL	SPECIFICATION FOR ERECTION, TESTING & COMMISSIONING	10
4	32644-13-PS-001-INS	SCOPE OF INSPECTION AND TESTS	4
5	00ES001/01	VENDOR DATA SUBMISSION PROCEDURE	3
6	32644-13-PS-001-VDI	VENDOR DATA INDEX	1
7	32644-13-TS-001-VDR ELEC	VENDOR DATA REQUIREMENTS	4
8	13ES900/14	ENGG SPECIFICATION – GENERAL REQUIREMENTS FOR ELECTRICS	4
9	32644-13-DA-90001	DATA SHEET – GENERAL REQUIREMENTS FOR ELECTRICS	1
10	13ES924/14	ENGG SPECIFICATION-ELECTRIC FOR TURNKEY INSTALLATION	10
11	32644-13-DA-924-01	DATA SHEET- TURNKEY INSTALLATION	5

FEDO

LIST OF ATTACHMENTS OF CONTRACT DOCUMENT
Tender No: 4085/2020-2021/E21901

NAME OF WORK:CONSTRUCTION OF ADDITIONAL PHOSPHORIC ACID STORAGE TANKS AT Q10 BERTH, WI

Sl No	Doc. No.	Description	Pages
12	32644-13-TP-924-01	TECHNICAL PARTICULARS- ELECTRIC FOR TURNKEY INSTALLATION	6
13	13ES906/14	ENGG SPECIFICATION – MEDIUM VOLTAGE SWITCHBOARDS	**16**
14	13ES 930/14	ENGINEERING SPECIFICATION-CABLES	**2**
15	13ES 911/14	ENGG. SPECIFICATION-PUSH BUTTON STATION	3
16	13ES910/14	ENGG. SPECIFICATION-MEDIUM VOLTAGE INDUCTION MOTOR	6
17	13ES914/14	ENGG SPECIFICATION FOR FABRICATION OF CABLE TRAYS AND STRUCTURAL STEEL	**2**
18	13ES915/14	ENGG. SPECIFICATION – CABLING INSTALLATION	**4**
19	13ES916/14	ENGG. SPECIFICATION – EARTHING	**4**
20	13ES927/14	ENGG. SPECIFICATION-LIGHTING INSTALLATION	**6**
21	32644-13-PS-001 SV	SUB VENDOR LIST	**2**
22	32644-13-PS-001 CS	COMPLIANCE STATEMENT	**1**
	Drawings		
23	32644-13-SD-00101	SINGLE LINE DIAGRAM OF POWER DISTRIBUTION(TYPICAL)	1
24	32644-13-PL-00501	OVERALL POWER LAYOUT (TYPICAL)	**1**
25	32644-13-GE-00251	TYPICAL ARRANGEMENT OF CABLE RISER	**1**
26	32644-13-GE-00252	TYPICAL ARRANGEMENT OF OVER HEAD CABLE TRAY	**1**
27	32644-13-GE-00253	TYPICAL ARRANGEMENT OF EARTHING JUNCTION PLATE	**1**
28	32644-13-GE-00254	TYPICAL DETAILS OF BURIED CABLES	**1**
29	32644-13-GE-00255	TYPICAL DETAILS OF CABLE TRENCH SECTION	**1**
30	32644-13-GE-00256	EARTHING CONNECTION DETAILS(TYPICAL)	**2**
31	32644-13-GE-00257	ARRANGEMENT OF CANOPIES FOR OUTDOOR DEVICES	**2**
32	32644-13-GE-00258	TYPICAL ARRANGEMENT OF COPPER BONDED ELECTRODE EARTH PIT	**1**
VI		**SECTION-VI (INSTRUMENTATION)**	
1	32644-14-PS-001 SW INST	SCOPE OF WORK	1
2	32644-14-PS-001 SIT INST	SCOPE OF INSPECTION AND TESTS	2
3	32644-14-PS-001 VDR INST	VENDOR DATA REQUIREMENTS	4
4	32644-01 -PS-001 SPL INST	SPECIAL REQUIREMENT OF THE PROJECT	3
5	32644-14-PS-001 SV INST	SUB VENDOR LIST	3
	ATTACHMENTS		
6	14ES008/15	FIELD INSTRUMENT ERECTION SPECIFICATION	30
7	32644-14-CL-00001	OVERALL CABLE LAYOUT	1

SITE CONDITION

Tender No: 4085/2020-2021/E21901

Name of Work: CONSTRUCTION OF ADDITIONAL PHOSPHORIC ACID STORAGE TANKS AT Q10 BERTH, WI

The proposed site for CONSTRUCTION OF ADDITIONAL PHOSPHORIC ACID STORAGE TANKS, WI is at Q10 berth, WI, Kochi, Kerala.

Proposed layout drawing attached and Site Data provided with Part-II TECHNICAL of the tender.

SUPPLIES BY OWNER

Tender No: 4085/2020-2021/E21901

Name of Work: CONSTRUCTION OF ADDITIONAL PHOSPHORIC ACID STORAGE TANKS AT Q10 BERTH, WI

NO tools / tackles / materials / scaffolding / machinery / manpower, any/all incidental items shall be supplied by the **OWNER.**

SCHEDULE OF PRICES

Tender No: 4085/2020-2021/E21901

Name of Work: CONSTRUCTION OF ADDITIONAL PHOSPHORIC ACID STORAGE TANKS AT Q10 BERTH, WI

THE FOLLOWING SHEETS WILL FORM THE SCHEDULE OF PRICE OF THE CONTRACT

FORM -F

a) Form F1-Schedules of Quantities of Work without rates

b) Form F2-Schedule of Rates for Extra items of work (1 Page)

Name, Signature & Address
of Contractor (or digitally signed)

FEDO

UNPRICED BID

Tender No: 4085/2020-2021/E21901

*Note - Please do not fill rates in this format. Kindly put tick mark on "Quoted"/"Not Quoted" in the column provided.

	SCHEDULE OF ITEMS OF WORK			
SL No	**DESCRIPTION OF ITEM**	**QTY**	**UNIT**	**Status**
A	**MECHANICAL**			
A.1	Design, Detailed Engineering, Fabrication and erection of Phosphoric Acid Storage Tanks, T-1201 D/E (22M ID x 10.5M Ht.) at site including welding, conducting radiography, NDT, Hydro Testing including welding of Nozzles, Manholes, internal dip pipes, Hand rails, Platforms, Spiral Stairway and all accessories, as per the technical requirement furnished along with Tender documents. The item includes CS pipes, Flanges, Blinds, pipe fittings, nozzle pipes / dip pipes, manhole davit arrangement, Earthing Lugs, Name Plate with Bracket as required. Item also includes Painting and Internal rubber lining of complete Tank and attachments including supply of materials, Calibration, Commissioning and supply of complete spares as per the technical requirements furnished along with the tender.	2	LS/ Tank	**Quoted/Not quoted**
A.2	Design as per Tender specifications, Detailed Engineering, Preparation and approval of drawings & documents, Procurement of all raw materials, Manufacture, Surface preparation & Painting, inspection and testing, , Supply of all material including spares, Packaging & Forwarding, performance testing (FAT & SAT), submission of production test certificate, installation and Commissioning of Horizontal Centrifugal Phosphoric Acid Transfer Pumps P-3202A/B (Capacity 175 M3/Hr, Discharge pressure 4.0 Kg/cm2G and MOC CD4MCu) with Electric drive motor, with the operating parameters specified in data sheet and as per the technical requirements furnished along with the tender document.	2	LS/ Pump	**Quoted/Not quoted**
A.3	Design, Detailed Engineering, Preparation and approval of drawings & documents, Procurement of all raw materials, Manufacture, Surface preparation & Painting, inspection and testing, , Supply of all material including spares, Packaging & Forwarding, performance testing (FAT & SAT), submission of production test certificate, installation and Commissioning of Vertical Centrifugal Phosphoric Acid Sump Pump, P-3203 A/B (Capacity 25 M3/Hr, Discharge pressure 4.4Kg/cm2G and MOC CD4MCu) with Electric drive motor, with the operating parameters specified in data sheet and as per the technical requirements furnished along with the tender document.	2	LS/ Pump	**Quoted/Not quoted**
A.4	Design, Detailed Engineering, Preparation and approval of drawings & documents, Procurement of all raw materials, Manufacture, Surface preparation & Painting, inspection and testing, , Supply of all material including spares, Packaging & Forwarding, performance testing (FAT & SAT), submission of production test certificate, installation and Commissioning of Vertical Centrifugal Rain Water Pit Pump, P-3204 (Capacity 25 M3/Hr, Discharge pressure 1.0 Kg/cm2G and MOC CD4MCu) with Electric drive motor, with the operating parameters specified in data sheet and as per the technical requirements furnished.	1	LS/ Pump	**Quoted/Not quoted**
B	**PIPING**			
B.1	**SUPPLY OF METALLIC PIPES, FLANGES, FITTINGS, VALVES,GASKETS, FASTNERS ETC..**			
	SUPPLY OF METALLIC PIPING ITEMS			
	Supply including third party inspection, transportation and unloading at site etc. of the following piping items. All necessary tools & tackles and man power required for unloading the consignment and stacking the items at store shall be included in the quoted rate.Supply of all other materials required for completion of work shall be in scope of contractor.			
B.1.1	**CS PIPE, B 36.10, API 5L Gr.B SMLS upto 200NB,ERW from 250NB & above**			
B.1.2	BEVELLED END 50 NB SCH 40	24	M	**Quoted/Not quoted**
B.1.3	BEVELLED END 80 NB SCH 40	138	M	**Quoted/Not quoted**

	SCHEDULE OF ITEMS OF WORK				
SL No	**DESCRIPTION OF ITEM**		**QTY**	**UNIT**	**Status**
B.1.4	BEVELLED END	150 NB SCH 40	6	M	**Quoted/Not quoted**
B.1.5	BEVELLED END	200 NB SCH 20	480	M	**Quoted/Not quoted**
B.1.6	BEVELLED END	250 NB SCH 20	150	M	**Quoted/Not quoted**
B.1.7	BEVELLED END	400 NB SCH 20	480	M	**Quoted/Not quoted**
B.1.8	**CS FLANGE - 150# FF, B16.5,A 105**				
B.1.9	SLIP ON	50NB	46	Nos	**Quoted/Not quoted**
B.1.10	SLIP ON	80NB	146	Nos	**Quoted/Not quoted**
B.1.11	SLIP ON	150NB	54	Nos	**Quoted/Not quoted**
B.1.12	SLIP ON	200NB	300	Nos	**Quoted/Not quoted**
B.1.13	SLIP ON	250NB	146	Nos	**Quoted/Not quoted**
B.1.14	SLIP ON	400NB	274	Nos	**Quoted/Not quoted**
B.1.15	BLIND	50NB	2	Nos	**Quoted/Not quoted**
B.1.16	BLIND	80NB	2	Nos	**Quoted/Not quoted**
B.1.17	BLIND	150NB	4	Nos	**Quoted/Not quoted**
B.1.18	BLIND	200NB	6	Nos	**Quoted/Not quoted**
B.1.19	BLIND	250NB	8	Nos	**Quoted/Not quoted**
B.1.20	BLIND	400NB	10	Nos	**Quoted/Not quoted**
B.1.21	**CS SPACER - 150# FF, B16.5,A105**				
B.1.22	SPACER	80NB	10	Nos	**Quoted/Not quoted**
B.1.23	SPACER	150NB	10	Nos	**Quoted/Not quoted**
B.1.24	SPACER	200NB	15	Nos	**Quoted/Not quoted**
B.1.25	SPACER	250NB	15	Nos	**Quoted/Not quoted**
B.1.26	SPACER	400NB	22	Nos	**Quoted/Not quoted**
B.1.27	**CS PIPE FITTINGS**				
B.1.28	ELBOW 90° SCH.40, B16.9, BW, A234WPB, SMLS	50NB	20	Nos	**Quoted/Not quoted**
B.1.29	ELBOW 90° SCH.40, B16.9, BW, A234WPB, SMLS	80NB	25	Nos	**Quoted/Not quoted**
B.1.30	ELBOW 90° SCH.40, B16.9, BW, A234WPB, SMLS	150NB	10	Nos	**Quoted/Not quoted**
B.1.31	ELBOW 90° SCH.20, B16.9, BW, A234WPB, SMLS	200NB	30	Nos	**Quoted/Not quoted**
B.1.32	ELBOW 45° SCH.40, B16.9, BW, A234WPB, SMLS	80NB	4	Nos	**Quoted/Not quoted**
B.1.33	ELBOW 45° SCH.40, B16.9, BW, A234WPB, SMLS	150NB	4	Nos	**Quoted/Not quoted**
B.1.34	ELBOW 45° SCH.20, B16.9, BW, A234WPB, SMLS	200NB	4	Nos	**Quoted/Not quoted**
B.1.35	EQ.TEE SCH.40, B16.9, BW, A234WPB, SMLS	80NB	4	Nos	**Quoted/Not quoted**
B.1.36	EQ.TEE SCH.40, B16.9, BW, A234WPB, SMLS	150NB	6	Nos	**Quoted/Not quoted**
B.1.37	EQ.TEE SCH.20, B16.9, BW, A234WPB, SMLS	200NB	6	Nos	**Quoted/Not quoted**
B.1.38	RED.TEE SCH.40, B16.9, BW, A234WPB, SMLS	200NBx150NB	4	Nos	**Quoted/Not quoted**
B.1.39	CON RED SCH.40, B16.9, BW, A234WPB, SMLS	80NBx100NB	2	Nos	**Quoted/Not quoted**
B.1.40	CON RED SCH.40, B16.9, BW, A234WPB, SMLS	80NBx150NB	4	Nos	**Quoted/Not quoted**
B.1.41	CON RED SCH.40, B16.9, BW, A234WPB, SMLS	100NBx150NB	4	Nos	**Quoted/Not quoted**
B.1.42	**STUD BOLTS & HEX.NUTS - A193 GR B7 / A194Gr.2H**				
B.1.43	M16x95		388	Nos	**Quoted/Not quoted**
B.1.44	M20x100		232	Nos	**Quoted/Not quoted**
B.1.45	M20x110		1224	Nos	**Quoted/Not quoted**
B.1.46	M22x120		924	Nos	**Quoted/Not quoted**
B.1.47	M24x140		1704	Nos	**Quoted/Not quoted**
B.1.48	**ASME B16.21, EPDM, FF, 5mm THK Gasket**				

	SCHEDULE OF ITEMS OF WORK				
SL No	**DESCRIPTION OF ITEM**		**QTY**	**UNIT**	**Status**
B.1.49	50 NB		30	Nos	**Quoted/Not quoted**
B.1.50	80 NB		75	Nos	**Quoted/Not quoted**
B.1.51	150 NB		30	Nos	**Quoted/Not quoted**
B.1.52	200 NB		155	Nos	**Quoted/Not quoted**
B.1.53	250 NB		80	Nos	**Quoted/Not quoted**
B.1.54	400 NB		145	Nos	**Quoted/Not quoted**
B.1.55	**Valves (Alloy Valves for Corrosion resistance)**				
B.1.56	**Ball Valves**				
B.1.57	BALL VALVE, FLG, 150LB	80 NB	8	Nos	**Quoted/Not quoted**
B.1.58	BALL VALVE, FLG, 150LB	150 NB	5	Nos	**Quoted/Not quoted**
B.1.59	BALL VALVE, FLG, 150LB	200 NB	7	Nos	**Quoted/Not quoted**
B.1.60	BALL VALVE, FLG, 150LB	250 NB	17	Nos	**Quoted/Not quoted**
B.1.61	BALL VALVE, FLG, 150LB	400 NB	4	Nos	**Quoted/Not quoted**
B.1.62	**Check Valves**				
B.1.63	CHECK VALVE, FLG, 150LB	80 NB	2	Nos	**Quoted/Not quoted**
B.1.64	CHECK VALVE, FLG, 150LB	150 NB	3	Nos	**Quoted/Not quoted**
B.1.65	**Diaphragm Valves**				
B.1.66	DIAPHRAGM VALVE, FLG, 150LB	50 NB	20	Nos	**Quoted/Not quoted**
B.1.67	**Strainer**				
B.1.68	Y STRAINER,FLG,150LB	150 NB	3	Nos	**Quoted/Not quoted**
B.2	**FABRICATION AND ERECTION OF PIPING**				
	FABRICATION, WELDING, INSTALLATION, PAINTING OF ABOVE GROUND PIPING				
	The scope of work under this item includes loading and transportation of all piping items from storage point, unloading at site, cleaning and preparation for fabrication fabrication,rubber lining,erection, hook up with existing system and testing of above ground piping as per drawings and specifications. Rubber lining of pipes, fittings and flanges are excluded from this rate and shall be paid separately as per **Item B.4**.				
	All activities associated with making weld joints such as cleaning, marking out, cutting, profiling, bevelling, grinding, aligning, fit up, tack welding, cleaning, chipping, final welding, final cleaning of weld seams etc shall be in the scope of contractor. All consumables required for the completion of work shall be in the contractor's scope of supply. Wherever butt welding of components having dissimilar thickness is required, the inner surface of thicker component shall be ground to match the thickness of the other part as per good engineering practise.				
	The work shall include transporatation from owners storage point, handling, rigging, scaffolding, placing and alignment of pipe and fitting into their respective positions and on to their respective supports, hydro test, painting as per the engineering specifications provided.Fabrication and Erection of trunnion supports, installation of special items like bellows, strainers, traps,fabrication and erection of spacers etc. are also included in this scope.				
	Hydraulic/Pneumatic testing of the piping systems, flushing draining and drying up shall also be included in the scope of items. Sea water/ saline water shall not be used for hydro testing and contractor shall arrange potable water for hydro testing at no extra cost. Suitable corrosion inhibiters should be added and temporary gasket shall be used at all flange joints and quoted rate shall be inclusive of rate of supply for above items.				
	All works required for hook-up of the new lines to the existing system such as draining, flushing etc. of existing lines as per instrucions of Engineer-in-charge are also included in this item.				

