

भारत सरकार  
अंतरिक्ष विभाग  
सतीश धवन अंतरिक्ष केंद्र शार  
श्रीहरिकोटा रेंज डा.घ. 524 124  
श्री पोष्टी श्रीरामुलु नेल्लूर जिला, आं.प्र., भारत  
दूरभाष : +91-8623 245060 (6 जं)  
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Department of Space  
Satish Dhawan Space Centre SHAR  
Shriharikota Range P.O. 524 124  
SPSR Nellore Dist., AP, India  
Telephone : +91-8623 245060 (6 Lines)  
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**निविदा सूचना सं. NOTICE INVITING TENDER**  
**No. SDSC SHAR/Sr.HPS/PT/SOSE/03/2025-2026**

भारत के राष्ट्रपति की ओर से वरि. प्रधान, क्रय एवं भंडार, सतीश धवन अंतरिक्ष केंद्र श्रीहरिकोटा निम्नलिखित वस्तुओं के लिए **ऑनलाइन निविदाएं** आमंत्रित करते हैं /On behalf of the President of India, Sr. Head, Purchase & Stores, SDSC SHAR, Sriharikota invites **online quotations** for the following:

क्र.सं. SINo	संदर्भ सं. Ref. No.	विवरण Description	मात्रा Qty.
01	SDSC SHAR/SOSE Purchase/SH202500060501 E-Procurement (Public Tender - Two Part basis)	Fabrication of SS Piping for CABA System	03 Line Items, 01 Lot each.

निविदा जमा करने की प्रारंभिक तिथि (ऑनलाइन)/Bid Submission Start Date (online) : 24-06-2025, 15:00 hrs.  
निविदा स्पष्टीकरण की अंतिम तिथि (ऑनलाइन)/Bid clarification Due date(online) : 30-06-2025, 14:00 hrs.  
निविदा जमा करने की अंतिम तिथि (ऑनलाइन)/Bid submission due date (online) : 16-07-2025, 14:00 hrs.  
निविदाएं खोलने की तिथि (ऑनलाइन)/Bid opening date(online) : 16-07-2025, 14:05 hrs.  
मूल्य निविदाएं खोलने की तिथि (ऑनलाइन)/Price Bid opening date(online) : 22-07-2025, 14:00 hrs.

निविदाकार के लिए निर्देश Instructions to Tenderers:

**ईजीपीएस के माध्यम से भेजी गई निविदाओं पर निविदा शुल्क तथा बयाना जमा राशि लागू नहीं होगी।**

**Tender fee and EMD not applicable for tenders submitted through EGPS**

- कार्य के सम्पूर्ण विवरण/जानकारी तथा नियम व शर्तों इत्यादि के लिए संलग्न अनुलग्नक को देखें। / For full details/scope of work and terms and conditions etc., please see the enclosed annexures.
- इच्छुक निविदाकार इसरो के ई-क्रय वेबसाइट <https://eproc.isro.gov.in> से ई-निविदा डाउनलोड कर सकते हैं तथा अपनी निविदा (बोली) को ई-क्रय पोर्टल पर ऑनलाइन जमा कर सकते हैं। Interested tenderers can download the e-tender from ISRO e-procurement website <https://eproc.isro.gov.in> and submit the offer online in the e-procurement portal.
- निविदा दस्तावेज इसरो की वेबसाइट [www.isro.gov.in](http://www.isro.gov.in), इसरो ई-क्रय वेबसाइट <https://eproc.isro.gov.in> तथा सतीश धवन अंतरिक्ष केंद्र शार की वेबसाइट [www.shar.gov.in](http://www.shar.gov.in) पर भी उपलब्ध हैं। इन्हें डाउनलोड करके अपनी निविदा (बोली) को ई-क्रय पोर्टल पर ऑनलाइन जमा किया जाना चाहिए। /Tender documents are also available on ISRO website [www.isro.gov.in](http://www.isro.gov.in), ISRO e-procurement website <https://eproc.isro.gov.in> and SDSC SHAR, Sriharikota website [www.shar.gov.in](http://www.shar.gov.in). The same can be downloaded and offer shall be submitted online in the e-procurement portal.
- आखिरी समय पर होने वाली भीड़-भाड़ कम करने के लिए निविदाकार अपनी निविदा (बोली) ऊपर विनिर्दिष्ट समय के अंदर ही जमा कर दें। नए विक्रेता के रूप में अनुमोदन के लिए आवेदन / अनुरोध पत्र ई-मेल द्वारा निविदा दस्तावेज में अंकित निविदा संख्या का उल्लेख करते हुए ऑनलाइन जमा करें। / Tenderers shall submit their offers within the given time as specified above and last moment rush for bid submission shall be avoided. Request for new vendor approval shall be submitted online and the same shall be intimated by mail (mentioned in the tender document) referring the tender number.
- वरि. प्रधान क्रय एवं भंडार, सतीश धवन अंतरिक्ष केंद्र श्रीहरिकोटा के पास किसी भी या सभी निविदाओं को स्वीकार / अस्वीकार करने का अधिकार है। / Sr. Head, Purchase and Stores, SDSC-SHAR, Sriharikota reserves the right to accept or reject any/or all the quotations.

