

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

Tender for Automation of Solid Lubricant Mixing System

Bids to be submitted online

Tender No.: VSSC/PURCHASE UNIT III (SPRE)/VS202200578901 dated 17-03-2023

A. Tender Details

Tender No :	VSSC/PURCHASE UNIT III (SPRE)/VS202200578901
Tender Date :	17-03-2023
Tender Classification:	GOODS
Purchase Entity :	PURCHASE UNIT III (SPRE)
Centre :	VIKRAM SARABHAI SPACE CENTRE (VSSC)

Automation of Solid Lubricant Mixing System

Design,Fabrication,Supply,Installation and Commissioning of Lubricant Mixing System

This is a TWO-PART Tender. Tenders are requested to attach the Techno-Commercial Bid and Price Bid separately.The techno-commercial bid shall only be attached in the 'Supporting Documents' template and Price bid in the 'price bid related' template.

Please read our terms and conditions carefully before bid submission.

Only online tenders will be accepted. No manual / Postal / e-mail / fax offers will be entertained.

Foreign vendors are not permitted to quote. Only Class-I and Class-II Local suppliers as per Make in India Policy are eligible to participate in the bid. Quotations directly from foreign OEM/ or from agents quoting on behalf of foreign OEMs are not allowed to participate in this tender.

A.1 Tender Schedule

Bid Submission Start Date :	18-03-2023 16:30
Bid Clarification Due Date :	31-03-2023 12:00
Bid Submission Due Date :	03-05-2023 14:00
Bid Opening Date :	03-05-2023 14:01
Price Bid Opening Date :	01-06-2023 14:00

B. Tender Attachments

Technical Write-up/Drawings

Document : Specification Sheet cum Compliance Matrix Annexure 1.

Document : FV Specification for Automation of SMAG Solid Mxing system

Instructions To Vendors

3. Specific Terms and Conditions to Tender (GTE 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). In case of Foreign quote standard payment term is 100% Sight Draft with bank charges to respective accounts.
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. (XIV) Purchase preference to eligible vendors are applicable as per extant notifications issued by the Government of India.

15. (XV-a) This tender is open for all class of suppliers i. e Class I, Class II and non local suppliers as defined in DPIIT order on Make In India initiative dtd 16/09/2020 and its revisions. Purchase preference as per extant guidelines will be applicable for Class I local suppliers.

16. (XV-b) Foreign OEMs/Agents quoting on behalf of Foreign OEMs are permitted to quote. High Sea

Sales Quotes not preferred generally. The bids shall be in INR/appropriate foreign currency.

17. (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.

18. (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.

19. (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.

20. (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.

21. (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.

22. (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.

23. (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.

24. 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.

4. Specific Terms and Conditions to Tender

1. CUSTOMS DUTY: We are eligible for concessional payment of Customs Duty vide Notification Ref: 050/2017 CUSTOMS Dtd. 30/06/2017 Sl. No. 539(b) as amended by Notification No. 5/2018 dtd.25/01/2018. Please Note.

2. 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.

3. 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.

4. 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. 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 Gurantee towards SD/PBG.

6. Offer Validity:- Please keep and confirm the offer validity minimum 90 days[in case of Single part Tender]from the date of opening of tender/180 days [For Two Part Tenders, 120 Days after opening Part-I and 90 days after opening Part-II].

7. 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.

8. Our standard payment term is 100% within 30 days for indigenous orders.

9. 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.

10. Please quote applicable GST separately.

(a)We are eligible for partial exemption of IGST vide Notification No: 47/2017-Integrated Tax (Rate) dtd 14/11/2017 and 45/2017-Central Tax (Rate) dtd 14/11/2017 issued by Dept. of Revenue, Ministry of Finance. Necessary Exemption Certificates will be issued on demand.

(b)We are eligible for partial exemption of CGST and SGST vide Notification No: 45/2017 dtd 14/11/2017 and No: 169/2017/TAXES dtd 15/11/2017 respectively. Necessary Exemption Certificates will be issued on demand.

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

12. 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.

13. 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. Wherever samples are required to be submitted along with the quotation, offer without sample will not be considered.

5. Specific Terms and Conditions to Tender (detailed)

1. As per Notification No. 5/2018-CUSTOMS DTD. 25/01/2018, we are eligible for concessional payment of customs duty and IGST. Hence CD & IGST element shall be specified separately in the quotation. Necessary exemption certificate shall be issued upon request.

2. 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.

3. In case if any Bidder is submitting their Offer on HIGH SEA SALES BASIS: then the Indian Trader shall submit the following documents mandatorily along with their offer.

- a.The Import Export Code of the Indian Trader
- b.Bank Authorization Code of the Indian Trader
- c.GSTIN of the Indian Trader

4. In case of Foreign/Import Tenders:

- a.The bidder shall clearly mention the full ordering address in capital letters.
- b.The bidder shall clearly mention their bankers address including their SWIFT code compulsorily.
- c.Any change of address shall be compulsorily supported by Documentary proof issued either by Governmental agencies or by Chamber of Commerce.
- d.Foreign Principals Proforma Invoice/quote indicating the Agency Commission payable to the Indian Agent and the nature of after sales service to be rendered by the Indian Agent.
- e.Copy of the Agency Agreement between the Foreign Principal and the Indian Agent, and the precise relationship between them their mutual interest in the business.
- f.Registration and Item empanelment of the Indian Agent.

5. 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.

6. Likewise, while executing the Purchase Order/Contract; the Indian Trader shall mandatorily submit the following:

- a.High Sea Sale Agreement.
- b.Invoice pertaining to the Indian Trader in INR and the invoice of the foreign vendor in foreign currency.

7. 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.

8. 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 Gurantee towards SD/PBG.

9. 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.

10. Our standard payment term is 100% within 30 days for indigenous orders and Sight Draft for foreign orders.

11. 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.

12. Please quote applicable GST separately.

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

14. 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.

15. The offer should be valid for a period of minimum 90 days from the date of opening of Tender.

16. 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.

17. Where agents participate in a tender;

(a) Either the Indian agent on behalf of the Principal/OEM or Principal/OEM itself can bid but both cannot bid simultaneously for the same item/product in the same tender.

(b) If an agent submits bid on behalf of the Principal/OEM, the same agent shall not submit a bid on behalf of another Principal/OEM in the same tender for the same item/product.