	SCHEDULE OF ITEMS OF WORK					
SL No	**DESCRIPTION OF ITEM**			**QTY**	**UNIT**	**Status**
	All tools & tackles, man & machinery, consumables etc. required for completing the job shall be arranged by the contractor at no extra cost.					
	This rate does not cover the rate for NDT (Radiography test and DP/ MP test) which shall be paid as separate item **(Item B.5)**.					
	Painting on all the piping items with proper cleaning of surface, including supply of paint,primer etc., as per specification is also included in the scope.					
	The pay quantity shall be the actual centreline length in metres of straight or fabricated pipe excluding pipe supports, valves, etc. actually installed as required. .Payment for the work done will be made only when the piping is properly located and permenantly supported in its final position in the field after hydrotesting.					
	SPECIFICATION	SIZE	THICKNESS			
B.2.1	CS,SMLS,API 5L GR B	50 NB	SCH 40	18	Mtr	**Quoted/Not quoted**
B.2.2	CS,SMLS,API 5L GR B	80 NB	SCH 40	115	Mtr	**Quoted/Not quoted**
B.2.3	CS,SMLS,API 5L GR B	150 NB	SCH 40	2	Mtr	**Quoted/Not quoted**
B.2.4	CS,ERW ,API 5L GR B	200 NB	SCH 20	400	Mtr	**Quoted/Not quoted**
B.2.5	CS,ERW ,API 5L GR B	250 NB	SCH 20	125	Mtr	**Quoted/Not quoted**
B.2.6	CS,ERW ,API 5L GR B	400 NB	SCH 20	400	Mtr	**Quoted/Not quoted**
B.3	**INSTALLATION OF FLANGES**					
	The work under this item covers all operations necessary to complete a flanged joint and shall include transportation from owners storage point, handling, cleaning and preparation of flange faces and gaskets, placing, aligning, installation of gaskets, bolts/studs, final aligment and tightening of pipe flanges, flanged valves and fittings, orifice flanges, blind flanges, expansion joint flanges etc. at all elevations. Installation of orifices, spades, blinds are also included in the quoted rate. The pay quantity for the items shall be number of pairs of flanges actually completed. The rate is applicable for all ratings and materials.					
	SPECIFICATION		SIZE(NB)			
B.3.1	FLG SLIP ON, FF, 150LB, ASTM A105		50	38	Nos	**Quoted/Not quoted**
B.3.2	FLG SLIP ON, FF, 150LB, ASTM A105		80	122	Nos	**Quoted/Not quoted**
B.3.3	FLG SLIP ON, FF, 150LB, ASTM A105		150	46	Nos	**Quoted/Not quoted**
B.3.4	FLG SLIP ON, FF, 150LB, ASTM A105		200	250	Nos	**Quoted/Not quoted**
B.3.5	FLG SLIP ON, FF, 150LB, ASTM A105		250	122	Nos	**Quoted/Not quoted**
B.3.6	FLG SLIP ON, FF, 150LB, ASTM A105		400	230	Nos	**Quoted/Not quoted**
B.3.7	BLIND, FF, ASTM A 105		80	1	Nos	**Quoted/Not quoted**
B.3.8	BLIND, FF, ASTM A 105		150	3	Nos	**Quoted/Not quoted**
B.3.9	BLIND, FF, ASTM A 105		200	5	Nos	**Quoted/Not quoted**
B.3.10	BLIND, FF, ASTM A 105		250	7	Nos	**Quoted/Not quoted**
B.3.11	BLIND, FF, ASTM A 105		400	8	Nos	**Quoted/Not quoted**
	SPECIFICATION		SIZE(NB)			
B.3.12	BALL VALVE, FLG, 150LB		80	6	Nos	**Quoted/Not quoted**
B.3.13	BALL VALVE, FLG, 150LB		150	4	Nos	**Quoted/Not quoted**
B.3.14	BALL VALVE, FLG, 150LB		200	6	Nos	**Quoted/Not quoted**
B.3.15	BALL VALVE, FLG, 150LB		250	15	Nos	**Quoted/Not quoted**
B.3.16	BALL VALVE, FLG, 150LB		400	3	Nos	**Quoted/Not quoted**
B.3.17	CHECK VALVE, FLG, 150LB		80	2	Nos	**Quoted/Not quoted**
B.3.18	CHECK VALVE, FLG, 150LB		150	2	Nos	**Quoted/Not quoted**
B.3.19	DIAPHGRAM VALVE, FLG, 150LB		50	16	Nos	**Quoted/Not quoted**
B.3.20	Y STRAINER,FLG,150LB		150	2	Nos	**Quoted/Not quoted**
B.4	**RUBBER LINING OF PIPES INCLUDING FLANGE FACES AND FITTINGS**					

	SCHEDULE OF ITEMS OF WORK			
SL No	**DESCRIPTION OF ITEM**	**QTY**	**UNIT**	**Status**
	The inner surface and face of flange of all fabricated pipe segments (Wet area) shall be lined and tested as per FEDO specification 03ES014. All activities associated with rubber lining including supply of lining material and other cosumables,transporataion, surface preparation, application of rubber lining, curing, inspection, testing and repair of lining of all pipes above 40NB including flange faces for the given length shall be in the scope of contractor.			
	SIZE(NB) THICKNESS/SCHEDULE			
B.4.1	50 SCH 40	18	Mtr.	**Quoted/Not quoted**
B.4.2	80 SCH 40	115	Mtr.	**Quoted/Not quoted**
B.4.3	150 SCH 40	2	Mtr.	**Quoted/Not quoted**
B.4.4	200 SCH 20	400	Mtr.	**Quoted/Not quoted**
B.4.5	250 SCH 20	125	Mtr.	**Quoted/Not quoted**
B.4.6	400 SCH 20	400	Mtr.	**Quoted/Not quoted**
B.5	**RADIOGRAPHY / ULTRASONIC / DYE PENETRANT / MAGNETIC PARTICLES TESTS** Radiographic, ultrasonic, DP/MP inspection of the weld joints shall be conducted as per the code, specs. Drawings & instruction of the Engineer-in-charge. However the extent of inspection (%) shall be as per attached document REF:25ES205 The rate quoted shall be inclusive of all operations necessary to fulfill the work of radiography (x-ray / gamma ray) ultrasonic, DP/MP tests including all tools / tackles, films, chemicals etc. complete. After testing, if any joint is found defective, the same shall be rectified and re-tested free of cost. The pay quantity shall be linear centimeters of weld successfully passed Radiographic Inspection	1910	CMs	**Quoted/Not quoted**
B.6	**FABRICATION AND ERECTION OF MITRE BENDS AND REDUCER** Supply, Fabrication and erection of 3 weld mitre elbows and reducer of size 250NB and above is included in the scope of contractor. The rates does not cover stress releaving, radiography/Ultrasonic/DP tests			
	TYPE SIZE NB			
B.6.1	3 WELD MITRE ELBOW 90^0 400	15	Nos	**Quoted/Not quoted**
B.6.2	3 WELD MITRE ELBOW 90^0 250	15	Nos	**Quoted/Not quoted**
B.6.3	3 WELD MITRE ELBOW 45^0 400	3	Nos	**Quoted/Not quoted**
B.6.4	3 WELD MITRE ELBOW 45^0 250	3	Nos	**Quoted/Not quoted**
B.6.5	FABRICATED RED.TEE 250 x 100	6	Nos	**Quoted/Not quoted**
B.6.6	FABRICATED RED.TEE 400 x 250	3	Nos	**Quoted/Not quoted**
B.6.7	FABRICATED REDUCER 250x200	4	Nos	**Quoted/Not quoted**
B.6.8	FABRICATED REDUCER 400 x 300	4	Nos	**Quoted/Not quoted**
B.6.9	FABRICATED REDUCER 400X250	4	Nos	**Quoted/Not quoted**
B.7	**FABRICATION AND ERECTION OF STRUCTURAL SUPPORTS**			
	Supply, fabrication and erection of pipe / valve supports, guide / anchor for pipes as per drawings and instructions of Engineer in charge. Transportation of material, cutting, edge preparation, drilling, threading, welding and fixing of structural supports at all elevations are included in the scope of work. Transportation of the finished items to their respective positions, erection, alignment, welding / bolting and grouting the base plate etc.are also included in this item. Supply of structurals and all consumable required for completing the job shall be in the scope of the contractor. The scope include supply of cement, sand etc. for grouting. Painting of the item including supply of paint and primer as per the specification is also included in the scope.	1	MT	**Quoted/Not quoted**
C	**CIVIL**			
C.1	Demolishing R.C.C. work manually / by mechanical means including cutting and stacking of reinforcement bars and disposal of unserviceable material with in premises of FACT at Q10 as per direction of Engineer in-charge.	102	Cum	**Quoted/Not quoted**

	SCHEDULE OF ITEMS OF WORK			
SL No	**DESCRIPTION OF ITEM**	**QTY**	**UNIT**	**Status**
C.2	Demolishing stone rubble masonry in cement mortar manually / by mechanical means including stacking of serviceable material and disposal of unserviceable material within premises of FACT at Q10 as per direction of Engineer in-charge	48	Cum	**Quoted/Not quoted**
C.3	Dismantling doors, windows and clerestory windows (steel or wood) shutter, of area 3sqm and below, including chowkhats, architrave, holdfasts etc. complete and stacking within premises of FACT at Q10	5	Each	**Quoted/Not quoted**
C.4	Dismantling doors, windows and clerestory windows (steel or wood) shutter, of area beyond 3 sq. metres , including chowkhats, architrave, holdfasts etc. complete and stacking with in premises of FACT at Q10	5	Each	**Quoted/Not quoted**
C.5	Dismantling steel work manually/ by mechanical means in built up sections without dismembering and stacking within premises of FACT at Q10 as per directions of Engineer in-charge.	1678	kg	**Quoted/Not quoted**
C.6	Dismantling Asbestos sheet roofing including ridges, hips, valleys and gutters etc, and stacking the material within premises of FACT at Q10 as directed by Engineer in-charge.	23	Sqm	**Quoted/Not quoted**
C.7	Surface dressing of the ground including removing vegetation and inequalities not exceeding 15cm deep and disposal of rubbish, with in premises of FACT at Q10 and lift up to 1.5m in all kinds of soil	2000	Sqm	**Quoted/Not quoted**
C.8	Felling trees of girth (Measured at a height of 1m above ground level) including cutting of trunks and branches, removing the roots by uprooting, stacking of serviceable material and disposal of unserviceable material - Beyond 60cm girth up to and including 120cm girth.	3	Each	**Quoted/Not quoted**
C.9	Felling trees of the girth (measured at a height of 1m above ground level), including cutting of trunks and branches, removing the roots and stacking of serviceable material and disposal of unserviceable material - Beyond 120cm girth up to and including 240cm girth	3	Each	**Quoted/Not quoted**
C.10	Disposal of moorum / building rubbish / malba / similar unserviceable, dismantled or waste material by mechanical transport including loading, transporting, unloading to approved municipal dumping ground for lead up to 30km for all lifts, complete as per directions of Engineer in-charge. Note - Item to be applicable in urban areas having directions for restricted hours for movement/ plying of load carrying motor vehicle of 3.5cum or more.	206	Cum	**Quoted/Not quoted**

	SCHEDULE OF ITEMS OF WORK			
SL No	**DESCRIPTION OF ITEM**	**QTY**	**UNIT**	**Status**
C.11	Casting 750mm diameter bored cast in-situ reinforced cement concrete piles in M35 grade ready mix concrete after boring through Direct mud circulation method as per IS 2911- Part 1/sec 2, having minimum cement of 400 kg/cum of concrete, using Portland Pozzolana cement conforming to IS 1489, river sand / manufactured sand conforming to IS 383, 20mm or less size graded hard granite broken stones, admixtures to concrete as per IS 9103, water as per IS 456 and reinforced with High strength deformed bars of 500D grade conforming to IS 1786 for the entire length of piles. All the materials used in the casting of concrete shall be done with the approval of Engineer in-charge. The rate shall include the cost for all plants, tools, materials labour and other services for boring the piles including mobilisation and de-mobilisation of piling rigs, boring to the required depth and stabilisation of hole with bentonite slurry or other required material to suit site conditions, making channels in the ground, making service roads and arrangements for transportation and disposal of muck (The muck will be treated as owned by the contractor and it will be the responsibility of the contractor to dispose the muck without causing environment damage with necessary permission from the concerned authority and consultant / client to be informed well in advance on the disposal methodology before starting the work), cleaning the bores with water, lowering the reinforcement cages, concreting, excavating and levelling the ground exposing piles to a depth of 100mm below cut-off level after curing and gaining sufficient strength. Rate of reinforcement alone shall be paid extra - For piles of length 65m below cut-off level. (payment shall be made for length of pile below cut off level only)	8450	Rm	**Quoted/Not quoted**
C.12	Chipping and removing weak concrete at the top of RCC piles to the cut off level in line and levels carefully, manually / mechanically without damaging the remaining portion of pile and exposing the reinforcement, cleaning the reinforcement off any loose concrete particles and removing the debris to places pointed out within the project premises as directed by the Engineer in-charge.	60	Cum	**Quoted/Not quoted**
C.13	Charges for empty boring through various strata to the required diameter of pile specified in the Item above, clearing the area, collecting, conveying and disposal of muck of all types such as liquid, fluid, solid and spoil earth (The muck will be treated as owned by the contractor and it will be the responsibility of the contractor to dispose the muck without causing environment damage with necessary permission from the concerned authority and consultant / client to be informed well in advance on the disposal methodology before starting the work) including hire charges for tools and plants, rigs, cost of labour, etc. complete for all depth. (Payment will be made for abandoned pile due to reasons attributable to owner and for empty boring involved in between ground level at the time of casting the piles and cut-off level of piles.) 750 mm dia. piles	130	Rm	**Quoted/Not quoted**
C.14	Arranging and conducting routine tests on single pile of diameter 750mm and length up to 65m below cut off level described in Item above as per IS: 2911 (Part-IV) latest revision including all required arrangements materials, machineries such as test cap, loading platform, hire and labour for kentledges, cost of all materials, tools and plants, instruments for loading and recording settlements with dial gauge / LVDTS (calibrated), and labour charges, submitting reports etc complete as per technical specifications for76750mm dia piles for a maximum load of 2250kN or the load at which the maximum settlement of test loading in position exceeds the permissible value.	1	Each	**Quoted/Not quoted**
C.15	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains , in all kinds of soil, including dressing of sides and ramming of bottoms, lift up to 1.5m, including getting out the excavated soil and disposal of surplus excavated soil as directed with in premises of FACT at Q10 and close timbering in trenches including strutting, shoring and packing cavities wherever required and bailing out water to keep the excavated trenches suitable for concreting.	3450	Cum	**Quoted/Not quoted**

	SCHEDULE OF ITEMS OF WORK			
SL No	**DESCRIPTION OF ITEM**	**QTY**	**UNIT**	**Status**
C.16	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering	1039	Cum	**Quoted/Not quoted**
C.17	Supplying and filling contractor's own good quality earth to the required levels and grades to level uneven areas at site in layers of 200 mm including watering, ramming, etc complete with all leads and lifts as directed by Engineer in charge (Measurement will be given for consolidated filled volume as per initiasl and final levels as approved and certified by Engineer - in - charge)	9	cum	**Quoted/Not quoted**
C.18	Charges for conveying the surplus earth to places approximately 30 kms away and dumping at low lying places as directed by the Engineer in-charge. Note - Item to be applicable in urban areas having directions for restricted hours for movement/ plying of load carrying motor vehicle of 3.5cum or more.	2411	Cum	**Quoted/Not quoted**
C.19	Providing hard core layer of required thickness using 40mm Nominal size graded hard granite broken stones after compacting the underlying soil, spreading and levelling the stones and then spreading a layer of 6mm downgraded crushed aggregates on top of the broken metal layer and it shall be watered in order to force the crushed fine aggregates into the void spaces of the broken stone and repeat the process till all the voids are filled with crushed fine aggregates right up to the edges of hard core layer, including cost of all materials and labour charges etc., complete	345	Cum	**Quoted/Not quoted**
C.20	Providing 50mm thick bitumen sand mix with blown type bitumen of penetration 85/25 and clean river sand (120kg. bitumen/cum of sand) over a tack coat (total industrial asphalt to be used at 62.5kg /10sqm of surface (including 2.5 kg/10sq.m. of tack coat) including all charges for cleaning the surfaces, heating bitumen, mixing, laying, consolidating, finishing, etc. complete.	1010	Sqm	**Quoted/Not quoted**
C.21	Supplying and providing high build epoxy based chemical resistant coating for outer surface of tank foundation (CERACOTE EP CR of Cera Chem or equivalent) as per manufactures specification to achieve a minimum dry film thickness of 500 microns	2600	Sqm	**Quoted/Not quoted**
C.22	Acid proof lining after cleaning the cement finished surface well with water and allowing to dry, brushing and removing all dust, apply two coats of approved quality bitumen based primer conforming to IS. 1580 as per manufacture's specification, applying 12 mm thick asphalt membrane with hot melt asphalt free from filler conforming to IS. 1580, then laying acid resistant tiles of class II quality conforming to IS. 4860 over a bed of 6 mm thick potassium based silicate cement mortar conforming to IS. 4832 - part. I & 4441 and joints 5 mm thick, raking the joints to full depth from the top surface, removing the raked-out mortar and filling the entire depth of joints with Furan base resin cement mortar conforming to IS. 4832 - part. II including acid washing curing etc. complete as per relevant IS. 4443 specifications at all heights. - 230X112X38 mm or nearest size tile.	315	Sqm	**Quoted/Not quoted**
C.23	Cement concrete work in 1:3:6 mix (1 Portland Pozzolana cement: 3 coarse river sand/manufactured sand: 6 20mm nominal size graded hard granite broken stones) including all charges for mixing concrete, necessary shuttering, laying, consolidating, curing, removal of shutters, cost for bailing out of water, oil, liquid mud etc. from all sources in excavated pits, trenches, etc. complete at all levels as per standard specifications and as directed by the Engineer in-charge for foundation / levelling course etc. Approved make of materials are furnished in Specific requirements of work – 32644-12-DA-003.	220	Cum	**Quoted/Not quoted**

	SCHEDULE OF ITEMS OF WORK			
SL No	**DESCRIPTION OF ITEM**	**QTY**	**UNIT**	**Status**
C.24	Providing and laying in position ready mixed M-35 grade concrete for reinforced cement concrete work, using fly ash and cement content as per approved design mix, and manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work, including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering, and reinforcement, including cost of admixtures in recommended proportions as per IS : 9103 to accelerate / retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer in - charge. NOTE- (1) Minimum Cement content shall be @ 350 kg/cum. Excess/ less cement used as per design mix is payable/ recoverable separately. "(2) Fly ash conforming to grade I of IS 3812 (Part-1) only be used as part replacement of OPC as per IS: 456. Uniform blending with cement to be ensured in accordance with clauses 5.2 and 5.2.1 of IS:456 in the items of BMC and RMC – for pile caps . Approved make of materials are furnished in Specific requirements of work – 32644-12-DA-003	1308	Cum	**Quoted/Not quoted**
C.25	Providing and laying in position ready mixed M-35 grade concrete for reinforced cement concrete work, using fly ash and cement content as per approved design mix, and manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work, including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering, finishing and reinforcement, including cost of admixtures in recommended proportions as per IS : 9103 to accelerate / retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. NOTE- (1) Cement content considered in this item is @ 350 kg/cum. Excess/ less cement used as per design mix is payable/ recoverable separately." (2) Fly ash conforming to grade I of IS 3812 (Part-1) only be used as part replacement of OPC as per IS : 456. Uniform blending with cement to be ensured in accordance with clauses 5.2 and 5.2.1 of IS:456 -2000 in the items of BMC and RMC - All works above plinth level upto and including floor V level	322	Cum	**Quoted/Not quoted**
C.26	Providing and laying in position ready mixed M-30 grade concrete for reinforced cement concrete work, using fly ash and cement content as per approved design mix, and manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work, including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering, and reinforcement, including cost of admixtures in recommended proportions as per IS : 9103 to accelerate / retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer in - charge. NOTE- (1) Minimum Cement content shall be @ 340 kg/cum. Excess/ less cement used as per design mix is payable/ recoverable separately. "(2) Fly ash conforming to grade I of IS 3812 (Part-1) only be used as part replacement of OPC as per IS: 456. Uniform blending with cement to be ensured in accordance with clauses 5.2 and 5.2.1 of IS:456 in the items of BMC and RMC – for all works up to plinth level except pile cap. Approved make of materials are furnished in Specific requirements of work – 32644-12-DA-003	260	Cu.m	**Quoted/Not quoted**

