

**GOVERNMENT OF INDIA
DEPARTMENT OF SPACE
VIKRAM SARABHAI SPACE CENTRE (VSSC)
THIRUVANANTHAPURAM**

**Tender for Establishment of Sodium Perchlorate Crystal Production
Plant at APEP, Aluva**

Bids to be submitted online

Tender No.: VSSC/PURCHASE UNIT III (SPRE)/VS202300271901 dated 22-08-2023

A. Tender Details

Tender No : **VSSC/PURCHASE UNIT III (SPRE)/VS202300271901**

Tender Date : **22-08-2023**

Tender Classification: **WORKS**

Purchase Entity : **PURCHASE UNIT III (SPRE)**

Centre : **VIKRAM SARABHAI SPACE CENTRE (VSSC)**

Establishment of Sodium Perchlorate Crystal Production Plant at APEP, Aluva

This tender is proposed as a DOMESTIC PUBLIC TENDER. This tender is restricted only to Class-I and Class-II Local Suppliers as defined under DPIIT Order dtd 16/09/2020- Preference to Make in India Order-2017 Revision. Non-Local Suppliers need not quote. Foreign OEMs/Agents quoting on behalf of Foreign OEMs are not permitted to quote. High Sea Sales Quotes not permitted. The bids shall be in INR only.

This is a TWO-PART tender i.e. Techno-Commercial Bid (Part-I) and Price Bid (Part-II) shall be submitted separately. All technical and commercial terms and conditions shall be furnished in the TechnoCommercial Bid while price shall be indicated only in the Price Bid. Uploading price details anywhere else other than the price-bid shall lead to unconditional rejection of the tender. Please make note of the same.

Tenderers are advised NOT TO UPLOAD any documents revealing the price of the main equipment, accessories, spares or AMC. They are however, requested to upload UNPRICED BIDS (i.e. Price details masked) showing appropriate break-up of components of main equipment, individual accessories and spares as desired. Purchase preference to eligible vendors are applicable as per extant notifications issued by the Government of India.

The Class-I/Class-II Local suppliers, at the time of submitting their offer, shall also indicate percentage of local content and provide self-certification that the item (s) offered meets the local content requirement for Class-I/Class-II Local Suppliers as the case may be. They shall also give details of location (s) at which the local value addition is made.

In cases if the item(s) offered exceed Rs. 10 Crores, the Class-I/Class-II Local Suppliers shall provide a Certificate from the statutory auditor or cost auditor of the company (in case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.

False Declarations will be in breach of the Code of Integrity under Rule 175 (1) (i) (h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.

Technical Bids will be opened at the scheduled due date & time. No further intimation will be sent in this regard. The schedule for price bid opening shown is only indicative. Price bids will only be opened in the case of parties who have been techno-commercially accepted, the details of which will be communicated at a later stage.

A.1 Tender Schedule

Tender Publish Date :	22-08-2023 17:00
Bid Clarification Due Date :	22-09-2023 10:00
Bid Submission Start Date :	22-08-2023 17:01
Bid Submission Due Date :	16-10-2023 10:00
Bid Opening Date :	16-10-2023 10:01
Price Bid Opening Date :	30-11-2023 10:00

A.2 Pre-bid Meeting Details

Date :	15-09-2023 11:00
Place :	Ammonium Perchlorate Experimental Plant (APEP),
Location :	Erumathala Post, Aluva, Kochi-683112
Centre :	VIKRAM SARABHAI SPACE CENTRE (VSSC), THIRUVANANTHAPURAM, KERALA
Details :	Kindly note that you shall visit the site WITHIN 15 DAYS FROM THE DATE OF RELEASE OF TENDER, to assess the technical requirements and understanding of the process. To schedule the visit, interested parties shall contact spsso_prso_pur@vssc.gov.in covering a copy to psso2_prso_pur@vssc.gov.in clearly mentioning our ref. no. A510-2023002719-01.

B. Tender Attachments

Technical Write-up/Drawings

Document : RFP For establishing SP Crystal facility

Document : Annexure 2 - Site location for establishing SPC plant

Document : Annexure 1:- Proposed Layout of the plant

Instructions To Vendors

4. Specific Terms and Conditions to Tender (MII Compliant)

1. (I) Please quote applicable GST separately.
2. (II) Our standard delivery term is FOR, VSSC. In case any vendor offers delivery term of Ex-works, Packing and Forwarding charges if any should be indicated separately either as a percentage of the quoted rate or as a Lumpsum amount.
3. (III) Our standard payment term is 100% within 30 days after receipt and acceptance of the items at our site (after installation and commissioning in cases where installation and commissioning is required).
4. (IV) Liquidated Damages: The delivery period quoted should be realistic. The delivery period so quoted and mentioned in the order is the essence of the order/contract. In case of delay in delivery of material as per the delivery schedule, Liquidated Damage @ 0.5% per week or part thereof on the undelivered portion subject to a maximum of 10% of the contract value shall be levied. Wherever, installation and commissioning is also involved, the supply will be deemed to have been completed only when the entire Stores is supplied, installed and accepted.
5. (V) Performance Bank Guarantee: Wherever products offered carry warranty, the warranty should be for one year or as per manufacturers standard warranty term. Against such cases, please confirm submission of Performance Bank Guarantee. The Performance Bank Guarantee should be for 3% of the order value covering the warranty period obtained from any Scheduled Bank on Rs.200/- Non Judicial Stamp Paper and should be valid beyond 2 months from the completion of the warranty period. Alternately vendors can request for withholding 3% payment till completion of the warranty period.
6. (VI) Security Deposit: Wherever the offer value is Rs. 5.00 Lakhs or above, the successful tenderer should submit Security Deposit @ 3% of the order value by way of Bank Guarantee / FD Receipt. The

Bank Guarantee shall be obtained from any Scheduled Bank on Rs.200/- Non Judicial Stamp Paper and should be valid beyond 2 months from the completion of all contractual obligations. If the Contractor is called upon by the Purchaser to deposit, Security and the Contractor fails to provide the security within the period specified, such failure shall constitute a breach of the Contract, and the Purchaser shall be entitled to make other arrangements for the re-purchase of the stores Contracted at the risk of the Contractor. In case if Security Deposit is submitted and the contractor fails to execute the order, then the security deposit will be forfeited.

7. (VII) Note: SD, LD and PBG clauses are mandatory and offers of the vendors who have not agreed for the above conditions will be excluded from the procurement process. Micro and Small Vendors are not exempted from the submission of Security Deposit. Only Govt Departments/PSUs/PSEs can submit Indemnity Bond instead of Bank Guarantee towards SD/PBG.

8. (VIII) Please upload the Technical Details / Catalogue / Data Sheets (wherever applicable)

9. (IX) The offer should be valid for a period of minimum 90 days from the date of opening of Tender and 180 Days for PT Two Part (120 Days for Technical Bid and 60 Days for Price Bid from the date of opening).

10. (X) In order to avail of the benefits extended to by Govt. of India to the Micro and Small Sectors, please submit attested copy of the valid Entrepreneur Memorandum Part-II signed by the General Manager, District Industries Centre / Udyog Adhar / NSIC Registration Certification along with your offer.

11. (XI) If any bidder submits forged / false document along with the tender, offer of such vendors will be summarily rejected and such bidders will be blacklisted for all future tenders.

12. (XII) Wherever samples are required to be submitted along with the quotation, offer without sample will not be considered.

13. (XIII) The other attached forms are our standard terms and conditions, which are to be complied with. If any conflict arise between the specific terms and standard terms, then in those cases, the specific terms will prevail over the standard terms.

14. (XIX) Purchase preference to eligible vendors are applicable as per extant notifications issued by the Government of India.

15. (XV) Foreign OEMs/Agents quoting on behalf of Foreign OEMs are not permitted to quote. High Sea Sales Quotes not permitted. The bids shall be in INR only.

16. (XVI) Definitions: A supplier or service provider, whose goods, services or works offered for

procurement, has local content: a) Equal to or more than 50% : Class-I local supplier. b) Minimum 20% but less than 50% : Class-II local supplier. c) Less than 20% : Non-local supplier.

17. (XVII) Local content means the amount of value added in India (i.e. indigenous items/services added in the offered products/services/works) be the total value of the item offered (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties/IGST) as a proportion of the total value (excluding net domestic indirect taxes), in percent. Indicate extent of Minimum Local Content in offered product/service and location of such value additions.

18. (XVIII) The Class-I & II local supplier should provide a Self Certification along with your offer in PDF format indicating that the item offered meets the minimum local content as called for in the tender as mentioned above and provide the % of local content along with details of the location(s) at which the local value addition is made. In case of two part tenders, it is mandatory to indicate compliance to MLC(minimum local content) in technical bid itself.

19. (XIX) The Class-I/Class-II Local suppliers, at the time of submitting their offer, shall also indicate percentage of local content and provide self-certification that the item (s) offered meets the local content requirement for Class-I/Class-II Local Suppliers as the case may be. They shall also give details of location (s) at which the local value addition is made.