18. Wherever samples are required to be submitted along with the quotation, offer without sample will not be considered.

6. PROFORMA FOR INSTRUCTIONS TO TENDERERS AND TERMS & CONDITIONS OF TENDER where the indent value is Rs. 2.00 lakhs & above for indigenous stores items

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 - Automation of Solid Lubricant Mixing System

1. Automation of Solid lubricant mixing system

Item specifications for Automation of Solid lubricant mixing system

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	TECHNICAL SPECIFICATION FOR DESIGN, FABRICATION, SUPPLY, INSTALLATION AND COMMISSIONING OF LUBRICANT MIXING SYSTEM.	As per the attached technical specification.	Yes / No / Explain		
2	SCOPE OF SUPPLY SHALL INCLUDES		-		
3	Design, fabrication, supply, erection and commissioning of an automated lubricant mixing system	As per the attached technical specification.	Yes / No / Explain		
4	Automated lubricant mixing system shall include storage tanks for both binder and solvent, SS and PP tubing, flow meter, flow controller, mixing equipment & control panel	As per the attached technical specification.	Yes / No / Explain		
5	Material of construction for Sodium silicate storage tank	Sodium Silicate (PP/HDPE) and for water SS-304.	Yes / No / Explain		
6	Material of construction for the mixing system	SS-316L.	Yes / No / Explain		

7	The mixing equipment shall be connected to a storage tank for metered supply of binder (Sodium Silicate Solution) & solvent (Water) as per batch requirement.	As per the attached technical specification.	Yes / No / Explain		
8	Control panel should have the provision for displaying the process parameters such as speed of mixing, time of mixing, quantity of solvent & binder flow rate with data logging option.	As per the attached technical specification.	Yes / No / Explain		
9	Party shall supply the unit as integrated system and the same shall be erected at VSSC, Trivandrum and commissioned with demonstration of the lubricant mixing for three consecutive batches.	As per the attached technical specification.	Yes / No / Explain		
10	SODIUM SILICATE SOLUTION STORAGE TANK SPECIFICATION		-		
11	MOC	PP/HDPE	Yes / No / Explain		
12	Type of Vessel	Cylindrical Vessel with Conical Bottom	Yes / No / Explain		
13	Thickness of material	Min 5 mm	Yes / No / Explain		
14	Inlet/Output Connection	½ inch union inlet and ½ inch outlet with PP ball valve	Yes / No / Explain		
15	Gross Volume of Sodium silicate storage tank	10 L	Yes / No / Explain		
16	Working Volume of Sodium silicate storage tank	8 L	Yes / No / Explain		
17	Top Cover of Sodium silicate storage tank	Single-side openable.	Yes / No / Explain		
18	Sight Glass	20 B flanged at the side top.	Yes / No / Explain		

19	Mixing mechanism	Suitable mechanism for intermittent mixing of the solution shall be provided to avoid settling related issues.	Yes / No / Explain		
20	Level Gauge	Level indicator within glass enclosure (Scale should be provided indicating the total measurable volume.	Yes / No / Explain		
21	Quantity	1 number	Yes / No / Explain		
22	Leak tightness	Vessel design shall be such that there should not be any leak from the storage tank, adaptor fitting etc.	Yes / No / Explain		
23	Party shall submit the detailed fabrication drawing for storage tank during the submission of tender.	Detailed drawing indicating all the subsystem level indicator , sight glass opening mechanism, mixing provision etc.	Yes / No / Explain		
24	WATER STORAGE TANK SPECIFICATION		-		
25	MOC WATER STORAGE TANK	Stainless Steel 304; 80 grit welded joints with high polish	Yes / No / Explain		
26	Type of Vessel WATER STORAGE TANK	Cylindrical Vessel with Conical Bottom	Yes / No / Explain		
27	Thickness of material (SS-304)	2 mm	Yes / No / Explain		
28	Inlet/Output Connection in storage tank	½ inch union inlet and ½ inch outlet with SS 316 ball valve	Yes / No / Explain		
29	Gross Volume of water storage tank	10 L	Yes / No / Explain		
30	Working Volume of water storage tank	8 L	Yes / No / Explain		
31	Top Cover in the water storage tank	Single side openable.	Yes / No / Explain		
32	Sight Glass in the water storage tank	20 B flanged at side top.	Yes / No / Explain		

33	Level Gauge in the water storage tank	Level indicator with in glass enclosure (Scale should be provided indicating the total measurable volume.	Yes / No / Explain		
34	Quantity of water storage tank	1 number	Yes / No / Explain		
35	Leak tightness in the water storage tank	Vessel design shall be such that there should not be any leak from the storage tank, adapter fitting etc.	Yes / No / Explain		
36	Fabrication Drawing of water storage tank	Party shall submit the detailed fabrication drawing for storage tank during the submission of the tender.	Yes / No / Explain		
37	Tube Line for Flow of water and Sodium Silicate Solutions		-		
38	Stainless steel 316 grade tubing of 1/2 inch shall be used for connecting the water storage tank to the point adjacent to the mixer	Length of the tube as per the approved design by VSSC.	Yes / No / Explain		
39	PP/PTFE tubing of 1/2 inch shall be used for sodium silicate storage tank to the point adjacent to the mixer	Length of the tube as per the approved design by VSSC.	Yes / No / Explain		
40	Flexible hoses shall be provided to interconnect both the fixed tubing with the mixer top lid.	Approx. 1/2 to 1-meter in each line	Yes / No / Explain		
41	Suitable adaptor shall be provided on mixer lid for attaching the flexible hoses.	As per the design ensuring the leak tightness for both water and sodium silicate.	Yes / No / Explain		
42	Tubing MOC for water Line	SS-316 (Up to nearest point of horizontal sigma mixer).	Yes / No / Explain		
43	Tubing MOC for Sodium Silicate Solution	PP/PTFE (Up to nearest point of horizontal sigma mixer).	Yes / No / Explain		
44	Size of Tubing	1/2 inch	Yes / No / Explain		

45	Support stand of Tube	Suitable support stand shall be provided in the skid structure for both SS-316 tubing and PP/PTFE tubing.	Yes / No / Explain		
46	Flexible hose MOC	NYLON/PE/PP/HDP E	Yes / No / Explain		
47	Flexible hose Size	½ inch	Yes / No / Explain		
48	Flow meter in Water and Sodium Silicate Line		-		
49	Suitable flow meter along with control valve shall be provided for efficiently controlling the flow rate of the solvent and binder system	As per the technical specification given in table 4.	Yes / No / Explain		
50	Make flow meter	BURKERT/E&H/Forbes Marshal / Honeywell/ Siemens	Yes / No / Explain		
51	Flow meter type and size	Paddle type transmitter, 20 mm Size	Yes / No / Explain		
52	Flow transmitter; O/P	4 - 20 mA (Output shall be connected to the HMI for display and shall also be used to regulate the flow through flow control valve)	Yes / No / Explain		
53	Measuring Range for both water and sodium silicate solution	25 to 250 gram/min	Yes / No / Explain		
54	Accuracy of measurement	± 0.1 gram for up to 100 gram/min ± 0.20 gram for (100 gram/min to 250 gram/min)	Yes / No / Explain		
55	Fitting	SS-304 - with PVDF paddle wheel	Yes / No / Explain		
56	Medium temperature	RT	Yes / No / Explain		
57	Working Medium	Water and Sodium Silicate	Yes / No / Explain		
58	Fluid pressure max.	140 psi	Yes / No / Explain		