	SCHEDULE OF ITEMS OF WORK			
SL No	**DESCRIPTION OF ITEM**	**QTY**	**UNIT**	**Status**
C.27	Providing and laying in position ready mixed M-30 grade concrete for reinforced cement concrete work, using fly ash and cement content as per approved design mix, and manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work, including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering and reinforcement, including cost of admixtures in recommended proportions as per IS : 9103 to accelerate / retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer in - charge. NOTE- (1) Minimum Cement content shall be @ 340 kg/cum. Excess/ less cement used as per design mix is payable/ recoverable separately. (2) Fly ash conforming to grade I of IS 3812 (Part-1) only be used as part replacement of OPC as per IS: 456. Uniform blending with cement to be ensured in accordance with clauses 5.2 and 5.2.1 of IS:456 - in the items of BMC and RMC – for all works above plinth level . Approved make of materials are furnished in Specific requirements of work – 32644-12-DA-003	114	Cu.m	**Quoted/Not quoted**
C.28	Providing and laying in position ready mixed M-20 grade concrete for reinforced cement concrete work, using fly ash and cement content as per approved design mix, and manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work, including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering, and reinforcement, including cost of admixtures in recommended proportions as per IS : 9103 to accelerate / retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer in - charge. NOTE- (1) Minimum Cement content shall be @ 300 kg/cum. Excess/ less cement used as per design mix is payable/ recoverable separately. “(2) Fly ash conforming to grade I of IS 3812 (Part-1) only be used as part replacement of OPC as per IS: 456. Uniform blending with cement to be ensured in accordance with clauses 5.2 and 5.2.1 of IS:456 in the items of BMC and RMC – for yard concreting, drains, stairs. Approved make of materials are furnished in Specific requirements of work – 32644-12-DA-003	381	Cum	**Quoted/Not quoted**
C.29	Reinforced cement concrete work of M25 grade for precast cover slab using Portland pozzolana cement containing more than 25% of fly ash, river sand / manufactured sand conforming to IS 383 and 20mm nominal size graded hard granite broken stones including all charges for designing the mix, weigh batching, including installation of batching plant at the designated location in the site premises or arranging RMC, mixing concrete, cost of adding concrete admixtures as required, transporting, formwork, laying, vibrating, consolidating, curing with minimal use of potable water subject to provision of IS 456, handling, transporting, loading, unloading, keeping and fixing in position, at all levels etc., complete but excluding cost of providing reinforcements. (Exposed surfaces of pre-cast elements shall have good finish with no blemish or mark on the finished surfaces) NOTE- (1) Minimum Cement content shall be @ 330 kg/cum. Excess/ less cement used as per design mix is payable/ recoverable separately. (2) Fly ash conforming to grade I of IS 3812 (Part-1) only be used as part replacement of OPC as per IS: 456. Uniform blending with cement to be ensured in accordance with clauses 5.2 and 5.2.1 of IS:456 - in the items of BMC and RMC -for cover slabs (50mm to 100mm thick) on drain. Approved make of materials are furnished in Specific requirements of work – 32644-12-DA-003.	18	Cum	**Quoted/Not quoted**
C.30	Add for using extra cement in the items of design mix over and above the specified cement content therein.	158625	kg	**Quoted/Not quoted**
C.31	Providing form work to cement concrete and RCC works with necessary plywood / steel sheet, steel joists, runners, struts, posts etc with adjustable spans and telescopic posts, wooden planks for beam sides etc. including removal after completion /curing at all levels - foundation footings, bases of columns and walls. for mass concrete with straight sides	635	Sqm	**Quoted/Not quoted**

	SCHEDULE OF ITEMS OF WORK			
SL No	**DESCRIPTION OF ITEM**	**QTY**	**UNIT**	**Status**
C.32	Providing form work to cement concrete and RCC works with necessary plywood / steel sheet, steel joists, runners, struts, posts etc with adjustable spans and telescopic posts, wooden planks for beam sides etc. including removal after completion /curing at all levels - foundation footings, pile caps, RCC kerb wall around pile cap, bases of columns and walls. for mass concrete with circular sides	210	Sqm	**Quoted/Not quoted**
C.33	Providing form work to cement concrete and RCC works with necessary plywood/steel sheet, steel joists, runners, struts, posts etc with adjustable spans and telescopic posts, wooden planks for beam sides etc. including removal after completion / curing at all levels – Drain, Dyke wall (any thickness).	1642	Sqm	**Quoted/Not quoted**
C.34	Providing form work to cement concrete and RCC works with necessary plywood/steel sheet, steel joists, runners, struts, posts etc with adjustable spans and telescopic posts, wooden planks for beam sides etc. including removal after completion /curing at all levels - Suspended floors, roofs, landings, balconies and access platform	50	Sqm	**Quoted/Not quoted**
C.35	Providing form work to cement concrete and RCC works with necessary plywood/steel sheet, steel joists, runners, struts, posts etc with adjustable spans and telescopic posts, wooden planks for beam sides etc. including removal after completion /curing at all levels - Lintels, beams, plinth beams, girders, bressumers and cantilevers	1113	Sqm	**Quoted/Not quoted**
C.36	Providing form work to cement concrete and RCC works with necessary plywood/steel sheet, steel joists, runners, struts, posts etc with adjustable spans and telescopic posts, wooden planks for beam sides etc. including removal after completion / curing at all levels - Columns, Pillars, Piers, Abutments, Posts and Struts	46	Sqm	**Quoted/Not quoted**
C.37	Providing form work to cement concrete and RCC works with necessary plywood / steel sheet, steel joists, runners, struts, posts etc with adjustable spans and telescopic posts, wooden planks for beam sides etc. including removal after completion /curing at all levels - Stairs, (excluding landings) except spiral-staircases	11	Sqm	**Quoted/Not quoted**
C.38	Supplying , fabricating, conveying and fixing reinforcement to RCC works at all levels with high strength deformed bars Fe500D grade Thermo Mechanically Treated (TMT) bars conforming to IS 1786 including all charges for uncoiling and straightening rods, cutting rods, bending cold, placing in position and supplying & tying with black annealed tying wire of 16 gauge, etc. complete. Approved make of materials are furnished in Specific requirements of work – 32644-12-DA-003	469487	kg	**Quoted/Not quoted**
C.39	Supplying, conveying fabrication and erection of MS single section members such as channels, guard rail, MS angle hand rails verticals, etc. with fixtures such as end stops, clamps, bolts and nuts etc. including charges for cutting, splicing, drilling holes as required, fixing to lines and levels and cleaning thoroughly with power tools and painting with two coats of red oxide zinc chromate primer (one shop coat and one coat after fixing / erection) Approved make of materials are furnished in Specific requirements of work – 32644-12-DA-003, Refer painting specs for applying priming coats	99377	kg	**Quoted/Not quoted**
C.40	Supplying and fixing MS inserts of all types fabricated out of MS plates, angles, channels, flats, rods, fabricated pieces, etc. in RCC / masonry works at all levels including all charges for cutting, welding, fixing to lines and levels and painting the exposed surfaces with two coats of chemical resistant enamel paint of approved quality and colour over two coats of red oxide zinc chromate primer, etc. complete Approved make of materials are furnished in Specific requirements of work – 32644-12-DA-003, Refer painting specs for applying priming coats	1337	kg	**Quoted/Not quoted**
C.41	Providing and fixing mild steel round holding down bolts with nuts and washer plates complete to all lines and levels and applying petroleum jelly / grease after erection on exposed surface of bolts to prevent corrosion	190	kg	**Quoted/Not quoted**

	SCHEDULE OF ITEMS OF WORK			
SL No	**DESCRIPTION OF ITEM**	**QTY**	**UNIT**	**Status**
C.42	Painting of structural steel work over priming coats (paid with the steel supply item) as follows: a) One intermediate coat of Micaceous Iron Oxide epoxy paint of 70-micron DFT b) One coat of two pack polyamide cured epoxy finish paint of 40-microns DFT c) One coat of aliphatic acrylic polyurethane finish paint of 40-microns DFT Approved make of materials are furnished in Specific requirements of work – 32644-12-DA-003, Refer painting specs for applying finishing coats	2778	Sqm	**Quoted/Not quoted**
C.43	Supplying and fixing pultruded GRP gratings made of Isophthalic polyester resin containing glass fibre content not less than 60% and having fire retardant characteristics, of 38mm height with I bar spacing not exceeding 40mm c/c and crossbars not exceeding 90 mm c/c, suitable for imposed load of 500kg/sqm of colour grey and designed for a max support span of 1300mm over cable trenches / drains / stairs with bonded grit antiskid surface including fixing to the existing structural steel frames / RCC walls by means of SS hold down clamps, locking arrangement etc. For step ladders, gratings have to be fabricated as per site measurement and shall be rigidly fixed to the existing structural by suitable locking arrangement. 2 Piece locking system of size 700 wide (I-bar) x 1mtr (Cross Rod) Length. The GRP material shall be fire retardant meeting ASTM E84 Class A with Flame Spread less than or equal to 25 & Smoke Density ±200 and UV resistant meeting ASTM G154 with flexural strength not reducing by more than 7% on accelerated UV radiation exposure. Approved make of materials are furnished in Specific requirements of work – 32644-12-DA-003.	183	Sqm	**Quoted/Not quoted**
C.44	Supplying and grouting pockets, base plates, etc. at all levels for static equipment / structural steel supports using non-shrink grouts. Approved make of materials are furnished in Specific requirements of work – 32644-12-DA-003.	2	Cum	**Quoted/Not quoted**
C.45	Design,Detailed Engineering and preparation of Good for Construction drawings for the Phospohoric Acid tanks and Allied facilities	1	LS	**Quoted/Not quoted**
D	**ELECTRICAL**			
	Supply, Erection, Testing, Commissioning and Handing over of following electrical equipment as per scope of work detailed below.			
D.1	415V,35MVA.TPN, Motor Control Centre(MCC)	1	LS	**Quoted/Not quoted**
D.2	415V, 4Way 3phase Lighting Distribution board in ,light fittings including all accessories and welding socket outlets.	1	LS	**Quoted/Not quoted**
D.3	Local Control Stations for ON/OFF control of MV motors in , weather proof, cast Aluminium enclosure with canopies .	1	LS	**Quoted/Not quoted**
D.4	Cables and Cabling	1	LS	**Quoted/Not quoted**
D.5	Earthing and lightning protection	1	LS	**Quoted/Not quoted**
D.6	GRP/FRP cable trays and structural steel items	1	LS	**Quoted/Not quoted**
D.7	Excavation and back filling for cable trenches and supply of brick and sand for cable laying purposes.	1	LS	**Quoted/Not quoted**
D.8	Miscellaneous items like GI pipes, hume pipe ,insulation mats , danger notice plates, resusciation charts cable route marker testing of motors,cutting of roads, concrete, etc	1	LS	**Quoted/Not quoted**
E	**INSTRUMENTATION**			
E.1	**FIELD INSTRUMENTS**			
E.1.1	Supply and erection of Non contact Type Radar level transmitter with tank side indicator with cable glands and plugs- 4", 150#, Flange: SS316,Housing material: Cast aluminium, Range: 0-15000mm, Antenna: Cone type with acid fume resistant elastomer coating, Accuracy: +/- 5mm, Weatherproof IP65, Transmitter with 4-20mA output, HART output, Digital LCD type local indication, Power supply: 24V DC 2 wire, Cable entry: 1/2"NPTF(2Nos), Cable gland: SS316-1/2"NPT (1No) , Plug: SS316-1/2"NPT (1No), Painting: Epoxy, with all mounting accessories.	2	Nos	**Quoted/Not quoted**
E.1.2	Supply of spare Non contact Type Radar level transmitter with specifications as above	1	No	**Quoted/Not quoted**

	SCHEDULE OF ITEMS OF WORK			
SL No	**DESCRIPTION OF ITEM**	**QTY**	**UNIT**	**Status**
E.1.3	Supply and erection of cable type float level switch- SPDT, Microswitch with switching ball, Contact rating: 24V DC,3 A, Float material: Polypropylene, Cable material: PVC/PUR(Flexible grade), Weather protection: IP68, Including an intermediate extension junction box of SS/die cast aluminium with IP 65 with two nos 1/2" NPT SS316 cable glands	1	No	**Quoted/Not quoted**
E.1.4	Supply of spare cable type float level switch with specifications as above.	1	No	**Quoted/Not quoted**
E.1.5	Supply and Erection of Integral diaphragm seal type Pressure gauges- Sensing element: Bourdon (MOC:SS316), Wetted parts (Diaphragm): Allloy20/HV9/SS904, Range:0-10Kg/cm2, Process connection: Flanged(50NB,150#), Flange material: SS316L, Dial size: 150mm, Case material:SS304, Construction: Weather proof IP66, Accuracy: +/-2%FSD, Confirming to: IS3624, Max. over pressure: 125%,Dial back ground / marking: White / black, Dial :Aluminium, Movement: SS316, Pointer: anodised Alumimium. With all mounting accessories.	3	Nos	**Quoted/Not quoted**
E.1.6	Supply of spare Integral diaphragm seal type Pressure gauge with specifications as above	1	No	**Quoted/Not quoted**
E.2	**ERECTION MATERIAL**			
E.2.1	Supply and erection of junction box with cable glands and plug- (Suitable for 6 Pair multicore), Weatherproof IP65, material: 3 mm thick SS304,Terminals: 24 nos, Earth connection: 1 no inside and 2 no outside, Cable glands - Individual cable- 1/2" NPT (8 nos)- 3 plugged, 5 nos with Gland and Multi pair cables- 3/4" (typical) (2 Nos,)- one plugged, other with gland, Cable glands/ with plugs- SS316 ET type suitable for Armored cables, PVC shrouds also to be installed.	1	No	**Quoted/Not quoted**
E.2.2	Supply and erection of 1 Pair 1.5 sq mm FRLS Cable- Screened and armoured, 600 voltage class, Extruded PVC Type C, ST2, Conductor: ATC, 7 stranded, Shield :	1	Ls	**Quoted/Not quoted**
E.2.3	Supply and erection of 6 Pair 1 sq mm FRLS Cable- Individual & overall screened and armoured, 600 voltage class, Extruded PVC Type C, ST2, Conductor: Annealed tinned, 7 stranded, Shield : Aluminium backed mylar, 25% overlapped with helical wrapping, Drain wire: 20 AWG tinned copper with 7 strands, Armour: 1.4 sq mm galvanised steel round wire, Binder: Non hygroscopic, 50% overlapped with helical wrapping, Colour: Sheath- Black, Core1-White, Core2- Black, As per standard IS1554/5831	1	Ls	**Quoted/Not quoted**
E.2.4	Supply and Erection of Cable Trays- FRP Cable tray, Perforated type, minimum Thickness 2.5mm, with cover, coupler plates, fastening ties etc, width suitable for cable installation with spare space of 40%. Supported at every 2 mtr horizontally.	1	Ls	**Quoted/Not quoted**
E.2.5	Supply and Erection of Structural Steel- Structural steel as required for installation of instrument, mounting of tray, junction box etc, fabrication and painting and associated minor civil works included.	1	Ls	**Quoted/Not quoted**
E.3	**INTEGRATION**			
E.3.1	Integration of the instruments to control room including Cabling between Control room and MCC as detailed during detailed engineering stage.	1	Ls	**Quoted/Not quoted**
	Important Note : 100% of quoted Total price shall be divided as per following weightage GIVEN against each item and payment of the same shall be considered for stagewise payment. Based on the weightage, the payment calculation for progressive payment shall be made. 1. CIVIL WORKS. - WEIGHTAGE 50% 2. SUPPLY OF MATERIAL / EQUIPMENT - WEIGHTAGE 30% 3. SERVICE OF MECHANICAL, ELECTRICAL AND INSTRUMENTATION ERECTION WORK - WEIGHTAGE 20%			

SCHEDULE OF RATES FOR EXTRA ITEMS OF WORK

Tender No: 4085/2020-2021/E21901

Name of Work: CONSTRUCTION OF ADDITIONAL PHOSPHORIC ACID STORAGE TANKS AT Q10 BERTH, WI

The following procedure shall be followed for arriving at unit rates for extra items of work

a) Derive from rates for similar items of work already available in the Schedule of Items of Work

b) If rates as per (a) above are not available, rates shall be worked out from data on the basis of which the estimate for the work was prepared, to which over all Tender variation shall be applied.

c) If rates cannot be worked out on the basis of (a) and (b) above, then rates shall be derived on the basis of actual cost of materials used, labour engaged, hire charges of machinery used and all that is necessary for the work, plus a margin of 10 % towards Contractor's profit and overheads.

Name, Signature & Address
of contractor (or digitally signed)

PAYMENT SCHEDULE

Tender No: 4085/2020-2021/E21901

Name of Work: CONSTRUCTION OF ADDITIONAL PHOSPHORIC ACID STORAGE TANKS AT Q10 BERTH, WI

1. **Mobilisation Advance will NOT be paid for the work**.

2. **PAYMENT OF WAGES TO THE WORKERS** shall be made only through bank transactions and proof thereof to be submitted along with the bill. Payment of wages to the staff of the contractor shall not be linked to the clearance of bills by FEDO/FACT

3. **RUNNING BILLS**

Interim payment will be made against running bills at Ninety (90) percent of the value of part of WORK executed and for which tests prescribed, if any, are completed, after deductions on following accounts:

a) Cost of departmental issues proportionate to quantity used in WORK, measured and billed for, including wastage and losses.

b) Hire charges for OWNER'S Construction Equipment used till date of respective running bills.

c) Income Tax at prevailing rates.

d) Any other amount due from CONTRACTOR to OWNER.

e) TDS under GST Act., deduction towards GST.

f) 100% of quoted Total price shall be divided as per following weightage GIVEN against each item and payment of the same shall be considered for stage wise payment. Based on the weightage, the payment calculation for progressive payment shall be made.

1. CIVIL WORKS. - WEIGHTAGE 50%
2. SUPPLY OF MATERIAL / EQUIPMENT - WEIGHTAGE 30%
3. SERVICE OF MECHANICAL, ELECTRICAL AND INSTRUMENTATION ERECTION WORK - WEIGHTAGE 20%

4. **FINAL PAYMENT**

Final Contract price based on WORK actually performed, will be paid after completion of work in all respects, issue of taking over certificate by OWNER, settlement of account of all departmental issues and reconciliation of its use / return, clearance of SITE and removal of

PAYMENT SCHEDULE

Temporary Structures and debris and settlement of all pending claims on account of labour employment by CONTRACTOR at SITE, after adjustment for the following:

i) D e d u c t i o n of all previous payments made.

ii) Recovery of value of departmental supplies including penal recoveries if any.

iii) Recovery of hire charges for OWNER'S Construction Equipment made available for the WORK.

iv) Recovery of Liquidated Damages if any due

v) Income Tax at prevailing rate.

vi) Any other amount due from CONTRACTOR to OWNER.

vii) TDS or GST (If applicable).

At the time of FINAL PAYMENT, CONTRACTOR shall submit, a Clearance Certificate from the OWNER/FEDO through the ENGINEER-IN-CHARGE of the WORK.

Name, Signature & Address
of BIDDER (or digitally signed)

SITE FACILITIES

Tender No: 4085/2020-2021/E21901

Name of Work: CONSTRUCTION OF ADDITIONAL PHOSPHORIC ACID STORAGE TANKS AT Q10 BERTH, WI

The following site facilities will **N O T** be provided by OWNER.

1. **CONSTRUCTION WATER**

2. **CONSTRUCTION POWER**

CONTRACTOR shall make his own arrangements for the above.

FORM OF BANK GAURANTEE FOR SECURITY DEPOSIT

(In Rs.500/- stamp paper)

NAME OF BANK & BRANCH ADDRESS

M/S. FERTILISERS AND CHEMICALS TRAVANCORE LIMITED (FACT)
UDYOGAMANDAL, KERALA - 683501

Sirs,

Guarantee No: ……
Amount of Guarantee – Rs.
Guarantee cover from ……to ……
Last date for lodgment of claim: ……

This Deed of Guarantee executed by the ……..(Name of Bank), constituted under the ……(Name of Act) having its Central Office at ……. and amongst other places, a branch at ……. (hereinafter referred to as the 'Bank') in favour of M/S FACT, UDYOGAMANDAL (hereinafter referred to as the 'Beneficiary'), for an amount not exceeding a Rs. ……../- (Rupees …….. only) at the request of …….. (Hereinafter referred to as the 'Contractor').

This guarantee is issued subject to the condition that the liability of the Bank under this guarantee is limited to a maximum of Rs……../- (Rupees …….. only) and guarantee shall remain in full force up to ……. and cannot be invoked otherwise than by a written demand or claim under this Guarantee served on the Bank on or before …….. (Last date of claim).

WHEREAS M/s Fertilizers and Chemicals, Travancore, Ltd, Udyogamandal P.O. Kerala (hereinafter referred to as the Company) has placed a Work Order No…….. dtd……with ……. (Hereinafter called the Contractor) for the work- ……. (Name of work) and whereas it is one of the conditions of the said work order that the contractor shall either remit a sum of Rs……../- (Rupees …….. only) or furnish a bank guarantee for Rs……../- (Rupees …….. only) as Security Deposit for the due fulfillment of the said work order by the said Contractor.