20. (XX) In cases if the item(s) offered exceed Rs. 10 Crores, the Class-I/Class-II Local Suppliers shall provide a Certificate from the statutory auditor or cost auditor of the company (in case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.

21. (XXI) False Declarations will be in breach of the Code of Integrity under Rule 175 (1) (i) (h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.

22. (XXII) Purchase Preference Policy:- Goods/Works which are divisible in nature (required quantity is greater than 1 or not a package basis): i. If L1 is 'Class-1 local supplier', the order/contract for full quantity shall be awarded to L1 bidder. ii. If L1 bid is not from a 'Class-I local supplier', 50% of the order quantity shall be awarded to L1. Thereafter, the lowest bidder among the 'Class-I local supplier' will be invited to match the L1 price for the remaining 50% quantity subject to the Class-I local supplier's quoted price falling within the margin of purchase preference (i.e. 20%) and contract for that quantity shall be awarded to such Class-I local supplier subject to matching the L1 price (inclusive of duties, taxes and freight & insurance). iii. In case such lowest eligible 'Class-I local supplier' fails to match the L1 price or accepts less than the offered quantity, the next higher 'Class-I local supplier' within the margin of purchase preference shall be invited to match the L1 price for remaining quantity

and so on, and contract shall be awarded accordingly. In cases where none of the 'Class-I local supplier' within the margin of purchase agree to match L1 price, in such cases 100% quantity shall be ordered on original L1 bidder. iv. In case no offers are received from 'Class-I local supplier' or none of the 'Class-I local supplier' falls within the margin of purchase preference of 20%, the order shall be processed on L1 vendor. v. In case L1 bidder (not a 'Class-I local supplier') is not accepting splitting of order on 50:50 basis, in that case the order/contract shall be awarded to such 'Class-I local supplier' for full quantity subject to matching the L1 price. vi. Regarding MSEs (Indian vendors): a) The following additional aspect as indicated below would be applicable for procurement which are falls under divisible category (i.e., not applicable for indivisible category), in case of participation of MSEs in the tendering who are also complying to the Minimum Local Content (MLC) stipulated in the tender. b) If any Indian vendor satisfies the requirement of MSEs stipulation and also falls within the purchase preference margin as called for in MSME policy (in case of matching L1 price) will be considered for ordering 25% of tendered quantity, the balance quantity / works will be considered for distribution amongst all bidders (including MSEs) as per the purchase preference policy. c) In case no MSEs qualifies for purchase preference or do not match with L1 price then the total tendered quantity will be distributed amongst all bidders as per the purchase preference policy.

23. Purchase Preference Policy:- Goods/Works which are not divisible in nature (required quantity is 1 or on a package basis):

(i). If L1 is 'Class-1 local supplier', the order/contract for full quantity shall be awarded to L1 bidder. (ii). If L1 bid is not from a 'Class-I local supplier', then, the lowest bidder among the 'Class-I local supplier' will be invited to match the L1 price subject to the Class-I local supplier's quoted price falling within the margin of purchase preference (i.e. 20%) and contract for that quantity shall be awarded to such Class-I local supplier subject to matching the L1 price (inclusive of duties, taxes and freight & insurance). (iii). In case such lowest eligible 'Class-I local supplier' fails to match the L1 price , the next higher 'Class-I local supplier' within the margin of purchase 'preference shall be invited to match the L1 price and so on, and contract shall be awarded accordingly. In cases where none of the 'Class-I local supplier' within the margin of purchase agree to match L1 price, in such cases the contract shall be placed on original L1 bidder. (iv). In case no offers are received from 'Class-I local supplier' or none of the 'Class-I local supplier' falls within the margin of purchase preference of 20%, the order shall be processed on L1 vendor.

5. Conditions for BIDDER FROM A COUNTRY WHICH SHARES LAND BORDER WITH INDIA

1. Any bidder from a country which shares a land border with India will be eligible to bid in this tender, only if the bidder is registered with the Competent Authority.

Competent Authority for the purpose of registration shall be the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT).

2. Any false declaration and non-compliance of the above would be a ground for immediate

rejection of offer or termination of the contract and further legal action in accordance with the laws.

3.

Validity of Registration: Registration should be valid at the time of submission of bids and should be valid at the time of placement of order.

6. Instructions to Vendors

1. Last minute clarification on tenders will not be entertained.

2. This is an E Tender. Hence Postal/Fax/Email tenders will not be accepted.

7. PPP Make in India(Non- Divisible Items-Class I & II Local Suppliers Only)

1. In line with Public Procurement (Preference to Make in India), Order 2017 & its amendments issued by Govt. of India from time to time with a view to support the Indian industries, ISRO has implemented "Purchase Preference Policy". The "Purchase Preference" is applicable for the "Class-I Local Supplier" for the goods/ services/ works covered in this tender, subject to the following terms & conditions:-

2. a) The subject item falls under Non-divisible category. b) The offers sought only from Class-I & Class-II local suppliers

3. Definitions: A supplier or service provider, whose goods, services or works offered for procurement, has local content: a)Equal to or more than 50% : Class-I local supplier. b)Minimum 20% but less than 50% : Class-II local supplier. c) Less than 20% : Non-local supplier.

4. 'Local content' means the amount of value added in India (i.e. indigenous items/services added in the offered products/ services/ works) be the total value of the item offered (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties/IGST) as a proportion of the total value (excluding net domestic indirect taxes), in percent.

5. The margin of Purchase Preference shall be up to 20%.

6. 'Margin of purchase preference' means the maximum extent to which the price quoted by the "Class-I local supplier" above the L1 (landed cost).

7. 'L1' means the lowest technically accepted tender / bid / quotation (i.e. lowest landed cost including duties, taxes and freight & Insurance).

8. Works means all works as per Rule 130 of GFR- 2017, and will also include 'turnkey works'. Works includes Engineering, Procurement and Construction (EPC) contracts and services include System Integrator (SI) contracts.

9. Purchase Preference Policy:- Goods/Works which are not divisible (ie., required quantity is 1 or as a package) and Services:

a) If L1 is from a 'Class-I local supplier', the contract will be awarded to L1 bidder.

b) If L1 is not from a 'Class-I local supplier', the lowest bidder among the 'Class-I local supplier' will be invited to match the L1 price subject to local supplier's quoted price falling within the margin of purchase preference (i.e. 20%) and the contract shall be awarded to such 'Class-I local supplier' subject to matching the L1 price (inclusive of duties, taxes and freight & insurance).

c) In case such lowest eligible 'Class-I local supplier' fails to match the L1 price, the 'Class-I local supplier' with the next higher bid within the margin of purchase preference shall be invited to match the L1 price and so on, and order/contract shall be awarded accordingly. In case where none of the 'Class-I local supplier' within the margin of purchase preference agree to match the L1 price, then the order/contract shall be awarded to the original L1 Bidder.

10. The 'Class-I & II local supplier' should provide a "Self Certification" along with technical offer indicating that the item offered meets the minimum local content [as per Sl. No.(3)] as called for in the tender and provide the percentage of local content along with details of the location(s) at which the local value addition is made. In case of two bid tenders, it is mandatory to indicate compliance to MLC(minimum Local Content) in technical bid zone.

11. The ink-signed certificate shall be provided on vendors letter head along with the offer (in case of online tender, copy of ink-signed certificate shall be uploaded along with your offer under concerned tab. Original in Hard copy shall be produced on request). In case of non-submission of certificate, the purchase preference shall not apply.

12. A committee (with an external expert from a practicing cost accountant or practicing chartered accountant, if required) constituted for independent verification shall verify the self-declarations & auditor's / accountant's certificates on random basis, as per the requirements.

13. In cases the quoted price is in excess of Rs.1000 Lakhs (including duties, taxes and freight & Insurance) the 'Class-I & II local supplier shall provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in case of suppliers other than companies) giving the percentage of local content.

14. In case of a complaint received from any local supplier indicating a need for review / verification of Local content of successful vendor / awarded vendor, for accepting a complaint from such complainant (w.r.t the false declaration given by the successful vendor on the local content), a complaint fee of

Rs.2Lakhs or 1% of the locally manufactured items being procured (subject to a maximum Rs. 5Lakhs), whichever was higher, to be paid by demand draft by the complainant. In case, the complaint is found to be incorrect, the complaint fee shall be forfeited. In case, the complaint is upheld and found to be substantially correct, deposited fee of the complainant would be refunded without any interest.

15. False declarations will be in breach of code of the integrity for which a bidder or its successor's will not be eligible/debarred for purchase preference from further tenders / pending tenders for two years along with other actions as may be applicable.

16. The Public Procurement (Preference to Make in India), Order 2017 issued by Govt. of India indicates that if there are any general or specific restrictive clauses to restrict participation of Indian companies in those countries procurement tenders, reciprocity clause need to be invoked as per the order. Hence, if ISRO or Govt. of India come across that Indian suppliers of an item are not allowed to participate and / or compete in procurement by your government, the bid submitted by you will be not be considered and excluded from eligibility for procurement. Please note this point.