59	Capable of handling the fluid of viscosity range	1-250 cP	Yes / No / Explain		
60	Operational Temperature	Room Temperature	Yes / No / Explain		
61	Pipe diameter	12 mm (1/2 inch)	Yes / No / Explain		
62	Qty.	2 no.s (1 number in water line & 1 number in Sodium silicate solution line)	Yes / No / Explain		
63	Electrically operated Flow Control Valve	Flow control valve of suitable size shall be supplied. Detailed technical specification as given in Table.5.	Yes / No / Explain		
64	MOC of Flow Control Valve	SS-304	Yes / No / Explain		
65	Size	1/2" NC	Yes / No / Explain		
66	Type	Globe, Equal %	Yes / No / Explain		
67	Make	BURKERT/ PNEUCON /ELOMATIC	Yes / No / Explain		
68	Flow rate to be controlled gram/min	25 to 250 grams/min (flow to be regulated based on the feedback from flow meter as per the required setpoint provided by the user)	Yes / No / Explain		
69	Accuracy	± 0.1 gram for up to 100 gram/min ± 0.20 gram for 100 gram/min to 250 gram/min	Yes / No / Explain		
70	Viscosity of Measuring fluid	1-250 cP	Yes / No / Explain		
71	Working Medium for valve	Water and Sodium Silicate	Yes / No / Explain		
72	Protection Class	IP67	Yes / No / Explain		
73	Quantity of Electrically operated Flow Control Valve	2 no. s (1 number for water line and 1 number for sodium silicate line)	Yes / No / Explain		
74	Mode of actuation	To ensure swift response the mode of valve actuation shall be pneumatic	Yes / No / Explain		

75	Laboratory Sigma Mixer	As per the technical specifications given in table 6 of technical specifications.	Yes / No / Explain		
76	Capacity	Total volume: 4 L Nominal working volume: 2 L	Yes / No / Explain		
77	Mixer: Two Z arm blades, made of cast SS 304 which rotates at a different speed ratio of	1.5 : 1	Yes / No / Explain		
78	Application	Mixing of Solid film lubricant	Yes / No / Explain		
79	Mainframe construction	All support structures shall be with SS 316 with a heavy-duty base.	Yes / No / Explain		
80	Trough material	Stainless steel SS 316 L (corrosion resistant), semi-cylindrical W shaped duly machined and mirror polished with a minimum thickness of 8 mm.	Yes / No / Explain		
81	Side plate Material	Stainless steel SS316 L side plates shall be machined with uniform clearance with a minimum thickness of 10 mm.	Yes / No / Explain		
82	Trough flanges	Flanges on the opposite side of the drive shall be an easily removable type for cleaning.	Yes / No / Explain		
83	Blades direction- both forward and reverse	Two sigma blades rotate tangentially in opposite directions (towards the center of the trough- forward and away from the central reverse)- with digital indication on the control panel.	Yes / No / Explain		
84	Variable blade speed	Forward blade; 5-55 rpm (50Hz) Rear blade: 7-37 rpm (50 Hz) Speed ratio: 1.5: 1	Yes / No / Explain		

85	Blade shaft seal	PTFE bush and lip seals (shall be leak proof and shall ensure no cross contamination of the mixing medium)	Yes / No / Explain		
86	Blade clearance	Minimum clearance between the container and blade periphery should be uniform and shall be within 1 to 2 mm. The blade-to-side plate clearance shall be a minimum of 2 mm with a tolerance of 0.5 mm.	Yes / No / Explain		
87	Type of bearing	Self-align spherical roller bearing	Yes / No / Explain		
88	Gland packing	Should be compatible with mixing media	Yes / No / Explain		
89	Gland packing Material	Asbestos /PTFE	Yes / No / Explain		
90	Gear Box Make	RADICON/ELECON/ SHANTHI GEARS	Yes / No / Explain		
91	Drive/motor-electrical protection	IP 65	Yes / No / Explain		
92	Drive/ motor overload protection	Heavy duty over the current circuit breaker	Yes / No / Explain		
93	Drive/ motor overload classification	Heavy-duty motor with overload relay of suitable capacity	Yes / No / Explain		
94	Motor	Driven by frequency inverter. Heavy-duty motor suitably rated for the proposed mixing media.	Yes / No / Explain		
95	Motor supply voltage	440 V 3 phase -50Hz	Yes / No / Explain		

96	Electrical control panel- Main unit	Electrical Control panel shall house •Power monitoring display units (Volts and Ammeter) •Mixer start/stop button with running lamp •Forward / reverse switch •On/off switch with removable key •Emergency push button stop •Programmable digital timer with buzzer alarm (which turns off the power to the mixer after the set time max 120 mins).	Yes / No / Explain		
97	Top lid cover opening	Manual (hinged type)	Yes / No / Explain		
98	Finish interior mixing bowl	Three triangle finish (mirror finish) free from tool marks / chatter marks etc.	Yes / No / Explain		
99	Finish exterior	Suitable epoxy paint (2 coats) – only on the exterior surfaces which do not come in contact with mixing medium.	Yes / No / Explain		
100	Sensors blade speed	Controlled by a variable frequency drive (VFD) located in an electrical cabinet with digital indicators	Yes / No / Explain		
101	Tilting Handle MOC	SS-304	Yes / No / Explain		
102	Tilting handle size	Suitable size & length tilting handle shall be provided for tilting the mixer.	Yes / No / Explain		
103	Safety limit switch/sensor	Stopping of blades when the cover is open	Yes / No / Explain		
104	Safety emergency stop button	In the control panel and next to the mixer	Yes / No / Explain		
105	Anti-vibration Pad	Any vibration from the machine shall be isolated.	Yes / No / Explain		

106	General guidelines	Party should provide basic spares (PTFE bushes and lip seals (5 sets extra), cover seal for the lid (2 sets) free of cost.	Yes / No / Explain		
107	Motor and VFD	A motor with suitable VFD should be used for its operation so that we can regulate the rotation speed of the blade to achieve desired mixing for the lubricant mixing process. Detailed technical specification of the motor and VFD is given in table 7	Yes / No / Explain		
108	Geared Motor rating	Min. 1 HP/3 Phase Heavy-duty motor suitably rated for the proposed mixing media.	Yes / No / Explain		
109	Make of motor	Crompton greaves/BharatBijile e/ABB/Kirloskar	Yes / No / Explain		
110	VFD Drive	Siemens/ FUJI/ABB SINAMICS V20 380-480 V 3 AC - 15/+10% 47-63Hz rated power 1.1 kw.	Yes / No / Explain		
111	Power rating	1.1 kw	Yes / No / Explain		
112	Data sheet	Motor data sheet / catalogue shall be provided along with the quote.	Yes / No / Explain		
113	Control Panel	Control Panel to house the HMI and VFD drive shall be provided as given in Table.8.	Yes / No / Explain		
114	Make of control panel	Rittal/BCH	Yes / No / Explain		
115	Purpose	To house the control and instrumentations	Yes / No / Explain		
116	Panel Enclosure Type	Skid Mountable	Yes / No / Explain		
117	Quantity of control panel	1 number	Yes / No / Explain		
118	MCB	Suitable rating and capacity	Yes / No / Explain		