In consideration of the Company having agreed to accept a Bank guarantee from us towards such security deposit in lieu of the cash deposit in accordance with the terms and conditions of the above work order, we The ……..(Name of Bank) the Bank (hereinafter referred to as the Bank) do hereby undertake to pay the Company merely on demand any sum or sums from time to time demanded by the Company up to a maximum of Rs……../- (Rupees …….. only) being the amount of the security deposit against any loss or damage caused to or suffered by or would be caused to or suffered by the Company by reason of any breach by the said Contractor of any of the terms and conditions contained in the said WORK ORDER.

We, the said Bank, do hereby undertake to pay the amount so demanded by the Company without any demur merely on a demand from the Company stating that the amount claimed is due by way of loss or damage caused to or suffered or would be caused to or suffered by the Company by reason of breach by the said contractor of any of the terms and conditions contained in 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.

FORM OF BANK GAURANTEE FOR SECURITY DEPOSIT

We undertake to pay to the Company any money so demanded notwithstanding any dispute or disputes raised by the said contractor in any suit or proceedings 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 guarantee shall be a valid discharge of our liability for payment there under and the said contractor shall have no claim against us for making such payment.

We, ……..(Name of Bank) further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said contractor and that it shall continue to be enforceable till all the dues of the Company under or by virtue of the said contract have been fully paid and its claim satisfied or discharged or till the Company certified that the terms and conditions of the said contract have been fully and properly carried out by the said contractor and accordingly discharges this guarantee.

We, ……(The Name of Bank) further agree with the said Company that they 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 time of performance by the said contractor or to postpone for any time and from time to time any of the powers exercisable by it against the said contractor and either to enforce or forebear from enforcing any of the terms and conditions governing the said contract or securities available to the Company and the said Bank shall not be released from its liability under these presents by any exercise by the Company of the liberty with reference to the matters aforesaid or by reason of time being given to the said contractor or any other forbearance act or omission on the part of the Company or any indulgence by the Company to the said contractor any other matter or thing whatsoever which under the law relating to sureties, but for this provision, have the effect of so relieving us.

This guarantee shall not be affected by any change in the constitution of the Bank or the Company or the said contractor not shall this guarantee be affected by the change in the constitution of the Company or the said contractor by absorption with any other body or corporation and this guarantee shall be available to or enforceable by such body or corporation.

Our guarantee shall remain in force until …… unless a claim or demand is made before the expiry of the above date all the Company's right under the guarantee shall be deemed as waived/ forfeited and we shall be relieved and discharged from all liabilities hereunder, notwithstanding anything contained herein before our liability under this guarantee shall limited to an amount not exceeding Rs……../- (Rupees …….. only).

Any notice by way of request, demand or otherwise hereunder may be sent by post to the Bank addressed as aforesaid and if sent by post, it shall be deemed to have been given at the time when it would be delivered in due course of post and in proving such notices when given by post, it shall be sufficient to prove that the envelope containing the notice was posted and certificate signed by an officer of the Company that the envelope was so posted, shall be conclusive.

Disputes, differences if any relating to or arising out of this Bank Guarantee shall be settled by courts having jurisdiction over Udyogamandal in Kerala State where the registered office of the Company is situated and no other court shall have jurisdiction in the matter.

FORM OF BANK GAURANTEE FOR SECURITY DEPOSIT

We, ……..(Name of Bank) lastly undertake not to revoke this guarantee during its currency except with the previous, consent of the Company in writing.

Dated this the ……..day of …….. Two Thousand and ……

For (Name of Bank)

Authorized Official Name
Designation

Place:
Date:

Full Address of the Branch issuing
This Guarantee.

RELEASE CERTIFICATE

PROFORMA FOR RELEASE CERTIFICATE

KNOW ALL MEN BY THESE PRESENTS, THAT …… …….. (hereinafter referred to as CONTRACTOR), for and in consideration of the receipt of the sum of Rs. ……. (Rupees …… only) by Contractor from FACT Limited, representing the final payment under Contract No. …… dated the …… day of …….20xx , between CONTRACTOR AND FACT, hereby releases and forever discharges FACT and their respective successors and assign, and the property of either of them from all claims and demands whatsoever in any manner arising out of, or related to, said Contractor labour performed or material and equipment furnished by the contractor in connection with, or incidental to the construction of ……..
……. For FACT at ……
……

In consideration of, and for the purpose of including FACT to make the aforesaid final payment, the Contractor hereby represents warrants and agrees that (1) all sums due or to become due all debts, accounts, damages, obligations, claims and demands of every nature and kind whatsoever in any manner arising out of, or related to, labour performed or materials and equipment furnished in connection with, or incidental to, said construction have been paid and satisfied, (2) there are no unsettled claims for injuries to, or death of any persons and damage to, or destruction of property in any manner arising out of, or related to, the aforesaid construction and (3) it shall indemnify and hold harmless FACT and their respective successors and assigns from and against any claims, demands, liens, claims of lien, judgment, attachments and costs related hereto in any manner, arising out of , or related to, the aforesaid construction.

The Contractor acknowledges, the guarantee purposes, that the date of acceptance of the work performed under Contract No…… is hereby established as ……20xx…

Whenever used in the within instrument of release and indemnity, the name FACT shall refer to THE FERTILISERS AND CHEMICALS TRAVANCORE LIMITED.

RELEASE CERTIFICATE

IN WITNESS WHERE OF, Contractor has caused this instrument to be executed by its duly authorized officers this …….day of …… 20xx…

(CORPORATE SEAL)

WITNESS:

NAME:

SIGNATURE:

TITLE:

PLACE:
DATE:

Name of Contractor

SIGNATURE:

TITLE:

SAFETY PRACTICES

Tender No: 4085/2020-2021/E21901

Name of Work: CONSTRUCTION OF ADDITIONAL PHOSPHORIC ACID STORAGE TANKS AT Q10 BERTH, WI

1. The contractor shall observe all statutory and legal requirements by Central and State Governments applying to the work as well as any local regulations applying to the site issued by OWNER/CONSULTANT or any other authority.

2. Particular attention is drawn to the following:

   a) In case of accident, OWNER'S/CONSULTANT'S Safety Engineer/Engineer–in–Charge shall be informed in writing within 24 hours of occurrence of the accident. The Contractor shall strictly follow regulations laid by Factory Inspector and Government Authorities in this regard.
   b) Fencing all Contractors plant, platforms, excavations
   c) Compliance with all electricity regulations
   d) Compliance with statutory requirements for inspection and test of all lifting appliances and auxiliary lifting gear.
   e) Operation of concrete mixer machine, vibrator, poclain/JCB, Generator etc

3. Staircases, doors or gangways must not be obstructed in any way that will interfere with means of access or escape.

4. The Contractor shall notify OWNER/CONSULTANT of his intention to bring on site any equipment or container holding liquid or gaseous fuel or other substances which might create a hazard. The OWNER/CONSULTANT will have the right to prohibit the use of such equipments or to prescribe the conditions under which such equipment may be used.

5. Where it is necessary to provide and/or store petroleum products or petroleum mixtures and explosives, the Contractor shall be responsible for carrying out such provisions and/or storage in accordance with the rules and regulations laid down in Petroleum and Carbide of Calcium Manual published by the Chief Inspector of Explosives of India. All such storage shall have the prior approval of OWNER/CONSULTANT. In case approvals are required from Chief Inspector of Explosives or any statutory authorities, the Contractor shall be responsible for obtaining the same.

6. The Contractor shall be responsible for the safe storage and use of any radiographic sources or those of his sub-contractor.

7. "Work Permit' in the prescribed proforma shall be obtained from OWNER'SCONSULTANT'S Safety Engineer/Engineer-in-Charge before carrying out any work within the project premises in the following situations:

a) Any work involving open flames and sparks such as welding, gas cutting, soldering, grinding etc.

b) Sand blasting
c) Entry into hazardous and potentially hazardous areas

SAFETY PRACTICES

8. Good house-keeping must be practiced by Contractor's personnel at all times within the project area.

9. For the safe execution of certain works, personal protective Safety devices as stipulated by Safety Codes/Safety Engineer shall be provided and maintained by the Contractor.

10. Any unsafe work practice/working conditions during execution of work shall be corrected immediately on brining the same to the attention of Contractor by OWNER'S/CONSULTANT'S Safety Engineer.

11. Contractor shall strictly adhere to safe traffic practices within project area with respect to speed limit, parking of vehicles etc.

12. Electrical Safety Regulations

12.1 In no circumstances will the Contractor interfere with fuses and electrical equipments belonging to the OWNER or other Contractor.

12.2 Before the Contractor connects any electrical appliances to any plug or sockets belonging to the other Contractors or OWNER he will

a) Satisfy OWNER/Engineer-in-Charge that the appliances in good working condition.
b) Inform the OWNER/Engineer-in-Charge of the maximum current rating, voltage and phase of the appliance.
c) Obtain permission from OWNER/Engineer-in-Charge for taking power connection from specified point.

12.3 Permission for power connection will not be granted until OWNER/Engineer-in-Charge is satisfied that the appliance is in good working condition and proper earthing connection provided.

12.4 No electric cable in use by other Contractor/OWNER will be disturbed without prior permission. No weight of any description will be imposed on any such cable and no ladder or similar equipment will rest against or be attached to it.

12.5 No work must be carried out on any live equipment. The equipment must be made safe and a "WORK PERMIT" issued by Engineer-in-Charge before any work is carried out.

12.6 Contractor shall employ a full time Electrician to maintain the temporary electrical installation of the contractor.

12.7 Contractor shall follow detailed Safety Procedure issued by OWNER/CONSULTANT at the time of commencement of work and updated from time to time.

13.0 Contractor shall have arrangements to transport his workmen in the event of an accident at work site.

SAFETY PRACTICES

ANNEXURE –1

PROCEDURE

FOR

SAFETY ASSURANCE

IN

CONSTRUCTION SITES

SAFETY PRACTICES

PROCEDURE FOR SAFETY ASSURANCE IN CONSTRUCTION SITES

PART –A: PROCEDURE

1.0 Scope

This document explains the safety procedures to be followed in construction sites; directly managed by FEDO.

2.0 Responsibility

Safety activities in each construction site shall be under the control of a Resident Chief Construction Manage or Resident Construction Manager or Resident Engineer or a Safety Engineers as the case may be depending upon the magnitude of the work, as decided by GM (FEDO).

3.0 Safety Field Organisation

In all the sites which are large in magnitude a safety engineer will be nominated, who will be responsible for the adherence of all safety aspects in the construction site and co-ordinate with each sub-contractors who are responsible for construction activities. For other project FEDO's RCCM/RCM/RE will be responsible for the safety activities at site.

4.1 Contractor's Obligations

As the site activities are carried out through work contracts/packages, the contractors/vendors are totally responsible for the safety aspects of their individual sites and have to comply with all safety provisions as stipulated by FEDO/Bureau of Indian Standards/the Electricity Act/OISD and other acts as applicable, in respect of all personnel directly or indirectly employed by the Contractors for the concerned works.

The following practices shall be followed at construction sites by the Contractors so as to ensure safety, health of people working at construction sites and prevention of fire; which shall be strictly implemented in co- ordination with the FEDO Site-in-charge.

4.2 Safety Policy

Each construction firm shall have a safety policy approved by FEDO which shall deal with the following matters.

- Arrangements for training at all levels with particular attention to key workers such as scaffolds', crane operators, welders etc. whose mistakes can be especially dangerous to other workers.

- Safe methods or systems of work for hazardous operations: the workers carrying out these operations shall be involved in their preparations.

SAFETY PRACTICES

- The duties and responsibilities of Supervisors and key workers.
- Arrangements by which information on safety and health is to be made known.
- Arrangements for setting up safety committees.
- The selection and control of sub-contractors.

4.2 Safety-in-Charge

FEDO site-in-charge shall ensure that the contractors at all times shall designate a supervisor possessing required experience and skill for safety and health duties. Some example of duties which shall be assigned are :-

- Provision, construction and maintenance of safety facilities like access roadways, pedestrian routes, barricades and overhead protection.
- Construction and Installation of safety signs.
- Safety provisions peculiar to each trade.
- Modification of lifting machineries such as cranes and goods hoists and lifting gears such as ropes and shackles.
- Inspection and maintenance of access facilities such as scaffolds and ladders.
- Inspection and cleaning of welfare facilities such as toilets, clothing, accommodation and canteens.
- Transmission of the relevant parts of the safety plan to each work group.
- Emergency and evacuation plans.
- Information to management, quickly about unsafe practice and defective equipments.
- Dissemination of information's on health and safety.
- Attend safety meetings and provide all information's about safety and health and also implement at work spot resolutions taken during the meetings.
- Assist FEDO Engineers/Client in conducting the mock drill.
- Maintain vigil on use of personal protective equipment by the workers.

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4.3 Site Planning and Layout

Contractor shall make work plan, access to work spot, material storage and handling, vehicle movement (preferably one way), edge protection wherever there is drop of 2 M or more, placement of construction machineries, location of trade workshop / fabrication yard/laboratory, electrical installations (switchboard etc.), medical and welfare facilities, lighting etc. In consultation with FEDO Engineers/Clients prior to commencement of the work and ensure implementation of the same.

Site tidiness must be maintained during construction by cleaning up rubbish/scarp/spilled oil and grease, keeping gangway, working platforms and stairways clear of equipment and material not in immediate use, removing or hammering down any nails projecting from timber etc.

4.4 Conduct

No one shall enter any part of FEDO/Client premises including the worksite other than for the purpose of carrying out the work. All contractor personnel needing access will be required to obtain a pass issued by FEDO/Client and produce it if asked for. Contractor's personnel shall abide by all rules and regulations stipulated.

4.4.1 Smoking inside the premises of a working location is strictly prohibited except in the designate areas.

4.4.2 No source of ignition shall be taken to the licensed premises or job site unless covered by a Hot Work Permit/Clearance.

4.4.3 Personnel must also strictly adhere to the approved protective clothing and equipment requirements.

4.4.4. It is essential that good housekeeping is practiced at all times to keep the work area neat and clean. No material on any of the site of work shall be so stacked or placed as to cause danger and inconvenience to any person or public.

4.4.5 At no time during working house or at any time on site should any of the contractor's personnel be under the influence of nor consume liquor, drugs or other intoxicating substances.

4.4.6 No children shall be present at work spot.

4.5 Occupational Health and Hygiene

The contractor shall be responsible for the medical welfare of its own personnel and shall provide for:

First Aid Box – The contractors shall establish their own First Aid facilities at the site and arrange for emergency transports, when required. The contractor shall provide First Aid Boxes, contents of which shall be adequate for first aid treatment

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to basic emergencies which occur most frequently like burns, bleeding, insect bites, bone fracture etc. The boxes and containers shall be clearly identified as First Aid boxes and kept in easily accessible places which shall be made known to every employee of that location. Contents shall be regularly checked for expiry dates.

More serious injuries involving head injuries, fractures and severe wounds etc. shall be treated by a qualified and experienced medical personal.

- The services of a Doctor shall be made available by contractor, at site on a part time basis, all major project sites.

- Arrangement for professional medical treatment/ Hospitalization.

The contractor shall ensure that his personnel are medically fit to perform their work and they shall maintain highest standards of hygiene.

4.5.1 All contractors who employ more than 50 workers or where the Contract Value exceeds Rs.50 corers the following facilities are to be provided by the Contractor at site at his own cost.

- Arrangement for clean drinking water.
- Toilet facilities
- Canteen where tea and snacks are available
- A creche where 10 or more women workers are having children below the age of 6 years.

4.6 Sub-contractors

The choice of sub-contractors if employed must be approved by FEDO Engineer responsible for work on site. Sub-contractor must comply fully with all safety rules and conditions applicable to the main Contractor.

4.7 Safety Equipment/Personal Protective Equipment

Safety equipment's personal protective equipment's shall be of approved make and are essential for avoiding injuries to workers on the job. A register showing stock and issue of PPE shall be maintained by the Contractor at site and must be available for inspection. The most common requirements of protective equipment's are summarized below.

4.7.1 Boots & Shoes

Suitable safety footwear conforming to IS: 10667/1989 shall be worn by personnel, considering the nature of works as hazards such as:

- risk of crushing by heavy objects
- penetration by sharp objects
- penetration by chemicals or harmful liquids
- weld spatter

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Leather safety shoes/boots with steel toe caps shall be used for all heavy manual work and general construction. Shoes shall be abrasion resistant and suitable for wet and muddy conditions. Slip resistant shoes are also required for most of the works.

4.7.2 Gloves

Gloves conforming to IS: 6994 shall be used to protect the hands from the following hazards.

- risk of abrasion
- risk of cutting
- risk of tearing
- risk of burn
- risk of infection

Leather, plastic or cotton gloves coated with an impervious substance are recommended for most applications.

4.7.3 Helmets/Hard hats

All personnel shall be issued with safety helmets/hard hats conforming to IS: 2925/1984, which shall be used at all times while the personnel are on site. Safety helmets shall be checked periodically for signs of wear/cracks and damage in which case these shall be rejected and replacements issued. Sufficient number of safety helmets shall be kept at site for visitors.

4.7.4 Protective Clothing during welding and Handling Toxic/Hazardous materials

For handling hazardous materials and welding, additional body protection is recommended. Welders must wear aprons or overalls and gloves made of flame retarding materials. Full face shields with respiratory fitters where required shall be used. Personnel handling toxic or hazardous materials must be fully protected to avoid any skin contact with these substances. This may include the wearing of impervious overalls, rubber boots, gloves, fade mask and respiratory equipment like canister masks.

4.7.5 Goggles

All personnel shall be provided with suitable eye protection wherever there is a risk from :

- flying particles/dust ingress
- chemical splash
- radiation glare
- hot sparks or metal splatter
- harmful vapours
- sand/grit blasting

Goggles shall be single piece constructed of clear impact resistant plastic and fitted with adjustable elastic straps, Goggles used for welding shall be fitted with

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recommended optical filters to reduce the intensity of radiation to safe level.

4.7.6 Hearing protection

Hearing protection shall be worn by personnel involved with works in areas where noise level exceed 85 db (A noise level beyond which normal conversation becomes difficult) on a continuous or regular intermittent basis.

Protection is available in two basic types: (1) an external cup type defender which fits over the outside ear and 2) internal disposable type of earplugs usually made of compressible foam, which fits inside ear.

Whenever practicable, equipment generating high noise levels shall be located at maximum distance from any works being performed, and sound mufflers fitted.

4.7.7 Warning signs and Barriers

Care shall be taken to ensure that the Contractor has the necessary material to secure the work site and to warn the general public or other workers of dangers created by works. This shall include

- Construction warning signs
- Warning lights and signs in traffic control zone
- Barricades
- Necessary arrangements for illumination of the warning signs and barricades shall be made by the Contractor wherever the same is required for safety reasons.

4.7.8 Respiratory protection

Respiratory equipment, whether static or bottled type, or self-contained breathing apparatus, shall only be worn by trained personnel. Self-contained breathing apparatus shall be used in emergency situations, whilst scheduled works shall utilize the static bottled-type. All equipments shall be thoroughly checked prior to use to ensure:

- cylinders are full and gauges function correctly
- all connections are tight
- face masks show no sign of possible leakage
- equipment to be used for tank entry must be as detailed in the Tank cleaning Manual

4.7.9 Safety Belt/Harnesses

Safety belts/harnesses conforming to IS: 3521-1989 shall be worn by all people working at a height greater than 3 mts above ground level, where safe working platforms with suitable railing, toe board etc. are neither available, nor practical.

