



LIST OF ATTACHMENTS

NAME OF WORK: Re-tubing of E-510 (Ammonia Condenser)

Tender No : 03012/2021-2022/E23289

SI No.	Description
PART-1 PREQUALIFICATION & TECHNICAL BID	
1	NIT & Annexure No.1 to NIT (Pre-qualification Criteria)
2	Instruction to Bidders
3	Attachment – II A (Form of bid)
4	Attachment – II B (Information relating the tenderer)
5	Attachment – II C(Details regarding input tax)
6	Proforma Contract
7	Schedule – A - Scope of Work
8	Schedule – B - Programme of Work
9	Schedule – C- Technical Document
10	Schedule – D - Site Conditions
11	Schedule – E - Supplies By Owner
12	Schedule – F - Prices
13	Schedule- F1 Un Priced BOQ
14	Schedule- F2 Rates for Extra items of work
15	Schedule – G - Payment Schedule
16	Schedule – H - Site Facilities
17	Schedule – J - Owner's Construction Equipments
18	Schedule – L – Form of Bank Guarantee for SD / Performance Bond.
19	Schedule – P - Safety Practices
20	Schedule – Q- Special Conditions of Contract
21	Schedule – Q1-Special Requirement of the Contract
22	Drawings and Data Sheet
23	Compliance Statement
24	Bid Security Declaration
25	Vendor Data Form with Master Data for Electronic Media Payment Format (For New Vendors)
COVER-2 (PRICE BID)	
1	BOQ (excel format-fill rates and relevant fields and upload)



FERTILISERS AND CHEMICALS TRAVANCORE LIMITED
UDYOGAMANDAL – 683 501, KOCHI, KERALA

Tender No : 03012/2021-2022/E23289

Name of work : Re-tubing of E-510 (Ammonia Condenser)

PART – I BID



प्रगति के पथप्रदर्शक
PIONEERS IN PROGRESS

दि फर्टिलाइजर्स एण्ड केमिकल्स ट्रावन्कोर लिमिटेड THE FERTILISERS AND CHEMICALS TRAVANCORE LTD.

(भारत सरकार का उद्यम) (A Government of India Enterprise)

पंजीकृत कार्यालय: एलूर, उद्योगमंडल, कोची - 683501, केरल राज्य, भारत

Regd. Office: Eloor, Udyogamandal, Kochi - 683501, Kerala State, India Website www.fact.co.in CIN L24129KL1943GOI000371

NOTICE INVITING e-TENDER

Encrypted Competitive rate, **Single stage Two Bid Tenders** containing the NAME OF WORK and TENDER REFERENCE NUMBER are invited from reliable and experienced contractors of sound financial standing by the Senior Manager (Materials)-Contracts, Materials dept., FACT. Tenders received will be opened online on the due date and time. Tender details are given below.

1. Tender No : 03012/2021-2022/E23289
2. Name of Work : Re-tubing of E-510 (Ammonia Condenser)
3. Nature of Contract : Item Rate
4. Earnest Money Deposit : Nil (Bid Security Declaration to be submitted by all bidders except those specifically exempted)
6. Validity of Tender : 6 Months
7. Period of Contract : 38 Days
8. Document Fee : Nil.
9. Last Date & time to upload : 05.05.2021 11:00:00Hrs
of e-Tender
10. Date, Time and Opening : 06.05.2021 11:00:00 Hrs.
Of Technical Bid

Notes:-

1. Details of Tender are available at e-procurement platform <https://eprocure.gov.in>. Offers submitted other than on-line mode shall not be accepted. Time extensions, Corrigendums, 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 corrigendums, addendums, time extensions etc, if any.
2. All bidders shall be registered under GST and shall furnish their Registration documents along with their Part-I Technical bids. Bids of parties not registered are likely to be rejected without assigning reasons.
3. The bidders shall comply with the prevailing statutory ESI/PF regulations for the employees engaged by them.
4. Tenders not accompanied by EMD exemption certificate/ Bid Security Declaration shall be rejected.
5. The right to accept the lowest or any other tender rests with FACT.
6. Contact details :

a. Tender details

Phone: 0484-2568123, 0484-2568674

Email: jayakumarp@factltd.com, anand.s@factltd.com

b. e-Tender Helpline

Name: Mr. Ajino Anandh

Phone: 0484-2568374/9497334230

Email: ajinoanandh@gmail.com

Date: 26.04.2021

Signature:

Designation: SM(Mat)-C

Material Dept, FACT

PRE-QUALIFICATION CRITERIA

Name of work : Re-tubing of E-510 (Ammonia Condenser)

Tender No : 03012/2021-2022/E23289

Following will be the qualification criteria for this work,

1. Technical Criteria:

Experience of having successfully completed **similar works** during the last 7 years ending on enquiry date should be any of the following,

One similar completed work of value not less than Rs. **16 Lakh**
Or

Two similar completed works of value not less than Rs. **12 Lakh each.**

Or

Three similar completed works of value not less than Rs. **10 Lakh each.**

Similar works means experience in executing *Shell and Tube Heat Exchanger Retubing* in a Private/ Semi Govt. / state / Central Govt. Undertakings / Companies.

Bidders shall submit scanned copies of Work Order(s)/Purchase order(s) and respective Completion certificate(s) etc. as documentary evidences in proof of the above. If the supporting documents for Pre- Qualification criteria are of work completed in any of the division of FACT, only the Work Order number and final completed date and value need to be mentioned.

2. Financial Criteria:


- a) The bidder shall have an Average Annual Turnover of minimum **Rs 7 Lakh** during the last three years ending 31/03/2020. Copies of Balance Sheet and Profit & Loss Accounts audited by a practicing Chartered Accountant or Certificate of Turnover issued by a Practicing Chartered Accountant shall be submitted as proof.
- b) Bidder shall furnish a solvency certificate (original or copy duly attested by a Notary) for a minimum of 20 Lakh from a Nationalised/Scheduled Bank along with Part-A (Techno commercial) Bid. The Solvency Certificate issued shall be dated after three months prior to the date of enquiry.

Note: All Pre-qualification documents shall be submitted online in COVER-1 and shall be complete in all respects, failing which the offer is liable to be rejected. The originals of the documents should be produced at the time of evaluation, if asked for.

Note for micro & small enterprises and startups: Pre-qualification criteria specified above shall also be applicable for micro & small enterprises and startups without any relaxation

INSTRUCTIONS TO BIDDERS

- 1.0 The bidder shall study carefully the Pre-Qualification criteria, Scope of work and Special requirements of the contract, Technical drawings & specifications, Instructions to Bidders, Bid-securing declaration, Proforma contract with schedules along with all other tender documents. All conditions set out there in shall be binding on the bidders unless conflicting with any conditions expressly stated by FACT while accepting any bid in the event of such acceptance. Copy of the Tender document shall be digitally signed by the bidders and shall accompany their Part-A bids, signifying their acceptance of the same. Bidder shall also submit along with his bid Pro forma on Information about Bidder and Bank transaction details duly filled and signed with all details required therein and with all relevant documents.
- 1.1 Before submitting the bid, the bidder shall familiarise himself, about the details of the work, operating conditions etc., collect all necessary data regarding the facilities available at FACT Udyogamandal Complex, and satisfy himself on all aspects relating to this work which he has to execute. Claiming lack of knowledge shall not be a reason for exoneration of the bidder of his contractual obligations or demand for increase in rate, in case a contract is awarded to him.
- 1.2 Offers against this NIT shall be submitted online **on e-Tendering portal <https://eprocure.gov.in>**, with valid digital signature certificate. Offers submitted on any other platform or in any other mode or including e-mails, physical offers etc., SHALL NOT be accepted.
- 1.3 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 issued by any of the Certifying Authority approved by Govt. of India for participating in the tender. The cost of digital signature certificate shall be borne by the bidder. Bidders may refer "Bidders Manual Kit" available on the above website for detailed information and instructions for registration, bid submission etc.
- 1.4 The bidder shall be prepared to commence the work from date of issue of LOI / Work Order.
- 1.5 In case of award of work, the Contractor shall obtain required license from the Labour Department for employing his labourers, before commencement of the work. The Contractor shall also ensure coverage of his labourers under the PF and ESI Acts as applicable.
- 2.0 **Scope of Work:** Scope of work as detailed separately.
- 3.0 **Rates:**
- 3.1 Bidder shall quote his rates for the work only as per the Price Bid Format (BOQ) attached. Bidder shall quote for all items of work as per the Price Bid format. Bids not complying with the above are liable to be rejected.
- 3.2 The rate quoted for each item of work shall be inclusive of all costs towards statutory levies and payments, all establishment costs, labour registration, wages paid to the labourers, PF, ESI or other remittances on behalf of the labourers, accommodation and transportation of their officers etc., but excluding GST. GST shall be extra, as applicable as per GST Act.
4. **Submission of bids:** The bid shall be submitted in two parts – Part- A Bid (Prequalification cum Techno-commercial bid) and Part- B Price Bid (Price Bid in BOQ).
Part- A Bid (Pre-qualification cum Techno-Commercial bid): This bid shall contain the following:

PRPD. BY :AS	CHKD. BY :AS	APPRD. BY :JP	Pg. No: 1
COROPRATE MATERIALS - CONTRACTS		FERTILISERS AND CHEMICALS TRAVANCORE LIMITED	

- i. All documents of this tender including Special requirements of the contract, Instructions to Bidders, General conditions, Unpriced Bid (Put tick mark on Quoted / Not quoted), Compliance statement, ANNEXURES, FACT safety rules etc.
- ii. Copy of GST registration certificate & PAN card
- iii. Duly filled in and signed 'Bid Security Declaration' **or** 'Documents for Exemption'
- iv. Bidder should have experience in similar job as detailed in the Pre-Qualification criteria and the copies scanned from originals to prove the qualification as detailed in the pre-qualification criteria, shall be uploaded. **The BIDDER SHALL PRODUCE THE ORIGINALS OF THE DOCUMENTS FURNISHED ALONG WITH THE PART A OF THE TENDER, AT ANY TIME, IF ASKED FOR, DURING THE EVALUATION OF PART A.**
- v. **Solvency certificate** as mentioned in the PQ criteria shall be uploaded in Cover-1. **Original Solvency certificate** shall be submitted to the office of SM(Mat)C, Corporate Materials, FACT PD admin building, Udyogamandal' on or before the due date of the Bid opening.
5. **Part B:** The BOQ in the part B of the tender document shall be filled with quoted rate, GST Provisional Number and the SAC Code, which will be opened only after the Technical evaluation, is completed.
6. FACT reserves the right to extend without giving any reason the last date for submission and opening of bid. **HOWEVER ANY CHANGE IN THIS TENDER LIKE EXTENTION, CANCELATION, ETC WILL BE EFFECTED ONLY IN THE CPP PORTAL.**
- 7.0 FACT reserves the right to reject any or all bids without assigning any reason whatsoever. FACT's decision in this regard shall be final and binding on the bidders.
- 7.1 FACT reserves the right to call tenders from other parties in addition to parties found suitable by way of press advertisement under certain situation such as cartelisation or number of such parties are less, price bids received are less, or quoted rates are high or under any such circumstances which are detrimental to the interest of FACT, at its sole discretion. Further, FACT reserves the right to add any number of parties and at any time, to the suitable parties so considered by the company. The opinion of FACT in this behalf will be final and binding on the bidders/contractors.
- 8.0 **Evaluation of bids:** Bidders shall quote for all items of work in the Price Bid in excel Format. Bids not complying with the above will not be considered. Evaluation of bids and determination of the L1 bidder shall be based on the combined total value of all items of work quoted by the bidder in the Price Bid Format. The combined total value as above shall be computed based on the rates quoted by the Bidder against each item and the corresponding quantities indicated.
- 8.1 The following conditions shall be considered in the evaluation of quotations:
 - a) Agreement with terms and conditions and schedules of Tender document;
 - b) Pre-qualification criteria
 - c) Price.
- 8.2 For bid evaluation, FACT shall make appropriate loadings to the quoted prices of Tenderer towards deviations in Commercial conditions.
- 8.3 In case more than one bidder becomes L1, the contract will be finalised 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.
- 8.4 FACT reserves the right to reject any or all tenders without assigning any reason whatsoever. FACT also reserves the right to negotiate with the lowest bidder.
- 8.5 **This tender is non-divisible / non-splitable**

- 9.0 **GST:** The rate quoted by the Bidder for all the works as per this tender shall be exclusive of applicable GST. GST, if applicable for the work as per any statutory notification, shall be extra. If the GST is to be paid by the Contractor as per the relevant notification, he shall arrange to remit the same to the concerned authority and FACT shall reimburse the same to the Contractor based on documentary evidence. If the same is to be paid by FACT, the above shall be done by FACT directly.
- 9.1 Please also arrange to submit the following
- 9.2 The GST registration Number and details. In the case of Provisional ID, GST Registration Number shall be provided on receipt of the same.
- 9.3 Place of supply/Service
- 9.4 GST rates applicable for each item
- 9.5 HSN / SAC codes of each of the goods / services quoted In case of unregistered supplier, a declaration to that effect with reason should be furnished.
- 9.6 FACT's GST registration number in the state of Kerala is 32AAACT6204C1Z2.
- 9.7 The supplier/contractor shall confirm the following:
- a) Submit GST compliant tax invoice to FACT with FACT's GSTIN as 32AAACT6204C1Z2.
- b) Shall ensure uploading the above invoice as per statute & File monthly returns in time enabling FACT to claim the input tax credit.
- 9.8 GST charged by the supplier/contractor shall be released separately to the supplier/contractor only after filing of the outward supply details & the monthly return on GSTN portal by the supplier/contractor and (ii) on matching the input tax credit to such invoice with the corresponding details of outward supply of the supplier/contractor.
- 9.9 In case FACT incurs any liability (like interest, penalty etc.,) due to denial/reversal of such input tax credit in respect of the invoice submitted by the supplier/contractor, for the reasons attributable to the supplier/ contractor, the same shall be recovered from the supplier/contractor
- 9.10 Further in case FACT is deprived of the input tax credit due to any reason attributable to the supplier/contractor, the same shall not be paid or recovered if already paid to the supplier/contractor.