119	Wiring Accessories including Auxiliary Contactors and Relays for control of mixer motor.	Siemens/Schneider/ L& T	Yes / No / Explain		
120	8 Channel Relay Board	Phoenix/ Siemens/Omoron	Yes / No / Explain		
121	Utility Power Socket, Cable Glands etc.	Phoenix/ Philips/ Crompton/ Havells/ Finolex	Yes / No / Explain		
122	Location	This panel shall be located in one corner of the mixing skid	Yes / No / Explain		
123	GA drawings	GA drawing for the control panel shall be provided to VSSC for approval prior to realization.	Yes / No / Explain		
124	Alarms and interlocks	Safety interlocks with sound alarm/LED message/alarm shall be provided for all the equipment	Yes / No / Explain		
125	HMI	An HMI interface to operate the mixing station and indicate all the process & mixing parameters on real time shall be provided with following specifications.	Yes / No / Explain		
126	Type of HMI	SIMATIC HMI, Basic Panel, Key/ touch operation	Yes / No / Explain		
127	Make OF HMI	SIEMENS/Honeywell / Fuji	Yes / No / Explain		
128	Display	12" TFT	Yes / No / Explain		
129	Interface	PROFINET	Yes / No / Explain		
130	Configurable	Win CC Basic V13/ STEP 7 Basic V13, contains open-source software.	Yes / No / Explain		
131	Mixer schematic	HMI shall be configured with mixer schematic indicating all the mixer parameters with a provision to vary the setpoints	Yes / No / Explain		

132	Data logging	Process data of each mixing shall be logged separately and shall be retrievable through USB. Provision to duplicate the HMI data through PC interface shall also be provided as redundancy.	Yes / No / Explain		
133	Electrical connections:	Electrical interconnections between various motors and sensors shall be through electrical cables provided separately for power and control purpose as per the specification provided in Table-7.	Yes / No / Explain		
134	Instrumentation Cable for Valves- 4C x 1.0 sq.mm - Unarmoured Cu Cable.	Lapp Kabel/RR/Poly Cab	Yes / No / Explain		
135	Shielded Cable for Analog Inputs- 4C x 1.0 sq.mm- Shielded Cu Cable	Lapp Kabel/ Finolex	Yes / No / Explain		
136	Power Cable for Motor- 4C x 4 sq. mm - Armoured Cu Cable	Lapp Kabel/RR/Poly Cab	Yes / No / Explain		
137	Cable routing	All the cables shall be routed with appropriate protective cover on the mixing station.	Yes / No / Explain		
138	Cable tags	Each cable shall have cable tags for ease of identification	Yes / No / Explain		
139	Earthing	All the motors and sensors mounted in the mixing station shall be suitable earthed with dedicated earth pits	Yes / No / Explain		
140	Electrical wiring diagram	Electrical wiring line diagram shall be provided to VSSC for approval prior to supply	Yes / No / Explain		

141	UPS System	UPS of suitable power rating shall be provided for power backup of the control panel. Detailed technical specification for UPS is given in Table 8	Yes / No / Explain		
142	Capacity of UPS	UPS of suitable capacity for operation of control System	Yes / No / Explain		
143	Make of UPS	VguardSlender/VERTIV Liebert / Delta/ Microtek/ Eaton/ Luminous	Yes / No / Explain		
144	UPS Control	Offline mode	Yes / No / Explain		
145	Power	3 KVA	Yes / No / Explain		
146	Cable Requirement	A suitable cable of min 2 m size shall provide along with the supply.	Yes / No / Explain		
147	Transfer Time	Less than 5 ms	Yes / No / Explain		
148	Backup time	Minimum 30 minutes on full load	Yes / No / Explain		
149	Protection	Over-voltage protection, Lightning, Short Circuit, and surge protection	Yes / No / Explain		
150	Metallic Frame SPECIFICATIONS	Metallic frame shall be used for mounting of horizontal sigma mixer, storage tanks, tubing and control panel etc.	Yes / No / Explain		

151	Requirements OF Metallic Frame	<p>1. Entire mixing station shall be mounted on a skid platform for easy handling and Maintenance.</p> <p>2. MOC of Skid platform: SS-304 of a suitable thickness (Min 8 mm)</p> <p>3. Coats each of epoxy primer and paint shall be provided to the basement of metallic frame.</p> <p>4. Horizontal platform 1600 mm x 1600 mm</p> <p>5. Vertical platform 1600 mm (W) x1500mm (H)</p> <p>6. Suitable anti-Vibration Pad for floor shall be provide to isolate any vibration coming out from system.</p> <p>7. Height of skid platform Approx. 500 mm</p> <p>8. Support leg of length 450 mm min and 10 mm thickness shall be used.</p> <p>9.Support legs shall be provided at a minimum of three locations along the length and width of the support structure. 10. One support leg shall be provided in the middle of the skid platform.</p>	Yes / No / Explain		
152	Schematic Drawing of Metallic Frame	Party shall upload the schematic of metallic frame drawing indicating the all sub systems such as storage tank, mixer, tubing end fitting and their location.	Yes / No / Explain		

153	Product discharge plate and storage tank	Party shall design the suitable product discharge plate connecting the mixer body to a product storage tank. Party shall provide the product storage tank for storing the final lubricant slurry.	Yes / No / Explain		
154	Product discharge plate MOC	SS-304	Yes / No / Explain		
155	Quantity of product discharge plate	1 number	Yes / No / Explain		
156	Product storage tank MOC	SS-304	Yes / No / Explain		
157	Size of Storage tank	10 L	Yes / No / Explain		
158	Quantity of product storage tank	1 number	Yes / No / Explain		
159	Dimensions	Suitable dimensions as per the end user requirement.	Yes / No / Explain		
160	Leak tightness of product storage tank	Vessel design shall be such that there should not be any leak from the storage tank	Yes / No / Explain		
161	Fabrication Drawing	Party shall submit the detailed fabrication drawing for the storage tank during the submission of the tender.	Yes / No / Explain		
162	List of Spares and consumables	Party shall supply the below list of spares and consumables along with the actual supply at free of cost.	Yes / No / Explain		
163	12 mm Square Teflon Rope – Gland	1 Roll	Yes / No / Explain		
164	Quantity of Bearing Grease	Supplied quantity should meet the requirement for 3 years of trouble free operation of mixer.	Yes / No / Explain		
165	Quantity of Gaskets / Seals	Supplied quantity should meet the requirement for 2 years of trouble free operation.	Yes / No / Explain		

166	PTFE Bushes & Lip Seals	1 number each	Yes / No / Explain		
167	Flexile hose of NYLON/PE/PP/HDP E	2-meter	Yes / No / Explain		
168	Product discharge plate (SS-304)	1 number	Yes / No / Explain		
169	Lubricant storage tank (SS-304) tank 10 L volume	1 number	Yes / No / Explain		
170	Specific requirements		-		
171	Guarantee including (parts+ labor etc.)	The supplier should give a guarantee that the entire works carried out by them is free from fault in design, material and workmanship for a minimum period of 24 months from the date of the satisfactory installation and commissioning and supplier should agree to make all necessary or desirable alterations, repairs and replacements of defective parts supplied by them free of charge including transportation charges if any. Necessary certificate should be furnished by the selected firm/company/vendor .	Yes / No / Explain		
172	Performance certificate	Vendor has to submit the performance letter or purchase order proof from the client for having supplied at least one similar system.	Yes / No / Explain		