SAFETY PRACTICES

4.8 Earth Excavation

All safety precautions as per IS: 3764 – 1992 shall be followed while carrying out excavation. In case of excavation by blasting or drilling operations Safety precautions stipulated in IS: 4081-1985 shall be adhered to.

i. Shoring shall be provided to protect the sides of excavation against collapse. Proper slopes & shuttering shall be provided where excavation is deeper than 1.5 M

ii. Barrier/fence shall be provided for preventing people from slipping into the pit. If the pit is in vehicular driveway additionally a prominent board shall be put up showing “Excavation in Progress”

iii. Pumping out of accumulated water from pit is to be done at regular intervals.
Run-away water shall be prevented from entering the excavated areas as such water can cause erosion of soil and sudden collapse of earth.

iv. If the excavation is carried out of without shoring necessary angle of repose to be maintained at all times.

v. No labour shall be allowed to sleep or take rest inside the pit.

vi. Excavated earth shall be stacked away from cutting edge to avoid collapse of trench and sliding of heaped earth in to trench.

vii. Contractor shall ensure that the excavation does not damage any existing underground cables, pipelines, foundation of adjoining buildings or structures etc. Wherever possible excavation shall not be so close and deep as to undermine safety of any adjoining building or structure.

viii. Before working/ entering inside an existing excavated pit it has to be ensured that no toxic gases are present which can cause disaster. The contractor also has to ensure that the underground water present in the pit is not acidic in nature due to industrial effluents.

ix. Adequate access to an escape from the trench or pit must be provided at all times. This may be by installing and securing ladders at regular intervals or by stepping the edge of excavation. Crossover shall be provided by the contractor over excavated trench at suitable interval for movement of workers.

4.9 Piling and other Deep foundations

Safety precautions as stipulated in IS: 5121-1961 (Safety Code for Piling and Deep foundations) shall be adhered to while carrying our piling and other deep foundations. There are certain hazards which are common to all types of piling and the following precautions are necessary.

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- Piling Machine Operators shale be over 18 years of age and properly trained.
- Prior to piling all underground services shall be located and made safe.
- There shall be a firm level base for the crane or crane mats shall be provided.
- Protective equipments like safety helmets, ear and eye protection shall be used by the workers.
- All cranes, lifting appliances and lifting gear must have appropriate certificates of testing and thoroughly examined.
- Particular attention shall be provided to the risk of damage to lifting gear from sharp edges.
- Cranes used for lifting or lowering workers must be fitted with a dead man's handle and lowering shall be done under power.
- Piling contractors shall submit a written statement to FEDO's Site-in-charge, setting out the precautions relevant to the type of piling they are to employ.
- Induction training and informations shall be arranged by the Contractor.

4.10 Working in basement/underground tank

i. Man entry into the underground areas is allowed only after specific approval from FEDO's Engineer in charge also, proper exist shall be provided for emergency escape by way if easily accessible ladders etc.

ii. Air circulation must be there inside underground basement etc. Hot work in such places shall be taken up only after ensuring that ample supply of fresh air is available using additional blowers etc.

iii. People shall be allowed entry in the underground spaces only after ensuring that no toxic gases are present inside. Purging of gases may be done by filling the U/G tank with water. No hot work is permitted unless the explosimeter reading is within acceptable limit and specific approval from FEDO's Engineer-in-charge obtained.

iv. Whenever workmen are allowed to enter a vessel or U/G tank or confined space, it is necessary to keep minimum two persons (alert and trained) at the manhole or entry point holding the other end of the rope fitted with safety belt of the person working inside so as to enable pulling out he person working inside in case of emergency.

v. Proper communication system and watch between people shall be kept.

4.11 Demolition

All safety precautions as per IS: 4130-1991 (Safety code for demolition of buildings) shall be followed while undertaking demolition jobs. Demolition must be

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supervised by persons with thorough knowledge not only of demolition process but also of the principles of building construction. First, a survey of the physical characteristics and design of the building to be demolished must be carried out in order to choose a safe method of work.

Then a demolition action plan shall be submitted by the Contractor for approval before execution. Demolition is an inherently dangerous process and every one at site must wear protective equipments including helmet, gloves, safety footwear etc. as necessary and decided by FEDO's Site-in- charge.

Before demolition begins, all services to the structure or building must be disconnected. Arrangements must be made to keep the unwanted persons as far away as possible from the site and wherever possible a fence not less than 2 M height shall be erected around it.

4.12 Working at Height

4.12.1 Safety Harness

All people working at heights more than 3 mts. must use safety harness. People working at lesser heights but exposed to greater risk (by way of material etc. lying one ground) must also use it.

4.12.2 Using ladder

Ladder used shall be of standard material like wooden/steel and be sufficiently strong conforming to IS:3696-1991 (Part 2). It shall be secured at top and bottom and in addition one person should be present at the ground to hold the ladder as a second check. If the ladder is used for carrying material as well, suitable foot holds and hand holds shall be provided on the ladder. The slope of the ladder shall not be too steep or flat (the ladder shall be given an inclination not steeper than 1 to 4 ie. 1 horizontal to 4 vertical) to cause slipping or falling off and it shall rest on firm surface. No portable single ladder shall be over 10 M in lengths, while the width between the side rails in ring ladder shall in no case be less than 30 cms for ladder up to and including 3 mts. in length. For longer ladders this width should be increased by at least by 6 mm for each additional 30 cms of length, Uniform step spacing shall not exceed 15 cms. Rung of the ladder shall not be used for support or to tie, stiles or side members are meant for this.

4.12.3 Scaffolding

Suitable scaffolding conforming to IS:3896 (PART-1) shall be provided for workmen for all works that cannot be safety done from the ground or from solid construction except such short period of work, as can be done safety from ladders. The height above which scaffolding is mandatory is 2 mts. Scaffolding shall be of good quality Bamboo or steel tubular structure conforming to IS: 4014 (Part-I and II). Scaffolds shall be designed for their maximum load and with safety

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factor of at least 4 or as prescribed by the Site- in-charge. Scaffolds shall be provided with safe means or access, such as stairs, ladders or ramps. Joints in the scaffolds shall be tied up and clamped properly to avoid any slippage. Scaffolding or staging more than 30cm above ground or suspended from an overhead support shall have guard rails properly attached, bolted and braced at least 1 M high above platform and extending along the entire length of the outside with only such openings as may be necessary for delivery of materials. Scaffolding shall be supported at different heights. Safety belt must be used while working on the scaffolding. Scaffolding shall be physically checked for load carrying capacity occasionally.

4.12.4 Working Platform

Wherever possible, all works to be done at a height greater than 2 mts. above ground level, must be performed from a properly constructed and maintained working platform. Safe means of access shall be provided to all working platforms. Working platforms, gangways and stairways shall be so constructed that they shall not sag unduly or unequally. Every opening in a working platform shall be provided with suitable beams to prevent the fall of persons or materials. The working platform shall be:

- closely boarded.
- At least 70 cm wide if used only as a footing only: at least 80 cm wide if used also for stacking material; and at least 1.1 mts, if used for the support of a trestie platform.
- Provided with foe-boards of minimum 0.15 mts. in height.
- Provided with hand rails not greater than 0.85 mts. above toe-board.
- Constructed as close to the structure or building as possible.

4.12.5 Working on roof

People working on roof shall be properly protected by providing temporary railing/ hand rails/safety harness. Helmets shall be used by workers working underneath. Care shall be taken to prevent falling of material from top to adjoining area. In slant roofs more than 10° safety belt shall be used and belt end fastened properly to a fixed object. Workmen shall be not allowed to work on slippery roofs.

Fragile materials such as wired glass, corrugated plastic sheeting and unreinforced insulating slabs etc,. shall be identified and necessary precautions taken while working on them. People working on fragile roof shall be properly protected by providing two Crawling Boards or Roof ladders so that one is available to stand on while the other is being moved. Crawling Boards shall have cross batons at least 32 MM thick and not more than 380 MM apart and shall be secured in position.

Prominent working notices shall be displayed at the approaches to fragile roofs.

4.12.6 Working on A/G Tanks

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In addition to safety harness which is a common precaution for working at heights, no workmen shall be allowed to work with loose cloths, chappal or loose shoes. The temporary work platform/trolley with railing generally used for shell plates welding at a height shall be checked for its strength to hold and carry welder and fitter. People working below must wear helmet. Safety shoes shall be used by the workmen to protect against welding splatter, metal pieces etc. Earthing of work piece must be provided through an earthing cable. Only tested chain blocks, ropes and chains shall be allowed to be used for lifting steel plates, appurtenances, other equipments on top of tank.

4.13 Access to site

Free access to site shall be provided with clear roads, passage, gangways, staircase and scaffolding etc. Access to work-site shall be leveled, open and free from any obstructions like construction material or scrap/waste. Any pit or ditch shall be covered. Sufficient lighting at night shall be provided. Scrap and debris generated out of construction work shall be removed/disposed off at a regular interval as directed. Emergency exist shall be provided in case of blockade of primary exit.

4.14 Hot works

All fire precautions as stipulated in IS: 3016 (code of practice for fire precautions in welding and cutting operations) shall be followed while welding/gas cutting. Fire existiguishers, sand buckets, water and gunny bags shall be provided when hot work is in progress. Gas cylinders used for gas cutting and welding shall

- be of approved make
- be stored upright and be kept away from hot work and care shall be taken to prevent heating of gas cylinders.
- Gas cylinder valves shall always be checked and shall be closed when not in use.
- be stored in a well ventilated area
- be fitted with safety caps when not in use
- Not be lifted by nozzle and rolled

All gas and oxygen regulators shall be fitted with Flashback arrestors, being non-return valves designed to prevent an explosive mix developing in cylinder.

Checking for leaks shall be by means of soapy liquid applied to each joint and under no circumstances shall a naked flame be applied to any part of the cylinder.

When working at a height, do not place cylinders directly beneath the working area, as molten metal may fall on to the hoses, causing leaks and possible igniting the gases.

During electric arc welding process, very high ultra violet radiation is generated. Suitable eye protection must be worn by the welder and any person working in

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close proximity, in order to prevent permanent damage to the eyes. When not in use, electricity to the holder and electrode shall be turned of.

Hose shall be in good condition, properly clamped as per specifications. Welding cable shall have proper insulation with minimum number of joints.

All equipment shall be properly earthed, and cables properly insulated and connected.

4.15 General safety precautions in electricity

Safety precautions as stipulated in IS: 5216:1982 shall be adhered to, while carrying out electrical works. Contractor shall ensure the following:

1. Only authorized persons shall carry out operation and maintenance of electrical systems.
2. Work permit and isolation of the electrical system before taking up the work must be ensured.
3. Proper protective equipments shall be used.
4. Check for defective cables, loose joints in conduits, damaged fuse boxes, loose pins, faulty sockets, and defective earth wire.
5. Do not overload electrical equipment. Do not fit make shift fuse wire.
6. Use right type of tools for the jobs.
7. After maintenance of flameproof fittings, ensure that the fittings meet requirements of flameproof standards.
8. Power supply cable shall be laid normally underground from source to the work place whether permanent or temporary.
9. Jointing of cable shall always be made using proper junction box and flameproof junction box when in hazardous areas even in case of temporary connections.
10. All equipments LT or HT which are likely to cause hazard shall be turned off and segregated. All base terminals etc, shall be insulated. Rubber mats shall be used for LT/HT switch room, where applicable.
11. All electrical equipments like wires, switch board etc. shall be protected against rains or leaking water lines etc. in wet condition switches shall not be operated until it is dried up properly. Switches, starters shall be placed well above ground level.
12. Proper earthing shall be provided for all electrical items and effectiveness of earthing shall be checked from time to time]
13. Electrical items shall be handled after isolation and care shall be taken to identify and replace damaged electrical items. Guard wire shall be provided for A/G HT wires.
14. Ensure all fuses are of good quality and conform to correct ratings. Use MCB's as far as possible.
15. Electrical maintenance workmen working around a wet area near a fuse box must use wooden platform with rubber mat, insulated tools and rubber boots.
16. All electrical installation including incomer line, temporary distribution board, electric motor and machine must be installed as per IE Rules with proper earthing and must be inspected and certified by a licensed

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electrician/authority at periodic intervals.

4.1.6 House keeping

I) Arrange all machinery such as welding machine, generators, cutting machine, etc. in such a way that fire risk equipments are segregated and protected.
II) Check the machines at periodic intervals.
III) Do not accumulate unwanted material near the machines, which may cause fire hazards.
IV) Storage place shall have proper ventilation.

4.17 Safety In Radiography works

Planning and procedure for radiography initially shall be formulated by Contractors and submitted to proper authority. Procedure shall be thoroughly discussed by all related persons for familiarization.

All radiation equipment and radioactive materials shall be stored, handled, transported or disposed off so that no person receives unnecessary dose of radiation.

Shield ability of the radioactive materials container shall be inspected every 6 months.

Warning signs and posters used internationally shall be displayed.

Radiography shall be performed under the direction of radioactive Supervisors / Officer responsible for this work.

All workers shall have extensive experience/knowledge of the work such as radiation procedure, operation of radiation apparatus and effects of radiation on the body.

The following spaces or areas shall be classified as restricted areas.

a) Storage place of radioactive materials
b) Any area where the radiation exists at levels such that large portion of the body could receive a dose in excess of 30 milligram per week.
c) Emergency storage area for radiation apparatus or radioactive material capsules.

Warning signs, labels and fence shall be provided for restricted area to prevent trespassing.

The area covered within a radius of 5 Mts. from the radiation working spot or location and subject to a dose of radiation in any one hour in excess of 50 milligrams shall be called the radiation area and trespassing in the area shall be strictly prohibited.

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All workers entering a restricted area shall wear film badges sensitive to radiation. All workers who could receive a dose of radiation in excess of 100 milligrams per day shall wear a pocket dosimeter and the dose of radiation received shall be recorded everyday. The dose of radiation shall be checked by the supervisor for each radiation exposure when the dose of radiation exceeds 100 milligrams.

A Supervisor shall stand-by and suitable alternative such as shortening the radiation time, reinforcing the shield plate etc. shall be arranged.

During radiation work dose of radiation at the boundary shall be measured and recorded.

The radiography Supervisor shall measure and record the surface dose rate of restricted area every day as under.

a) Date of measurement
b) Measuring method
c) Description and capacity of apparatus
d) Measured condition
e) Results of measurement
f) Name of measurement
g) Any action taken

Radioactive materials shall be stored separately from other material or equipments. The storage place shall be 10 cm or more above the ground and locked to prevent accidents. Radioactive materials shall be stored in a case made of lead of ample thickness with a lock on the exterior surface of the case. The description of materials, quantity and danger sign shall be distinctly visible.

4.18 Hazardous Zones

Hazardous (flammable atmosphere) zones are classified as zone-0, zone-1 and zone-11. All other areas are unclassified but not necessarily non- hazardous. In these areas, safety precautions must be observed in order to eliminate risk of explosion. Zone-0 is defined as the vapour space in and directly around product storage tanks. Zone-1 is defined as an area where vapours may be expected at all times. For zone-11, flammable vapours may be expected to be present only when a failure to equipment or plant has occurred. Unclassified area cannot be assumed to be always non-hazardous, therefore must still be checked prior to issue of work permits. Following precautions shall be taken while working in hazardous areas.

4.18.1 Non-sparking equipment

Sparks can be produced from electrical tools / devices, and where two surfaces collide. In order to avoid risk of sparking, only tools approved for use in hazardous zone-1 shall be used. The condition of all equipments used within hazardous zones shall be checked by FEDO'S Site Engineer.

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Where chipping or scraping is necessary in a hazardous area, several precautions shall be taken such as

- the surface being chipped or scraped shall be kept moist with water at all times.
- air driven jack hammers may be used where atmosphere has been certified to be safe and the impacting surfaces must be submerged in water.

4.18.2 Workers

Workers are to be checked for match boxes, lighters and other spark producing items. This shall be taken into storage with security at the gate or office.

4.18.3 Safety checks

In all cases where work is to be carried out within hazardous zones FEDO'S engineer/Client Safety Engineer must check the area using an explosimeter for the presence of flammable vapour. The explosimeter shall be verified before each use, for its smooth functioning. Should there be any indication of flammable vapours, the work permit must not be issued. Further steps will then be taken to reduce the vapour content of the surrounding atmosphere and the flammability check repeated and only then work permit issued. Authority to commence works in hazardous zones shall be continuously supervised by FEDO'S Engineer/Clients Engineer**.**

4.18.4 Fire Screen Wall

Fire screen provided to segregate hot works in a hazardous area shall be erected foolproof and following precautions shall be taken in construction.

- Members shall be made of standard size MS pipes, MS structures, strong enough to withstand the wind/dead loads. The bottom of uprights shall be properly grouted.
- Good quality G.I. Sheets free of damage and holes shall be used as screening wall. G.I. Sheets shall be properly tied up with the structure.
- The height of fire screen wall shall be decided based on the level at which hot work is carried out. Like, in case of above ground tanks fabrication by jacking up method, in operating location, a fire screen o 6 M height is sufficient whereas in the other case it is required to have a height equal to height of structure to be fabricated.

4.19 Working with machineries / Material handling equipments

Safe practices as stipulated in IS:7293-1974 shall be adhered to while working with construction machinery. Safe working space for all these equipments must be provided. Mixers, winches, cranes, bending machines etc. used shall be overhauled regularly as per manufacture's advice / maintenance schedule. Proper warning boards / signs shall be provided when machineries like cranes, hoists are being

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operated. Brakes, clutches etc. of winches shall be checked on regular basis. Chains, ropes, belts shall be inspected and repaired / changed as necessary.

4.19.1 Cranes

All works involving the use of crane shall be properly planned in advance and the following shall be ensured.

- the crane is capable of lifting the intended load
- the condition of the ground at the crane location is satisfactory to support the crane and load
- the rotation of the cab and, therefore the boom is not restricted-suitable matting or plates are available to protect underground services and paving
- all slings shackles, hooks etc. are of correct rating and in good condition
- cranes and lifting equipments must be inspected and ensured that they carry valid test certificate issued by an accredited testing agency
- crane hooks are to be fitted with properly functioning safety clips to prevent displacement of the sling from the hook during the lift
- driver of the crane must be watchful and must ensure before driving the vehicle either forward or reverse that no one is near the wheel of the vehicle and no one is trying to climb the vehicle while moving. Crane operators and signallers must be over the age of 18, trained and sufficiently experienced. Hand signal shall be clear and distinct and shall follow recognized code or system.
- safety practices as stipulated in IS:7293-1974 (Code of Practice for Working with Construction Machinery) shall be adhered to while working with cranes.

- all vehicles used by the contractor shall be in worthy conditions and in conformance to the land transport requirements.
- all drivers shall hold a valid driving licence for the class of vehicle to be driven.

4.19.2 Vehicles

All vehicles used for carrying workers and construction materials must undergo predictive/preventive maintenance and daily checks. Contractor shall maintain a register for this purpose for each vehicle. All documents related to the vehicle must be submitted to for checking. Driver with proper valid license shall only be allowed to drive the vehicle. Routes shall be leveled, marked and planned. Speed limit must be specified. Wherever possible one-way system shall be followed. Head clearance must be ensured on the route of the vehicle and no vehicle shall be allowed to deviate from its route. Overloading, carrying unauthorized passengers etc. must not be allowed by the contractor.

4.19.3 Plant, Tools and Equipments

The following four basic principles apply to and govern the safe use of hand and power tools

- to choose right tool for the job

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- to use only tools in good condition
- to use tools correctly and only to the purpose they were intended
- **to maintain and store tools properly**

Electrical tools shall be checked to ensure that the supplied voltage is comparable to the machine's design. Where required, electrical tools shall be properly earthed. High speed rotating equipments such as grinders shall be fitted with protective guards. Power tools shall never be left operating unattended. Spark arrestors shall be fitted to all equipment exhausts where a risk of combustible gases in the atmosphere exists.

The contractor shall carry out periodical inspection of plant, tools and equipment.

4.20 Health / Fire Protection against hazardous materials

Harmfulness of materials shall be identified and proper care shall be taken against fire/health hazardous e.g. against asbestos fibre / rope, sand / shot blasting, paints handling leaded container and tank, furfural liquid etc. Waste materials and consumables like woods, papers, plastic pieces etc. shall be cleared on regular basis. Petroleum products / solvents used for cleaning etc. shall be kept away from working site especially when hot work is in progress. No smoking board/signs etc. shall be used in sites where such materials are stocked.