8. PROFORMA FOR INSTRUCTIONS TO TENDERERS AND TERMS & CONDITIONS OF TENDER (IG)

1. (a) All available technical literature, catalogues and other data in support of the specifications and details of the items should be furnished along with the offer.
(b) Samples, if called for, should be submitted free of all charges by the tenderer and the Purchaser shall not be responsible for any loss or damage thereof due to any reason whatsoever. In the event of nonacceptance of tender, the tenderer will have to remove the samples at his own expense.
(c) Approximate net and gross weight of the items offered shall be indicated in your offer. If dimensional details are available the same should also be indicated in your offer.
(d) Specifications: Stores offered should strictly confirm to our specifications. Deviations, if any, should be clearly indicated by the tenderer in his quotation. The tenderer should also indicate the Make/Type number of the stores offered and provide catalogues, technical literature and samples, wherever necessary, along with the quotations. Test Certificates, wherever necessary, should be forwarded along with supplies. Wherever options have been called for in our specifications, the tenderer should address all such options. Wherever specifically mentioned by us, the tenderer could suggest changes to specifications with appropriate response for the same.

2. (a) All available technical literature, catalogues and other data in support of the specifications and details of the items should be furnished along with the offer.
(b) Samples, if called for, should be submitted free of all charges by the tenderer and the Purchaser shall not be responsible for any loss or damage thereof due to any reason whatsoever. In the event of nonacceptance of tender, the tenderer will have to remove the samples at his own expense.
(c) Approximate net and gross weight of the items offered shall be indicated in your offer. If dimensional details are available the same should also be indicated in your offer.
(d) Specifications:

Stores offered should strictly confirm to our specifications. Deviations, if any, should be clearly indicated by the tenderer in his quotation. The tenderer should also indicate the Make/Type number of the stores offered and provide catalogues, technical literature and samples, wherever necessary, along with the quotations. Test Certificates, wherever necessary, should be forwarded along with supplies. Wherever options have been called for in our specifications, the tenderer should address all such options. Wherever specifically mentioned by us, the tenderer could suggest changes to specifications with appropriate response for the same.

3. ACCEPTANCE OF STORES:

- (a) The stores shall be tendered by the Contractor for inspection at such places as may be specified by the purchaser at the Contractor's own risk, expense and cost.
- (b) It is expressly agreed that the acceptance of the stores Contracted for, is subject to final approval by the purchaser, whose decision shall be final.
- (c) If, in the opinion of the purchaser, all or any of the stores do not meet the performance or quality requirements specified in the Purchase Order, they may be either rejected or accepted at a price to be fixed by the purchaser and his decision as to rejection and the prices to be fixed shall be final and binding on the Contractor.
- (d) If the whole or any part of the stores supplied are rejected in accordance with Clause No. (c) above, the purchaser shall be at liberty, with or without notice to the Contractor, to purchase in the open market at the expense of the Contractor stores meeting the necessary performance and quality Contracted for in place of those rejected, provided that either the purchase, or the agreement to purchase, from another supplier is made within six months from the date of rejection of the stores as aforesaid.

4. As a Government of India Department, this office is exempted from payment of Octroi and similar local levies. Tenderers shall ensure that necessary Exemption Certificates are obtained by them from the Purchase Officer concerned to avoid any payment of such levies.

5. a) Your offer should be valid for 90 days from the date of opening of the tender.
- b) Prices are required to be quoted according to the units indicated in the annexed tender form. When quotations are given in terms of units other than those specified in the tender form, relationship between the two sets of units must be furnished.

6. DESPATCH: The Contractor is responsible for obtaining a clear receipt from the Transport Authorities specifying the goods despatched. The consignment should be despatched with clear Railway Receipt/Lorry Receipt. If sent in any other mode, it shall be at the risk of the Contractor. Purchaser will take no responsibility for short deliveries or wrong supply of goods when the same are booked on 'said to contain' basis. Purchaser shall pay for only such stores as are actually received by them in accordance with the Contract.

7. d) The term 'Purchase Order' shall mean the communication signed on behalf of the

Purchaser by an Officer duly authorised intimating the acceptance on behalf of the Purchaser on the terms and conditions mentioned or referred to in the said communication accepting the tender or offer of the Contractor for supply of stores or plant, machinery or equipment or part thereof.

8. GUARANTEE & REPLACEMENT:

(a) The Contractor shall guarantee that the stores supplied shall comply fully with the specifications laid down, for material, workmanship and performance.

(b) For a period of twelve months after the acceptance of the stores, if any defects are discovered therein or any defects therein found to have developed under proper use, arising from faulty stores design or workmanship, the Contractor shall remedy such defects at his own cost provided he is called upon to do so within a period of 14 months from the date of acceptance thereof by the purchaser who shall state in writing in what respect the stores or any part thereof are faulty.

(c) If, in the opinion of the purchaser, it becomes necessary to replace or renew any defective stores such replacement or renewal shall be made by the Contractor free of all costs to the purchaser, provided the notice informing the Contractor of the defect is given by the purchaser in this regard within the said period of 14 months from the date of acceptance thereof.

(d) Should the Contractor fail to rectify the defects, the purchaser shall have the right to reject or repair or replace at the cost of the Contractor the whole or any portion of the defective stores.

(e) The decision of the Purchaser notwithstanding any prior approval or acceptance or inspection thereof on behalf of the Purchaser, as to whether or not the Stores supplied by the Contractor are defective or any defect has developed within the said period of 12 months or any other period or as to whether the nature of defects requires renewal or replacement, shall be final, conclusive and binding on the Contractor.

(f) To fulfill guarantee conditions outlined in (a) to (e) above, the Contractor shall, at the option of the Purchaser, furnish a Bank Guarantee (as prescribed by the Purchaser)

9. PACKING FORWARDING & INSURANCE: The Contractor will be held responsible for the stores being sufficiently and properly packed for transport by rail, road, sea or air to withstand transit hazards and ensure safe arrival at the destination. The packing and marking of packages shall be done by and at the expense of the Contractor. The purchaser will not pay separately for transit insurance, all risks in transit being exclusively of the Contractor and the Purchaser shall pay only for such stores as are actually received in good condition in accordance with the Contract.

10. Preference will be given to those tenders offering supplies from ready stocks and on the basis of FOR destination/delivery at site.

11. PRICES: Tender offering firm prices will be preferred. Where a price variation clause is insisted upon by a tenderer, quotation with a reasonable ceiling should be submitted. Such offers should invariably be supported by the base price taken into account at the time of tendering and also the formula for any such variation/s.

12. REJECTED STORES:

Rejected stores will remain at destination at the Contractor's risk and responsibility. If instructions for their disposal are not received from the Contractor within a period of 14 days from the date of receipt of the advice of rejection, the purchaser or his representative has, at his discretion, the right to scrap or sell or consign the rejected stores to Contractor's address at the Contractor's entire risk and expense, freight being payable by the Contractor at actuals.

13. Sales Tax and/or other duties/levies legally leviable and intended to be claimed should be mentioned in the price bid template. If nothing is mentioned, then it will be presumed that the rate quoted is inclusive of all taxes/duties.

14. SECURITY DEPOSIT: Wherever, the Purchase Order value is Rs. 5.00 Lakhs or more, on acceptance of the tender, the Contractor shall, at the option of the Purchaser and within the period specified by him, deposit with him, in cash or in any other form as the Purchaser may determine, security deposit not exceeding ten percent of the value of the Contract as the Purchaser shall specify. If the Contractor is called upon by the Purchaser to deposit, "Security" and the Contractor fails to provide the security within the period specified, such failure shall constitute a breach of the Contract, and the Purchaser shall be entitled to make other arrangements for the re-purchase of the stores Contracted at the risk of the Contractor in terms of Sub-Clause (ii) and (iii) of clause regarding Delivery. (b) hereof and/or to recover from the Contractor, damages arising from such cancellation.

15. TERMS & CONDITIONS OF TENDER

16. TEST CERTIFICATE: Wherever required, test certificates should be sent along with the despatch documents.

17. The authority of the person signing the tender, if called for, should be produced.

18. The Purchaser reserves the right to place order on the successful tenderer for additional quantity up to 25% of the quantity offered by them at the rates quoted.

19. The purchaser shall be under no obligation to accept the lowest or any tender and reserves the right of acceptance of the whole or any part of the tender or portions of the quantity offered and the tenderers shall supply the same at the rates quoted.

20. The tenderer should supply along with his tender, the name of his bankers as well as the latest Income-Tax clearance certificate duly countersigned by the Income-Tax Officer of the Circle concerned under the seal of his office, if required by the Purchaser.

21. The term Contractor shall mean, the person, firm or company with whom or with which the order for the supply of Stores is placed and shall be deemed to include the Contractor's successors,

representative, heirs, executors and administrators unless excluded by the Contract.

22. The term Purchaser shall mean the President of India or his successors or assigns.

23. The term "Stores" shall mean what the Contractor agrees to supply under the Contract as specified in the Purchase Order including erection of plants & machinery and subsequent testing, should such a condition is included in the Purchase Order.