10.0 **Bid Security Declaration in lieu of EMD:**

- 10.1 All bidders except those specifically exempted shall furnish '**Bid security Declaration**' as per the format attached, in lieu of Earnest Money Deposit. Submission of Declaration will be exempted for Govt. Depts. and firms/Public sector units/ MSE units registered under MSMED Act (subject to Declaration of Udyog Aadhar Memorandum number by the vendors on CPP Portal) / firms registered under NSIC and Khadi Board as per applicable govt. directions, and on submission of valid documents/certificates in proof of the same.
- 10.2 **Bids submitted without 'Bid Security Declaration' shall be rejected**, except those specifically exempted as above.
- 10.3 If any bidder retracts from or without request of FACT revises or amend his bid during its validity period or fails to submit Security Deposit within the stipulated time or fails to execute the required agreement when the contract is awarded or fails to commence the execution of the work on the stipulated date, they will be disqualified from bidding for any contract with FACT for a period of Three years from the date of notification, without

- prejudice to FACT's other right to claim damages and/or other legal recourse.
11. **Since this is a 'works contract', the benefits on Purchase Preference of MSE units as per MSME-PP policy shall not be applicable to this tender.**
 12. The bids shall be valid for a period of number of days mentioned in the NIT from the date of opening of Part-1(Prequalification cum Techno-commercial) Bids, unless otherwise mentioned in the NIT.
 13. The bid shall be digitally signed by the bidder. Incomplete bids are liable to be rejected.
 14. Enquiry documents are not transferable. Bidders shall meet all expenses in connection with submission of his bid, attending the bid opening, meetings if required.
 15. Bidder shall clearly indicate the time (number of days) required for mobilisation /commencement of work from the date of Letter of Intent (LOI) / Work Order.
 16. Work order shall be issued by Senior Manager, Materials department, FACT LTD, Udyogamandal. The work shall be administered and executed by the DMM (Ammonia), FACT-UC
 17. Any further information on site familiarization/ nature of work, if required by the bidders, can be had from DMM (Ammonia)FACT UC (0484 2567580)
For any clarification on this enquiry, the Asst. Manager(Mat)F, Phone No: 0484 2568674, Contracts department, Corporate Materials, FACT-PD Administration Building, Udyogamandal, Cochin, may be contacted.
 18. The bidders are advised to get themselves informed of all the details they require before submitting their bids.
 19. FACT has introduced a new ERP system, wherein, the activities related to evaluation of bids, certification of bills, payments etc. are being simplified.
 20. For any disparity with the conditions, the ***special requirements of the contract*** shall prevail.
 21. 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
 22. All tender documents should be signed digitally while uploading in CPP portal. All other documents (PQ documents, financial documents, Compliance statement, Un-priced bid, Deviation statement if any, ANNEXURE, Attachments if any etc.) shall be filled wherever applicable, signed and seal affix and shall be uploaded in CPP portal. Scanned copy of Solvency and Bid security declaration are also shall be uploaded in the portal.

THE 'ORIGINAL SOLVENCY CERTIFICATE' shall reach the below address before the due date of the technical bid opening. (The envelop should be super scribed with Tender Number and name of work)

**Senior Manager (Mat)-Contracts
Corporate Materials
Petro Chemical Administrative Building,
FACT, Udyogamandal Complex
Udyogamandal, PIN 683501**

FACT CORPORATE MATERIALS - CONTRACTS	FORM OF BID	Page 1 of 1
Tender No : 03012/2021-2022/E23289		ATTACHMENT- II A

Senior Manager (Mat)-C

JOB: Re-tubing of E-510 (Ammonia Condenser)

Ref: Tender No : 03012/2021-2022/E23289

Sir,

Having examined the tender documents for the above named works including Special requirements of the contract, Drawings, Pre-qualification criteria, Bid security declaration, Instructions to Bidders and Proforma Contract along with Schedules, we the undersigned offer to carry out the above named works in accordance with the terms and conditions set forth in this tender comprising the following documents:

1. Conditions of Tender and Instructions to Bidders, Special requirements of the contract
2. Data furnished as per Attachment - II – A to C
3. Proforma Contract along with Schedules
4. Selected deviations if any (Compliance Statement), Vendor Data Form and Master Data (for new vendors).
5. Bid security declaration

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 :

FACT CORPORATE MATERIALS -CONTRACTS	INFORMATIONS RELATING THE BIDDER	PAGE 1 OF 1
Tender No : 03012/2021-2022/E23289		ATTACHMENT- II B

NAME OF WORK: Re-tubing of E-510 (Ammonia Condenser)

1. Following certificates to be uploaded online in original/ self-attested:

- i. **Work Completion Certificate** for satisfying PQ Criteria from customer shall be as per format mentioned in Instructions to Bidders.
 - ii. **Solvency Certificate** (original or copy duly attested by a Notary) **of minimum Rs.20 Lakh** from a Nationalised / Scheduled bank dated after the enquiry date indicating amount to which the tenderer is solvent, to prove the Financial Capability to carry out the Work tendered for .
 - iii. **Audited Balance Sheet** for the last three years ending 31 st March 2019 including Profit & Loss account, Schedules, Notes on accounts, Auditors report, Directors report etc.
 - iv. **GST Registration Certificate, PAN card.**
2. Attach copies of **Work Order with Schedule of Items of work** as proof of similar work experience.
 3. Tenderer shall give **INFORMATION OF SIMILAR WORKS** done during the past seven years for satisfying **PQ Criteria** with name of work, brief scope of work, initial & final contract value and work completion period.
 4. Tenderer shall give details of his **PRESENT COMMITMENTS** with details of work, initial contract value, period of completion, name of client, expected date of completion, percentage progress etc.
 5. Tenderer shall submit the details of **CONSTRUCTION PLANT AND EQUIPMENT** available with him for using in this work.
 6. Tenderer shall attach his proposed **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.
 7. Tenderer shall attach resumes of all proposed **KEY PERSONNEL** of his organization to be associated with the work, detailing their qualifications and experience over the past 10 years.
 8. Detailed programme of work in **PERT or BAR CHART form or a Statement** form with respect to **FACT’S requirement** high-lighting all important milestones to accomplish satisfactory completion of WORK within the stipulated completion period.

CORPORATE MATERIALS - CONTRACTS	FORM OF BID	Page 1 of 1
Tender No : 03012/2021-2022/E23289		ATTACHMENT- II C

NAME OF WORK: Re-tubing of E-510 (Ammonia Condenser)

DETAILS REGARDING INPUT TAX

1. Whether GST is applicable for this work – Yes/No
2. If Yes, bidder is requested to quote the GST extra as applicable.
3. If No, GST exemption certificate for a declaration that service is outside the preview of GST is attached - Yes/No

Note:

1. Strike off whichever is not applicable
2. GST % shall be entered in the respective field in **BOQ.**

NAME & SIGNATURE OF CONTRACTOR

	FACT CORPORATE MATERIALS - CONTRACTS	PROFORMA CONTRACT	Page 1 of 34
--	---	--------------------------	---------------------

Tender No: 03012/2021-2022/E23289

CONTENTS

ARTICLES

1. DEFINITIONS
2. PERFORMANCE BOND
3. SCOPE OF SERVICES
4. TIME SCHEDULE
5. TECHNICAL DOCUMENTS
6. FACT'S REPRESENTATIVE
7. CONTRACTOR'S REPRESENTATIVE
8. CONTRACTOR TO INFORM HIMSELF
9. SUPPLIES BY FACT
10. MATERIALS BY CONTRACTOR
11. QUALITY OF WORK
12. INSPECTION BY FACT
13. PRICE
14. TERMS OF PAYMENT
15. CHANGE IN WORK
16. VARIATIONS & OMISSIONS
17. ACCESS TO SITE
18. CONSTRUCTION POWER AND WATER
19. CONSTRUCTION EQUIPMENT
20. ACCOMMODATION AT SITE
21. TESTS ON COMPLETION AND TAKING OVER
22. TEMPORARY STRUCTURES
23. INSURANCE AND LIABILITY FOR DAMAGES
24. WORKING HOURS
25. SAFETY

 FACT	FACT CORPORATE MATERIALS - CONTRACTS	PROFORMA CONTRACT	Page 2 of 34
--	---	--------------------------	---------------------

26. FACT'S REGULATIONS
27. STATUTORY REGULATIONS
28. LAWS RELATING TO LABOUR
29. APPRENTICES ACT
30. WARRANTY AND MAINTENANCE PERIOD
31. GUARANTEES FOR TIME-SCHEDULE
32. DELAY BY FACT
33. SPECIAL CONDITIONS OF CONTRACT
34. SUB-LETTING AND ASSIGNMENT
35. CLAIMS
36. PATENTS
37. SECRECY
38. NON-WAIVER
39. LANGUAGE AND UNIT
40. FORCE MAJEURE
41. SETTLEMENT OF DISPUTES AND ARBITRATION
42. LAWS AND LEGAL JURISDICTION
43. SUSPENSION AND TERMINATION
44. RECOVERY OF DUES FROM CONTRACTOR
45. CONSEQUENTIAL LOSSES
46. EFFECTIVE DATE AND VALIDITY
47. NOTICES AND ADDRESSES
48. FRAUD PREVENTION POLICY
49. ENTIRE AGREEMENT

SCHEDULES

SCHEDULE – A	- SCOPE OF WORK
SCHEDULE – B	- PROGRAMME OF WORK
SCHEDULE – C	- TECHNICAL DOCUMENTATION
SCHEDULE – D	- SITE CONDITIONS
SCHEDULE – E	- SUPPLIES BY OWNER / FACT
SCHEDULE – F	- SCHEDULE OF RATES FOR EXTRA ITEMS
SCHEDULE – G	- PAYMENT SCHEDULE
SCHEDULE – H	- SITE FACILITIES
SCHEDULE – J	- OWNER’S CONSTRUCTION EQUIPMENT
SCHEDULE – K	-PROCEDURE FOR TESTS
SCHEDULE – L	- PROFORMA BANK GUARANTEE FOR PERFORMANCE BOND
SCHEDULE – N	- PROFORMA FOR RELEASE CERTIFICATE
SCHEDULE – P	- SAFETY PRACTICES
SCHEDULE – Q	- SPECIAL CONDITIONS OF CONTRACT
SCHEDULE – Q1	- SPECIAL REQUIREMENTS OF THE CONTRACT

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 supplied by FACT to be 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 provide by FACT free of cost to CONTRACTOR.
- 1.8 'CONTRACT PRICE' means the aggregate sum payable by FACT to CONTRACTOR for work performed as per CONTRACT but excluding value of EQUIPMENT, services and any material provided by FACT free of cost to CONTRACTOR.
- 1.9 'FACT 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 commences as defined in Article -4.1.

ARTICLE-2 PERFORMANCE BOND (SECURITY DEPOSIT-(SD))

- 21 Within fifteen (15) days of the ZERO DATE, CONTRACTOR shall provide FACT with a Bank Guarantee as per Proforma given in SCHEDULE-L hereof, from a Nationalized Bank in India for a sum calculated at three percentage(3%) of the initial Contract Price, towards security for due and faithful

	FACT CORPORATE MATERIALS - CONTRACTS	PROFORMA CONTRACT	Page 5 of 34
--	---	--------------------------	---------------------

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 FACT.

- 2.2 However, in case the amount of Performance Bond/ SD is less than Rs.5,000- CONTRACTOR shall deposit with FACT either in cash or as Demand Draft drawn in favour of FACT Udyogamandal and payable at State Bank of India, Kochi or at the State Bank of India. Udyogamandal, Kerala State, for a sum calculated at **3% 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 FACT to CONTRACTOR for such deposits.

ARTICLE-3 SCOPE OF SERVICES

- 3.1. CONTRACTOR shall carry out WORK as described in detail in SCHEDULE - A - Schedule of Work, all in conformity with the drawings, specifications, codes, standards and instructions provided by FACT 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 FACT 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 FACT
- 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 FACT 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 FACT-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 licences / permits for carrying out the respective work.
- 3.7. CONTRACTOR further undertakes to co-operate with FACT as well as other Contractors appointed by FACT and operating at SITE and agrees to freely exchange technical information as may be reasonably asked for by FACT

ARTICLE-4 TIME-SCHEDULE

- 4.1. CONTRACTOR shall carry out work in a phased manner and hand over the respective items to FACT 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 FACT and indicated as 'ZERO DATE' in the said SCHEDULE - B, provided that FACT 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 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, FACT 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 FACT in following these instructions and submit to FACT 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 FACT 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 FACT 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 FACT 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.

FACT 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 FACT 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 FACT for cancellation.
- 5.3 CONTRACTOR shall carryout the WORK in strict conformity with the drawings, specifications and such other documents and instructions provided by FACT and standards and codes of practice prescribed by FACT for the respective items of WORK. Where FACT's own standards are referred to, the same will be provided by FACT; 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 FACT 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 FACT and as may be necessary for execution of WORK and submit same to FACT in required number of copies well in advance in commencement of related WORK. FACT 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 FACT. However, CONTRACTOR is solely responsible to ensure that WORK is executed as per designs, drawings, specifications and other technical information provided by FACT and review / comments by FACT 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 where such information is not received CONTRACTOR shall ask for the same.

ARTICLE-6 FACT's REPRESENTATIVE

- 6.1 All obligations under CONTRACT shall, unless otherwise specifically mentioned, be carried out through Engineer-in-charge. The Engineer-in-charge at SITE shall be FACT's REPRESENTATIVE, and shall represent FACT for all matters concerning this CONTRACT except as otherwise provided herein.