Paints:- Paints shall be stored in separated areas. The quantity of paint stored in actual working areas shall be as minimum as practicable. The ingestion of paint shall always be avoided. Food and drink shall not be brought, stored, prepared or consumed in areas where paints are stored, handled or used. Smoking in such areas shall be prohibited. The inhalation of paints, dusts or fumes shall always be avoided by the use of local ventilation or extraction. Where fumes or dusts are unavoidable, then suitable approved respirators or face masks shall be worn. All personnel who handle and use paints shall wear appropriate protective clothing (as a minimum gloves, eye protection and overalls). Splashes of paint on skin shall be treated promptly by copious washing with water or an approved cleaning agent. (Solvent shall not be used for personal cleaning).

5.0 Work Permit System

If work is to be performed in an operating location by any person other than the operating personnel of that area, a duly authorized written work permit shall be obtained by the person / agency executing the work. This is a document authorizing persons to carry out the work concerned, warning them of the possible hazards and spelling out precautions needed for the job to be done safely. The contractor shall be fully aware of the details of the work permit system and shall obtain the same signed by FEDO's authorized representative / Client's representative before starting the job. Based on the nature, the work shall be undertaken either under Hot work permit or Cold Work Permit. Hot work is an activity which may produce enough heat to ignite a flammable air-carbon mixture or a flammable substance. Cold work is an activity which does not produce sufficient

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heat to ignite a flammable air- hydrocarbon mixture or a flammable substance. The two types of permits are minimum requirement which must be fulfilled before commencing the work.

Permits and certificates are to be issued by the person with overall responsibility for the area, usually the Engineer-in-Charge of FEDO / Customer. Permits are to be kept with the site supervisor at all times.

For jobs like excavation, road/dyke cutting, electrical etc. where the work permit issuing authority may have to take clearances from other sections / personnel, the work permit must be accompanied by associated permits like, Excavation Permit, Electrical Certificate etc.

5.1 Excavation Permit

When excavation work is to be undertaken, the site must be checked by persons with thorough knowledge of underground service systems. Cables scanning using instruments will be required in areas around high voltage cables. Hazardous situations arising from sparking during excavations and stone breaking must also be considered.

5.2 Electrical Work Permit

This is issued to ensure that an authorized representative of the Project Engineer has electrically isolated the equipment to be worked on, and has taken suitable steps to prevent inadvertent reconnection. Some points of consideration are:

- Has the electrical supply been cut off and have precautions been taken to ensure that it cannot be reconnected eg. fuses removed, notices displayed and pad locks used.

6.0 Accident Reporting And Classification Of Accidents

6.1 Accident Reporting

All employees must be encouraged to report any incident which has or could have caused injury, illness, damage to property, or interruption of work. The reporting of such accidents help in analyzing what went wrong and enables steps to be taken to prevent a recurrence. The accident report, forms the basis for objective investigation of the accident and will bring out essential and contributory factors leading to it. The necessary decisions then can be taken to prevent recurrence in future.

6.2 Classification of Accidents

Accidents are classified as follows and provide data for future accident investigation. The analysis of such classified accidents highlights typical locations / operations in need of immediate attention for preventing accidents.

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a) Near Miss

It is a `narrow escape' where accident, major loss or injury did not occur. Such incidents must be reported locally and the working conditions leading to it must be investigated.

b) Fatality

A death resulting from work injury is covered under this category irrespective of the intervening time between injury and death.

c) Permanent total Disability

Personal injury which incapacitate a person completely and results in termination of employment.

d) Permanent partial Disability

Any injury which results in complete loss or permanent loss of use of any part of body or any permanent impairment of the function of the body.

e) Lost Work – Day case

Any injury excepting permanent partial disability which renders the injured person unable to perform any regular job or restricted work, on any day after the day of receiving the injury.

f) Restricted work case

The injured person give up work on following the accident, which does not include all his normal duties or regular job as a result of the injury.

g) Lost work days

The number of calendar days on which the injured person was temporarily unable to work.

h) Restricted work days

The total number of calendar days from the start of restricted work, by the injured person, till he returns to his regular job.

i) Medical treatment cases

The injury requiring medical treatment under order from a physician but does not involve lost work days or restricted work days.

6.3 Reporting

Contractors are required to notify by the FEDO'S Site-in- Charge, of accidents as follows:-

Lost time injuries – immediately
First Aid injuries – within a day

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Damage to plant or equipment – within a day
Fires and Miscellaneous Events – immediately

7.1 Meetings on safety

7.1 Prior to job

All new contractors must be given an induction training by FEDO's/Customer's Engineer, before start of work. A minimum requirement for induction training will be familiarization with existing rules and regulations and the hazardous of work environment, including.

- Smoking restrictions
- Work permit procedures
- General hygiene and sanitation codes to be followed at site
- Traffic and parking regulations
- Restrictions on used of drugs and alcohol
- Allocation of pace for eating/drinking
- Restriction on movement within Company premises
- House keeping standards
- Danger and safe handling procedures for hazardous substances
- Use of safety equipments
- Hazardous of excavation operation eg. damage to underground cabling/piping
- Required action in case of fire and medical alarms
- Safety boards/notices to be provided.

7.2 Site meetings

For large or complex jobs, regular site meetings shall be held to review safety on the job as part of site meetings.

7.3 Extraordinary events

After any extraordinary events or accidents it is recommended that FEDO's Engineer hold a site meeting to review the incident and formulate a safety policy to prevent its recurrence.

7.4 Contractor shall have arrangement to transport his workmen, for medical attention in the event of an accident at work site.

7.5 Documentation

All accidents or incidents must be immediately reported and recorded in the safety book of FEDO.

TENDER

FOR

Construction of Additional Phosphoric Acid Storage Tanks at Q10 Berth, WI

PART I: COMMERCIAL

SPECIAL CONDITIONS OF CONTRACT

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1.0 GENERAL

1.1 This Special conditions of Contract shall be read in conjunction with the General Conditions of Contract, specifications of work, drawings and any other documents forming part of this Contract wherever the context so requires.

1.2 The Fertilisers and Chemicals Travancore Limited (FACT) hereinafter also referred to as "OWNER" is a Government of India Public Sector Enterprise involved in the manufacture and marketing of nitrogenous, phosphatic and potassic fertilizers as well as a variety of industrial chemical products. The company has presently two manufacturing units, one at FACT-CD, Ambalamedu and the other at FACT-UC, Udyogamandal, both located in the state of Kerala.

1.3 FACT intends to install Two (2) Additional Phosphoric Acid Storage Tanks of operating capacity 5900 MT each along with Phosphoric Acid Transfer Pumps and associated Piping System at their raw materials handling facilities located at Q10 Berth of Cochin Port.

1.4 Scope of this tender covers all the requirements for installing "Two (2) numbers Additional Phosphoric Acid Storage Tanks, connected PIPING within the Battery Limits specified, Acid Transfer Pumps, Civil, Structural, Electrical and Instrumentation Works", hereinafter referred to as 'PLANT / WORK / PROJECT'.

1.5 FACT has assigned the Project Management Consultancy (PMC) works to its own Engineering Division – The FACT Engineering and Design Organisation (herein after referred to as FEDO / Consultant).

1.6 Notwithstanding the sub-divisions of the document into these separate sections and volumes 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.

1.7 Where any portion of the Special Conditions of Contract is repugnant to or at variance with any provisions of the General Conditions of Contract then unless a different intention appears, the provision(s) of the Special Conditions of Contract shall be deemed to override the provision(s) of the General Conditions of Contract only to the extent that such repugnance or variations cannot and shall be to the extent that such repugnance or variance cannot be reconciled with the General Conditions of Contract.

1.8 Wherever it is stated anywhere in this tender document that such and such supply is to be effected or such and such a work is to be carried out, it shall be understood that the same shall be effected/carried out by the Contractor at his own cost, unless a different intention is specifically stated.

1.5 The materials, design and workmanship shall satisfy the applicable relevant Indian Standards, the job specifications contained herein and codes referred. Where the job specifications stipulate requirements in addition to those contained in the standards, codes and specifications, these additional requirements shall also be satisfied. In the absence of any Standard / Specifications / Codes of Practice for detailed specifications covering any part of the work covered in this bidding document, the instructions/directions of FACT/FEDO will be binding upon the Contractor.

1.6 The items given in Schedule of Rates shall be read in conjunction with materials and job specifications and in case of any irreconcilable conflict between them, the provisions in the item under Schedule of Rates will override the corresponding provisions only of the material and job specifications, which cannot be reconciled. In such cases, the decisions of the Consultant shall be final and binding on the Contractor.

1.7 In case of contradiction between Indian Standard, General Conditions of Contract, Special Conditions of Contract, Technical Specification, Drawings, Schedule of Rates, the following shall prevail in order of precedence:

(i) FAX of Intent, detailed letter of intent along with statement and Agreed Variations and its enclosures.
(ii) Schedule of Price.
(iii) Special Conditions of Contracts.

(iv) Technical / Material Specifications.
(v) Approved Drawings.
(vi) FEDO Specifications and Standards.
(vii) General Conditions of Contracts.
(viii) Indian Standard/API/ANSI/ASTM/OISD.

2.0 SCOPE OF WORK

The scope of work envisaged under this contract shall include but not limited to the following:

2.1 Design & Preparation of drawings, Supply, Fabrication, Erection including all structural & Accessories, Inspection, Testing including Hydro testing, Painting, Rubber lining, Calibration, Commissioning and supply of spares of two (2) Additional Phosphoric Acid Storage Tanks (Tag Nos: T 1201 D/E) as per Tender Documents (22 M ID X 10.5 M Height).

2.2 Design as per Tender specifications, Detailed Engineering, Preparation and approval of drawings & documents, Procurement of all raw materials, Manufacture, Surface preparation & Painting, inspection and testing, , Supply of all material including spares, Packaging & Forwarding, performance testing (FAT & SAT), submission of production test certificate, installation and Commissioning of Horizontal Centrifugal Phosphoric Acid Transfer Pumps P-3202A/B (Capacity 175 M3/Hr, Discharge pressure 4.0 Kg/cm2G and MOC CD4MCu) with Electric drive motor, with the operating parameters specified in data sheet and as per the technical requirements furnished along with the tender document.

2.3 Design, Detailed Engineering, Preparation and approval of drawings & documents, Procurement of all raw materials, Manufacture, Surface preparation & Painting, inspection and testing, , Supply of all material including spares, Packaging & Forwarding, performance testing (FAT & SAT), submission of production test certificate, installation and Commissioning of Vertical Centrifugal Phosphoric Acid Sump Pump, P-3203 A/B (Capacity 25 M3/Hr, Discharge pressure 4.4Kg/cm2G and MOC CD4MCu) with Electric drive motor, with the operating parameters specified in data sheet and as per the technical requirements furnished along with the tender document.

2.4 Design, Detailed Engineering, Preparation and approval of drawings & documents, Procurement of all raw materials, Manufacture, Surface preparation & Painting, inspection and testing, , Supply of all material including spares, Packaging & Forwarding, performance testing (FAT & SAT), submission of production test certificate, installation and Commissioning of Vertical Centrifugal Rain Water Pit Pump, P-3204 (Capacity 25 M3/Hr, Discharge pressure 1.0 Kg/cm2G and MOC CD4MCu) with Electric drive motor, with the operating parameters specified in data sheet and as per the technical requirements furnished.

2.5 Design & Preparation of drawings, Supply, Fabrication, Erection including all structural & Accessories, Inspection, Testing including Hydro testing, Painting, Rubber lining, Commissioning of associated piping for the Phosphoric Acid Storage Tanks (T 1201 D/E) and Pumps which mainly consist of inlet line to new tanks, line from new tanks to pump suction, recirculation lines, line to barge, erection of new truck loading bay and its associated piping, utility piping etc.

2.6 Civil & Structural works required for Phosphoric Acid Storage Tanks (T 1201 D/E), Pumps and associated Piping in the scope of the Contractor are: Design, Engineering and preparation of Good-for-Construction drawings for the various Structure and Foundation as indicated "Part-II Technical" satisfying the requirements mentioned in Doc-32644-12-PS-003-DB and Tender drawings, Arranging and conducting routine pile load test on Single pile. Casting of bored cast in-situ concrete piles in appropriate depth and dimension for the proposed tank foundation, Construction of Pile cap and Grillage beams over the pile cap, Construction of Dyke wall for the Phosphoric Acid Storage Tanks, Construction of Acid spill drain around tanks and from tank to drain pit with appropriate length and dimensions along with required drain pipes, Construction of drain pit inside dyke wall for meeting contingency, Construction of Pipe rack from tank area to shore side, Truck loading piping, Barge loading piping, Construction of Pipe sleepers as Utility supports within and around dyke for laying suction lines and unloading lines, Construction of crossover platforms, approach ladders, stairs for providing access to the tank from outside the dyke wall, Construction of truck loading platforms and roof.

2.7 Design, detailed engineering, procurement, manufacturing, testing at works, supply, dispatch, storage, handling erection, testing and commissioning of all electrics required for the package, fully conforming to standards and specifications mentioned "Part-II Technical" of this tender. The Electrics include but not limited to the following: Supply and installation of MV switch boards/MCC, Testing and commissioning of MV Motors, Supply and installation of Local control stations (push button stations), welding receptacles etc., Supply and installation of 650/1100V, XLPE insulated, PVC sheathed armoured, FRLS aluminium & 650/1100V, XLPE insulated PVC sheathed armoured FRLS copper cables, Earthing and lightning protection, Lighting including supply and installation of lighting fixtures, DBs etc., Supply and installation of GRP cable trays and steel structural supports, Miscellaneous civil works, Supply and installation of miscellaneous items, Providing service personnel, Preparation of detailed drawings and documents for approval, Furnishing vendor drawings for approvals for supply items, Preparation of drawings, Site test reports, Rendering necessary assistance and preparation of documents for statutory approval covering all Electrical installation.

2.8 Scope of Instrumentation jobs are: Design and detailed engineering of total instrumentation required for the tank and its interfacing to existing control room, Supply of instrument erection material like cable tray, cable, cable glands, junction box, structural steel, consumables etc., erection, commissioning, Testing, calibration, painting etc. Documentation and as built preparation. Scope of anticipated work with quantity is detailed in instrumentation schedule of work attached. Note that the work mentioned in schedule of work is to be treated for reference. Major items and services only are listed in this document. The supply, erection and integration of instrumentation for the safe operation of the system shall be in the scope of the Contractor.

2.9 Contractor shall carry out Design conforming to the requirements mentioned in data sheets, drawings, technical documents and specifications attached with "Part-II Technical" of the Tender and got approved by FACT/FEDO. All the works mentioned above shall be executed strictly as per design, detailed engineering, specifications and Good-for-Construction Drawings reviewed and approved by FACT/FEDO. The above referred work is not conclusive. Any other items of work as provided in the schedule of items of work and items for the successful completion of the project shall be under the scope of the Contractor.

2.10 Transportation of materials, equipment etc., shall be in the scope of contractor

3.0 SITE PARTICULARS

The site is at the port facilities of FACT at Q10 Berth of Cochin Port Trust, Ernakulam District, in Kerala State. The Q10 berth is in operation.

The intending bidders shall visit the site and familiarize themselves thoroughly with the state/local rules, regulations, living / working conditions, and site conditions for the fabrication & erection of tanks. Non-familiarity or ignorance of these conditions will not be considered a reason for extra claims or for not carrying out the work as per the drawings, standards & specifications.

4.0 APPROACH TO SITE

Any approach road, temporary access over trenches, ladders or such other means of access required in the area of work shall be made by the Contractor at his own cost and demolition of the same as per the satisfaction of the Engineer-in-charge after completion of work without any extra cost on this account.

5.0 CONSTRUCTION WATER

The Contractor at his own risk and cost make arrangements for water required for construction. The quality of water for hydraulic test and calibration of tanks shall be as per the details mentioned elsewhere in the tender document. **Sea / saline water shall not be used for flushing and hydraulic test of Piping**.

6.0 CONSTRUCTION POWER

6.1 The Contractor has to make his/her own arrangement for the construction power required for construction at his own risk and cost.

6.2 All electrical works shall be carried out under the supervision of a licensed Electrician. The electrical connections carried out by the Contractor shall meet the statutory requirements. Changes, if any, as

incorporated in the statutory rules and regulations from time to time shall be applicable to the electrical connection done by the Contractor. The following conditions shall also be fulfilled.

6.3 All the equipments/distribution boxes should have double earthing from the nearest earth pits or from the board earth bus.

6.4 All electrical connections have to be done by a competent licensed Electrician with valid license and to the satisfaction of the Consultant.

6.5 During working hours (including over time) one licensed competent Electrician shall be available at site to attend to the normal/emergency jobs.

6.6 All switch boards/welding machines shall be kept inside covered sheds to protect them from rain. No inflammable materials shall be used for constructing the covered sheds.

6.7 The Contractor's authorized Electrician shall switch off all electrical equipments after the job, every day.

6.8 Only metallic distribution boxes with double earthing shall be used at the site. Wooden boxes shall not be allowed.

6.9 Supplies for lighting/grinding shall be taken only using 3 pin plug/socket connectors with inter locking arrangements. Two pin plugs shall not be allowed.

6.10 Contractor shall submit in time the required forms like schemes, completion reports etc. as specified by Consultant.

6.11 No looping of Electrical supply is allowed.

6.12 For all three-phase supplies, only armored aluminium cables of suitable sizes or flexible copper cables of 4 x 6 sq.mm and above shall be allowed.

7.0 TIME SCHEDULE

7.1 Time is the essence of this contract and the entire work as per this contract shall be completed within a period of 10 (Ten) months from the date of award of the job as mentioned in "Notice Inviting Tender". The time period of completion includes the time required for mobilization, completing all the scope of work and demobilization - all to the full satisfaction of FEDO / FACT.

7.2 Monthly / weekly construction programme will be drawn up by the Consultant jointly with the Contractor based on availability of materials, work fronts and the joint programme of execution as referred to above. The Contractor shall scrupulously adhere to the Targets / Programme by deploying adequate personnel, construction equipment, tools and tackles and also by timely supply or required materials coming within his/her scope of supply as per Contract. In all matters concerning the extent of targets set out in the monthly/weekly programme and the degree of achievement, the decision of Consultant will be final and binding on the Contract.

7.3 **MECHANICAL COMPLETION**

When the construction of the storage tanks and piping system (third party inspection for bought out items, fabrication & erection, testing, calibration, rubber lining & painting) has been completed, other than in minor respects, which do not prevent commissioning, Contractor shall obtain approval from Consultant and notify OWNERin writing that the storage tanks are mechanically completed and ready for pre-commissioning activities. Upon written intimation as aforesaid, pre-commissioning / start up activities shall be commenced.

The date of readiness for pre-commissioning as aforesaid shall be deemed to be the date of mechanical completion of the system (hereinafter called MECHANICAL COMPLETION) for the purpose of this CONTRCT.

After the mechanical completion of the storage tanks, Contractor shall assist the OWNER in carrying out the commissioning of the tanks and piping system as per approved procedure. The quoted rates shall include the manpower required for the assistance in commissioning activities.

8.0 PRICE REDUCTION FOR DELAY

8.1 Article 31.2 of GCC is not applicable.

8.2 Time is the essence of the Contract.

8.3 Price Reduction for Delay will become applicable for the WORK beyond the scheduled time of completion. CONTRACTOR will have to pay to the OWNER by way of price reduction for delay and not as penalty, an amount equal to ½% of the total contracted price of the work order for each week OR part there of such delay in work completion subject to a maximum of 10 % of such price.

9.0 SUPERVISION OF WORK

9.1 The contractor is bound to deploy sufficient number of experienced Engineers and Supervisors (Technical and General) for the execution of work. FACT will have the right to recover the cost from the CONTRACTOR as per the discretion of FACT-CD's Engineer-in-Charge of the work for any non-compliance of the requirements.

9.2 Sufficient number of Graduate Engineers or Diploma holders with experience in the relevant field of work awarded shall be made available at site from commencement till completion of the job and settlement of final bill. The number of Diploma holders / Graduate Engineers will be decided by the Engineer-in-charge based on the volume and nature of work. The decision of Engineer-in-Charge will be binding and final in this regard.

9.3 FACT reserves the right to appoint on their behalf from time to time any authorized agency for the supervision of the work.