C. Bid Templates

C.1 Technical Bid - Establishment of Sodium Perchlorate Crystal Production Plant at APEP, Aluva

1. SODIUM PERCHLORATE CRYSTAL PRODUCTION PLANT

Item specifications for SODIUM PERCHLORATE CRYSTAL PRODUCTION PLANT

Sl No	Specification	Value	Compliance	Offered Specification	Remark
1	OBJECTIVE	Establishing a plant for separation of SPC crystals from electrolysed solution of Sodium perchlorate & Sodium chlorate . The contractor is entrusted with setting up this new facility on TURN KEY BASIS as per attached RFP (VSSC/APEP/ RFP- SPC Crystal /003 /2023)	Yes / No / Explain		
2	SCOPE OF WORK OF CONTRACTOR	Party has to 1. Construct building 2. Supply all equipments 3. Install equipments 4. Install subsystems like necessary piping, support structures etc 5. Carry out instrumentation, electrical works. 6. Integrate system and carry out commissioning. Refer attached RFP (VSSC/APEP/ RFP- SPC Crystal /003 /2023) for details	Yes / No / Explain		

3	LOCATION	<p>"Site of installation is: Ammonium Perchlorate Experimental Plant (APEP) Vikram Sarabhai Space Centre / ISRO Govt. of India, Dept. of Space, Erumathala (P.O), Aluva - 683112, Ernakulam (District), Kerala, India The plant is located at Aluva in the Aluva - Munnar road, 06 km away from Aluva Town. The site for installation shall be handed over by VSSC to the contractor"</p>	Yes / No / Explain		
4	SITE VISIT AT APEP	<p>"Before submitting the offer, bidder shall visit the installation site at Ammonium Perchlorate Experimental Plant (APEP), VSSC, Erumathala Post, Aluva, Kochi, Kerala-683112 to assess the technical requirements and understanding of the process. To schedule the visit, interested parties shall contact focal point of the project at APEP/VSSC. Offers by parties turning up for site visit only shall be considered." "</p>	Yes / No / Explain		

5	SCOPE OF WORK BY APEP/VSSC	<p>"1. Approval for the drawings submitted by Contractor for Civil Structures, Equipments, support structures, P & IDs etc.</p> <p>2.Department shall inspect the progress of work and clearance will be given at each stage of the project.</p> <p>3.The site for construction of building and installation of equipments shall be provided by VSSC.</p> <p>4.All raw materials, consumables for the plant (like steam, cooling water and chilled brine), electricity etc shall be provided at battery limits.</p> <p>5.Required electricity, water, etc. for plant construction & installation shall be provided by department on payment basis. These shall be provided at battery limits</p> <p>"</p>	Yes / No / Explain		
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6	PROCESS DESCRIPTION	<p>The process steps for obtaining Sodium Perchlorate crystals from solution of Sodium Perchlorate and Sodium Chlorate is as follows. The electrolysed Sodium Chlorate – Sodium Perchlorate solution is subjected to evaporation under vacuum, till crystallisation just starts. The solution is then cooled to get a good crop of crystals. The cooled slurry is then transferred to a filter where product crystals are separated from mother liquor. Mother liquor is stored in separate tank. The crystals are dissolved in calculated quantity of water to obtain Sodium perchlorate solution. Figure 1 of attached RFP (VSSC/APEP/ RFP-SPC Crystal /003 /2023) shows Flow diagram. Various equipments needed to carry out the process in an industrial batch scale is also shown in the Figure 1.</p>	Yes / No / Explain		
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7	<p>PROCESS DESCRIPTION:- Vacuum Evaporation & Crystallisation</p>	<p>5000L of electrolysed solution containing Sodium Chlorate & Sodium Perchlorate is pumped into jacketed SS 316 L reactor. The solution is evaporated under vacuum using steam passed through steam coils inside the reactor. The solution is agitated using turbine type agitator. Water vapour emanating from the solution is condensed via condenser and is collected in a vacuum receiver. Vacuum is effected through water ring vacuum pump. Crystallisation starts when about 50 – 55 % water is removed from the solution. At this point, steam heating is discontinued, vacuum is released and solution is cooled using cooling water from cooling tower. When temperature of solution reaches 35 – 36°C, water cooling is discontinued. Further reduction in temperature up to 22 - 24° C is effected using brine solution. The cooling water is circulated through helical coils and brine solution is passed through reactor jacket.</p>	Yes / No / Explain		
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8	<p>PROCESS DESCRIPTION:- Vacuum Filtration</p>	<p>After cooling the solution to required temperature, bottom valve of the reactor is opened and solution is drained into Agitated Nutsch filter. Filtration is carried out by Vacuum filtration. During filtration, mother liquor rich in Sodium Perchlorate and Sodium Chlorate is sucked out and is collected in vacuum receiver. This is later sent back to electrolysis facility for electrolysis. The crystals remaining in filter bed is subjected to vacuum filtration for about 2 hrs for complete removal of mother liquor. SPC crystals obtained is then dissolved in water upto the required concentration. Final Sodium Perchlorate solution so obtained, is sent to AP process facility for further operations.</p>	Yes / No / Explain		
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9	LIST OF EQUIPMENTS/SYSTEMS INCLUDED IN SCOPE OF WORK	<p>"Table 1, under clause 9 in attached RFP (VSSC/APEP/ RFP-SPC Crystal /003 /2023) gives equipment/system list for the proposed facility. The Contractor shall supply and install the entire items listed below. In any case, any OMISSIONS/ DELETIONS are NOT permitted. For detailed specifications refer the clause given in remarks against each. Contractor shall supply all major equipments and bought out items as per the relevant industrial & design standards. Contractor shall carry out market survey for identification of best suitable equipment. Details of this has to be submitted to department for verification & approval."</p>	Yes / No / Explain		
10	SPECIFICATIONS OF PROCESS EQUIPMENTS- Evaporator cum crystallizer	As follows	Yes / No / Explain		

11	General Aspects	<p>5000 L of Sodium Perchlorate solution of the specified concentration is subjected to evaporation and concentration in this reactor. The process is carried out under vacuum. Steam is used to heat the solution and concentrate it, which will be supplied via SS 316 L helical coils installed inside the reactor. Water vapour coming out is condensed and collected. When the required water is collected, the solution is cooled to 35 – 36 °C using water by passing it through the helical coils. Upon attaining this temperature, further cooling of solution to 22-23°C is done using brine solution. Brine is circulated through the reactor jacket. Since these reactors are subjected to thermal cycling and is to be operated under corrosive as well as vacuum conditions, extreme care has to be taken during design and fabrication work. Important Note: Evaporator cum crystalliser is the most critical process equipment amongst all. They are subjected to severe thermal cycling and hence extreme care has to be taken during fabrication, welding, stress relieving.</p>	Yes / No / Explain		
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12	Working Conditions on reactor	<p>"External Pressure on evaporator (Jacket):- 3 bar (g) (max) Internal Pressure on shell :- 60 mm Hg abs (0.08 bar abs) Operating Temperature range inside evaporator :- 15 °C to 85 °C Operating temperature in Jacket :- -5°C to 35°C Steam heating shall be done through SS 316L helical coils located inside the reactor. Steam shall be supplied at a maximum pressure of 3.5 bar (g) through the coils." "</p>	Yes / No / Explain		
13	Specification for Evaporator cum Crystallizer equipment	Table comes under clause no. 10, page No. 10 attached RFP (VSSC/APEP/ RFP-SPC Crystal /003 /2023)	Yes / No / Explain		
14	Evaporator cum crystallizer- Terms & Conditions 1	Scope of work includes design of SS 316 L evaporator cum crystaliser, procurement of raw materials, fabrication, inspection, testing, supply and erection of 5000 lit capacity SS316L Jacketed evaporators fitted with helical coil inside and agitator coupled with 10HP motor and suitable gear box to get required agitator speed.	Yes / No / Explain		

15	Evaporator cum crystallizer- Terms & Conditions 2	All necessary raw material, fastener, motor, gearbox, fixtures, tooling, etc. shall be arranged by the Contractor. No free issue material shall be provided at any stage by VSSC. Test certificates / authenticity certificate for all materials & bought out items shall be forwarded to VSSC for approval. Any unapproved items used for fabrication shall be rejected by VSSC.	Yes / No / Explain		
16	Evaporator cum crystallizer- Terms & Conditions 3	All materials, bought out items and welding rods shall be offered for review and approval by VSSC at Contractor's site before starting fabrication. Sample pieces from each material shall be collected by VSSC from the contractor's premises and the plates shall be stamped by VSSC. The Contractor shall start fabrication only after receipt of intimation regarding the clearance of materials by VSSC.	Yes / No / Explain		
17	Evaporator cum crystallizer- Terms & Conditions 4	The Contractor shall submit detailed drawing of the reactor, fabrication process plan, QC plan for acceptance to VSSC. Fabrication shall commence only after acceptance of the drawing and documents.	Yes / No / Explain		