6.2 All instructions and orders to CONTRACTOR shall be issued by FACT'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 FACT'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 FACT may change the FACT'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 FACT in writing at least 2 weeks prior to commencement of CONTRACTOR'S activities at SITE for approval by FACT. The said representative shall be present at SITE during working hours and any orders, instructions or other communications delivered to him by FACT, FACT's REPRESENTATIVE and / or ENGINEER- IN - CHARGE shall be deemed to have been received by CONTRACTOR.
- 7.2 Any communication received by FACT 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 FACT

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, access to SITE space

 FACT	FACT CORPORATE MATERIALS - CONTRACTS	PROFORMA CONTRACT	Page 9 of 34
--	---	--------------------------	---------------------

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 FACT

9.1 EQUIPMENT

- 9.1.1 EQUIPMENT and any materials to be provided by FACT will be issued by FACT and handed over to CONTRACTOR at the place of storage. Place of storage will be FACT 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 FACT 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 FACT shall be returned to FACT immediately after use.
- 9.1.4 EQUIPMENTS 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 FACT (if any as per contract) for use in fabrication / installation by CONTRACTOR are listed in SCHEDULE-E.
- 9.2.2 Materials will be issued to CONTRACTOR from FACT's Store at SITE against appropriate indent in the form provided by FACT, 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 FACT, if required. No material shall be removed from SITE without written approval of FACT.
- 9.2.3 Materials will be issued only during normal working hours of the SITE Store.

 FACT	FACT CORPORATE MATERIALS - CONTRACTS	PROFORMA CONTRACT	Page 10 of 34
--	---	--------------------------	----------------------

- 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 FACT quantities in excess of those legitimately required including the cutting allowance and wastages and FACT 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, FACT 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 FACT'S book value or market rate whichever is higher, plus 15% thereof.
- 9.2.5 In case of urgency, FACT may at the request of CONTRACTOR and at the sole discretion of FACT 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 FACT'S account in advance at price specified by FACT.
- 9.2.6 Any excess materials drawn by CONTRACTOR, but not used in WORK shall be returned to FACT'S Store at SITE and receipt obtained; and credit will be given for the quantity so returned.
- 9.2.7 CONTRACTOR shall return to FACT the cut pieces and scraps of material issued by FACT 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 FACT 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 FACT. In any case the contract price will be adjusted for such short - usage.
- 9.2.9 FACT gives no assurance that material to be issued by FACT 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 FACT in issue of materials, even if such delay has affected WORK.

ARTICLE-10 MATERIALS BY CONTRACTOR

- 10.1 CONTRACTOR shall procure in time at his own cost and use in WORK all materials required in carrying out WORK other than EQUIPMENT and materials issued by FACT 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.

 FACT	FACT CORPORATE MATERIALS - CONTRACTS	PROFORMA CONTRACT	Page 11 of 34
--	---	--------------------------	----------------------

- 10.2 Materials provided by CONTRACTOR shall be brand new and of specification agreed to herein or as approved by ENGINEER - IN - CHARGE. Materials 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 FACT. CONTRACTOR shall declare the manufacturer's name of such materials 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 material shall be removed by CONTRACTOR from SITE immediately.
- 10.4 Approval by ENGINEER - IN - CHARGE or any other representative of FACT 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 shall be promptly carried out by CONTRACTOR, free of cost to FACT, irrespective of whether the item was approved by FACT 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 FACT.
- 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 FACT. 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 FACT 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 FACT

- 12.1 ENGINEER - IN - CHARGE or any other designated representative of FACT shall at all reasonable times be entitled to inspect WORK or any part thereof. CONTRACTOR shall provide all necessary assistance to FACT and shall make available all necessary scaffolding, tools and testing equipment to enable FACT 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 FACT.

- 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 of signature by ENGINEER - IN - CHARGE. ENGINEER - 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 FACT, provide specified numbers of test certificates, material analysis certificates and / or radiographic 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 is not properly conducted, CONTRACTOR shall have to re - do the same at no additional cost to FACT.
- 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 re - do the same at no additional cost and such repair/ re - work 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 FACT reserves the right to engage or for participation of representatives of FACT'S Licensor or collaborator or any third party inspection agency that FACT may appoint for the purpose, in inspection and testing of WORK and such representative may exercise with CONTRACTOR such authorities as FACT may delegate to them.

ARTICLE-13 PRICE

- 13.1 In consideration of WORK, FACT 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 FACT 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 FACT 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 FACT, 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 The price specified in SCHEDULE - F includes all Royalties, taxes, octroi, duties, levies and licence fees that CONTRACTOR may have to incur in performing WORK including purchase of materials to be provided by CONTRACTOR. It is understood that CONTRACT is a "WORKS CONTRACT" and is inclusive of Sales Tax / Value Added Tax /GST on the consideration receivable by CONTRACTOR, as also the Cess payable under The Building and Other Construction Workers Welfare Cess Act, 1996.
- 13.5 The OWNER shall have the right to recover an amount equal to the Sales Tax on Works Contracts / Value Added Tax, /GST due in accordance with the provisions of the relevant Sales Tax Acts / Value Added Tax Act from every payment made to the CONTRACTOR including advance and remit the same to the respective assessing authorities under the Act. However, any CONTRACTOR who pays tax regularly in accordance with the rules and produces a certificate issued by the assessing authority to that effect, will be paid the contract amount without deduction of the Sales Tax / VAT/ GST due on the contract for the period and to the extend or for the Works Contract, specified in the certificate.
- 13.6 Amounts specified in SCHEDULE - F are subject to deduction of Income Tax and FACT 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

FACT shall make payments to CONTRACTOR in instalments as specified in SHEDULE -G PAYMENT SCHEDULE

- 14.1 CONTRACTOR shall make all claims in the standard printed bill form prescribed by the FACT and claims shall be serially numbered. Claims shall be made in triplicate copies and shall be submitted to the ENGINEER - IN CHARGE.
- 14.2 In case mobilisation advance is agreed to in SCHEDULE - G, CONTRACTOR shall submit along with the invoice a Bank Guarantee from a Nationalist Bank in India, in the Proforma vide SCHEDULE - M and payment will be me within 15 days of receipt of the said documents.

- 14.3 Claims for part - payments shall not be more frequent than once a month. Any deduction to be made for materials issued by FACT or for hire changes of construction equipment provided by FACT will be deducted from the respective part bill and CONTRACTOR shall show such deductions also in the bill.
- 14.4 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 FACT 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 FACT 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 FACT of an item of WORK already executed by CONTRACTOR as per CONTRACT, hereinafter referred to as "Requested Re-work".

Any modification or re-work 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 Articles 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 -15 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 FACT.

ARTICLE –16 VARIATIONS & OMISSIONS

- 16.1 CONTRACTOR shall not alter any of WORK except as directed in writing by ENGINEER - IN-CHARGE. FACT 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 FACT 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, FACT shall also provide suitable road for transport of EQUIPMENT and Materials from the nearest public thoroughfare or FACT'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 FACT.
- 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. FACT reserves the right to grant access to SITE and place of WORK to other contractors engaged by FACT 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. FACT'S representatives and / or representative of any third - party engaged by FACT for inspection and/ or any statutory authorities shall at all reasonable times have access to SITE and place of work.

 FACT	FACT CORPORATE MATERIALS - CONTRACTS	PROFORMA CONTRACT	Page 16 of 34
--	---	--------------------------	----------------------

- 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.

ARTICLE-18 CONSTRUCTION POWER & WATER

- 18.1 FACT 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 point at the outgoing terminals of OWNER'S / FACT'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 / FACT 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 / FACT in the above - said manner is free of cost to CONTRACTOR. FACT 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 FACT'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 / FACT 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. CONTRACTOR shall be responsible to maintain and safeguard CONTRACTOR'S equipment against damage or loss.

- 19.2 Construction equipment available with OWNER / FACT and the hire charges for each are described in SCHEDULE - J. These equipments will be operated by FACT'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 equipments available with OWNER/FACT are limited and are intended for the common use of the PROJECT and FACT 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 FACT'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 FACT'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 FACT 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 FACT shall allot levelled 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/FACT unless specifically agreed to.
- 20.4 CONTRACTOR shall make his own arrangements for any telephone / telex communication facilities he needs in carrying out WORK. In case of emergency, FACT 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, FACT 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, FACT 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 / FACT 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 FACT 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 FACT without hindering or being hindered by the execution of part remaining to be completed, FACT 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 WORK within Thirty (30) days of the date on which it should have been issued as per Time Schedule agreed in CONTRACT, FACT shall be at liberty, without prejudice to other rights herein of FACT 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 is 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/ FACT.

- 23.3 OWNER / FACT shall have covered by storage-cum-erection insurance policies EQUIPMENT, materials supplied by FACT, FACT'S construction equipment, WORK executed at SITE and FACT'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 / FACT against any liabilities, whatsoever, consequent to damage caused by CONTRACTOR or CONTRACTOR'S workmen in the aforesaid manner.
- 23.5 CONTRACTOR indemnifies OWNER / FACT 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 FACT. 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 / FACT 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. FACT 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 wilful 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 in any enquiry held in connection with the same.

ARTICLE-26 FACT'S REGULATIONS & RULES.

- 26.1 CONTRACTOR shall observe and ensure that this supervisors and workmen observe all rules and regulations of OWNER / FACT applicable to SITE as may be communicated by FACT 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 / FACT 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. FACT may reject issue of pass or cancel a pass issued earlier to any person whose presence at SITE, in the opinion of FACT is detrimental to the interest of FACT.
- 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 FACT or does not function in a disciplined manner or is not, in the assessment of FACT, competent to carry out the work for which he is engaged FACT, 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. FACT / 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 FACT within the agreed Time-Schedule so as to make it conform with 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 FACT 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 licence 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 FACT. Where the law require that any act of CONTRACTOR shall be carried out only in the presence of a representative of FACT and witnessed by FACT it shall be so carried and CONTRACTOR shall request ENGINEER - IN - CHARGE for the presence of FACT'S representative. Any information or reports required from CONTRACTOR by FACT, periodically or otherwise, for discharge of FACTS 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/ FACT is compelled to incur any expense or any other amount on behalf of CONTRACTOR'S workmen, FACT 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.
- 28.6 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 / FACT and in any case every quarter. In case OWNER/FACT is called upon to pay any such expenses, these shall be reimbursed fully by CONTRACTOR and OWNER / FACT shall be entitled to recover the same from CONTRACTOR.
- 28.7 CONTRACTOR indemnifies OWNER / FACT against any claims from any person or persons engaged by CONTRACTOR in connection with WORK and in the event OWNER/ FACT 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 FACT, AND FACT may recover such dues from any amount receivable by CONTRACTOR under CONTRACT without prejudice to any other mode of recovery.
- 28.8 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.

- 28.9 CONTRACTOR may have access to OWNER'S / FACTS 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 FACT 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 WARRANTIES AND MAINTENANCE PERIOD

- 30.1 CONTRACTOR warrants that WORK will be carried out in full conformity with approved drawings, Approved design and FACT specifications, 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 of issue of work completion certificate** by OWNER / FACT, 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 FACT, CONTRACTOR is unable to do so, or the repair / replacement cannot wait till CONTRACTOR is able to do it, FACT may either directly or through such other agencies as FACT 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 FACT 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.

 FACT	FACT CORPORATE MATERIALS - CONTRACTS	PROFORMA CONTRACT	Page 24 of 34
--	---	--------------------------	----------------------

- 30.5 CONTRACTOR shall not be liable for any defect owing to defective design, specifications, drawings or information provided by FACT in writing based on which WORK has been executed or to defective EQUIPMENT or material provided by FACT or to improper use of WORK by FACT / OWNER. 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, FACT 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 FACT 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 day of delay, subject to a maximum of seven and a half (7.50%) 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 FACT because of delay in WORK by CONTRACTOR and it shall not be necessary for FACT to establish the actual amount of losses suffered, irrespective of whether the WORK or part thereof could be put to any use by FACT 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 FACT of WORK or part thereof (as is applicable) after satisfactory completion of tests vide Article-21 hereof.

ARTICLE-32 DELAY BY FACT

- 32.1 In case of any delay in supply by OWNER / FACT of Designs and Drawings, EQUIPMENT, materials, Construction Equipment, Power and water for construction and / or any other item to be supplied by FACT 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.

 FACT	FACT CORPORATE MATERIALS - CONTRACTS	PROFORMA CONTRACT	Page 25 of 34
--	---	--------------------------	----------------------

32.2 In case delay by FACT 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 & SPECIAL REQUIREMENTS OF THE CONTRACT

33.1 The **Special Conditions of Contract & Special Requirements of the Contract** specified vide SCHEDULE-Q and SCHEDULE-Q1 hereof shall form part of CONTRACT; and wherever the provisions under **Special Conditions of Contract & Special Requirements of the Contract** are in conflict with any of the provisions vide Article-2 to Article-48 hereof, **provisions in the Special Conditions of Contract & Special Requirements of the Contract shall prevail.**

33.2 Definitions vide Article-1 hereof shall apply to special Conditions of contract & Special Requirements of the 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 FACT. 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 FACT 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

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 FACT warrant on their part that any design or instruction given by FACT 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 / FACT 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/ FACT 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 FACT such rights as would enable FACT to continue with the use of WORK without infringement of such rights. FACT 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 FACT shall co-operate with CONTRACTOR in all reasonable manner.

ARTICLE-37 SECRECY

- 37.1 All drawings, designs, specifications, and other documents and information issued by FACT and any instruction given by FACT in the performance of CONTRACT, whether patented or patentable or not, shall always remain the exclusive property of FACT and CONTRACTOR at no time shall question or dispute such right of FACT. For a period of fifteen (15) years from the DATE OF CONTRACT, CONTRACTOR shall keep the above documents and information and the knowledge that FACT'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 FACT and shall not use them for any purpose other than those covered by the intents of CONTRACT. Such documents are given on loan by FACT 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, WORK covered by CONTRACT or CONTRACTOR'S participation in it without the prior written consent of FACT.
- 37.3 The provisions of this article shall survive expiry or earlier termination / suspension of CONTRACT.