10.0 DAILY LABOUR REPORT AND PROGRESS REPORT

The contractor should submit daily labour report indicating the details of the contract labour engaged for the day to the Engineer-in-Charge. Further, the CONTRACTOR should submit weekly progress report showing the actual quantum of work done at site against the programmed quantum, after finalisation of the schedule for the work in consultation with the Engineer-in-charge.

11.0 OWNER'S SCOPE OF SUPPLY

NO materials shall be supplied by the OWNER.

12.0 CONTRACTOR'S SCOPE OF SUPPLY

12.1 Except OWNER'S SCOPE OF SUPPLY, all other materials and consumables required for the execution of the work shall be supplied by the CONTRACTOR within his quoted rates.

12.2 The major items under Contractor's scope of supply are Steel Plates, Structural, Pipes, Valves, Flanges, Fasteners, Gaskets, Acid Transfer Pumps, Cement, Steel and Mortar for Civil Works, Rubber lining and Painting materials including primers and thinners, Radar Type Level Gauges, Instrumentation and Electrical Cables.

12.3 For all items 6 copies of Manufacturer's test certificates for Chemical composition, Mechanical properties, etc.as specified in the material testing / inspection requirements specified in Part-II Technical of the Tender shall be furnished after inspection and clearance by an approved third party inspection agency.

12.4 All the items shall be procured from the Vendors specified in the Vendor list. Prior approvals from OWNER / CONSULTANT shall be obtained for (i) procurement of items for which vendor list is not furnished and (ii)

procurement from sub-vendor not included in FACT's vendor lists given. Acceptance of new vendors shall be subject to their meeting the pre-qualification criteria fixed by FACT. However, Final acceptance of sub vendor list is at the discretion of FACT / FEDO. Sub vendors Blacklisted / put on Holiday by FACT shall not be accepted.

13.0 STORAGE OF MATERIALS AND CONSTRUCTION OF SITE SHED

13.1 Contractor has to find a suitable place with prior approval of Engineer-In-Charge for the storage of all types of materials & consumables, working place and storing place for steel plates & structural and for site shed. The quoted rate shall include all leads and lift of materials to the site of construction. No claim will be entertained for any extra cost on account of this. FACT/FEDO will not be responsible for any theft or damage to the material stored by the CONTRACTOR. CONTRACTOR has to make his own security arrangement to protect the material from theft at his own cost.

13.2 Any excess materials/construction equipment, tools etc. owned by the CONTRACTOR shall be removed from the premises within a reasonable period of time and the area of work should be left in spick and span condition after the completion of work.

14.0 INCOME-TAX

14.1 **Tenderers are required to quote their Permanent Account Number (PAN) in their Tenders or other relevant documents.**

14.2 Income Tax / Withholding TAX (for foreign bidder) at the prevailing rate shall be deducted from the Contractor's bills as per Indian Income Tax Act.

15.0 STIPULATIONS AND DEVIATIONS TO TENDER CLAUSES

15.1 Tenderers are advised to submit quotations strictly based on the terms, conditions and specifications contained in the Tender documents and not to stipulate any deviations. However, if it becomes unavoidable, deviations should be stipulated with reference to the Clause No., paragraph and page No. of the relevant specifications as given in the tender document and should be submitted as per **Attachment-II L1 (Attachments in Part - I COMMERCIAL)**. **Deviations, if any, mentioned anywhere else shall NOT be taken cognizance of.**

15.2 OWNER/ CONSULTANT reserves the right to evaluate the offers containing deviations with financial implications after adding cost for such deviations as determined by OWNER/CONSULTANT.

16.0 SETTLEMENT OF DISPUTES AND ARBITRATION

16.1 If the Contractor is **not** a Central Public Sector Enterprise/Central Government Department in India:

If any dispute arises out of or relating to or in connection with this CONTRACT, between the CONTRACTOR and the OWNER/FACT, the same shall be amicably settled through mutual discussions, failing which, the unresolved dispute(s) shall be referred to arbitration in accordance with the provisions of the Arbitration and Conciliation Act, 1996, as amended from time to time. The number of Arbitrator shall be one. The venue of the Arbitration shall be at Ernakulam and the proceedings shall be in ENGLISH.

16.2 If the CONTRACTOR is a Central Public Sector Enterprise or Central Government Department in India:

In the event of any dispute or difference relating to the interpretation and application of the provisions of this contract(s) between Central Public Enterprises (CPSEs)/Port Trusts interse and also between CPSEs and Government Departments / Organizations (excluding disputes concerning Railways, Income Tax, Customs & Excise Departments), such dispute/ difference shall be taken up by either Party for resolution through AMRCD as mentioned in DPE OM No. 4(1)2013-DPE(GM)/FTS-1835 dated 22.05.2018.

16.3 Any legal proceedings relating to or in connection with this CONTRACT shall be limited to the exclusive jurisdiction of the High Court of Kerala.

17.0 CONSTRUCTION EQUIPMENT AND SITE ORGANISATION

17.1 Construction Equipment:

The Contractor shall without prejudice to his/her overall responsibility to execute and complete the work as per specifications and time schedule, progressively deploy adequate equipments and tools and tackles and augment the same as decided by the CONSULTANT depending on the exigencies of the work so as to suit the construction schedule. The Bidder shall submit a list of construction equipments he/she proposes to deploy for the subject work along with the offer. No construction equipment shall be supplied by the OWNER / CONSULTANT.

17.2 Site Organization:

Subject to the provisions in the tender document and without prejudice to CONTRACTOR's liabilities and responsibilities to provide adequate qualified and skilled personnel on the work, Contractor shall deploy site organization and augment the same as decided by the OWNER/CONSULTANT depending on the exigencies of work.

17.3 The BIDDER shall submit the details of minimum site organization proposed by him/her, along with the bidding documents.

18.0 CO-ORDINATION WITH OTHER AGENCIES

Work shall be carried out in such a manner that the work of other agencies operating at the site is not hampered due to any action of the CONTRACTOR. Proper co-ordination with other agencies will be CONTRACTOR's responsibility. In case of any dispute, the decision of OWNER/CONSULTANT shall be final and binding on the CONTRACTOR.

19.0 FRONTS FOR WORKS WHERE OTHER AGENCIES ARE INVOLVED

The work involved under this contract includes such works as have to be taken up and completed after other agencies on the job have completed their jobs. The Contractor will be required and bound to take up and complete such works as and when the fronts are available for the same and no claim of any sort whatsoever shall be admissible to the Contractor on this account.

Only extension of time limit shall be admissible, if the availabilities of work fronts to the Contractor are delayed due to any reasons not attributable to the CONTRACTOR.

20.0 DAMAGES TO OTHER JOBS

At the project site, other agencies are also engaged for execution of different contract work during these periods. Any damages caused to the civil works or to the works carried out by other agencies during the work execution will have to be repaired by the CONTRACTOR concerned at his own cost.

21.0 ORDER OF WORKS

Owner reserves the right to fix up priorities, which will be conveyed by Consultant, and the Contractor shall plan and execute work accordingly.

22.0 QUALITY ASSURANCE & QUALITY CONTROL PROGRAMME

22.1 The Contractor has to ensure the deployment of Quality Assurance and Quality Control Engineer(s)

depending upon the quantum of work. This QA/QC group shall be fully responsible to carry out the work as per standards and all code requirements. In case Consultant feels that Contractor's QA/QC Engineer(s) are incompetent or irresponsible or insufficient, Contractor has to deploy other experienced Engineer(s) as per Site requirements.

22.2 In case Contractor fails to follow the instruction of Consultant, next payment due to him/her shall not be released unless until he/she complies with the instructions to the full satisfaction of Consultant.

22.3 Quality Assurance System Plans/procedures of the Contractor shall be furnished in the form of a QA manual. This document should cover details of the personnel responsible for the Quality Assurance plans or procedures to be followed for quality control in respect of Procurement, Supply, Installation and Commissioning including laboratories for testing materials. The quality assurance system should indicate organizational approach for quality control and quality assurance of the construction activities, at all stages of work at site as well as at manufacturer's works and dispatch of materials.

23.0 MOBILISATION ADVANCE

Mobilisation advance is not payable to the CONTRACTOR for this work.

24.0 RESPONSIBILITY OF CONTRACTOR

24.1 The Contractor shall be entirely responsible for executing the work covered under this Tender document in a workmanlike and expeditious manner as per the time schedule, specifications, drawings and construction aids such as, arc welding sets, gas cutting sets, cranes, chain pulley blocks, transportation equipments, plate rolling machine, pumps, air compressors, tools and tackles as well as testing appliances such as test pumps, hose, pipes, valves & fittings etc. and the necessary supervisory personnel, skilled, semi-skilled and unskilled labour shall be provided by the Contractor to achieve the monthly/weekly targets and the overall time schedule.

24.2 The Contractor shall ensure that local labor, unskilled as well as skilled to the extent possible and available from local resources, are preferentially employed on the work. For any infringement of this provisions, the OWNER/CONSULTANT shall be at liberty to rescind the contract without any liability to pay any compensation whatsoever to the Contractor.

24.3 All expenses towards mobilization at site and demobilization including bringing in equipment, work force, materials, dismantling the equipment, clearing the site etc. shall be deemed to be included in the prices quoted and no separate payments on account of such expenses shall be entertained.

24.4 It shall be entirely the Contractor's responsibility to provide, operate and maintain all necessary construction equipments, scaffoldings and safety gadgets, cranes and other lifting tackles, tools and appliances to perform the work in a workmanlike, efficient and safe manner and complete all the jobs as per time schedules.

24.5 The procurement and supply in sequence and at the appropriate time of all materials and consumables shall be entirely the Contractor's responsibility and his/her rates for execution of work will be inclusive of supply of all these items. Contractor shall not use any of the equipment or materials issued to him/her by Owner for installation purposes for laying temporary lines, manufacturing erection aids etc. Misuse of materials will be seriously viewed and deductions at penal rates will be made from the Contractor's bills for such quantities that are misused.

24.6 It shall be the responsibility of the CONTRACTOR to bring best equipments in good condition at site for executing the work. If any equipment / machinery is found necessary during the execution of the work, the same shall be arranged by the CONTRACTOR as per the instruction of Site-In-Charge.

24.7 The Contractor shall provide toilet and drinking water facilities at site for the contract workmen as per statutory requirements at his own cost.

24.8 The Contractor should ensure safety of his materials, equipments, completed jobs at his risk and cost. The Contractor shall provide his own security arrangement. Quoted Rate shall include all leads and lift of materials to the site of construction. No claim will be entertained for any extra cost on account of this. FACT / FEDO will not be held responsible for any theft and damage that takes place during the performance of work at work site to the contractor's property.

24.9 The Contractor shall be responsible for making good to the satisfaction of the OWNER/CONSULTANT, any loss or damage to all works being executed, machineries, temporary buildings and materials procured/issued to the Contractor by OWNER/ CONSULTANT, due to wind or natural calamities during execution of the Project.

24.10 The contractor shall at his own expenses carry and maintain sufficient insurance coverage with reputable Insurance Company for the above to the satisfaction of Owner/Consultant. This is addition to any other insurance coverage mentioned elsewhere in tender documents.

24.11 CONTRACTOR shall indemnify and keep the OWNER/ CONSULTANT harmless of all claims or liability for damage to public property or property of any kind, personal injury including the death of any employee, its servants or public, if any, arising under or by reason of this agreement if such claims result from the fault and/or negligence or willful acts or omissions of CONTRACTOR, his employees, agents, representative or Sub-Contractors in consequence of the performance of this CONTRACT.

24.12 The Contractor shall arrange work in all three shifts round the clock as per the instruction of the Engineer-in-Charge at no extra cost, if required to meet the Time schedule. The Engineer-in-Charge shall have the right to take possession of or use any completed or partially completed work or part of the work. Such possession or use shall not be deemed to be an acceptance of any work completed in accordance with the Contract Agreement.

24.13 For the completion of work it will be required to work during monsoon also. The Contractor must maintain the required labor force and execute the construction and erection according to the prescribed schedule. All facilities for working in monsoon period shall be arranged by the Contractor and the quoted rate shall include all such facilities required for carrying out the work during monsoon.

24.14 During monsoon and other period, it is the responsibility of the Contractor to keep the construction work site free from water at his own cost. The part being welded and the welding personnel should be adequately protected from rain and strong wind. In the absence of such protection, no welding shall be carried out.

24.15 During field welding, particular care shall be exercised to prevent any air current affecting the welding process.

24.16 Welding electrodes shall be of reputed make as approved by FEDO / FACT. The Contractor should have automatic / semi- automatic (moving type) gas cutter for the edge preparation / cutting of plates.

24.17 It is responsibility of the contractor to keep & update all data on construction, fabrication and erection vis-à-vis fit up reports, weld reports, inspection reports, spool identification records etc. On award of contract the detailed list of reports and records required to be maintained shall be furnished.

24.18 If a weld joint fails in radiographic or ultrasonic inspection, the same shall be repaired and retested by the Contractor at no extra cost. The Contractor shall be responsible for all costs incurred in caring out any rectification to his own work required to meet the applicable drawings and standards.

24.19 The Contractor or any one on his instructions shall not bring on to the site any radioactive substances or X-ray apparatus until written permission and directions regarding the use of equipment have been received

from the Owner.

24.20 Documents to be submitted by the Contractor.

a) Test certificates of all procured and bought-out items
b) Design calculation report
c) Wind and seismic analysis report
d) Welding qualification report at least two weeks before conducting the test.
e) Welder qualification report
f) Test certificates from manufacturer for electrodes, filler wires and other materials supplied by the Contractor
g) Inspection reports of tanks, rubber lining
h) Certificates for hydraulic testing of tanks and pressure testing and flushing of pipelines
i) Painting inspection reports
j) Calibration certificates of tanks
k) Heat treatment certificate, if any
l) Radiography reports along with radiography films
m) Tanks / Pumps / Piping / Electrical / Instrumentation / Civil works construction, erection, fabrication, welding, and testing reports etc.
n) Final box up report
o) Site clearing certificate
p) Calibration / test certificates for all tools, tackles, instruments, lifting devices used
q) No further claim certificate, all QC check sheets/ ED forms for various works carried out by the Contractor for Final payment
r) Material appropriation certificate
s) Any other records / reports / certificates as required by OWNER / CONSULTANT from time to time in the approved formats / forms

25.0 CONSTRUCTION

25.1 CONTRACTOR shall observe in addition to Codes specified in respective specification, all national and local laws, ordinances, rules and regulations and requirements pertaining to the WORK and shall be responsible for extra costs arising from violations of the same.

25.2 Various procedures and method statements to be adopted by Contractor during the construction as required in the respective specifications shall be submitted to OWNER/CONSULTANT in due time and got approved.

25.3 OWNER/CONSULTANT reserves the right to inspect all phases of CONTRACTOR'S operations including construction, field and shop fabrication, equipment, assembly, testing, packing and load-out operations to ensure conformity to the SPECIFICATIONS. OWNER will have Engineers, inspectors or other duly authorized representatives, made known to the CONTRACTOR, present during progress of the work and such representatives shall have free access to the WORK at all times. The presence or absence of an OWNER'S representative does not relieve the CONTRACTOR of the responsibility for quality control in all phases of the WORK. In the event that any of the WORK being done by the CONTRACTOR or any SUB-CONTRACTOR is found by OWNER'S representatives to be unsatisfactory or not in accordance with the DRAWINGS, procedures and SPECIFICATIONS, the CONTRACTOR shall, upon verbal notice of such discrepancy or deficiency, take immediate steps to revise the work in a manner to conform to the relevant DRAWINGS, procedures and SPECIFICATIONS.

25.4 The CONTRACTOR shall carry out required supervision and inspection as per Quality Assurance Plan and furnish all assistance required by the OWNER/CONSULTANT in carrying out inspection work during this phase. The OWNER will have Engineers, Inspectors or other authorized representatives present who are to have free access to the WORK at all times. If an OWNER'S representative notifies the CONTRACTOR'S authorized representative not lower than a Foreman of any deficiency, or recommends action regarding compliance with the SPECIFICATIONS, the CONTRACTOR shall make every effort to carry out such

instructions to complete the WORK conforming to the SPECIFICATIONS and approved DRAWINGS IN THE fullest degree consistent with best industry practice.

25.5 Contractor shall use Tractor mounted rotary boring machines for piling works.

26.0 DRAWINGS

Drawings accompanying the tender documents are indicative of the scope of work and issued for tendering purpose only. Detailed construction drawings shall be prepared by the Contractor and got approved from Engineer-in-Charge before starting procurement / construction.

27.0 ALTERATION IN SPECIFICATION AND DESIGNS

During the execution of the work, the Engineer-In-Charge may desire to make changes in design due to site condition or due any other reason. The Contractor shall carry out such changes shown by the Engineer-in-charge in writing, without any extra cost. These changes shall be either for partially or fully for the entire quantities put to tender, for these items.

28.0 FIRM PRICES

Prices / Rates quoted by The Bidder shall remain firm and fixed and valid until completion of the contract performance and will not be subject to escalation / variation on any account. Unless otherwise specified the rates for various items of work shall be for works at all height / depths.

29.0 PREFERENCE TO PUBLIC SECTOR ENTERPRISES PRICE

OWNER/CONSULTANT reserves the right to give Purchase preference to Public Enterprises as admissible under the existing Government Policy.

30.0 SAFETY, FIRE & SECURITY REGULATIONS

30.1 Contractor shall observe and abide by all safety regulations of OWNER/CONSULTANT. The safety practices to be followed generally are enclosed elsewhere in the tender document.

30.2 All the employees of the Contractor, while working at site, must wear hard hats (helmets) and other protective equipments suggested by OWNER/CONSULTANT as and when required, depending upon the safety standards and practices without any extra cost.

30.3 First-aid kits must be available at the work spot / site office of each Contractor and the same shall be replenished from time to time. Officers of OWNER / CONSULTANT will be inspecting the availability of First-aid boxes at work site.

30.4 Prime importance has to be given for safety of workmen during the erection activities. Necessary insurance coverage shall be arranged for all work men and other staff. Designated Safety Engineer should ensure that safe work practices, appropriate tools, tackles and appliances are used in the job.

31.0 STATUTORY & OTHER APPROVALS

All necessary permissions and approvals from all the statutory agencies required shall be arranged by the Contractor.

32.0 PROJECT SCHEDULING & MONITORING

32.1 The Bidder is required to submit a Project Time Schedule in Bar Chart Form, along with the Bid.The Schedule shall cover all aspects like sub-ordering, manufacturing and delivery, sub-contracting and construction within the completion time indicated in the Bid Document. The OWNER /CONSULTANT

interface activities shall be clearly identified with their latest required dates. Owner reserves the right to disqualify the Bidder if the above Schedule submitted by the Bidder is not in line with the overall project requirement.

32.2 The Contractor shall submit within two (2) weeks of Letter/Fax of Intent, a sufficiently detailed overall Project Schedule in the activity network form, clearly indicating the major milestones, inter-relationship/interdependence between various activities together with analysis of critical path and floats.

32.3 The network will be reviewed and approved by Consultant and the comments, if any, shall be incorporated in the network before issuing the same for implementation. The network thus finalized shall form part of the contract document and the same shall not be revised without the prior permission from Consultant during the entire period of contract.

33.0 PROJECT REVIEW MEETINGS

The Contractor shall present the programme and status of work at various review meetings as required.

34.0 PROGRESS REPORTS

This report shall be submitted on a weekly basis, covering overall scenario of the work. The report shall include but not be limited to the following:

(a) Brief introduction of the work.
(b) Activities programmed and completed during the previous week.
(c) Resource deployed, men and machine.
(d) Quantity achieved against target in construction.
(e) Record of Man-days lost.
(f) Construction percentage progress, scheduled and actual.

35.0 HINDRANCE TO WORK

Any obstruction /hindrance to the work from local public, labors, unions, etc., shall be settled by the Contractor for successful completion of job within the contractual completion date, as per scope of Contract. The Contractor shall maintain a hindrance register in a format approved by the Engineer-in-Charge.