18	<p>Evaporator cum crystallizer: Fabrication aspects- Special Note- Reactor is designed to undergo extreme thermal cycling. Hence strict quality control shall be enforced during the fabrication at all stages. No: of welds are minimised to increase the life of reactors.</p>	<p>"1. Material Specification SS316L from reputed mills shall be used. 2. Plate thickness Plate thickness shall be selected such that finished thickness for Inner shell - 20mm for cylinder & 20mm for conical bottom shall be maintained after fabrication. 3. Stress relieving of entire reactor has to be done by the contractor to relieve residual stresses after entire forming and welding operations. 4. Necessary nozzles for brine / steam inlet & outlet, temperature gauges, raw material inlet, product outlet, safety relief valve, pressure gauges, etc. shall be provided on the reactor as per the drawing. 5. Four numbers of detachable vertical baffles out of SS316L shall be provided inside the reactor bolted to the cross members from the top of the reactor (without welding to the inner wall). Suitable circular interconnecting cross member sections shall be provided between baffles at the bottom using SS 316 L material to resist torsional loads if needed. 6. All nozzles are to be covered with suitable steel blind flanges with bolts, nuts and washers. 7. SS 316 L Helical coil of 80 NB sch 10 should be inserted</p>	Yes / No / Explain		
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		inside the reactor and held in place by welding on to reactor baffles. "			
19	Evaporator cum crystallizer:Agitator Unit	"Agitator in the reactor helps in providing good heat and mass transfer of the contents in the reactor. It also aid in suspending the crystals in the fluid and prevent scaling. 1. The reactor agitator unit shall be of following specification as shown in the drawing. 2. Type : Turbine (2 turbines at diff. heights). 3. Material of construction : SS 316L 4. Gear box: Agitator type worm reduction gear, of reputed make such as Elecon/Shanti/Radic on only.VFD to be provided for adjusting the rpm from 0 to 100. 5. Motor details: 10 HP, 415V±10%, 50±3%Hz , 3phase , 1440 RPM, TEFC, IP55, Class F insulation. Motor shall be of reputed make such as Crompton/Kirlosker/ Siemens /ABB only. 6. The supporting frame / structure for the agitator unit / motor also shall be made of SS 316 L materials as per drawing. 7. All the sharp edges of the turbine blades shall be rounded smooth as per drawing. "	Yes / No / Explain		

20	Evaporator cum crystallizer: Welded Joints	<p>"1. Reactor is designed to undergo extreme thermal cycling. Welding being the weakest link; joint configuration, welding heat, cooling rate, weld defect, welding procedure etc. are crucial for the long term service performance of the reactor. Extreme caution during welding and welding process control are critical to prevent premature deterioration of the chemical reactor.</p> <p>2. Stage clearance (raw material or component acceptance) from VSSC shall be obtained prior to setting up the job for welding.</p> <p>3. Before start of reactor welding, Welding procedure Qualification (WPQ), Welder's qualification and adaptability shall be ensured.</p> <p>4. All the weld joints shall be ground smooth. Inside surface of the reactor shall be buffed to mirror finish. Mirror finish is extremely important from the process point of view.</p> <p>"</p>	Yes / No / Explain		
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21	Evaporator cum crystallizer: Documentation, Quality inspection & acceptance	<p>"1. Two hard copies of detailed fabrication drawing along with the soft copy in CD in AutoCAD format.</p> <p>2. Fabrication Process plan giving details of all the processes involved.</p> <p>3. Quality Control Plan including dimensional inspection, 100% Dye Penetrant Testing & radiography of all weld joints, stage inspection plan, final inspection plan, acceptance & pressure testing, packing & dispatch, etc.</p> <p>4. Drawings of Tooling & Fixtures required for various stages of fabrication, sub-assembly, assembly and Inspection templates & gauges (if any).</p> <p>5. The fabrication drawings and other documents will be reviewed by VSSC and the fabrication shall be started only after the approval of the fabrication drawings and documents by VSSC.</p> <p>6. The Reactor shall be offered for inspection by VSSC Engineers at various mandatory stages of fabrication as identified in the approved Process plan. The scope of inspection mainly covers the following.</p> <p>Inspection of materials & bought out items used for fabrication.</p> <p>Quality Surveillance during fabrication at various mandatory stages</p>	Yes / No / Explain		
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identified in the approved process plan, especially inspection of stress relieving operations, fixtures & tooling used, welding procedures followed, DP & Radiography results, etc.

Inspections with respect to mounting interfaces for agitator units, motor, gear box, etc.

Acceptance tests as specified in the QC & Acceptance plan including pressure testing using hydraulic media at the specified pressures (approx. 75psi) which will be communicated at the time of order placement.

7. Any minor modifications suggested by VSSC engineers during fabrication work shall be undertaken by the contractor at no extra cost.

8. Contractor shall intimate well in advance to VSSC, the readiness for inspection at different stages. All the necessary facilities, tools, equipments and other arrangements required for the inspection including DP & Radiography, dimensional inspection, pressure tests, etc. will have to be arranged by the contractor. The reactors shall be dispatched only after final inspection and clearance in writing from VSSC.

9. Contractor has to prepare & submit a suitable WPS

		(Welding Procedure Specification) and PQR (Process Qualification Record) to VSSC. Welding Procedure (WPS) and Welding Performance (WPQ) qualifications shall be completed and records (PQR) shall be submitted for review before the commencement of fabrication process 10. All weld joints on the reactor are to be inspected by 100% DP test and 100% radiography for acceptance. "			
22	Agitated Nutsch filter (Quantity:- 1 No)	" The filter is needed to filter out mother liquor from the crystal slurry using vacuum. After filtration, the crystals are dissolved in water and pumped out. "	Yes / No / Explain		
23	"Agitated Nutsch filter: Operating Conditions, Functional Parameters, Material of Construction, Construction Type & Nozzles "	Detailed under clause no. 10.2 of attached RFP (VSSC/APEP/ RFP-SPC Crystal /003 /2023)	Yes / No / Explain		

24	Agitated Nutsch filter; Hydraulic Power Pack	<p>"It should be a separate unit which can be mounted on the floor/ ground near ANF for smooth and safe operation.</p> <p>1. Operation type: - Lever operated</p> <p>2. Controls: - Agitator up and down and discharge valve open / close</p> <p>3. Accessories: - Power pack should contain check valves, flow control valve, flow divider, pressure gauge, counter balance valve, pressure relief valve, electric motor, hydraulic pump, oil reservoir, hydraulic piping.</p> <p>4. MOC of piping, cylinders and main unit is SS 304.</p> <p>The brand / Make offered has to be clearly mentioned during submission of technical Bid.</p> <p>"</p>	Yes / No / Explain		
25	CONDENSER, Quantity required :- 1 No	Condensor shall condense the water vapour coming out from the reactor during vacuum evaporation.	Yes / No / Explain		
26	Technical specification of Condenser	<p>Table comes under clause no. 10.3 in attached RFP (VSSC/APEP/ RFP-SPC Crystal /003 /2023)</p> <p>The brand / Make offered has to be clearly mentioned during submission of technical Bid.</p>	Yes / No / Explain		

27	VACUUM RECEIVERS	<p>These are used as condensate water and Mother Liquor collection chambers during evaporation and vacuum filtration respectively. This is a cylindrical vessel of SS316L with dished top and bottom. Contractor has to carry out design for 2000L and 3000L Vacuum Receivers at their end and submit the design drawings for approval by VSSC.</p>	Yes / No / Explain		
28	Technical specification of Vacuum Receiver	<p>Table comes under clause no. 10.4 in attached RFP (VSSC/APEP/ RFP-SPC Crystal /003 /2023) The brand / Make offered has to be clearly mentioned during submission of technical Bid.</p>	Yes / No / Explain		

29	The scope of work includes	<p>"Design, Fabrication, Testing and Supply of 2 Nos of VACUUM RECEIVERS – 2000 L and 3000 L one number each. Level indicator made out of tough glass with isolation valve shall be provided for the Vacuum receivers. The level indicators shall be easily replaceable as and when required. It is the full responsibility of the contractor to ensure that the equipment reaches APEP without breakage of glass.</p> <p>Each Vacuum receivers shall be fitted with suitable vacuum gauge 6” /4” dia attached with necessary SS 316L siphon tube and coke.</p> <p>The cylindrical part & the dished bottom of should be made out of minimum number of sheets. Welding shall be as follows. Cylindrical portion – 1 L-seam weld. Cylindrical to dish – 1 Cir- Seam weld.</p> <p>All nozzles shall be covered with suitable SS316L blind flanges with bolts, nuts and washers. Inside surface of the receivers shall be finished to a mirror finish and outside surface shall be free from burrs and weld joints shall be ground smooth.</p> <p>Necessary nozzles for feed inlet, liquid outlet, vacuum pump, level indicators, vent, manhole etc shall be provided on the</p>	Yes / No / Explain		
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		receiver "			
30	Vacuum Pump (Double Stage ,Water Ring)	"These pumps are required a. To provide vacuum to evaporator cum crystallizer unit during evaporation cycle. b. To provide vacuum during vacuum filtration at ANF unit. "	Yes / No / Explain		
31	Technical specifications of Vacuum Pump	Table comes under clause no. 10.5 in attached RFP (VSSC/APEP/ RFP-SPC Crystal /003 /2023) The brand / Make offered has to be clearly mentioned during submission of technical Bid.	Yes / No / Explain		
32	Centrifugal pumps Type:- Monoblock pump	Pumping Water from vacuum receiver to ANF Filter for dissolving the crystals	Yes / No / Explain		
33	Technical specifications of monoblock Pump	Table comes under clause no. 10.6.1 in attached RFP (VSSC/APEP/ RFP-SPC Crystal /003 /2023) The brand / Make offered has to be clearly mentioned during submission of technical Bid.	Yes / No / Explain		
34	Centrifugal Pump Type : Chemical	For transferring Sodium chlorate and Sodium perchlorate solution to various reactors/tanks	Yes / No / Explain		
35	Technical specifications of chemical Pump	Table comes under clause no. 10.6.2 in attached RFP (VSSC/APEP/ RFP-SPC Crystal /003 /2023) The brand / Make offered has to be clearly mentioned during submission of technical Bid.	Yes / No / Explain		