ARTICLE-38 NON-WAIVER

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.

ARTICLE-39 LANGUAGE & UNITS

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 FACT 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 wilful negligence of CONTRACTOR, and/or
- v) Labour strike or lockout 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 FACT 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 FACT 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

- (I) If the 'contractor' is a not a Central Public Sector Enterprise or Central Government Department:

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 and number of Arbitrator shall be one. The venue of the Arbitration shall be at Ernakulam and the proceedings shall be in English.

or

(II) If the 'contractor' is a Central Public Sector Enterprise or Central Government Department:

"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 inter se 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."

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

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 FACT is unable or unwilling to complete or is compelled to postpone its activities relating to PROJECT at any stage during the currency of CONTRACT, FACT 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 FACT in connection with work or shall otherwise commit breach of any of the provisions of CONTRACT, FACT 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 FACT shall, without prejudice to other rights of FACT 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 FACT deems fit at the risk and cost of CONTRACTOR; and FACT 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.

FACT 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 FACT from third parties in consequence of failure, neglect, refusal or contravention by CONTRACTOR and / or towards any expense that FACT might have incurred in getting the WORK completed in the above -said manner, in excess of what FACT 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, FACT 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 FACT, CONTRACTOR shall suspend all activities at SITE except 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 FACT 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 FACT 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 FACT, 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 FACT has supplied to CONTRACTOR. FACT 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 FACT 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 FACT 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.

ARTICLE-46 EFFECTIVE DATE AND VALIDITY

- 46.1 CONTRACT shall become effective on signature by either party after the other.
- 46.2 Unless terminated by FACT, 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 FACT:
 - b) To CONTRACTOR:

‘OWNER’ which expression shall unless repugnant to the context and meaning thereof include its legal successors and permitted assigns of the one part, and

.....hereinafter referred to as ‘CONTRACTOR’ which expression shall unless repugnant to the context and meaning thereof include its legal successors and permitted assigns, of the other part.

WHEREAS contractor submitted in response to invitation by Owner, tender for providing materials, labours, construction equipment and other related services and supervision thereof for the work first above mentioned in the title of this document and WHEREAS OWNER conveyed to CONTRACTOR vide Work Order No..... dt..... OWNER’s intention to entrust the WORK to CONTRACTOR under certain terms and conditions and CONTRACTOR accepted the same for a total amount of Rs-(Rs Only).

NOW THEREFORE, in consideration of the promises and mutual covenants contained herein, it is hereby agreed between the parties hereto as follows:

WHEREAS the contractor has agreed, subject to the conditions and specifications contained in the documents under **Work Order No..... dt.....** (hereinafter referred to as the said conditions) to execute the works shown upon descriptions in the said specifications and set forth in the schedule of items of works as the probable quantities and comply with the rate of progress as indicated in the statement **Work Order No. dt.....** for a sum of Rs..... (RsOnly).

or such other sum high or low as may be arrived at by final measurement at unit prices.

Now these presents witness and it is hereby mutually agreed as follows:

1. In consideration of the payment of the said sum of **Rs.....** (Rs..... Only).or such other sum high or low as may be arrived at by final measurement at unit prices, the contractor will upon and subject to the said conditions execute and complete the works as shown upon the said conditions and descriptions in the specifications and to the extent of the probable quantities shown in schedule of items of works with such variations by way of alterations or additions to, or deductions from the said works and method of payment therefore in the said conditions.

2. Time shall be considered as the essence of this agreement and the contractor hereby agreed to commence the work as specified in the said conditions and agrees to complete the work within**Months** from the date of Work to proceed notice.

3. It is hereby mutually agreed that the **Work Order No.....dt.....** the General and Special terms and conditions and the schedule, the scope of work and annexures thereto shall be read and construed as forming part of this agreement and the parties hereto will respectively abide by and submit themselves to the conditions and stipulations and perform the agreement on their parts respectively.

4. ARBITRATION/DISPUTES:

a) If the Contractor is not a Central Public Sector Enterprise/Central Government Department:

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.

b) If the CONTRACTOR is a Central Public Sector Enterprise or Central Government Department:

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 inter se 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."

Any legal proceedings relating to or in connection with this CONTRACT shall be limited to the exclusive jurisdiction of the High Court of Kerala.

5. Upon the terms and conditions of this agreement being fulfilled and performed to the satisfaction of the officers of the OWNER/empowered by the owner in this behalf.

IN WITNESS WHEREOF the parties thereto have executed this agreement by their duly authorised representatives on the day and year first above written.

For CONTRACTOR

By
Date


Witnesses: i)

ii)

For FERTILISERS AND CHEMICALS TRAVANCORE LIMITED

By
Date

Witnesses: i) ii)


 FACT	FACT CORPORATE MATERIALS -CONTRACTS	Tender No : 03012/2021-2022/E23289
<u>SCOPE OF WORK</u>		SCHEDULE - A PAGE 1 OF 1

The scope of work consists of the following,

The work to be performed under this contract includes **'Re-tubing of E-510 (Ammonia Condenser)'** as defined in Special requirement of the contract and as per the Schedule of items of work.

Scope of work

1. Transportation of the heat exchangers to the contractors works for the re-tubing of the exchanger. FACT will arrange for the dismantling of the exchanger and loading of the exchanger to contractors vehicle inside the plant premises.
2. The transportation of the new tubes from the UD Stores (Udyogamandal)/ FEW Stores (Palluruthy) to the contractors works. The available tubes have a length of 12006 mm. Cleaning and dressing of the tubes to the required length. Loading of the tubes to the vehicle will also be the scope of the contractor.
3. Removal of the old tubes including the plugged ones, cleaning the tube holes, shell interior. The existing tube welding shall be completely removed by grinding/ machining before inserting the new tubes.
4. Inserting new tubes and its necessary corrections, expansion/flaring and its strength welding using TIG welding. The filler wire for tube welding shall be ER 309 (SS309).
5. Windows if any opened on shell shall be closed using the same removed pieces by welding with proper edge preparation and compensation plates. 100% DPT and UT shall be done in weld joints, which shall be in contractor's scope.
6. Hydro-testing of the exchanger at 1.5 times the design pressure i.e. at 37.5 Kg/cm² in the presence of Engineer in Charge.
7. Painting of the exchanger with two coat of HR Aluminum paint (with temperature resistance up to 600°C).
8. Transportation of the re-tubed exchanger back to ammonia plant. The unloading of the exchanger inside plant premises will be arranged by FACT.

 FACT	FACT CORPORATE MATERIALS CONTRACTS	Tender No : 03012/2021-2022/E23289
<u>PROGRAMME OF WORK</u>		SCHEDULE - B PAGE 1 OF 1

Name of Work: Re-tubing of E-510 (Ammonia Condenser)

- i. The work shall be completed in all respects within a period of **38 Days** from the date of issue of clearance to start the work as mentioned in **Work – to –Proceed Notice** issued by the Engineer-in-Charge and this shall be reckoned as the **ZERO DATE** of the Contract.


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

	FACT CORPORATE MATERIALS -CONTRACTS	Tender No : 03012/2021-2022/E23289
TECHNICAL DOCUMENT		SCHEDULE - C PAGE 1 OF 1

Name of Work: Re-tubing of E-510 (Ammonia Condenser)

The Technical Specification applicable for this work is as follows,


1. Schedule of items of work (BOQ)
2. Special Requirements of the Contract
3. Drawings and Data Sheet

 FACT	FACT CORPORATE MATERIALS - CONTRACTS	Tender No : 03012/2021-2022/E23289
<u>SITE CONDITIONS</u>		SCHEDULE - D PAGE 1 OF 1

Name of Work: Re-tubing of E-510 (Ammonia Condenser)

The work is to be carried out at **Contractors shop.**

Any further information on site familiarization/ nature of work, if required by the bidders, can be had from **DMM(AC), FACT UC.**

 FACT	FACT CORPORATE MATERIALS -CONTRACTS	Tender No : 03012/2021-2022/E23289
<u>SUPPLIES BY OWNER</u>		SCHEDULE - E
		PAGE 1 OF 1

Name of Work: Re-tubing of E-510 (Ammonia Condenser)

Except for exchanger tubes, no other items shall be supplied by owner free of cost.



FACT CORPORATE MATERIALS - CONTRACTS

Tender No : 03012/2021-2022/E23289

SCHEDULE OF PRICES

SCHEDULE – F

PAGE 1 OF 1

Name of Work: Re-tubing of E-510 (Ammonia Condenser)

The tenderer shall note the following sheets which will form the Schedule of Price of the contract.

Form F1	-	Schedule of Quantities of work (Unpriced Bid)
Form F2	-	Schedule of rates for Extra items of Work

NAME & SIGNATURE OF CONTRACTOR

UNPRICED BID**SCHEDULE F1**

Please do not fill in Rates in this Bid format. Kindly indicate “Quoted/Not Quoted” in the column provided.

Dear Sir,

Sub: Re-tubing of E-510 (Ammonia Condenser)

Ref: 03012/2021-2022/E23289


<u>UNPRICED BID</u>					
		Unit	Qty	GST in %	Quoted/ Not quoted
1	Re-tubing E510 Ammonia Condensor with SS304 tube after removal of old CS tubes fully. Flaring and TIG welding both tube ends, window cutting on shell if essential and it's re-welding and other connected works including pressure testing – Tube Size : 19.05mm OD x 1.65mm thk x 12000mm Long. No of Tubes : 1786 Rate shall be quoted per tube	NOS	1786		

Place:

Name of the Bidder:

Date:

Signature of the Bidder:

 FACT	FACT CORPORATE MATERIALS -CONTRACTS	Tender No : 03012/2021-2022/E23289
<u>PAYMENT SCHEDULE</u>		SCHEDULE – G
		PAGE 1 OF 1
<p><u>Name of Work:</u> Re-tubing of E-510 (Ammonia Condenser)</p> <ol style="list-style-type: none"> 1. MOBILISATION No mobilization advance will be paid for the work. 2. SECURED ADVANCE No secured Advance will be paid for this work. 3. PAYMENT <ol style="list-style-type: none"> 3.1 100% Payment shall be made on completion of work, for the actual quantity of work done and against the bill duly certified by the Engineer-in-Charge. 3.2 Final Contract Price based on WORK actually performed, will be paid after completion of whole 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 CONTRACTOR AT SITE, after adjustment for the following. <ol style="list-style-type: none"> a) Deduction of all previous payments made. b) Recovery of hire charges for OWNER'S construction equipment made available to the work. (If used) c) Recovery of value of departmental supplies including penal recovery, if any. d) Recovery of liquidated damages if any due. e) Income tax at prevailing rate f) Balance ESI & PF contributions of workmen engaged g) Any other amount due from CONTRACTOR to OWNER h) "TDS under GST Act." 3.3 GST will be paid extra as applicable at the time of invoice. 		


**FACT****FACT CORPORATE
MATERIALS -CONTRACTS**Tender No :
03012/2021-2022/E23289**SITE FACILITIES****SCHEDULE – H****PAGE 1 OF 1****Name of Work:** Re-tubing of E-510 (Ammonia Condenser).

No site facilities shall be provided.

 FACT	FACT CORPORATE MATERIALS -CONTRACTS	Tender No : 03012/2021-2022/E23289
CONSTRUCTION EQUIPMENTS		SCHEDULE - J PAGE 1 OF 1

Name of Work: Re-tubing of E-510 (Ammonia Condenser)

No equipment shall be provided by FACT.

	FACT CORPORATE MATERIALS -CONTRACTS	Tender No : 03012/2021-2022/E23289
<u>FORM OF BANK GUARANTEES FOR SECURITY DEPOSIT/ PERFORMANCE BOND</u>		SCHEDULE – L Page 1 of 3

Name of Work: Re-tubing of E-510 (Ammonia Condenser)

PROFORMA BANK GUARANTEE FOR SECURITY DEPOSIT / PERFORMANCE BOND

(TO BE OBTAINED FROM A INDIAN NATIONALISED/SCHEDULED BANK ON STAMP PAPER WORTH **Rs.500/-**)


The Fertilisers and Chemicals Travancore Ltd.,
Udyogamandal, Cochin-683 501.

Whereas FACT, Udyogamandal P.O., Kerala (hereinafter called referred to as the Company) has placed a work order no. Dated with M/S..... (hereinafter called the Contractor) for the work ofand 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 fulfilment 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 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.

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 proceeding pending

	FACT CORPORATE MATERIALS -CONTRACTS	Tender No : 03012/2021-2022/E23289
<u>FORM OF BANK GUARANTEES FOR SECURITY DEPOSIT/ PERFORMANCE BOND</u>		SCHEDULE – L Page 2 of 3

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 thereunder and the said Contractor shall have no claim against us for making such payment.


We..... further agree that the guarantee herein contained shall remain in full force and effect during the period that would be take for the performance of the said contract 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 certifies 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..... 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 or any other matter of 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 nor shall this guarantee be affected by any 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 within six months after the expiry of the above date, all the Company's rights under the guarantee shall be deemed as waived/forfeited and we shall be relieved and discharged from all liabilities there under. Notwithstanding anything contained hereinbefore, our liability under this guarantee shall be 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

	FACT CORPORATE MATERIALS -CONTRACTS	Tender No : 03012/2021-2022/E23289
<u>FORM OF BANK GUARANTEES FOR SECURITY DEPOSIT/ PERFORMANCE BOND</u>		SCHEDULE – L Page 3 of 3

given at the time when it would be delivered in due course of post and in proving such notice 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.

We..... Bank lastly undertakes not to revoke this guarantee during its currency except with the previous consent of the Company in writing.