36.0 SAFE MOVEMENT OF VEHICLES / CRANES DEPLOYED BY CONTRACTOR

Contractor should take extra care for movement of all vehicles / Cranes / Forklift to avoid any sort of accidents to workmen / persons inside the project site. OWNER will not be responsible for any sort of accidents.

37.0 TAXES AND GOVERNMENT CHARGES

37.1 CONTRACTOR's quoted CONTRACT PRICE shall be inclusive of all taxes, duties, imports and other charges, with respect to WORK rendered hereunder whether or not in effect on the date of this CONTRACT but that are imposed, directly or indirectly, prospectively or retrospectively by the Government of India or any other Government.

37.2 CONTRACTOR before submission of First Invoice for running payment shall register themselves and the CONTRACTOR at their own cost with the Reserve Bank of India, Income Tax, Sales Tax and such other Central or State government and all statutory bodies as may be required under the rules and regulations governing in India in connection with performance of the WORK. CONTRACTOR shall bear and pay all registration fees and deposits to authorities in connection with performance of the WORK.

37.3 CONTRACTOR shall be liable for and shall defend, indemnify and hold OWNER /CONSULTANT harmless from any claim or liability resulting from CONTRACTOR's failure to make timely payment for taxes levied by the Government of India or by the Government of any other country or failure to pay the above item or similar items or failure to comply with the reporting, return or other appropriate procedural requirements with

respect to their payment. Any interest, penalty or other liabilities arising from such failure shall be borne by CONTRACTOR.

38.0 CURRENCIES OF PAYMENT

Payment to the contractor shall be made in Indian Rupees.

39.0 WITHHOLDING, ACCOUNTING & TAX REQUIREMENTS

CONTRACTOR agrees for withholding from wages and salaries of its agents, servants or employees all sums, required to be withheld by the laws of Republic of India or any other agency having jurisdiction over the area where CONTRACTOR is conducting operation, and to pay the same promptly and directly when due to the proper authority. CONTRACTOR further agrees to comply with all accounting and reporting requirements of any Nation having jurisdiction over the subject matter hereof and to confirm to such laws and regulations and to pay the cost of such compliance, if requested by OWNER. CONTRACTOR will furnish OWNER the evidence of payment of applicable taxes, in the country (ies) of the CONTRACTOR's and his SUB-CONTRACTOR and expatriate employees.

40.0 ESI AND EPF ACTS

The contractor shall comply with the provisions of EPF Act and ESI Act 1948 as may be applicable and amended from time to time.

41.0 REGISTERATION UNDER GST

GST issued by the Commercial Tax Officer of the State, where the work is to be carried out, in favour of Contractor shall be submitted to the Owner / Engineer-in-Charge. The certificate shall either state that the Contractor has paid or made satisfactory provision for payment of existing liability or that he has no liabilities to pay GST. The above GST registration certificate shall be produced by the contractor to Engineer-in-Charge before starting the job.

42.0 GENERAL ENVIRONMENT REQUIREMENTS

The Contactor shall ensure efficient use of natural resources like water, fuel oil and lubricants. The Contractor should ensure proper awareness to workers to maintain a green and clean environment inside/outside the plant. The Contractor must collect and dispose of all the waste and scrap materials at the designated place only as directed by OWNER/CONSULTANT.

Contractor shall take necessary license for storing Petroleum products at site office.

Contractor shall also provide required fittings on equipments/ engines to control sound pollution within the approved limits.

43.0 RULES AND REGUALTIONS

Contractor shall observe in addition to codes specified in respective specification, all national and local laws, ordinances, rules and regulations and requirements pertaining to the work and shall be responsible for extra costs arising from violations of the same.

44.0 CONTRACTOR'S LABOURERS TO LEAVE SITE ON COMPLETION OF THE WORK

The Contractor's labourers must leave the location of the Project Site after the work is tapered / completed to avoid creation of a slum in the areas adjoining the project/township.

45.0 ROUNDING OFF

All payments to and recoveries from the Contractor shall be rounded off to the nearest rupee. Whenever the amount to be paid / recovered consists of a fraction of a rupee, if the fraction consists of 50(fifty) paise or more, the amount shall be rounded off to the next higher Rupee and if the fraction of a Rupee is less than

50(fifty) paise, the same shall be ignored.

46.0 COMPUTERISED CONTRACTOR'S BILLING SYSTEM

46.1 Without prejudice to stipulation in General Conditions of Contract, Contractor should follow the following billing system.

46.2 The bills will be prepared by the Contractor on their own PC's as per the standard formats and codification scheme proposed by OWNER/CONSULTANT. The Contractor shall provide with data entry software to capture relevant billing data for subsequent processing. Contractor will submit these data to OWNER/CONSULTANT in an electronic media along with the hard copy of the bill, necessary enclosures and documents. The Contractor will also ensure the correctness and consistency of data so entered with the hard copy of the bill submitted for payment. OWNER/CONSULTANT will utilise these data for processing and verification of the Contractor's bill.

47.0 ADDITIONAL / EXTRA WORK

OWNER reserves the right to execute any additional works/extra works during the execution of work, either by themselves or by appointing any other agency, even though such works are incidental to and necessary for the completion of works awarded to the Contractor.

48.0 AS-BUILT DRAWINGS

As-built drawings of the entire work executed by the Contractor, after certification and approval of the Engineer-in-charge, shall be prepared in Auto-CAD (release as instructed by FEDO) and submitted after completion of the work at no extra cost in prescribed format in computer Compact Disc with three hard copies of all the drawings.

49.0 INSPECTION OF SUPPLY ITEMS

49.1 All inspection, tests and third party inspection on bought-out items shall be made as required by specifications forming part of this Contract. The quoted rate shall include third party inspection agency (TPIA) charges. Various stages of inspection and testing shall be identified after receipt of quality assurance programme from the contractor/manufacturer.

49.2 Inspection calls shall be given for association of FACT / FEDO / TPIA as per mutually agreed programme in prescribed proforma with 15 days margin, giving details of equipment and attaching relevant test certificates and internal inspection report of the Contractor. All drawings, general arrangement and other contract drawings, specifications, catalogues etc. pertaining to equipment offered for inspection shall be got approved by FACT / FEDO and copies shall be made available to FACT / FEDO / TPIA beforehand for undertaking inspection.

49.3 The Contractor shall ensure full and free access to the Inspection Engineer of FACT / FEDO / TPIA at the Contractor's or their Sub-Contractor's premises at any time during contract period to facilitate him to carry out inspection and testing assignments.

49.4 The Contractor / Sub-Contractor shall provide all instruments, tools, necessary testing and other inspection facilities to inspection engineer of FACT / FEDO free of cost for carrying out inspection.

49.5 The Contractor shall comply with the instructions of the Inspection Engineer fully and with promptitude.

49.6 All inspections and tests shall be made as required by the specifications forming part of this contract. Contractor shall advise FEDO in writing at least fifteen days in advance of the date of final inspection / tests. Manufacturer's inspection or testing certificates for equipment and materials supplied may be considered for acceptance, at the discretion of FEDO all costs towards testing etc. shall be borne by the Contractor within their quoted rates.

50.0 TESTS AND INSPECTION

50.1 The Contractor shall carry out the various tests as enumerated in the technical specifications of this bidding document and technical documents that will be furnished to him during the performance of the work at no extra cost to FACT/FEDO.

50.2 All the tests either on the field or at outside laboratories concerning the execution of the work and supply of materials by the Contractor shall be carried out by the Contractor at his own cost.

50.3 The work is subject to inspection at all times by FEDO / FACT. The Contractor shall carry out all instructions given during inspection and shall ensure that the work is being carried out according to the technical specifications of this bidding document, the technical documents that will be furnished to him during performance of work and the relevant codes of practice.

50.4 The Contractor shall provide for purposes of inspection access ladders, lighting equipment for testing, necessary instruments etc. at his own cost. Low voltage lighting equipment shall be provided wherever it is required.

50.5 All results of inspection and tests will be recorded in the inspection reports, proforma of which will be approved by FEDO / FACT. These reports shall form part of the completion documents. Any work not conforming to execution drawings, specifications or codes shall be rejected and the Contractor shall carry out the rectifications at his own cost.

51.0 FINAL INSPECTION

51.1 After completion of all tests as per specification, the whole work will be subject to final inspection to ensure that job has been completed as per requirement. Final Acceptance of the PLANT will be done on satisfactory completion of the final inspection by FACT/FEDO. If any defects noticed in the work, which are attributable to Contractor, these shall be attended by the Contractor at his own cost and risk as and when these are brought to his notice by FEDO / FACT. FEDO / FACT shall have the right to get these defects rectified at the risk and cost of the Contractor, if he fails to attend to these defects immediately.

51.2 When these works are carried out at the risk and cost of the Contractor, FACT would recover the actual cost incurred towards labour, supervisions and material, consumables or otherwise, plus overheads based on actual work done from any pending bill of the Contractor or the security deposit.

52.0 PRICES FOR SPARES

Bidder shall supply all Mandatory and Commissioning SPARES required as per documents attached along with Part-II Technical of the Tender. The total quoted price of contract shall be inclusive of these spare prices.".

53.0 MEASUREMENT, BILLING AND TERMS OF PAYMENTS

The mode of measurement, billing and terms of payment shall be as detailed below;

53.1 Measurement of works:

1. The contractor shall enter all the measurements in Excel format and to submit all the bills running as well as final bills in Microsoft Excel format in CD's and also hard copies as required by the Engineer-in-Charge. Work in general is to be executed as per drawings issued for construction. For all payment purposes, measurements will be based on the actual work executed at site.

2. Measurement will be taken by the Contractor in the presence of Engineer-in-Charge or his representative. Payment will be based on these measurements.

i. Measurement of weights will be in metric tons corrected to nearest kilogram and will be made based on the execution drawings (where weights are not indicated on the working drawings, lists as received from the suppliers will be converted to the weights). All other measurements will be as per executed works at site. The weights of weld metal will not be considered.

ii. Linear measurement will be in meters corrected to centimeters. If physical measurement is not practicable, measurements given in the execution drawings shall be adopted.

iii. Payment will be made monthly against the work done during the preceding month on pro-rata basis of item rates as accepted in the contract in the terms and manner as described below. However, the decision of the Engineer-in-Charge shall be final in respect of completion of work and percentage release of payment thereof.

53.2 PAYMENT TERMS

53.2.1 90% against the value of actual work done shall be paid against running bills duly certified by the CONSULTANT/OWNER after recovery of taxes, duties, etc. Balance 10% shall be released along with Final Bill against Bank Guarantee covering the defects liability period.

53.2.2 Final contract price based on WORK actually performed will be paid after completion of WORK in all respects, issue of taking over certificate by OWNER, settlement of account of all departmental issues and reconciliation of its use / return, clearance of site and removal of temporary structures and debris and settlement of all pending claims on account of labour employed by the CONTRACTOR at site.

53.2.3 The billing of the entire price of Materials and price of Services shall be done from and to a single point only. The number of RA Bill shall be limited to one each per month. "Payment will be released on submission of Tax paid invoices, as per GST law enabling FACT to take input Tax credit".

53.2.4 Subject to the other provisions of the GCC, SCC and Contract documents, payments shall be made as follows:

FOR CIVIL WORKS

100% payment of CIVIL WORKS shall be released as follows:

1) 5% upon completion of detailed engineering, submission of drawings / documents and approval

2) 70% on pro-rata as per schedule mutually agreed by OWNER and CONTRACTOR on monthly basis

3) 5% against Mechanical Completion of the TANKS

4) 10% upon successful Performance Guarantee Test Run of TANKS

5) 10% upon completion of DEFECTS LIABILITIES PERIOD or against submission of BG of equivalent amount covering the DEFECTS LIABILITIES PERIOD

FOR SUPPLY OF MATERIAL / EQUIPMENT

100% payment of Supply of Material / Equipment shall be released as follows:

1) 55% against receipt of material at site on pro-rata as per schedule mutually agreed by OWNER and CONTRACTOR on monthly basis

2) 20% on pro-rata as per schedule mutually agreed by OWNER and CONTRACTOR on monthly basis against utilization / erection of material received mentioned at above point (1)

3) 5% upon successful Mechanical Completion of the TANKS

4) 10% upon successful Performance Guarantee Test Run of TANKS

5) 10% upon completion of DEFECTS LIABILITIES PERIOD or against submission of BG of equivalent amount covering the DEFECTS LIABILITIES PERIOD

FOR SERVICE OF MECHANICAL, ELECTRICAL AND INSTRUMENTATION ERECTION WORK

100% payment of Service for Mechanical, Electrical and Instrumentation erection work shall be released as follows:

1) 10% upon completion of detailed engineering, submission of drawings / documents and approval

2) 65% on pro-rata as per schedule mutually agreed by OWNER and CONTRACTOR on monthly basis

3) 5% upon Mechanical Completion of the TANKS

4) 10% upon successful Performance Guarantee Test Run of TANKS

5) 10% upon completion of DEFECTS LIABILITIES PERIOD or against submission of BG of equivalent amount covering the DEFECTS LIABILITIES PERIOD..

53.2.5 Payment terms as described above along with weightages given for Total price are shown in the following table.

SL	DESCRIPTION	Weightage - Total contract Price %	Payment Split-up %	Payment Terms, as per Clause 53 of SCC
1	For CIVIL WORKS	50	5	Upon completion of detailed Engineering, submission of drawings/documents and approval.
			70	on pro-rata as per schedule mutually agreed by OWNER and CONTRACTOR on monthly basis.
			5	against Mechanical Completion of the Tanks
			10	upon successful Performance Guarantee Test Run of TANKS
			10	upon completion of DEFECTS LIABILITIES PERIOD or against submission of BG of equivalent amount covering the DEFECTS LIABILITIES PERIOD
2	For SUPPLY OF MATERIAL / EQUIPMENT.	30	55	against receipt of material at site on pro-rata as per schedule of work mutually agreed by OWNER and CONTRACTOR on monthly basis.
			20	on pro-rata as per schedule mutually agreed by OWNER and CONTRACTOR on monthly basis against utilization / erection of material received mentioned at above point.

			5	upon successful Mechanical Completion of the Tanks
			10	upon successful Performance Guarantee Test Run of Tanks.
			10	upon completion of DEFECTS LIABILITIES PERIOD or against submission of BG of equivalent amount covering the DEFECTS LIABILITIES PERIOD
3	**For SERVICE OF MECHANICAL, ELECTRICAL AND INSTRUMENTATION ERECTION WORK**	**20**	10	upon completion of detailed engineering, submission of drawings / documents and approval
			65	on pro-rata as per schedule of work mutually agreed by OWNER and CONTRACTOR on monthly basis
			5	upon Mechanical Completion of the Tanks
			10	upon successful Performance Guarantee Test Run of Tanks.
			10	upon completion of DEFECTS LIABILITIES PERIOD or against submission of BG of equivalent amount covering the DEFECTS LIABILITIES PERIOD

54.0 BILLING SCHEDULE

54.1 The CONTRACTOR shall submit a billing schedule based on agreed payment terms within 30 days from the effective date of CONTRACT for APPROVAL by the OWNER/FEDO.

54.2 Payment of running bills shall be made as per Schedule-G of GCC.

55.0 LIABILITY FOR DEFECTS

55.1 If at any time before the FINAL ACCEPTANCE or during the DEFECTS LIABILITY PERIOD stated below, the Engineer-in-Charge:

(a) Decides that any matter is a DEFECT; and
(b) as soon as reasonably practicable gives to the CONTRACTOR notice of the particulars of the DEFECT. The CONTRACTOR shall as soon as reasonably predictable time make good the DEFECTS so notified and the OWNER shall so far as may be necessary place the EQUIPMENT at the CONTRACTOR's disposal for this purpose. The CONTRACTOR shall, if so required by the Engineer-in-Charge, submit his proposals for making good any DEFECT to the Engineer-in-Charge for his approval.

55.2 Subject to clause 55.7, the DEFECTS LIABILITY PERIOD shall be a period of 12 months from the date of FINAL ACCEPTANCE.

55.3 If any DEFECT arises from any breach of the CONTRACT by the CONTRACTOR the CONTRACTOR shall bear his own cost of making good the DEFECT.

55.4 If the CONTRACTOR does not make good with a reasonable time any DEFECT which he is liable to make good under Sub-Clause 55.1 then the OWNER/FEDO may, in addition to any other remedies or relief available to him under the CONTRACT, proceed to do the work, provided that the OWNER/FEDO gives at least fourteen DAYS notice of his intention.

55.5 If the OWNER reasonably requires that any DEFECT notified to the CONTRACTOR under Sub-clause 55.1 which arises during the DEFECT LIABILITY PERIOD be made good urgently and the CONTRACTOR is unable or refuses to comply within a reasonable time, the OWNER may, in addition to any other remedies or relief available to him under the CONTRACT, proceed to do the work in such a manner as the OWNER may

decide, including the employment of a third party.

55.6 If the OWNER has made good a DEFECT in accordance with Sub-clause 55.4 or 55.5, the CONTRACTOR shall reimburse the OWNER his reasonable cost of so doing provided that the OWNER gives a notice to the CONTRACTOR of his intention and submits a claim supported by DOCUMENTS. The OWNER and the CONTRACTOR may agree the amount to be paid by the CONTRACTOR, or in the absence of agreement the Engineer-in-Charge shall decide such amount as may be reasonable. Such amount shall be:

a) deducted from any money that would otherwise be payable under the CONTRACT; or
b) paid by the CONTRACTOR to the OWNER

55.7 If the PLANT cannot be used because of a DEFECT to which this Clause 55.0 applies, the DEFECTS LIABILITY PERIOD, or if applicable, the extended DEFECTS LIABILITY PERIOD, shall be extended by a period equal to the period during which it cannot be used. Similarly the DEFECTS LIABILITY PERIOD, or if applicable the extended DEFECTS LIABILITY PERIOD shall be extended by any period wherein the PLANT cannot be used by reason of the CONTRACTOR putting the PLANT into such condition that it passes any relevant performance test or attempting to do so.

56.0 RISK COVERAGE

56.1 Contractor shall arrange and procure an all risk coverage Insurance policy covering the total work order value awarded. A copy of the policy document shall be made available to FACT/FEDO.

57.0 GOVERNMENT OF INDIA NOT LIABLE

It is expressly understood and agreed by and between the CONTRACTOR and the OWNER that the OWNER is entering to this agreement solely on its own behalf and not on behalf of any other person or entity. In particular, it is expressly understood and agreed that the Government of India is not a party to this agreement and has no liabilities, obligations or rights thereunder. It is expressly understood and agreed that the OWNER is an independent legal entity with power and authority to enter into contracts, solely on its own behalf under the applicable Laws of India and General Principles of Contract. The CONTRACTOR expressly agrees, acknowledges and understands that the OWNER is not an agent, representative or delegate of Government of India. It is further understood and agreed that the Government of India is not liable for any acts, omissions, commissions, breaches or other wrongs arising out of the CONTRACT. Accordingly, CONTRACTOR hereby expressly waives, releases and forgoes any and all actions or claims, including cross claims or counter claims against the Government of India arising out of this CONTRACT and covenants not to sue the Government of India on any matter, claim and cause of action or thing whatsoever arising of or under this CONTRACT.

58.0 CONCESSIONAL RATE OF CUSTOMS DUTY

Being a project for setting up of a new fertilizer plant, OWNER is entitled to Customs Duty Concession at 5% as per Notification issued by Department of Revenue, Ministry of Finance, in exercise of powers conferred by Sub Section 1, Section 25 of the Customs Act 1962 and subsection 12 of section 3 of Customs Tariff Act 1975. It is the responsibility of the CONTRACTOR to make necessary arrangement, support, and assistance to avail the said Customs Duty concession and pass the benefit to the OWNER in all imported goods / items on which the said benefit is available.

"It is the responsibility of the CONTRACTOR to get all the applicable benefits of deemed export available to the EPC project, as per prevailing Foreign Trade Policy. The CONTRACTOR shall submit the details of benefits considered in the bid and also inform the details of documents to be submitted by the owner for availing all these benefits to the project."

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