36	STORAGE TANKS	Spiral wound HDPE storage tanks are required for storing of SPC solutions during processing	Yes / No / Explain		
37	Technical specifications of storage tanks	Table comes under clause no. 10.7 in attached RFP (VSSC/APEP/ RFP-SPC Crystal /003 /2023) The brand / Make offered has to be clearly mentioned during submission of technical Bid.	Yes / No / Explain		
38	PIPES& VALVES	Note: Quantity mentioned above are approximate. Payment shall be made based on P & ID diagrams and actual quantity used at site. Contractor has to provide unit rate for each.	Yes / No / Explain		
39	Technical specifications of pipes& valves	Table comes under clause no. 10.8 in attached RFP (VSSC/APEP/ RFP-SPC Crystal /003 /2023) The brand / Make offered has to be clearly mentioned during submission of technical Bid.	Yes / No / Explain		
40	PNEUMATICALLY OPERATED FLUSH BOTTOM VALVE	"Required Quantity: 1 No. ANCHOR BRAND FLUSH BOTTOM VALVE:-ASA Class – 150 having ANCHORR PNEUMATIC CYLINDER for pneumatic operation"	Yes / No / Explain		

41	ELECTRICAL, INSTRUMENTATION AND CONTROL SYSTEM	<p>"Cabling from substation upto Distribution board (installed by Contractor) shall be provided by APEP/VSSC. Contractor's scope of Electrical works are as follows:</p> <p>a) Power distribution including supply of distribution boards, cables and all cabling for machines and other electrical installation shall be under the scope of Contractor.</p> <p>b) Local push buttons, cable glands, cable trays, terminations, etc. to be included.</p> <p>c) Required VFD's as listed along with the major process equipments to be supplied.</p> <p>d) All required cabling for VFD interfacing with respective process equipment & control panel.</p> <p>"</p>	Yes / No / Explain		
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42	Instrumentation and Control System	<p>"Simple instrumentation system is planned for the Plant. Suitable monitoring/control devices shall be installed for the smooth and safe operation of the plant. All the process parameters listed in Table 2 shall be monitored on-line and logged using simplified PLC system in a Computer which is to be installed at the Operator's room. A high end PC (for PLC system) with computer table and chair is under the scope of contractor. Necessary numbers of local display panels need to be located in operator room."</p>	Yes / No / Explain		
43	Cabling	<p>Power supply to various instruments from main MCC panel and all cabling required for instrumentation & PLC are under the scope of the Contractor.</p>	Yes / No / Explain		
44	Details of instrumentation requirement	<p>Table comes under clause no. 10.10 in attached RFP (VSSC/APEP/ RFP-SPC Crystal /003 /2023)</p>	Yes / No / Explain		

45	STRUCTURES, PLATFORMS, LADDERS&HARDWARES	<p>"1.Considering the severe corrosive environment, it is proposed to have all necessary structural supports, inter connecting platforms, handrails, ladders etc. out of SS316L material. 2. Contractor shall design the structural members and furnish the drawing for approval by VSSC. 3. SS316L checker plates of 6mm thick shall be used for platform fabrication. 4.Detailed drawing shall be prepared by the contractor and submitted to VSSC for approval.</p> <p>"</p>	Yes / No / Explain		
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46	CIVIL WORKS	<p>"1.Design and Construction of entire building (17 m x 8.5 m) with UPVC light roofing, UPVC side coverings etc as per the process layout using latest Indian standards. During design of building, relevant Indian standards to be followed for seismic zone classified to this area (Kochi) to be considered.</p> <p>2. Contractor has to submit the detailed civil drawings to VSSC for approval within 8 weeks from receipt of PO..The drawings should have the PCC, RCC thickness, reinforcement details etc. Construction to be started only after getting approval from department.</p> <p>3. Layout of the equipments shall be as per the sketch attached.</p> <p>4. Foundation for all equipment structures, pumps etc. Detailed drawings to be submitted. Construction to be started only after getting approval from department.</p> <p>5. Foundation for all structural supports of pipelines. Detailed drawings to be submitted.</p> <p>6. Sump of dimensions 0.5 m x 0.5 m x 1 m depth (approx) shall be constructed inside of the plant as well as in the tank farm area.Top of sump shall be covered with SS 316 L Chequered plates.</p> <p>7. Epoxy flooring</p>	Yes / No / Explain		
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shall be carried out inside plant area.

8. The concrete mix used shall be M 30 grade. Samples shall be send for cube test and results are to be submitted by the Contractor.

9. Necessary rain guards are to be provided so as to prevent entry of rain water in to the tank farm as well as the process building.

10. Roof supports shall be constructed using GI Pipes and Epoxy coating. Roof shall be fabricated as A type truss. Bolts for roofing shall be Epoxy coated. The epoxy paints shall be of ISRO approved brands. Detailed drawings to be submitted.

Construction to be started only after getting approval from department.

11. Dyke wall of 0.8 m height (Brick work) shall be provided around the plant.

12. Lighting (both internal & area lighting) using LED Light fittings as required as per relevant standards.

13. RCC Floor with dyke wall and SS access platform for HDPE tanks

3 nos. of 10 KL capacity HDPE Spiral wound tanks are proposed to be kept on RCC flooring with epoxy coating as shown in the layout. Contractor shall also consider necessary SS platform with ladders for operator movement over the tank for inspection/operation.

		<p>The RCC flooring shall also have a dyke wall ensuring containment of 10KL of stored solution in case of any tank failure. Height of dyke wall is such that containment of above solution can occur at half its height. Valve provision should be provided for transferring solution from this dyke wall. Slope should be suitably provided for proper collection of solution towards one corner.</p> <p>"</p>			
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47	GENERAL SPECIFICATIONS FOR FABRICATION OF EVAPORATOR CUM CRYSTALISER AND VACUUM RECEIEVERS	<p>"1. All necessary raw material, fastener, motor, gearbox, fixtures, tooling, etc. shall be arranged by the Contractor. No free issue material shall be provided at any stage by VSSC. Test certificates / authenticity certificate for all materials & bought out items shall be forwarded to VSSC for approval. Any unapproved items used for fabrication shall be rejected by VSSC.</p> <p>2. All the materials, bought out items and welding rods shall be inspected and approved by VSSC at Contractor's site before starting the fabrication. Sample pieces from each material shall be collected by VSSC from the contractor's premises and the plates shall be stamped.</p> <p>3. The Contractor shall start fabrication only after receipt of intimation regarding the clearance of materials and clearance of drawings by VSSC.</p> <p>4. All nuts, bolts and fasteners used, are to be made of SS316"</p>	Yes / No / Explain		
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48	QUALITY INSPECTION FOR INDIVIDUAL EQUIPMENTS	<p>"1. On receipt of VSSC purchase order, the Contractor shall submit within 8 weeks - Detailed fabrication drawing of equipments (Evaporator cum Crystalliser, Vacuum Receivers, Condenser, ANF Filter).</p> <p>2. Fabrication Process plan giving details of all the processes involved is to be submitted.</p> <p>3. Quality Control Plan including dimensional inspection, 100% Dye Penetrant Testing & radiography of all weld joints, stage inspection plan, final inspection plan, acceptance & pressure testing, packing & dispatch, etc.</p> <p>4. Drawings of Tooling & Fixtures required for various stages of fabrication, sub-assembly, assembly and Inspection templates & gauges whichever applicable</p> <p>5. The fabrication drawings and other documents will be reviewed by VSSC and the fabrication shall be started only after the approval of the fabrication drawings and documents by VSSC.</p> <p>6. All the raw materials like sheets/ plates/ rods etc used for fabrication of major equipments shall be inspected and cleared by VSSC Engineers. Cutting of materials shall be started only after getting written</p>	Yes / No / Explain		
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clearance from VSSC.

7. The equipments shall be offered for inspection by VSSC Engineers at various mandatory stages of fabrication as identified in the approved Process plan. The scope of inspection mainly covers the following:

8. Inspection of materials & bought out items used for fabrication.

9. Quality Surveillance during fabrication at various mandatory stages identified in the approved process plan, especially inspection of stress relieving operations, fixtures & tooling used, welding procedures followed, DP & Radiography results, wherever applicable etc.