Dated this..... day of..... Two thousand and twenty.

For (Name of Bank) :

Authorised Official :

Name :

Designation :

Place:

(Full address of the Bank Branch issuing this guarantee)

 FACT	FACT CORPORATE MATERIALS -CONTRACTS	Tender No : 03012/2021-2022/E23289
<u>SAFETY PRACTICES</u>		SCHEDULE – P Page 1 of 3

SAFETY PRACTICES


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 or any authority.
2. PARTICULAR ATTENTION IS DRAWN TO THE FOLLOWING
 - a) In case of accident, OWNER’S Safety Engineer/Engineering-in-charge shall be informed in writing within 24 hours of occurrence of the accident. The Contractor shall strictly follow regulations laid by Govt.Authority in this regard.
 - b) Fencing all contractors’ plant. Platforms, excavations etc.
 - c) Compliance with all electricity regulations.
 - d) Compliance with statutory requirements for inspection and tests of all lifting appliance and auxiliary lifting gear.
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 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 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. 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 subcontractors.
7. Work Permit in the prescribed Proforma shall be obtained from Owner’s Safety Engineer/Engineer-in-charge before carrying out any work within the project premises in the following situations.

	FACT CORPORATE MATERIALS -CONTRACTS	Tender No : 03012/2021-2022/E23289
<u>SAFETY PRACTICES</u>		SCHEDULE – P Page 2 of 3

- 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.
8. Good housekeeping must be practiced by Contractor's personnel at all times within the project area.
 9. **For the safe execution of works, personal protective/safety devices like helmets, Safety Belts, shoes 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 bringing the same to the attention of contractor by owner's Safety Engineer.
 11. Contractor shall strictly adhere to safe traffic practices within plant area with respect to speed limit, parking of vehicles etc.
 12. **All scaffolding pipes shall be fastened with clamps and tying of pipes with ropes, coir etc shall not be normally permitted.**
 13. **ELECTRICAL SAFETY REGULATIONS**
 - 13.1. In no circumstances will the contractor interfere with fuses and electrical equipments belonging to the owner or other contractors.
 - 13.2. Before the contractor connects any electrical appliance to any plug or sockets belonging to the other contractor or owner he will:
 - a) Satisfy OWNER/Engineering-in-charge that the appliance is in good working condition.
 - b) Inform the OWNER/Engineering-in-charge of the maximum current rating, voltage and phase of the appliance.
 - c) Obtain permission from OWNER/Engineering-in-charge for taking power connection from specified point.
 - 13.3. 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.

 FACT	FACT CORPORATE MATERIALS -CONTRACTS	Tender No : 03012/2021-2022/E23289
<u>SAFETY PRACTICES</u>		SCHEDULE – P Page 3 of 3

- 13.4. 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.
- 13.5. 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 shall be taken before any work is carried out.
- 13.6. Contractor shall employ a full time electrician to maintain the temporary electrical installation of the contractor.
- 13.7. Contractor shall follow detailed Safety Procedure issued by OWNER at the time of commencement of work updated from time to time.
- 13.8. The contractor shall bring adequately rated switch board / junction box, fitted with ELCB and other safety devices for getting temporary electrical connections to portable tools, lighting supply etc.**


 FACT	FACT CORPORATE MATERIALS -CONTRACTS	Tender No : 03012/2021-2022/E23289
<u>SPECIAL CONDITIONS OF CONTRACT</u>		Page 1 of 1
		SCHEDULE - Q
<p><u>Name of the work:</u> Re-tubing of E-510 (Ammonia Condenser)</p> <p>1.0 The materials, design and workmanship shall satisfy the relevant Indian Standards. The job specifications contained herein and codes referred to. Where the Technical Specifications stipulate requirements in addition to those contained in the standard codes and specifications, these additional requirements shall also be satisfied. In the absence of any standard/specifications covering any part of the work covered in this Tender, the specifications to be followed shall be the latest FEDO specifications applicable in this region and instructions/directions of Engineer-in-Charge will be binding on the Contractor.</p> <p>2.0 The contractor should engage sufficient number of workers as required so as to complete the entire work within the specified time schedule of work.</p> <p>3.0 In case the Company provides covered space in connection with the work, the contractor shall vacate and hand over the premises to the authorities immediately after the completion of the work in the same condition in which it was taken over.</p> <p>4.0 The company reserves the right to terminate the contract partially or wholly at any time during the period of contract.</p> <p>5.0 The work should be undertaken strictly as per instruction from the site Engineer. Final acceptance of the work will be subject to inspection by the Engineer-In-Charge.</p> <p>6.0 The decisions of the Engineer-In-Charge with regard to the workmanship/priority areas/type of paint and number of coats to be applied etc. will be final and binding on the contractor.</p> <p>7.0 The company will not be responsible for payment of any compensation for any hold up of works due to strike or situation beyond the control of the company.</p> <p>8.0 The Contractor is bound to do works in excess of that in the schedule of quantities or extra items of works necessitated during the actual execution of work and for such works payments will be made as per the agreed rates or at the rates based on which tender is issued plus or minus tender difference as the case may be. Alterations/additions, if any, should be done as per instructions of the Company.</p> <p>9.0 The contractor should strictly observe the safety and security regulations of the company. Any loss or damage incurred by the Company on account of the contractor's failure or that of the contractor's employees to observe the security and safety regulations of the company shall be to the contractor's account.</p> <p>10.0 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</p>		

11.0 . Security Deposit:

Within 15 days of the receipt of the order, the contractor shall remit security deposit of an amount calculated as **3%** of the Work order value towards security for due and faithful performance of the contractor. The Security Deposit shall be remitted to the Company account as detailed below through RTGS / NEFT or furnish a Demand Draft / Bankers cheque for the amount in favour of FACT Ltd, payable at Udyogamandal or by Bank guarantee from a Nationalized/Scheduled Bank in the prescribed format issued by FACT. The security deposit shall be released on satisfactory completion of the work provided the contractor has cleared all dues and rectified defects, if any.

12.0 Agreement:

For contracts amounting to Rs. 3.00 lakhs and above, the contractor shall execute a formal agreement between FACT as per preform on a stamped paper worth Rs.200/- before starting the work.

 FACT	FACT CORPORATE MATERIALS - CONTRACTS	Tender No : 03012/2021-2022/E23289
<u>SPECIAL REQUIREMENTS OF THE CONTRACT</u>		Page 1 of 3
		SCHEDULE - Q1
<p><u>Name of work</u> – Re-tubing of E-510 (Ammonia Condenser)</p> <p><i>This ‘Special requirements of the contract’ form part of the contract and is to be read in conjunction with the Proforma of contract. Wherever the provisions under Special requirements of the contract are in conflict with any of the provisions under Proforma of contract, provisions in the Special requirements of the contract shall prevail.</i></p> <p><u>Introduction</u></p> <p>E510, Ammonia Condenser is a shell and tube heat exchanger, of type AEL. The exchanger is having Ammonia Vapor in the shell side and cooling water in the tube side. The exchangers are having a design pressure of 25 kg/cm²g and have heat duty of 16.31 G cal/ hr.</p> <p>The diameter of the shell is 1200 MM and the length of the shell is 12000 MM. The MOC of the shell is SA516 Gr. 70 and that of the tubesheet is SA 266 Cl 4. There are 1786 No of tubes in each exchanger and the size of the tubes is 19.05mm/15.75mm (OD/ID). The MOC of the tube to be replaced is SS304.</p> <p><u>Scope of Work</u></p> <ol style="list-style-type: none"> 1. Transportation of the heat exchangers to the contractors works for the re-tubing of the exchanger. FACT will arrange for the dismantling of the exchanger and loading of the exchanger to contractors vehicle inside the plant premises. 2. The transportation of the new tubes from the UD Stores (Udyogamandal)/ FEW Stores (Palluruthy) to the contractors works. The available tubes has a length of 12006 mm. Cleaning and dressing of the tubes to the required length. Loading of the tubes to the vehicle will also be the scope of the contractor. 3. Removal of the old tubes including the plugged ones, cleaning the tube holes, shell interior. The existing tube welding shall be completely removed by grinding/ machining before inserting the new tubes. 4. Inserting new tubes and its necessary corrections, expansion/flaring and its strength welding using TIG welding. The filler wire for tube welding shall be ER 309 (SS309). 5. Windows if any opened on shell shall be closed using the same removed pieces by welding with proper edge preparation and compensation plates. 100% DPT and UT shall be done in weld joints, which shall be in contractor’s scope. 		

6. Hydro-testing of the exchanger at 1.5 times the design pressure i.e. at 37.5 Kg/cm² in the presence of Engineer in Charge.
7. Painting of the exchanger with two coat of HR Aluminium paint (with temperature resistance up to 600°C).
8. Transportation of the re-tubed exchanger back to ammonia plant. The unloading of the exchanger inside plant premises will be arranged by FACT.

PERIOD OF CONTRACT

The total period of the Contract work shall be 38 days from the date of work to proceed notice. Any delay in the completion of the work due to flaws attributable to the contractor, Price Reduction for Delay will become applicable. Contractor will have to pay to the OWNER by way of price reduction for delay and not as penalty, an amount equal to 1 % of the total contracted price of the work order for each day OR part thereof of such delay in work completion subject to a maximum of 10 % of such price.

Special Conditions

1. The contractor shall strictly follow the Safety Rules prevailing in FACT Ammonia Complex and insist the workers to use proper personal protective equipment while on job. NO WORKER WILL BE ALLOWED TO WORK INSIDE THE COMPANY PREMISES WITHOUT PROPER PPE'S FOR THE JOB. If any accident / damage occur during the work due to the lapse of the Contractor, the Contractor shall be responsible for all such losses. THE PPE'S FOR THE JOB IS IN THE CONTRACTORS SCOPE.
2. Free issue of materials, by FACT, shall be limited to SS304 tubes of 12006 mm length for the actual quantity of requirement. Transportation of free issue materials from FACT UDYOGAMANDAL COMPLEX stores / FEW Stores Palluruthy is in contractor's scope.
3. ***The contractor shall submit a Bank Guarantee for value Rs. 60 Lakh, equivalent to the monetary value of the condenser and tubes, issued by FACT. Bank guarantee shall be from a Nationalised/Scheduled Bank valid till the date of completion of all works with a claim period of six months thereafter. The BG should be submitted prior to the receipt of condenser and tubes as per the format in Schedule-L. The BG is for compensating against any damage, theft, loss, pilferage etc. of the condenser and tubes at contractors works.***
4. Transit insurance for to & fro movement of the exchanger to contractors work shop will be arranged by FACT.
5. All tools and tackles including welding and cutting equipment and consumables like cutting and welding gases, welding electrodes & filler wire shall be in the contractor's scope.
6. Filler wire to be used for the seal welding of tubes is ER 309 (SS309).
7. Electrode used for re-welding of shell shall be 7018 grade.
8. Filler wires and electrodes of M/s Advani oerlikon, D&H Secheron & Esab make shall be only allowed for the job.

9. FACT representative will inspect the job at contractor's workshop at various stages of the job to ensure quality of work. The stages for inspection will be finalized jointly after the awarding the work order.
10. The work shall be carried out strictly as per the instruction of the Engineer-in-charge.
11. The period of completion of work is 38 days from the date of handing over of the exchanger.
12. The fitters / welders / riggers employed by the contractor shall have sufficient experience in their respective fields.
13. The exchanger shell, channel, end cups and the nozzles shall be painted by applying two coat of HR (Heat Resistant) Aluminium paint with a temperature resistance upto 600°C. The procurement of paint shall be in contractor's scope.
- a. For consumables like paint etc., containers shall be opened and used only in the presence of company Supervisor and Contractor should produce the bills of such items for verification, if directed.
 - b. Aluminium paint of M/s. Asian Paints, Berger Paints, ICI Dulux & Shalimar paints alone will be normally accepted. Product literature of the manufacturer shall be furnished to the Engineer-in charge and the product to be used shall get approved before starting the work. Thinner used for the work shall conform to the brand specified by the manufacturer in the product literature.
 - c. Before painting the surface should be cleaned properly by brushing and the contractor should get the approval from the department before such operations.
14. Contractor may visit the site for assessing the nature and scope of work, special and general conditions of contract during office hours before submission of the bid.
15. The tubes removed from the exchanger shall be returned to FACT - UC. Contractor shall transport all the scrap tubes to scrapyards, after weighing at Weigh Bridge at North Gate FACT UD, at no extra cost.
16. This contract is also governed by the General conditions of contract" enclosed herewith.
17. 100% Payment shall be made on completion of work, for the actual quantity of work done and against the bill duly certified by the Engineer-in-Charge.
18. The work shall be guaranteed against workmanship for a period of 90DAYS from the date of completion. Any defect / leak noticed during testing shall be rectified free of charge by the contractor.