173	Pre-fabrication approval	<p>1. Party shall submit the detailed design drawing with design report, fabrication drawing of the mixing system, PI & D and electrical drawing (wiring, GA) etc., to VSSC for approval after release of purchase order as per delivery schedule on Section 16.</p> <p>2. Party shall share the 3-D model of a fully automated mixing system made in AutoCAD/Solid works during the tender submission.</p> <p>3. Party shall be ready to accept any minor modifications with regard to components, configuration and operational ergonomics suggested by VSSC without any additional cost.</p>	Yes / No / Explain		
174	Delivery Schedule	As per the schedule given in the attached technical specifications.	Yes / No / Explain		
175	Inspection	As per the attached annexure.	Yes / No / Explain		
176	General conditions	As per the attached annexure.	Yes / No / Explain		
177	Party shall confirm the submission of annexure 1	Specification Sheet cum Compliance Matrix.	Yes / No / Explain		

Document : FV Specification for Automation of SMAG Solid Mxing system

2. Automation of Solid lubricant mixing system (AMC for 3 Years - Optional)

Item specifications for Automation of Solid lubricant mixing system

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	AMC (Optional)		-		

2	3 years non-comprehensive after warranty period after warranty period.	No. of visits: 2 Preventive and any no. of breakdown visit per year.	Yes / No / Explain		
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Common Specifications (Applicable for all items)

Sl No	Specification	Value	Compliance	Offered Specification	Remark
1	TECHNICAL SPECIFICATION FOR DESIGN, FABRICATION, SUPPLY, INSTALLATION AND COMMISSIONING OF LUBRICANT MIXING SYSTEM.	As per the attached technical specification.	Yes / No / Explain		
2	SCOPE OF SUPPLY SHALL INCLUDES		-		
3	Design, fabrication, supply, erection and commissioning of an automated lubricant mixing system	As per the attached technical specification.	Yes / No / Explain		
4	Automated lubricant mixing system shall include storage tanks for both binder and solvent, SS and PP tubing, flow meter, flow controller, mixing equipment & control panel	As per the attached technical specification.	Yes / No / Explain		
5	Material of construction for Sodium silicate storage tank	Sodium Silicate (PP/HDPE) and for water SS-304.	Yes / No / Explain		
6	Material of construction for the mixing system	SS-316L.	Yes / No / Explain		

7	The mixing equipment shall be connected to a storage tank for metered supply of binder (Sodium Silicate Solution) & solvent (Water) as per batch requirement.	As per the attached technical specification.	Yes / No / Explain		
8	Control panel should have the provision for displaying the process parameters such as speed of mixing, time of mixing, quantity of solvent & binder flow rate with data logging option.	As per the attached technical specification.	Yes / No / Explain		
9	Party shall supply the unit as integrated system and the same shall be erected at VSSC, Trivandrum and commissioned with demonstration of the lubricant mixing for three consecutive batches.	As per the attached technical specification.	Yes / No / Explain		
10	SODIUM SILICATE SOLUTION STORAGE TANK SPECIFICATION		-		
11	MOC	PP/HDPE	Yes / No / Explain		
12	Type of Vessel	Cylindrical Vessel with Conical Bottom	Yes / No / Explain		

13	Thickness of material	Min 5 mm	Yes / No / Explain		
14	Inlet/Output Connection	½ inch union inlet and ½ inch outlet with PP ball valve	Yes / No / Explain		
15	Gross Volume of Sodium silicate storage tank	10 L	Yes / No / Explain		
16	Working Volume of Sodium silicate storage tank	8 L	Yes / No / Explain		
17	Top Cover of Sodium silicate storage tank	Single-side openable.	Yes / No / Explain		
18	Sight Glass	20 B flanged at the side top.	Yes / No / Explain		
19	Mixing mechanism in Sodium silicate storage tank	Suitable mechanism for intermittent mixing of the solution shall be provided to avoid settling related issues.	Yes / No / Explain		
20	Level Gauge	Level indicator within glass enclosure (Scale should be provided indicating the total measurable volume.	Yes / No / Explain		
21	Quantity	1 number	Yes / No / Explain		
22	Leak tightness	Vessel design shall be such that there should not be any leak from the storage tank, adaptor fitting etc.	Yes / No / Explain		
23	Party shall submit the detailed fabrication drawing for storage tank during the submission of tender.	Detailed drawing indicating all the subsystem level indicator , sight glass opening mechanism, mixing provision etc.	Yes / No / Explain		
24	WATER STORAGE TANK SPECIFICATION		-		
25	MOC OF WATER STORAGE TANK	Stainless Steel 304; 80 grit welded joints with high polish	Yes / No / Explain		

26	Type of Vessel WATER STORAGE TANK	Cylindrical Vessel with Conical Bottom	Yes / No / Explain		
27	Thickness of material (SS- 304)	2 mm	Yes / No / Explain		
28	Inlet/Output Connection in storage tank	½ inch union inlet and ½ inch outlet with SS 316 ball valve	Yes / No / Explain		
29	Gross Volume of water storage tank	10 L	Yes / No / Explain		
30	Working Volume of water storage tank	8 L	Yes / No / Explain		
31	Top Cover in the water storage tank	Single side openable.	Yes / No / Explain		
32	Sight Glass in the water storage tank	20 NB flanged at side top.	Yes / No / Explain		
33	Level Gauge in the water storage tank	Level indicator with in glass enclosure (Scale should be provided indicating the total measurable volume).	Yes / No / Explain		
34	Quantity of water storage tank	1 number	Yes / No / Explain		
35	Leak tightness in the water storage tank	Vessel design shall be such that there should not be any leak from the storage tank, adapter fitting etc.	Yes / No / Explain		
36	Fabrication Drawing of water storage tank	Party shall submit the detailed fabrication drawing for storage tank during the submission of the tender.	Yes / No / Explain		
37	Tube Line for Flow of water and Sodium Silicate Solutions		-		
38	Stainless steel 316 grade tubing of ½ inch shall be used for connecting the water storage tank to the point adjacent to the mixer	Length of the tube as per the approved design by VSSC.	Yes / No / Explain		