1.0 Inspections with respect to mounting interfaces for agitator units, motor, gear box, etc.

1.1 Acceptance tests as specified in the QC & Acceptance plan including pressure testing using hydraulic media at the specified pressures wherever applicable which will be communicated at the time of order placement.

12. Any minor modifications suggested by VSSC engineers during fabrication work shall be undertaken by the contractor at no extra cost.

13. Contractor shall intimate well in advance to VSSC, the readiness for

inspection at different stages. All the necessary facilities, tools, equipments and other arrangements required for the inspection including DP & Radiography, dimensional inspection, pressure tests, etc. will have to be arranged by the contractor. The equipments shall be despatched only after final inspection and clearance in writing from VSSC.

14. All weld joints are to be inspected by 100% DP test and 100% radiography for acceptance.

15. Acceptance tests as specified in the QC & Acceptance plan.

16. Final acceptance at VSSC shall be subject to visual inspection after receipt of item at VSSC.

17. Wherever pressure test is warranted, final acceptance shall be based on Pressure test at VSSC in the presence of contractor's representative. All necessary equipments for conducting the pressure test shall be arranged by APEP/VSSC. However overall test co-ordination and conductance shall be done by contractor.

"

49	DOCUMENTATION CONTROL	<p>"The Contractor shall establish and operate a well defined documentation service to fulfill the documentation requirements for this project. Such service shall be capable of immediately retrieving current information in all aspects of the performance of this contract, reproducing material and forwarding it to ISRO. Following basic documentation will be required to furnish for each sub system.</p> <ol style="list-style-type: none"> 1. Drawings - P&I Diagram, Equipment fabrication drawing, G.A drawings for platforms & ladders, civil foundation drawings, Equipment layout, piping layout, etc. 2. Material Test Certificates & flameproof certificates wherever applicable 3. Manufacturers Certificates for bought out items, 4. Process and QA plan 5. Stage and final inspection reports including functional test 6. GTR/commissioning reports 7. Operating and Maintenance Manuals/catalogues 8. Warrantee details of each sub system 9. Electrical and instrumentation drawings. 10. Calibration certificates for all field instruments 11. Structural design reports for platforms 	Yes / No / Explain		
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		and equipment supports for total plant. 12. Hazard And Operability Study Report (HAZOP) Contractor shall hand over all operating manual and of the systems and equipments to VSSC in a consolidated report /manual for full plant for reference of operating personnel "			
50	DESPATCH & DELIVERY INSTRUCTIONS FOR MAJOR EQUIPMENTS	1) All major equipments shall be dispatched only after final inspection, pressure test at Contractor's premises and clearance in writing from VSSC. 2) Contractor shall deliver the equipments at APEP, VSSC, Aluva and shall take care to provide necessary fixtures / containers, etc. to avoid any damage to the reactors in transit, loading and unloading. Any damage found in transit shall be to the account of the contractor. 3) Necessary handling hooks (4 nos.) for safe loading/unloading of the equipment shall be provided by the Contractor.	Yes / No / Explain		

Document : Annexure 1:- Proposed Lay out of the plan

Document : Annexure 2 - Site location for establishing SPC plant

Document : RFP

Common Specifications (Applicable for all items)

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Before submitting the offer, bidder shall visit the installation site at Ammonium Perchlorate Experimental Plant (APEP), VSSC, Erumathala Post, Aluva, Kochi, Kerala-683112 to assess the technical requirements and understanding of the process. To schedule the visit, interested parties shall contact focal point of the project at APEP/VSSC. Note: Offers by parties turning up for site visit only shall be considered.	Party shall Comply	Yes / No / Explain		
2	Offers shall be submitted in TWO PART BID mode: a) UNPRICED TECHNO-COMMERCIAL BID and b) PRICE BID	Party shall Comply	Yes / No / Explain		
3	The Un-Priced Techno-Commercial bid shall contain the following details:	Party shall Comply	Yes / No / Explain		

4	<p>a) The bidder shall address preliminary design details of all major equipments (Listed under clause 9, Part A of Table 1) and all other accessories (Listed under clause 9, Part B of Table 1 of RFP (VSSC/APEP/ RFP-SPC Crystal /003 /2023)) required for establishment of the plant.</p>	Party shall Comply	Yes / No / Explain		
5	<p>b) The bidder shall submit the preliminary design drawing of building layout which contains positioning of equipments, the walkways, platforms, ladder, roofing structure etc.</p>	Party shall Comply	Yes / No / Explain		
6	<p>c) The bidder shall provide brief description on the QA/QC plans to be followed in this contract for fabrication of equipment, clearance of bought out items, acceptance testing, final inspection, adherence to Guaranteed Test Run, performance demonstration, etc.</p>	Party shall Comply	Yes / No / Explain		

7	<p>d) The bidder shall re-type the total scope of work & equipments in their letter head. PARTIAL/ INCOMPLETE offers shall not be considered for further processing.</p>	Party shall Comply	Yes / No / Explain		
8	<p>e) Techno commercial bid listing all major equipments, accessories, bought out items, etc along with the brands/ make offered (wherever applicable) without disclosing price shall be submitted to assess the scope of work considered by the bidder.</p>	Party shall Comply	Yes / No / Explain		
9	<p>f) Bidder has to submit documentary evidence of previous experience in handling similar projects. Parties who had carried out technical projects of minimum 3 Cr shall only be considered for execution of this project.</p>	Party shall Comply	Yes / No / Explain		
10	<p>Price Bid shall be submitted under the following 4 heads.</p>	Party shall Comply	Yes / No / Explain		

11	PART-A – Supply, testing and installation of all major equipments. This part shall contain all major equipments along with their accessories as per clause-9 , Table 1, (SI Nos 1 to 7) of RFP document with respective prices.Split-up cost for all major equipments shall be necessarily provided.	Party shall Comply	Yes / No / Explain		
12	PART-B –Supply , testing & installation of all equipments & accessories other than those under Part-A	Party shall Comply	Yes / No / Explain		
13	PART-B ...All pipes (process/utility lines) & fittings, valves, electrical works, instrumentation and control system, structural supports for pipings, insulation works, etc. Ref:- clause-9 , Table 1 , (SI Nos 8 & 9) of this RFP.	Party shall Comply	Yes / No / Explain		

14	PART-B....Bidder shall provide total quantity considered for all the above works with split-up cost. Also, bidder shall provide unit rates applicable against each item to make final settlement as per actual work executed. Note: Split-up of prices along with unit rates to be quoted	Party shall Comply	Yes / No / Explain		
15	PART-C- Civil works including foundations, side coverings, roofing, platforms, walkways and ladders as per clause-9 , Table 1 , (SI Nos 10 & 11) of RFP document Note: Split up prices to be quoted against each.	Party shall Comply	Yes / No / Explain		
16	PART-D – Testing of all equipments, GTR & performance demonstration of the plant, Commissioning of the plant Ref:- clause-9 , Table 1 , (SI No 12) of this RFP. Note: Split up prices to be quoted.	Party shall Comply	Yes / No / Explain		

Supporting Documents required from Vendor

- 1. Price split up under four heads as mentioned in RFP (SI No 7.2) (Price Bid Related)**
- 2. Documentary evidence of previous experience in handling similar projects**
- 3. Re-typed total scope of work & equipments in the letter head**
- 4. Brief description on the QA/QC plans to be followed in this contract**
- 5. Preliminary design drawing of building layout which contains positioning of equipments, the walkways, platforms, ladder, roofing structure etc**
- 6. Self declaration with respect to local content(Make in India policy)**

5 additional documents can be uploaded by the vendor

C.2 Commercial Terms / Bid

Sl. No.	Description	Compliance	Vendor Terms
1	SECURITY: The contractor shall undertake to treat as strictly as confidential all information and data shared to them by APEP/VSSC and not to disclose to the third parties without written consent from APEP/ISRO.	Yes / No / Explain	
2	VSSC shall have the right to recover a sum @ 0.5% of PO value per week or part of a week during which the equipment in whole or part remain undelivered/delay in commissioning, subject to force majeure, with a maximum ceiling of 10% of PO value.	Yes / No / Explain	
3	LIQUIDATED DAMAGE : The time for and the delivery/completion period as agreed and stipulated in the Contract/Purchase Order shall be deemed to be the essence of the Contract and delivery/commissioning must be completed not later than the date specified	Yes / No / Explain	
4	The BG (as security deposit) should be furnished in Rs 200/- stamp paper and will be returned after commissioning of the project.	Yes / No / Explain	
5	This PBG will not carry any interest and shall be returned to you after successful completion of warranty period against your request. In case of non-performance/poor performance the bank guarantee shall be forfeited.	Yes / No / Explain	
6	The Bank Guarantee should be from a Nationalized/Scheduled bank in Rs 200/- non-judicial stamp paper valid till the successful completion of warranty period plus 60 days.	Yes / No / Explain	
7	Performance Bank Guarantee shall be released only after expiry of guarantee period including extensions (if any).	Yes / No / Explain	
8	Contractor shall furnish performance bank guarantee from a nationalized bank for 10% of the total contract value for the performance guarantee of the plant valid till the end of guarantee period.	Yes / No / Explain	