HALDOR TOPSØE A/S
COPENHAGEN
DENMARK

JOB NO.
28526

FACT, UDYOGAMANDAL, INDIA
900 MTPD REPLACEMENT AMMONIA PROJECT

AMMONIA CONDENSER

NO. 4145889	REV. 2
SHEET 1 OF 3	
DOC.GRP. 53	
DATE 940420	DRAWN SBP
CHD ATJ	APPD SELP

EXCHANGER SPECIFICATION SHEET

ITEM NO. E 510 A/B

Type :	AEL	Calculated outside surface per unit :	2460 m ²
Duty :	16.31 Gcal/h	Installed outside surface per unit :	2541 m ²
MTD : 1)	8.29 °C	Shells per unit :	2
Corrected MTD : 1)	8.29 °C		

OPERATING DATA (one unit)

2 parallel

DESCRIPTION	Shell side in / out	Tube side in / out	Units
Fluids	Ammonia vapor	Cooling water	
Quantity : total	53844	3276627	kg / h
liquid	/52667	3276627/3276627	kg / h
vapour/steam	53741/1074		kg / h
non condensable	103		kg / h
Operating temperature	108/39.5	32/37	°C
Operating pressure	16.2/	3.5/	kg / cm ² g
Pressure drop. max. allowable/calculated	/0.031	/0.409	kg / cm ²
Liquid : density	/580	995/994	kg / m ³
viscosity	/0.121	0.769/0.695	cP
specific heat	/1.16	0.998/0.998	kcal / kg °C
thermal conductivity	/0.426	0.526/0.532	kcal / m °C h
boiling temperature			°C
Vapour : molecular weight	17.03/17.02		
density	9.82/12.7		kg / m ³
viscosity	0.014/0.011		cP
specific heat	0.638/0.723		kcal / kg °C
thermal conductivity	0.032/0.027		kcal / m °C h
dew point	42.6		°C
Latent heat			kcal / kg
Fouling resistance	0.0002	0.0006	m ² °C h/kcal
Film coefficient, refer to outside surface	5134	5169	kcal/m ² °C h
Overall heat transfer coefficient UC/UD	2225	/ 800	kcal/m ² °C h

MECHANICAL DATA (one shell)

Design temperature	-10/150	70	°C
Design pressure	25	7	kg / cm ² g
Test pressure			kg / cm ² g
No. of passes	1	1	
Corrosion allowance	1	3	mm
Nozzles nominal diameter	in	2x300mm	500mm
	out	200mm	500mm
			inch
			inch
Construction material	CS	CS	

Shell od/id : /1200 mm

Tube ,no. : 1786 ,od : 19.05 mm ,id : 14.83 mm ,length : 12000 mm ,pitch : 25.4 mm

Baffle ,type : Double segmental,vert. cut,spacing : 500 mm ,cut oc/cc : 20/15 %

Free baffle hole area ow/iw : 0.2/0.22 m² Insulation : No

Construction according to : ASME VIII DIV 1, TEMA CLASS R

Stress relieving : Radiography spot/fully

Length of tubes is including /excluding thickness of tubesheet

Remarks : 1) Based on shell side dew point

Mean shell metal temperature: 43 °C

Design mean shell - tube temp. difference: 15 °C

Cut for liquid drain in bottom of baffles: 0.035 m²

THIS DOCUMENT CONTAINS TRADE SECRET AND PROPRIETARY INFORMATION, THE PRO-
PERTY OF H. TOPSØE A/S AND IS ISSUED ON CONDITION THAT IT IS RECEIVED
IN CONFIDENCE, NEITHER IT NOR THE INFORMATION HEREIN SHALL BE RE-
PRODUCED, SOLD, LENT, DISCLOSED OR USED FOR ANY PURPOSE OTHER THAN THAT F-
OR WHICH IT HAS BEEN ISSUED WITHOUT WRITTEN AUTHORITY OF HALDOR TOPSØE A/S

**HALDOR TOPSØE A/S**

COPENHAGEN

DENMARK

JOB NO.

28526

FACT, UDYOGAMANDAL, INDIA
900 MTPD REPLACEMENT AMMONIA PROJECTAMMONIA CONDENSER
E 510 A/B

NO.

4145889

REV.

1

SHEET

2

OF

3

DOC. GRP.

53

DATE

940601

DRAWN

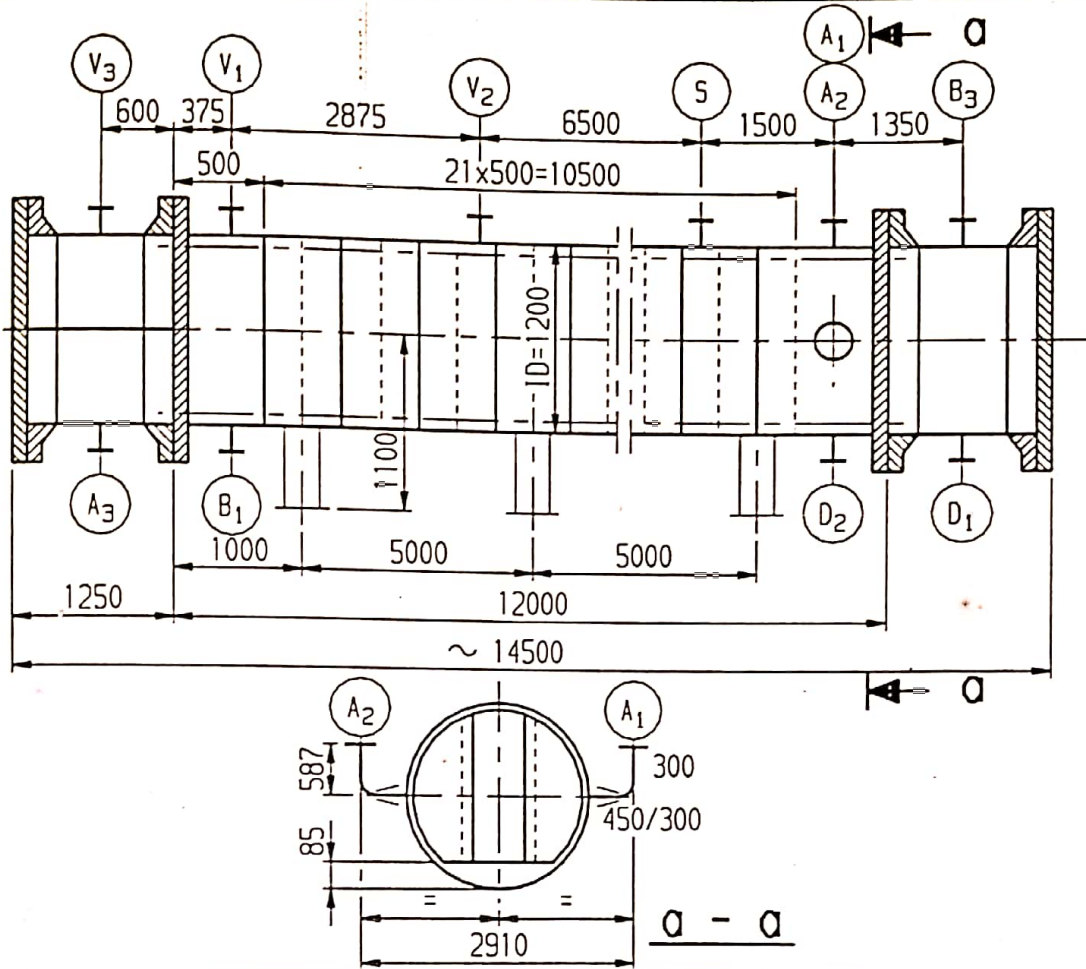
10A/HFJ

CHD

ST

APPD

ST



REFERENCE DRAWINGS

DWG. NO.

LIST OF HTAS STANDARDS AND DETAILS WITH DRAWINGS INCLUDED

4145165

GENERAL SPEC. FOR SHELL AND TUBE HEAT EXCHANGER

4145137

REF.	NO.	SIZE	RATING	FUNCTION
A ₁₋₂	2	300	300#	AMMONIA INLET
A ₃	1	500	150#	COOLING WATER INLET
B ₁	1	200	300#	AMMONIA OUTLET
B ₃	1	500	150#	COOLING WATER OUTLET
D ₁	1	50	150#	DRAIN
D ₂	1	50	300#	DRAIN
V ₁₋₂	2	50	300#	VENT
V ₃	1	50	150#	VENT
S	1		300#	SAFETY VALVE

WEIGHT OF TUBE BUNDLE (EXCL. SHELL CYLINDER)

APPROX.

23000

kg

WEIGHT OF UNIT (FULL OF WATER, ONE CONDENSER)

APPROX.

47000

kg

WEIGHT OF ALL STEEL PARTS (ONE CONDENSER)

APPROX.

32000

kg

THIS DOCUMENT CONTAINS TRADE SECRET AND PROPRIETARY INFORMATION, THE PROPERTY OF HALDOR TOPSØE A/S, AND IS ISSUED ON THE CONDITION THAT IT IS RECEIVED IN CONFIDENCE, NEITHER IT NOR THE INFORMATION HEREIN SHALL BE REPRODUCED, SOLD, LENT, DISCLOSED OR USED FOR ANY PURPOSE OTHER THAN THAT FOR WHICH IT HAS BEEN ISSUED WITHOUT WRITTEN AUTHORITY OF HALDOR TOPSØE A/S.

BASIC FORM NO.4-1003/E REV.1 (M)



HALDOR TOPSØE A/S
COPENHAGEN
DENMARK

JOB NO. 28526

FACT, UDYOGAMANDAL, INDIA
900 MTPD REPLACEMENT AMMONIA PROJECT

E 510 A/B
TUBE LAY-OUT

NO. 4145889

REV.