39	PP/PTFE tubing of ½ inch shall be used for sodium silicate storage tank to the point adjacent to the mixer	Length of the tube as per the approved design by VSSC.	Yes / No / Explain		
40	Flexible hoses shall be provided to interconnect both the fixed tubing with the mixer top lid.	Approx. ½ to 1-meter in each line	Yes / No / Explain		
41	Suitable adaptor shall be provided on mixer lid for attaching the flexible hoses.	As per the design ensuring the leak tightness for both water and sodium silicate.	Yes / No / Explain		
42	Tubing MOC for water Line	SS-316 (Up to nearest point of horizontal sigma mixer).	Yes / No / Explain		
43	Tubing MOC for Sodium Silicate Solution	PP/PTFE (Up to nearest point of horizontal sigma mixer).	Yes / No / Explain		
44	Size of Tubing	½ inch	Yes / No / Explain		
45	Support stand of Tube	Suitable support stand shall be provided in the skid structure for both SS-316 tubing and PP/PTFE tubing.	Yes / No / Explain		
46	Flexible hose MOC	NYLON/PE/PP/HDPE	Yes / No / Explain		
47	Flexible hose Size	½ inch	Yes / No / Explain		
48	Flow meter in Water and Sodium Silicate Line		-		
49	Suitable flow meter along with control valve shall be provided for efficiently controlling the flow rate of the solvent and binder system	As per the technical specification given in table 4.	Yes / No / Explain		
50	Make flow meter	BURKERT/E&H/Forbes Marshal / Honeywell/Siemens	Yes / No / Explain		

51	Flow meter type and size	Paddle type transmitter, 20 mm Size	Yes / No / Explain		
52	Flow transmitter; O/P	4 - 20 mA (Output shall be connected to the HMI for display and shall also be used to regulate the flow through flow control valve)	Yes / No / Explain		
53	Measuring Range for both water and sodium silicate solution	25 to 250 gram/min	Yes / No / Explain		
54	Accuracy of measurement	± 0.1 gram for up to 100 gram/min ± 0.20 gram for (100 gram/min to 250 gram/min)	Yes / No / Explain		
55	Fitting	SS-304 - with PVDF paddle wheel	Yes / No / Explain		
56	Medium temperature	Room Temperature	Yes / No / Explain		
57	Working Medium	Water and Sodium Silicate	Yes / No / Explain		
58	Fluid pressure max.	140 psi	Yes / No / Explain		
59	Capable of handling the fluid of viscosity range	1-250 cP	Yes / No / Explain		
60	Operational Temperature	Room Temperature	Yes / No / Explain		
61	Pipe diameter	12 mm (1/2 inch)	Yes / No / Explain		
62	Qty.	2 no.s (1 number in water line & 1 number in Sodium silicate solution line)	Yes / No / Explain		
63	Electrically operated Flow Control Valve	Flow control valve of suitable size shall be supplied. Detailed technical specification as given in Table.5.	Yes / No / Explain		
64	MOC of Flow Control Valve	SS-304	Yes / No / Explain		
65	Size	1/2" NC	Yes / No / Explain		
66	Type	Globe, Equal %	Yes / No / Explain		

67	Make	BURKERT/ PNEUCON /ELOMATIC	Yes / No / Explain		
68	Flow rate to be controlled gram/min	25 to 250 grams/min (flow to be regulated based on the feedback from flow meter as per the required setpoint provided by the user)	Yes / No / Explain		
69	Accuracy	± 0.1 gram for up to 100 gram/min ± 0.20 gram for 100 gram/min to 250 gram/min	Yes / No / Explain		
70	Viscosity of Measuring fluid	1-250 cP	Yes / No / Explain		
71	Working Medium for valve	Water and Sodium Silicate	Yes / No / Explain		
72	Protection Class	IP67	Yes / No / Explain		
73	Quantity of Electrically operated Flow Control Valve	2 no. s (1 number each for water line and sodium silicate line)	Yes / No / Explain		
74	Mode of actuation	To ensure swift response, mode of valve actuation shall be pneumatic	Yes / No / Explain		
75	Laboratory Sigma Mixer	As per technical specifications given in table 6 of document enclosed	Yes / No / Explain		
76	Capacity	Total volume: 4 L Nominal working volume: 2 L	Yes / No / Explain		
77	Mixer: Two Z arm blades, made of cast SS 304 which rotates at a different speed ratio of	Speed ratio of 1.5 : 1	Yes / No / Explain		
78	Application	Mixing of Solid film lubricant	Yes / No / Explain		
79	Mainframe construction	All support structures shall be with SS 316 with a heavy-duty base.	Yes / No / Explain		
80	Trough material	Stainless steel SS 316 L (corrosion resistant), semi-cylindrical W shaped duly machined and mirror polished with a minimum thickness of 8 mm.	Yes / No / Explain		

81	Side plate Material	Stainless steel SS316 L side plates shall be machined with uniform clearance with a minimum thickness of 10 mm.	Yes / No / Explain		
82	Trough flanges	Flanges on the opposite side of the drive shall be an easily removable type for cleaning.	Yes / No / Explain		
83	Blades direction- both forward and reverse	Two sigma blades rotate tangentially in opposite directions (towards the center of the trough- forward and away from the central reverse)- with digital indication on the control panel.	Yes / No / Explain		
84	Variable blade speed	Forward blade; 5-55 rpm (50Hz) Rear blade: 7-37 rpm (50 Hz) Speed ratio: 1.5: 1	Yes / No / Explain		
85	Blade shaft seal	PTFE bush and lip seals (shall be leak proof and shall ensure no cross contamination of the mixing medium)	Yes / No / Explain		
86	Blade clearance	Minimum clearance between the container and blade periphery should be uniform and shall be within 1 to 2 mm. The blade-to-side plate clearance shall be a minimum of 2 mm with a tolerance of 0.5 mm.	Yes / No / Explain		
87	Type of bearing	Self-align spherical roller bearing	Yes / No / Explain		
88	Gland packing	Should be compatible with mixing media	Yes / No / Explain		
89	Gland packing Material	Asbestos /PTFE	Yes / No / Explain		
90	Gear Box Make	RADICON/ELECON/S HANTHI GEARS	Yes / No / Explain		
91	Drive/motor- electrical protection	IP 65	Yes / No / Explain		
92	Drive/ motor overload protection	Heavy duty over the current circuit breaker	Yes / No / Explain		

93	Drive/ motor overload classification	Heavy-duty motor with overload relay of suitable capacity	Yes / No / Explain		
94	Motor	Driven by frequency inverter. Heavy-duty motor suitably rated for the proposed mixing media.	Yes / No / Explain		
95	Motor supply voltage	440 V 3 phase -50Hz	Yes / No / Explain		
96	Electrical control panel- Main unit	Electrical Control panel shall house <ul style="list-style-type: none"> •Power monitoring display units (Volts and Ammeter) •Mixer start/stop button with running lamp •Forward / reverse switch •On/off switch with removable key •Emergency push button stop •Programmable digital timer with buzzer alarm (which turns off the power to the mixer after the set time max 120 mins). 	Yes / No / Explain		
97	Top lid cover opening	Manual (hinged type)	Yes / No / Explain		
98	Finish interior mixing bowl	Three triangle finish (mirror finish) free from tool marks /chatter marks etc.	Yes / No / Explain		
99	Finish exterior	Suitable epoxy paint (2 coats) – only on the exterior surfaces which do not come in contact with mixing medium.	Yes / No / Explain		
100	Sensors blade speed	Controlled by a variable frequency drive (VFD) located in an electrical cabinet with digital indicators	Yes / No / Explain		
101	Tilting Handle MOC	SS-304	Yes / No / Explain		
102	Tilting handle size	Suitable size & length tilting handle shall be provided for tilting the mixer.	Yes / No / Explain		
103	Safety limit switch/ sensor	Stopping of blades when the cover is open	Yes / No / Explain		