9	Warranty period will be extended in case of plant shutdown due to any major breakdown due to equipment failures/faulty workmanship & due to the extension of performance demonstration trials.	Yes / No / Explain	
10	Warranty: The entire plant shall be warranted for trouble free operation for a period of 12 months from the date of commissioning of the integrated plant against any manufacturing defects / inferior material quality / faulty workmanship	Yes / No / Explain	
11	Payment Terms: Party is eligible to claim the advance payment against the submission of documents/supply of major equipments/construction of building. Please see the clause 20.3 (attached RFP (VSSC/APEP/ RFP-SPC Crystal /003 /2023))	Yes / No / Explain	
12	In case of any extension of project commission date, LD clause shall be applicable for this project as per Department Rules.	Yes / No / Explain	
13	PROJECT SCHEDULE: The total duration for the entire scope of work up to the commissioning of the plant shall be 12 months from the date of approval of drawings by VSSC.	Yes / No / Explain	
14	Party should strictly adhere to the milestones envisaged for the project as per SI No 19 of RFP(VSSC/APEP/ RFP-SPC Crystal /003 /2023)	Yes / No / Explain	
15	The contractor shall not outsource any of the core activities. Minor activities like civil works, equipment erection, etc shall be outsourced with the consent of VSSC	Yes / No / Explain	
16	The respective works have to be started only after the approval of the drawings by VSSC.	Yes / No / Explain	
17	Drawing for platforms, ladders , walkway etc	Yes / No / Explain	
18	Complete P&I diagram of the facility(To be provided within 8 weeks from PO placement).	Yes / No / Explain	
19	Detailed Fabrication drawing of major equipments like Evaporator cum Crystalliser, Vacuum Receivers, ANF Filter& Condensor (To be provided within 8 weeks from PO placement).	Yes / No / Explain	
20	Civil Drawings which include flooring , foundation for equipments, roofing, side coverings, etc.(To be provided within 8 weeks from PO placement).	Yes / No / Explain	

21	The contractor shall provide the following drawings before commencement of the work.	Yes / No / Explain	
22	The responsibility of hiring necessary manpower, tools, transport, loading and unloading of equipments for the total work lies within the contractor.	Yes / No / Explain	
23	Entire Civil works are under Contractor's scope.	Yes / No / Explain	
24	The Contractor is responsible for procurement, erection, testing and commissioning of all the equipments, pipelines & fittings, structures, platforms & ladders.	Yes / No / Explain	
25	The Contractor is wholly responsible for setting up the facility based on the details of plant layout, equipment specifications, process description, piping, instrumentation & control, etc provided by VSSC.	Yes / No / Explain	
26	The entire work is to be executed on a TURNKEY basis by the contractor and handed over to VSSC in fully operational condition.	Yes / No / Explain	
27	The supply will not be deemed complete until the commissioning trial of the whole system is carried out by the Contractor at APEP, Aluva	Yes / No / Explain	
28	Successful completion and acceptance of GTR by APEP/VSSC shall be termed as the commissioning date for the project	Yes / No / Explain	
29	Manpower required for GTR to be supplied by Contractor. At the time of GTR, training has to be given by the Contractor to APEP operating staff.	Yes / No / Explain	
30	All the above GTR tests are to be conducted by operating all the relevant subsystems, instrumentation system, electrical accessories etc. During GTR all the individual equipments, sub systems, PLC and instrumentation etc shall function satisfactorily.	Yes / No / Explain	
31	Guarantee test runs (GTR) for the facility shall be conducted after the facility is successfully operated continuously for 10 days. GTR shall be carried out for 5 consecutive batches and overall performance of facility shall be ascertained.	Yes / No / Explain	
32	All reactors, storage tanks, pipings and process equipments shall undergo water simulation test for evaluating the performance of all accessories/ subsystems	Yes / No / Explain	

33	If any equipment not covered in the specification but essential for proper installation, operation and maintenance of the system shall be included and executed by the Contractor.	Yes / No / Explain	
34	Supply and erection of the Facility with all accessories, auxiliaries, piping, structures, platforms, staircases, electric and controls as specified including motors, controls, cables, earthing connections, field mounted control devices, etc.	Yes / No / Explain	
35	The Contractor shall carry out erection, trial run and commissioning of individual equipments and pipelines.	Yes / No / Explain	
36	Necessary handling hooks (4 nos.) for safe loading/unloading of the equipment shall be provided by the Contractor.	Yes / No / Explain	
37	Any damage found in transit shall be to the account of the contractor.	Yes / No / Explain	
38	Contractor shall deliver the equipments at APEP, VSSC, Aluva and shall take care to provide necessary fixtures / containers, etc. to avoid any damage to the reactors in transit, loading and unloading.	Yes / No / Explain	
39	Party has to strictly follow the instructions given in the attached RFP (VSSC/APEP/ RFP-SPC Crystal /003 /2023) while procurement/fabrication of all the equipments regarding drawing clearance, raw material sample clearance, Inspection & Test reports etc.	Yes / No / Explain	
40	Taxes and other costs,	Yes / No / Explain	
41	Security Deposit (Applicable if Offer Value is Rs. 5 Lakhs or above. MSME/NSIC Units are NOT EXEMPTED from the payment of SD. Bank Guarantee @ 3% of Order Value valid till 60 days from the date of supply to be submitted. Mandatory compliance required. Only Government Bodies/PSUs/PSEs can submit Indemnity Bond in lieu of BG. In the event of non-performance of contractual obligations, SD will be forfeited).	Yes / No / Explain	
42	Delivery Terms.	Yes / No / Explain	

43	Delivery Period	Yes / No / Explain	
44	Liquidated Damages (Applicable beyond the delivery period mentioned in this tender @ 0.5% per week or part thereof on the undelivered portion subject to a maximum of 10% of the contract value. Mandatory compliance required).	Yes / No / Explain	
45	Warranty	Yes / No / Explain	
46	Performance Bank Guarantee (PBG) Bank Guarantee @ 3% of Order Value valid till the completion of warranty period plus 2 months claim period to be submitted. Mandatory compliance required. Only Government Bodies/PSUs/PSEs can submit Indemnity Bond in lieu of BG. In the event of non-performance of warranty obligations, PBG will be forfeited).	Yes / No / Explain	
47	Payment Term (Please comply as per RFP document)	Yes / No / Explain	
48	Definitions: A supplier or service provider, whose goods, services or works offered for procurement, has local content: a) Equal to or more than 50% : Class-I local supplier. b) More than 20% but less than 50% : Class-II local supplier. c) Less than or equal to 20% : Non-local supplier. Mention your category.	Yes / No / Explain	
49	Local content means the amount of value added in India (i.e. indigenous items/services added in the offered products/services/works) be the total value of the item offered (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties/IGST) as a proportion of the total value (excluding net domestic indirect taxes), in percent. Indicate extent of Minimum Local Content in offered product/service and location of such value additions.	Yes / No / Explain	

50	The Class-I & II local supplier should provide a Self Certification along with your offer in PDF format indicating that the item offered meets the minimum local content as called for in the tender as mentioned above and provide the % of local content along with details of the location(s) at which the local value addition is made. In case of two part tenders, it is mandatory to indicate compliance to MLC(minimum local content) in technical bid itself. Confirm attachment of Self declaration along with the offer.	Yes / No / Explain	
51	PO Placement Address (with Name and Contact Details of sales person concerned).	Yes / No / Explain	
52	Any Other Terms	Yes / No / Explain	
53	Offer Validity (180 days)	Yes / No / Explain	
54	Confirm compliance to all the terms and conditions as per the RFP	Yes / No / Explain	
55	This is a TWO-PART tender i.e. Techno-Commercial Bid (Part-I) and Price Bid (Part-II) shall be submitted separately.	Yes / No / Explain	
56	All technical and commercial terms and conditions shall be furnished in the Techno-Commercial Bid while price shall be indicated only in the Price Bid. Uploading price details anywhere else other than the price-bid shall lead to unconditional rejection of the tender. Please make note of the same.	Yes / No / Explain	

57	<p>NOTE: 1) Last minute clarification on tenders will not be entertained. 2) This is an E Tender. Hence Postal/Fax/Email tenders will not be accepted. 3) Your quotation with details of items being supplied, Split up cost if applicable, detailed terms & conditions shall be mandatory uploaded(in PRICE BID RELATED). 4) Read the clauses regarding Make In India Purchase Preference Policy, which is mentioned in the Tender Documents. Give the necessary compliance in the relevant field in the Vendor Specified Terms. 5) Only Class-I and Class-II Local suppliers as per Make in India Policy are eligible to participate in the bid. 6) The percentage of local content should be specifically mentioned in the offer, without which it will be summarily rejected. 7) Preference will be given to Class-I Local Supplier and in their absence, Class-II Local Supplier will be considered.</p>	Yes / No / Explain	
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C.3 Price Bid

Sl. No.	Item	Quantity	Unit Price	Currency	Total Price	Remark
1	SODIUM PERCHLORATE CRYSTAL PRODUCTION PLANT	1.00 Lot		-		

Common charges (Applicable for all items)

Freight charge	
P&F Charges	