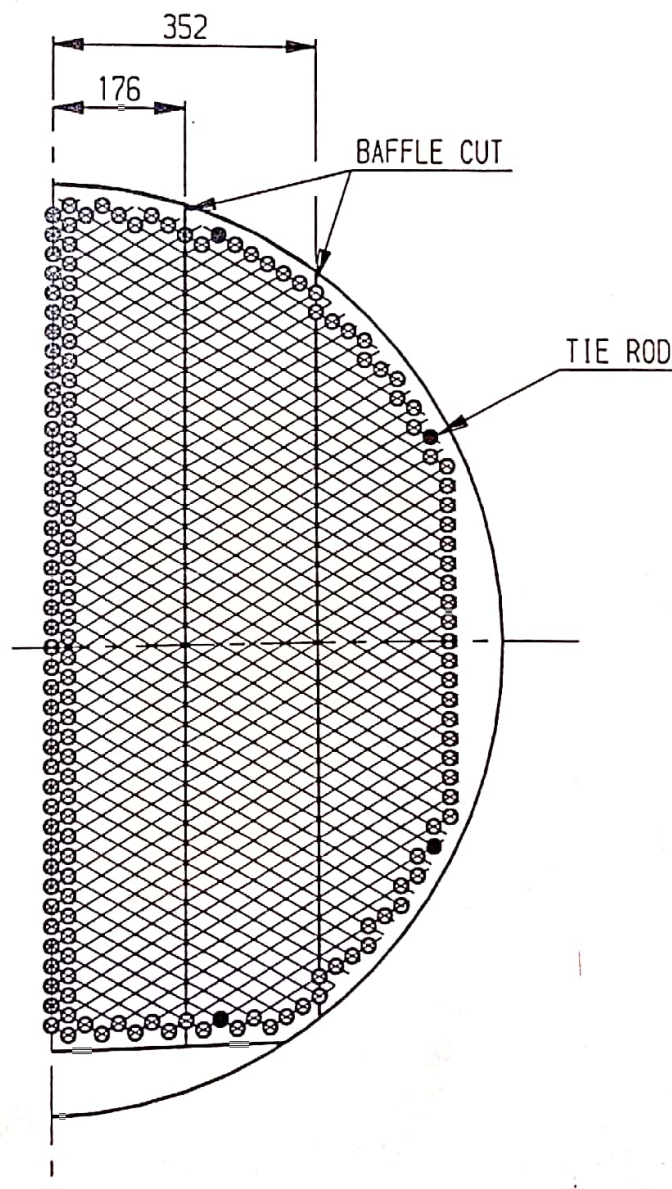
1

SHEET 3 OF 3

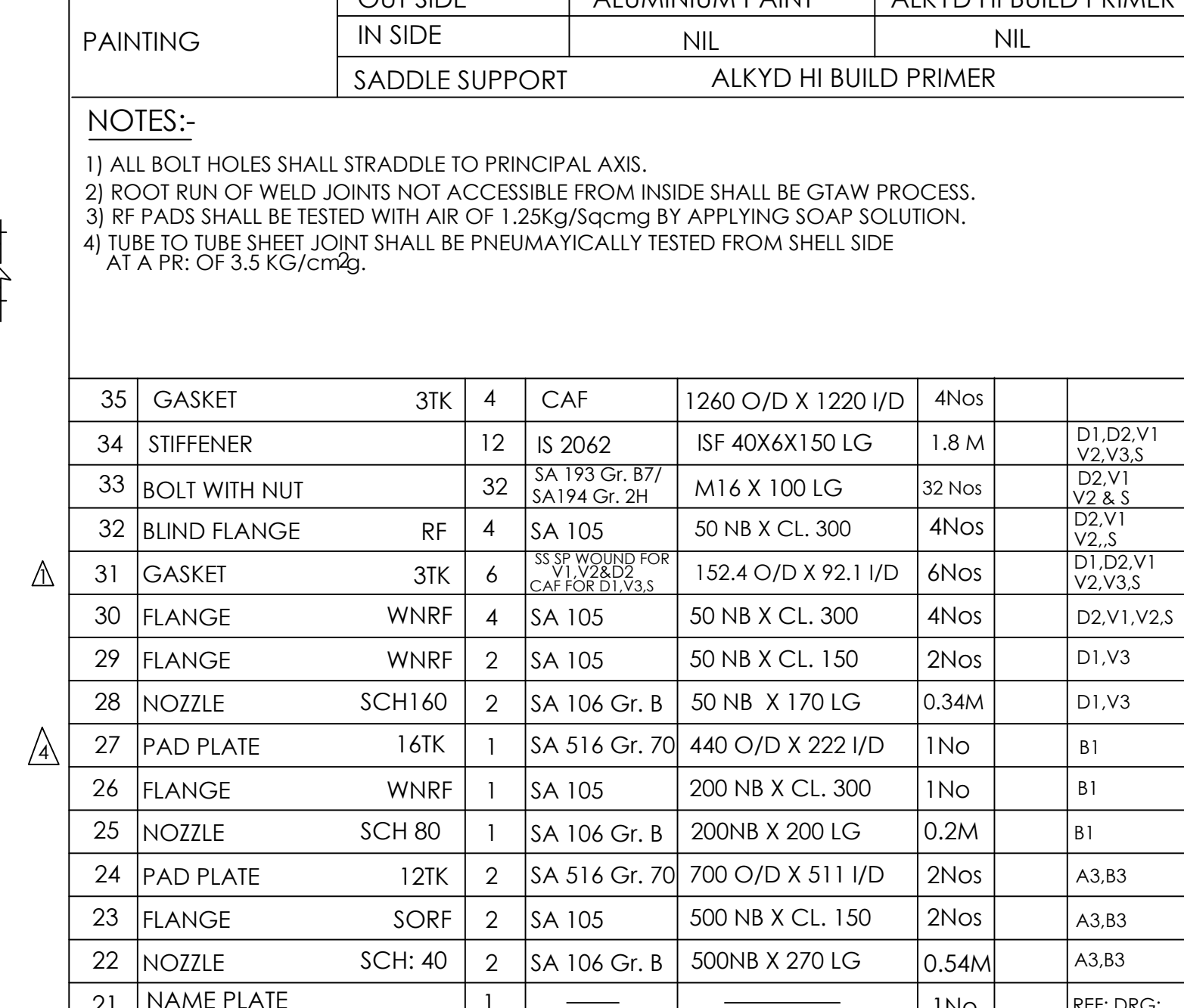
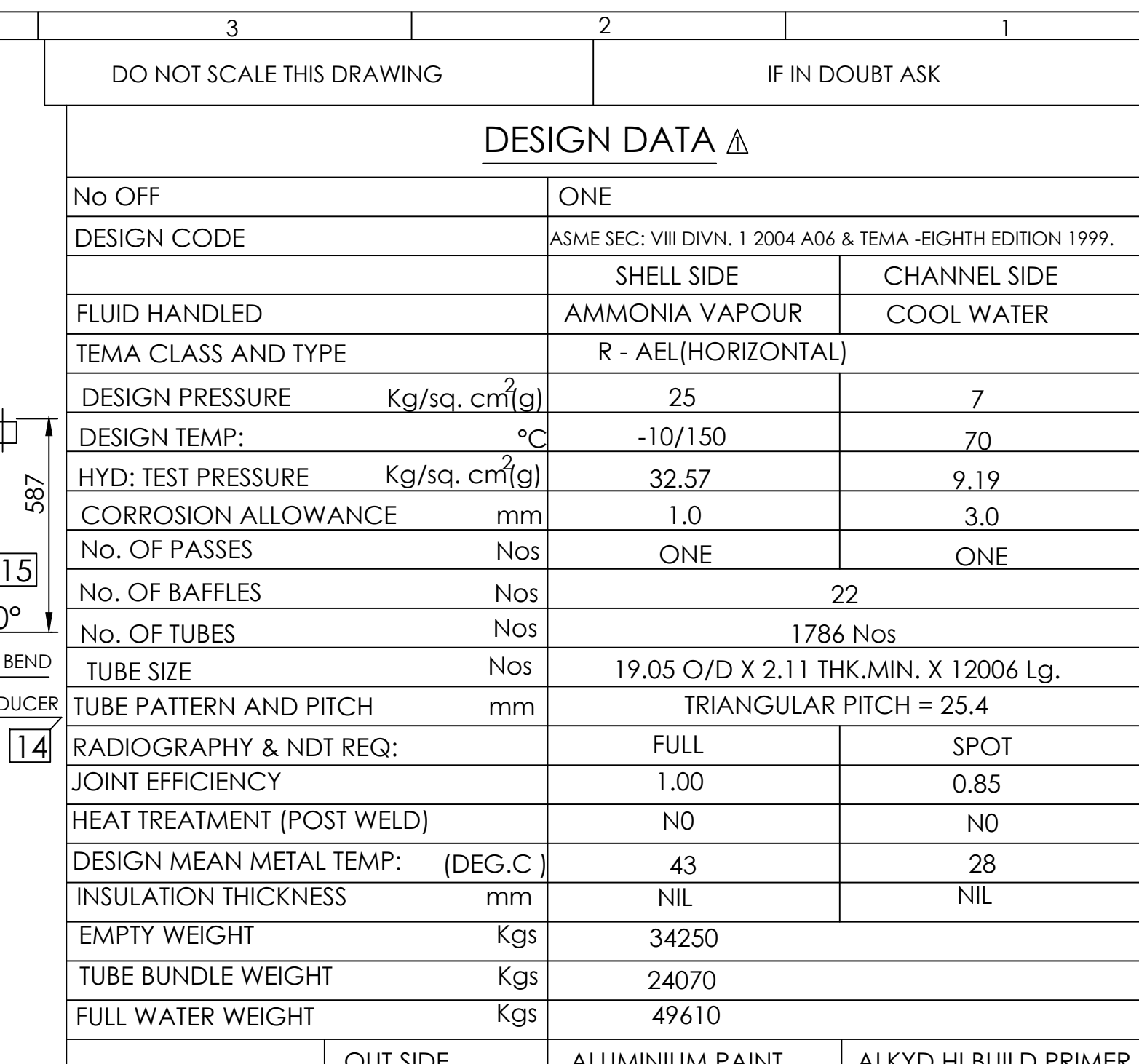
DOC. GRP. 53

DATE 940601 DRAWN 10A/HFJ CHD ST APPD ST

Number of tubes drawn.....1786
Number of tie-rods.....8
Tube pitch size.....25.4 mm.
Tube diameter.....19.05 mm.
Min. dist. outside farthest tube to inside pressure shell.10 mm.
Inside diameter of pressure shell specified.....1200 mm.
Outside diameter of tube bundle.....1173 mm.
DL -value according to.TEMA.....998.05 mm.