104	Safety emergency stop button	In the control panel and next to the mixer	Yes / No / Explain		
105	Anti-vibration Pad	Any vibration from the machine shall be isolated.	Yes / No / Explain		
106	General guidelines	Party should provide basic spares (PTFE bushes and lip seals (5 sets extra), cover seal for the lid (2 sets) free of cost.	Yes / No / Explain		
107	Motor and VFD	A motor with suitable VFD should be used for its operation so that we can regulate the rotation speed of the blade to achieve desired mixing for the lubricant mixing process. Detailed technical specification of the motor and VFD is given in table 7	Yes / No / Explain		
108	Geared Motor rating	Min. 1 HP/3 Phase Heavy-duty motor suitably rated for the proposed mixing media.	Yes / No / Explain		
109	Make of motor	Crompton greaves/BharatBijilee/ABB/Kirloskar	Yes / No / Explain		
110	VFD Drive	Siemens/ FUJI/ABB SINAMICS V20 380-480 V 3 AC -15/+10% 47-63Hz rated power 1.1 kw.	Yes / No / Explain		
111	Power rating	1.1 kw	Yes / No / Explain		
112	Data sheet	Motor data sheet / catalogue shall be provided along with the quote.	Yes / No / Explain		
113	Control Panel	Control Panel to house the HMI and VFD drive shall be provided as given in Table.8.	Yes / No / Explain		
114	Make of control panel	Rittal/BCH	Yes / No / Explain		
115	Purpose	To house the control and instrumentations	Yes / No / Explain		
116	Panel Enclosure Type	Skid Mountable	Yes / No / Explain		

117	Quantity of control panel	1 number	Yes / No / Explain		
118	MCB	Suitable rating and capacity	Yes / No / Explain		
119	Wiring Accessories including Auxiliary Contactors and Relays for control of mixer motor.	Siemens/Schneider/L&T	Yes / No / Explain		
120	8 Channel Relay Board	Phoenix/Siemens/Omron	Yes / No / Explain		
121	Utility Power Socket, Cable Glands etc.	Phoenix/ Philips/ Crompton/ Havells/ Finolex	Yes / No / Explain		
122	Location	This panel shall be located in one corner of the mixing skid	Yes / No / Explain		
123	GA drawings	GA drawing for the control panel shall be provided to VSSC for approval prior to realization.	Yes / No / Explain		
124	Alarms and interlocks	Safety interlocks with sound alarm/LED message/alarm shall be provided for all the equipment	Yes / No / Explain		
125	HMI	An HMI interface to operate the mixing station and indicate all the process & mixing parameters on real time shall be provided with following specifications.	Yes / No / Explain		
126	Type of HMI	SIMATIC HMI, Basic Panel, Key/ touch operation	Yes / No / Explain		
127	Make OF HMI	SIEMENS/Honeywell/ Fuji	Yes / No / Explain		
128	Display	12" TFT	Yes / No / Explain		
129	Interface	PROFINET	Yes / No / Explain		
130	Configurable	Win CC Basic V13/ STEP 7 Basic V13, contains open-source software.	Yes / No / Explain		

131	Mixer schematic	HMI shall be configured with mixer schematic indicating all the mixer parameters with a provision to vary the setpoints	Yes / No / Explain		
132	Data logging	Process data of each mixing shall be logged separately and shall be retrievable through USB. Provision to duplicate the HMI data through PC interface shall also be provided as redundancy.	Yes / No / Explain		
133	Electrical connections	Electrical interconnections between various motors and sensors shall be through electrical cables provided separately for power and control purpose as per the specification provided in Table-7.	Yes / No / Explain		
134	Instrumentation Cable for Valves- 4C x 1.0 sq.mm - Unarmoured Cu Cable.	Lapp Kabel/RR/Poly Cab	Yes / No / Explain		
135	Shielded Cable for Analog Inputs- 4C x 1.0 sq.mm- Shielded Cu Cable	Lapp Kabel/ Finolex	Yes / No / Explain		
136	Power Cable for Motor- 4C x 4 sq. mm - Armoured Cu Cable	Lapp Kabel/RR/Poly Cab	Yes / No / Explain		
137	Cable routing	All the cables shall be routed with appropriate protective cover on the mixing station.	Yes / No / Explain		
138	Cable tags	Each cable shall have cable tags for ease of identification	Yes / No / Explain		
139	Earthing	All the motors and sensors mounted in the mixing station shall be suitable earthed with dedicated earth pits	Yes / No / Explain		

140	Electrical wiring diagram	Electrical wiring line diagram shall be provided to VSSC for approval prior to supply	Yes / No / Explain		
141	UPS System	UPS of suitable power rating shall be provided for power backup of the control panel. Detailed technical specification for UPS is given in Table 8	Yes / No / Explain		
142	Capacity of UPS	UPS of suitable capacity for operation of control System	Yes / No / Explain		
143	Make of UPS	VguardSlender/VERTI V Liebert / Delta/ Microtek/ Eaton/ Luminous	Yes / No / Explain		
144	UPS Control	Offline mode	Yes / No / Explain		
145	Power	3 KVA	Yes / No / Explain		
146	Cable Requirement	A suitable cable of min 2 m size shall provide along with the supply.	Yes / No / Explain		
147	Transfer Time	Less than 5 ms	Yes / No / Explain		
148	Backup time	Minimum 30 minutes on full load	Yes / No / Explain		
149	Protection	Over-voltage protection, Lightning, Short Circuit, and surge protection	Yes / No / Explain		
150	Metallic Frame SPECIFICATIONS	Metallic frame shall be used for mounting of horizontal sigma mixer, storage tanks, tubing and control panel etc.	Yes / No / Explain		

151	Requirements OF Metallic Frame	<p>1. Entire mixing station shall be mounted on a skid platform for easy handling and Maintenance.</p> <p>2. MOC of Skid platform: SS-304 of a suitable thickness (Min 8 mm)</p> <p>3. Coats each of epoxy primer and paint shall be provided to the basement of metallic frame.</p> <p>4. Horizontal platform 1600 mm x 1600 mm</p> <p>5. Vertical platform 1600 mm (W) x1500mm (H)</p> <p>6. Suitable anti-Vibration Pad for floor shall be provide to isolate any vibration coming out from system.</p> <p>7. Height of skid platform Approx. 500 mm</p> <p>8. Support leg of length 450 mm min and 10 mm thickness shall be used.</p> <p>9.Support legs shall be provided at a minimum of three locations along the length and width of the support structure. 10. One support leg shall be provided in the middle of the skid platform.</p>	Yes / No / Explain		
152	Schematic Drawing of Metallic Frame	Party shall upload the schematic of metallic frame drawing indicating the all sub systems such as storage tank, mixer, tubing end fitting and their location.	Yes / No / Explain		
153	Product discharge plate and storage tank	Party shall design the suitable product discharge plate connecting the mixer body to a product storage tank. Party shall provide the product storage tank for storing the final lubricant slurry.	Yes / No / Explain		