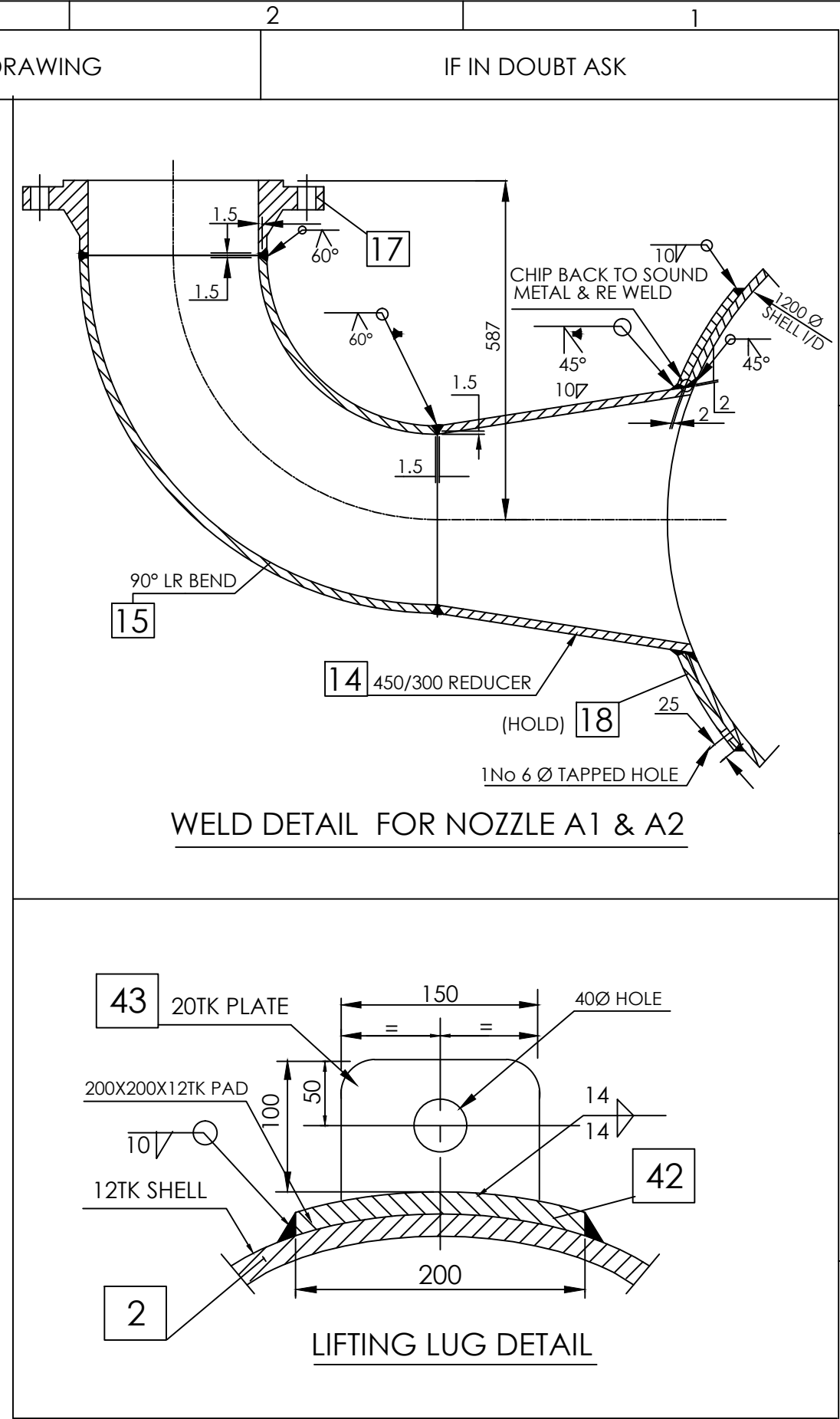
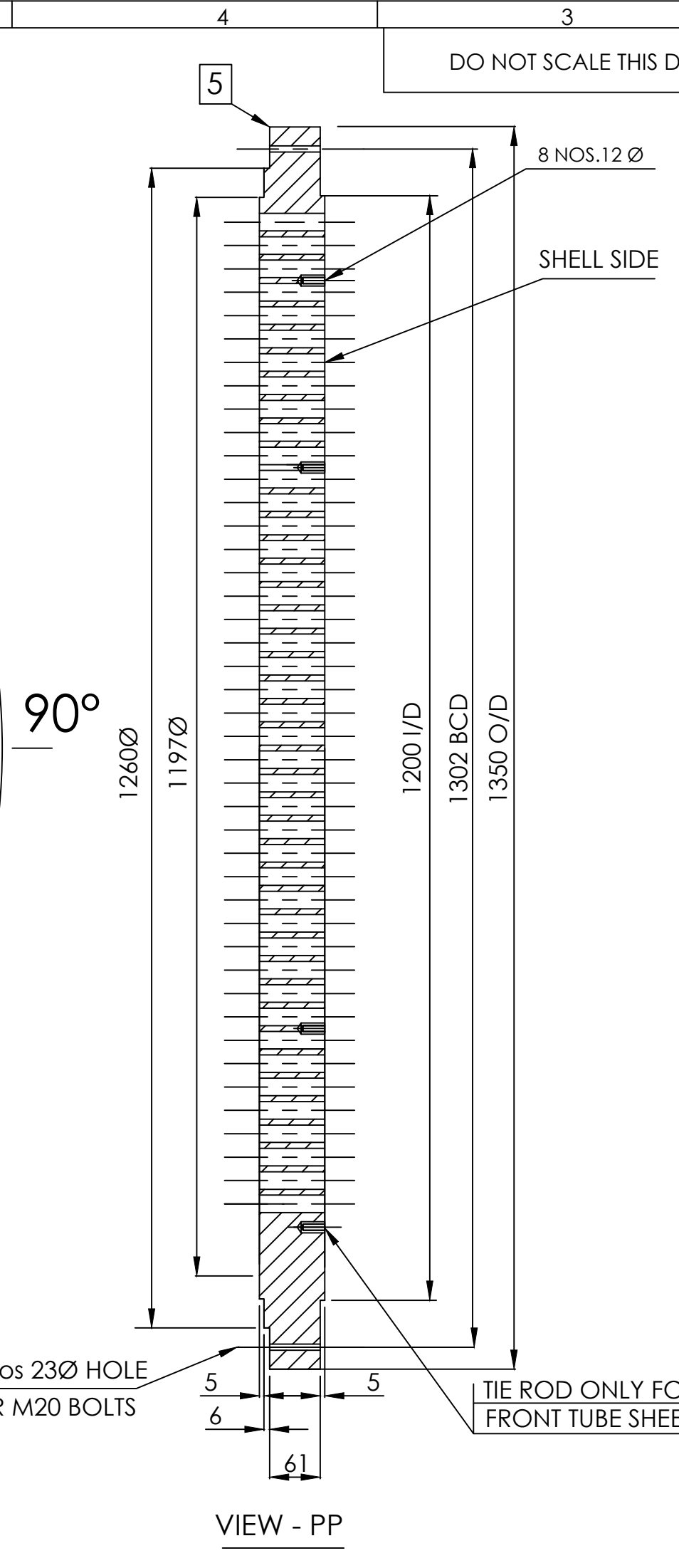
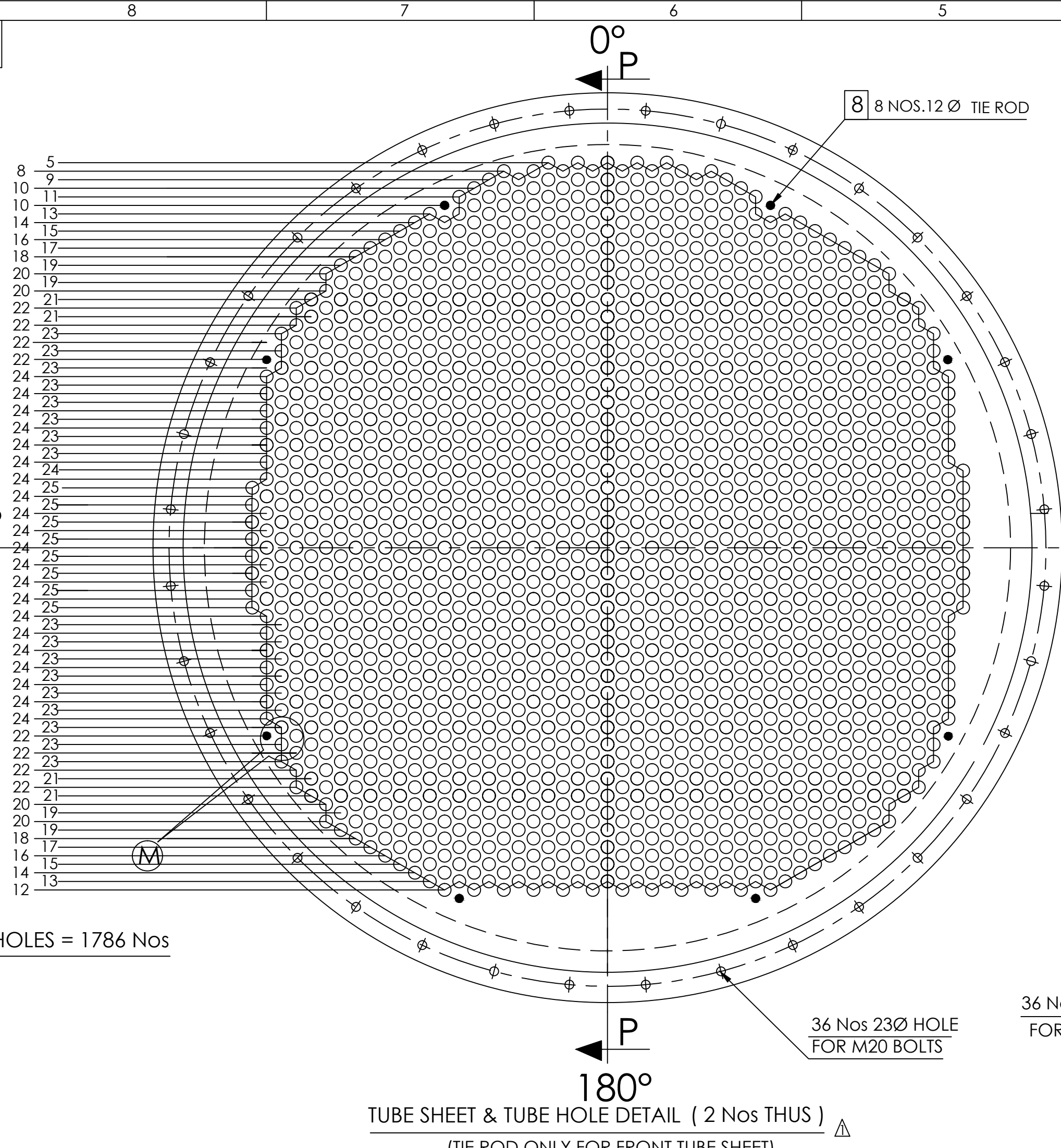
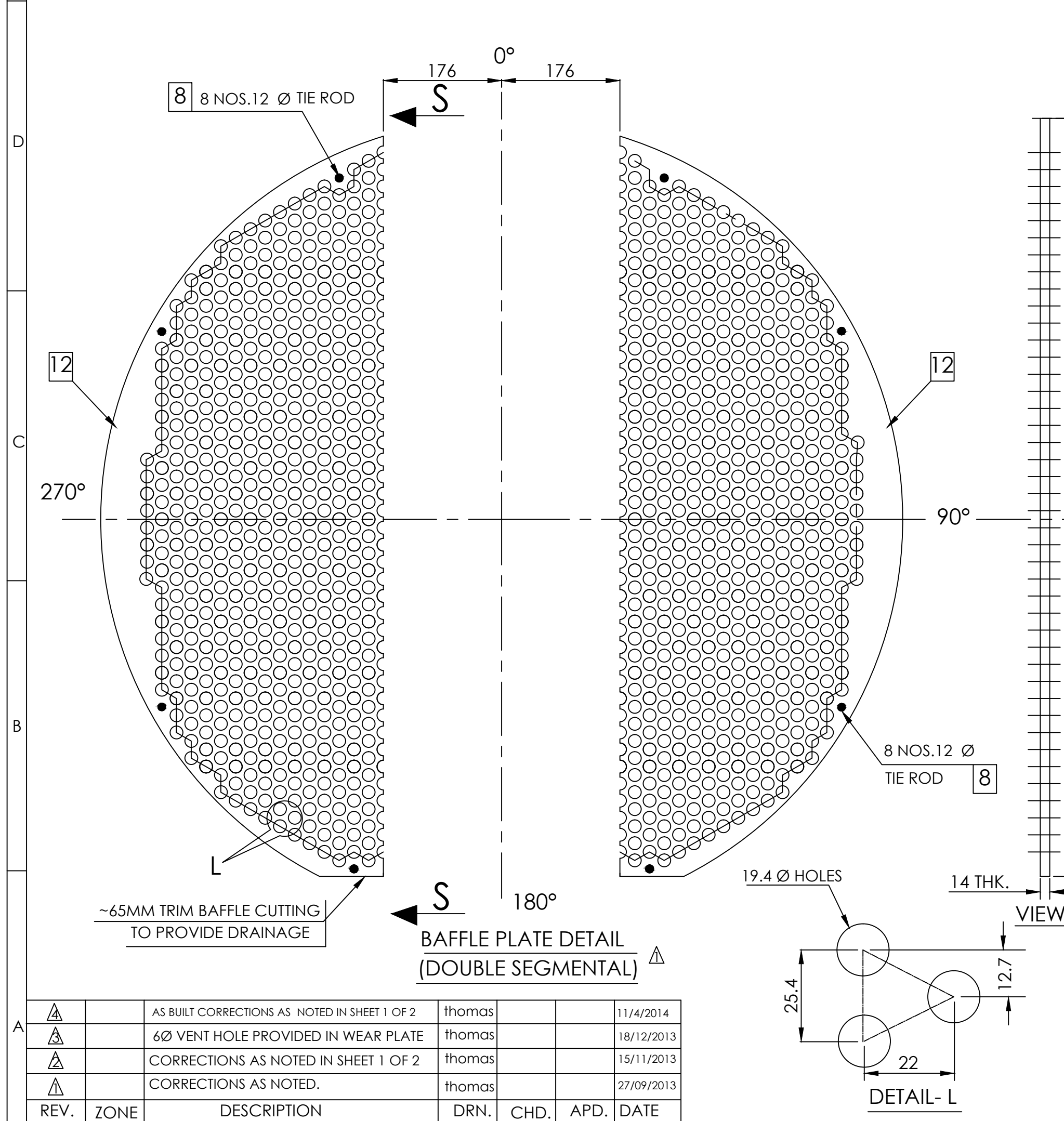
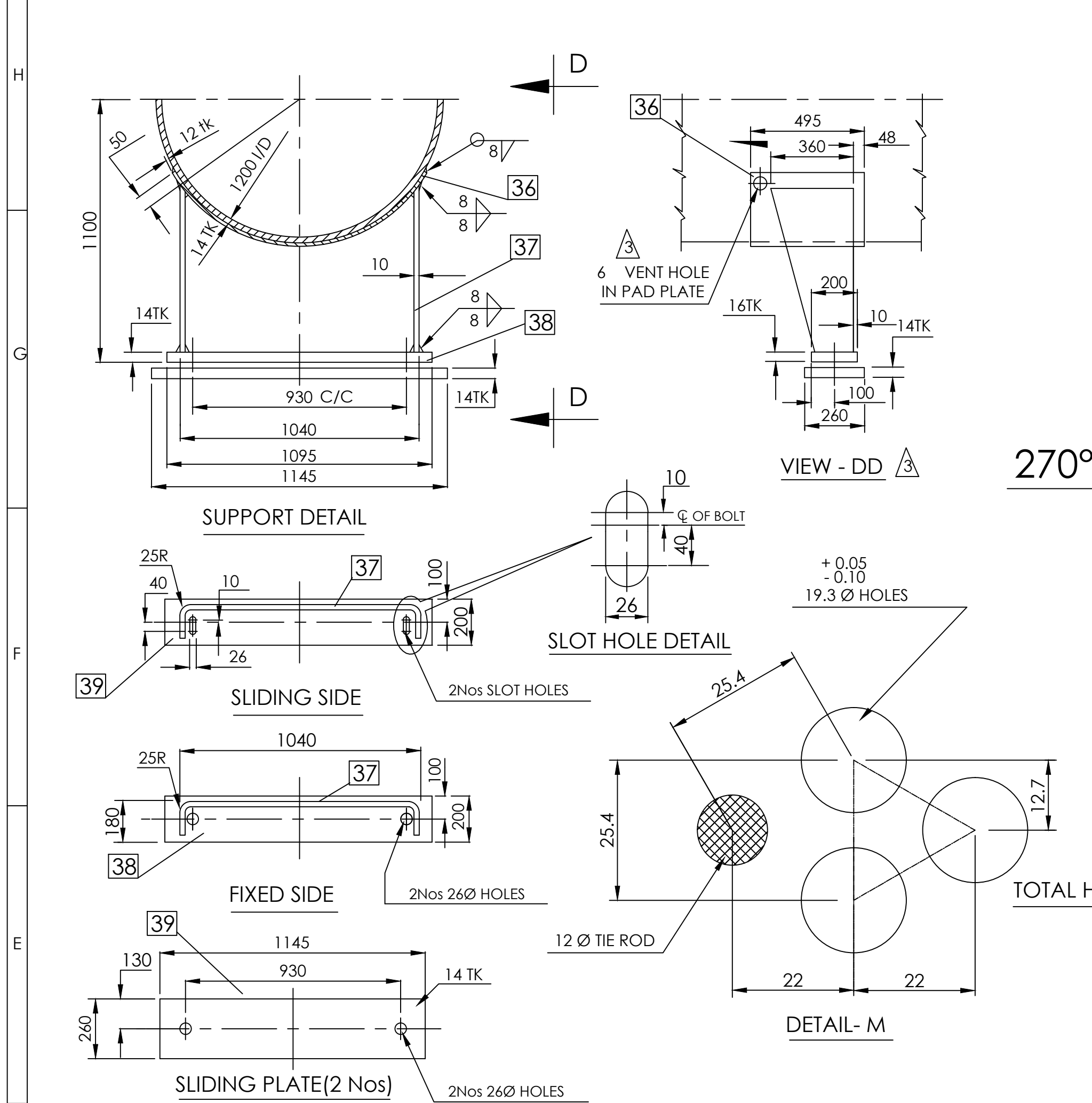


THIS DOCUMENT CONTAINS TRADE SECRET AND PROPRIETARY INFORMATION, THE PROPERTY OF HALDOR TOPSØE A/S, AND IS ISSUED ON CONDITION THAT IT IS RECEIVED AND HELD IN CONFIDENCE, NEITHER IT NOR THE INFORMATION HEREIN SHALL BE REPRODUCED, SOLD, LENT, DISCLOSED OR USED FOR ANY PURPOSE OTHER THAN THAT FOR WHICH IT HAS BEEN ISSUED WITHOUT WRITTEN AUTHORITY OF HALDOR TOPSØE A/S



REF: DRG: No. _____	
DAVIT ARM FOR CHANNEL COVER	— 1725291 Ro
BRAKET FOR NAME PLATE	— 1745290 Ro
NAME PLATE	— 1745289 Ro
EARTHING BOSS	— 5042302 R2

S.NO	DESCRIPTION	QTY.	MATERIAL	MATERIAL	(Kg)	REMARKS	
TITLE AMMONIA CONDENSER E 510 A/B				SCALE	DRN.	thomas	12/8/13
CUSTOMER:- FACT - UC				1:35	CHD.		10/09/13
				1:2	APD.		10/09/13
				1:5			
JOB No. 8607 / 13		REF No. 3020-02-ED-E 510		2013	SIGN.	DATE	
FACT ENGINEERING WORKS				DRG No.			
KOCHI - 682006				AS BUILT		1715267	4
KERALA							REVISION
				SHEET NO.. 1 OF 2			



44	EARTHING BOSS	2	—	—	2Nos	REF: DRG:		
43	LIFTING LUG	20TK	4	IS 2062	120 X 150	4Nos		
42	PAD FOR LIFTING LUG	12TK	4	SA 516 Gr. 70	200 X 200	1.6M ²		
41	SPACER TUBES	2.11TK	40	SA 179	19.05 O/D X1014 LG	41 M	AS SHOWN	
40	NOZZLE	SCH: 40	4	SA 106 Gr. B	50 NB X 163 LG	0.7M	D2.V1.V2.S	
39	SLIDING PLATE	14TK	2	IS 2062	260 X 1145 LG.	0.6M ²		
38	BASE PLATE	14TK	2	IS 2062	200 X 1095 LG.	0.45M ²		
37	SADDLE SUPPORT	10TK	2	IS 2062	200 X 820~ LG	3M ²		
36	WEAR PLATE	12TK	2	SA 516 Gr. 70	495 X 1385~ LG	2.6M ²	AS SHOWN	
S.No	DESCRIPTION	QTY.	MATERIAL	SIZE	MATERIAL	QTY.	WT. (Kg)	REMARKS
TITLE				SCALE	DRN.	thomas	12/8/13	
AMMONIA CONDENSER E 510 A/B				1:35	CHD.		10/09/13	
CUSTOMER:- FACT - UC				1:2	APD.		10/09/13	
JOB No. 8607 / 13		REF No. 3020-02-ED-E 510		1:5	2013	SIGN.	DATE	
FACT ENGINEERING WORKS				DRG No. 1715267				
KOCHI - 682006				AS BUILT				
KERALA				SHEET NO. 2 OF 2				

FERTILISERS AND CHEMICALS TRAVANCORE LIMITED (FACT)

VENDOR DATA FORM (FOR FACT NEW VENDORS)

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 return this format duly filled along with Part-I: Technical Bid 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

1	Vendor Code, Vender Name	To be filled by FACT
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.