154	Product discharge plate MOC	SS-304	Yes / No / Explain		
155	Quantity of product discharge plate	1 number	Yes / No / Explain		
156	Product storage tank MOC	SS-304	Yes / No / Explain		
157	Size of Storage tank	10 L	Yes / No / Explain		
158	Quantity of product storage tank	1 number	Yes / No / Explain		
159	Dimensions	Suitable dimensions as per the end user requirement.	Yes / No / Explain		
160	Leak tightness of product storage tank	Vessel design shall be such that there should not be any leak from the storage tank	Yes / No / Explain		
161	Fabrication Drawing	Party shall submit the detailed fabrication drawing for the storage tank during the submission of the tender.	Yes / No / Explain		
162	List of Spares and consumables	Party shall supply the below list of spares and consumables along with the actual supply at free of cost.	Yes / No / Explain		
163	12 mm Square Teflon Rope – Gland	1 Roll	Yes / No / Explain		
164	Quantity of Bearing Grease	Supplied quantity should meet the requirement for 3 years of trouble free operation of mixer.	Yes / No / Explain		
165	Quantity of Gaskets / Seals	Supplied quantity should meet the requirement for 2 years of trouble free operation.	Yes / No / Explain		
166	PTFE Bushes & Lip Seals	1 number each	Yes / No / Explain		
167	Flexile hose of NYLON/PE/PP /HDPE	2-meter	Yes / No / Explain		
168	Product discharge plate (SS-304)	1 number	Yes / No / Explain		

169	Lubricant storage tank (SS-304) tank 10 L volume	1 number	Yes / No / Explain		
170	Specific requirements		-		
171	Guarantee including (parts+ labor etc.)	The supplier should give a guarantee that the entire works carried out by them is free from fault in design, material and workmanship for a minimum period of 24 months from the date of the satisfactory installation and commissioning and supplier should agree to make all necessary or desirable alterations, repairs and replacements of defective parts supplied by them free of charge including transportation charges if any. Necessary certificate should be furnished by the selected firm/company/vendor.	Yes / No / Explain		
172	Performance certificate	Vendor has to submit the performance letter or purchase order proof from the client for having supplied at least one similar system.	Yes / No / Explain		

173	Pre-fabrication approval	<p>1. Party shall submit the detailed design drawing with design report, fabrication drawing of the mixing system, PI & D and electrical drawing (wiring, GA) etc., to VSSC for approval after release of purchase order as per delivery schedule on Section 16.</p> <p>2. Party shall share the 3D model of a fully automated mixing system made in AutoCAD/Solid works during the tender submission.</p> <p>3. Party shall be ready to accept any minor modifications with regard to components, configuration and operational ergonomics suggested by VSSC without any additional cost.</p>	Yes / No / Explain		
174	Delivery Schedule	As per the schedule given in the attached technical specifications.	Yes / No / Explain		
175	Inspection	As per the attached annexure.	Yes / No / Explain		
176	General conditions	As per the attached annexure.	Yes / No / Explain		
177	Party shall confirm the submission of Annexure 1	Specification Sheet cum Compliance Matrix.	Yes / No / Explain		

Supporting Documents required from Vendor

1. Commercial Quote in PDF format (Price Bid Related)

2. Materail Certificate

3. Drawing of Storage tank for sodium silicate

4. Drawing of Storage tank for water

5. Drawing of Sigma mixer

6. 3 D model of automated Lubricant mixing system

7. Schematic of Metallic frame indicating all subsystem such as storage tank, mixer , tubing , end fitting etc.

8. Vendor has to submit the performance letter or purchase order proof from the client for having supplied at least one similar system.

9. Drawing of Lubricant Storage tank.

5 additional documents can be uploaded by the vendor

C.2 Commercial Terms / Bid

Sl. No.	Description	Compliance	Vendor Terms
1	All the sensors and instruments shall be calibrated. Necessary calibration certificates traceable to National / International Standards shall be provided along with supply.	Yes / No / Explain	
2	Warranty for all the deliverables shall be 24 months from the date of satisfactory installation at VSSC. Necessary certificates to be provided along with supply.	Yes / No / Explain	
3	Items to be packed in a wooden crate with adequate packing for safe shipment	Yes / No / Explain	
4	Warranty	Yes / No / Explain	
5	Training	Yes / No / Explain	
6	GST@5% as per Ministry of Finance, Dept. of Revenue Notification No. 25/2018 Integrated Tax (Rate) Schedule-I; Sl.No.243B dated 31.12.2018 (Amendment to Notification No. 7/2018 - Integrated Tax (Rate) dated 25.01.2018 and Notification No. 1/2017 - Integrated Tax (Rate) dated 28.06.2017).Necessary certificate will be issued	Yes / No / Explain	
7	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 Indentity Bond in lieu of BG. In the event of non-performance of contractual obligations, SD will be forfeited).	Yes / No / Explain	
8	Delivery Terms(FOR VSSC)	Yes / No / Explain	
9	Delivery Period(Delivery schedule as per Clause No.16 of Technical Annexure)	Yes / No / Explain	

10	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	
11	Warranty(Two Years)	Yes / No / Explain	
12	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	
13	Payment Term: (Our Default payment term: For indigenous orders: 100% within 30 days after receipt and acceptance of item at our site. NOTE: CONSEQUENT TO COVID 19 PANDEMIC AND AS PER EXTANT GUIDELINES FROM DEPARTMENT OF SPACE, NO ADVANCE PAYMENT IS PAYABLE TO THIS TENDER).	Yes / No / Explain	
14	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	
15	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	

16	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	
17	PO Placement Address (with Name and Contact Details of sales person concerned).	Yes / No / Explain	
18	Mention the percentage of local content in your item	Yes / No / Explain	
19	Offer Validity	Yes / No / Explain	
20	Foreign vendors are not permitted to quote. Quotations directly from foreign OEM/ or from agents quoting on behalf of foreign OEMs are not allowed to participate in this tender	Yes / No / Explain	
21	Kindly mention whether the quoted price is inclusive or exclusive of GST	Yes / No / Explain	
22	The charges towards " Design, fabrication and supply of Lubricant Mixing system " shall be quoted towards " Automation of Solid lubricant Mixing system and all other charges like Installation, P& F, Freight, Spares cost shall be mentioned in the respective templates in price bid	Yes / No / Explain	
23	Your price bid in pdf format including all split up and split up cost of spares shall be attached in the "price bid related documents"	Yes / No / Explain	
24	Any other Terms	Yes / No / Explain	

C.3 Price Bid

Sl. No.	Item	Quantity	Unit Price	Currency	Total Price	Taxes & duties	Remark
1	Automation of Solid lubricant mixing system	1.00 Nos.		-			

2	Automation of Solid lubricant mixing system (AMC for 3 Years - Optional)	3.00 Years		-			
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Common charges (Applicable for all items)

Freight charge	
Installation Charges	
Packing and Forwarding Charges	
Essential Spares Cost (lumpsum)	
Other Charges (If any)	