वरि. प्रधान क्रय एवं भंडार  
Sr. HEAD, PURCHASE AND STORES  
सतीश धवन अंतरिक्ष केंद्र, श्रीहरिकोटा

Satish Dhawan Space Centre, Sriharikota  
दिनांक DT: 23.06.2025

**GOVERNMENT OF INDIA  
DEPARTMENT OF SPACE  
SATISH DHAWAN SPACE CENTRE SHAR SRIHARIKOTA (SDSC SHAR)  
NELLORE**

**Tender for Fabrication of SS piping for CABA system**

**Bids to be submitted online**

**Tender No.: SDSC SHAR/SOSE Purchase/SH202500060501 dated 26-06-2025**

## A. Tender Details

Tender No :	<b>SDSC SHAR/SOSE Purchase/SH202500060501</b>
Tender Date :	<b>26-06-2025</b>
Tender Classification:	<b>GOODS</b>
Purchase Entity :	<b>SOSE Purchase</b>
Centre :	<b>SATISH DHAWAN SPACE CENTRE SHAR SRIHARIKOTA (SDSC SHAR)</b>

### Fabrication of SS piping for CABA system

Fabrication of SS piping for CABA system  
(GeM Report Id:GEM/GARPTS/27052025/XJ5D0QV31E4G)

Note: Being a Two-Part tender, bidders shall not disclose/indicate any of the price value in the technical bid and also while seeking/providing clarification. In case, if any bidder discloses any of the price amount, their offer will be rejected.

#### A.1 Tender Schedule

Bid Submission Start Date :	<b>26-06-2025 15:00</b>
Bid Clarification Due Date :	<b>30-06-2025 14:00</b>
Bid Submission Due Date :	<b>16-07-2025 14:00</b>
Bid Opening Date :	<b>16-07-2025 14:05</b>
Price Bid Opening Date :	<b>22-07-2025 14:00</b>

## B. Tender Attachments

NA

### Instructions To Vendors

#### 1. STANDARD TERMS & CONDITIONS

1. Tele No.08623-225174/226377

Fax No.08623-225170/22-5028

e-Mail ID : hps@shar.gov.in, nair\_binu@shar.gov.in, akdas@shar.gov.in

##### 1. Instruction to Indigenous Suppliers:

a) Payment Terms shall be as specified in RFP. If not specifically mentioned Our Normal payment term is 100% within 30 days after receipt and acceptance of the item at our site. Please confirm acceptance in your quotation.

b) GST/IGST: Please specify GST percentage, if any, in your offer. Please mention HSN/SAC code in your offer and Our GST No. is. 37AAAGS1366J1Z1.

##### c) Purchase / Price preference to MSEs

Purchase/Price preference will be applicable to the product reservation admissible to the Micro and Small Enterprises. Purchase/Price Preference shall be extended to the MSEs under the Public Procurement Policy for MSEs formulated under the Micro, Small and Medium Enterprises Development Act, 2006. The participating MSEs in a tender, quoting price within the band of L-1 + 15% may also be allowed to supply a portion of the requirement by bringing down their price to the L-1 price, in a situation where L-1 price is from someone other than an MSE. Such MSEs may be allowed to supply up to 25% of the total tendered value. In case of more than one such eligible MSE, the supply will be shared equally.

Micro & Small Enterprises which have technical capability to deliver the goods & Services as per prescribed technical & quality specifications and may not be able to meet the qualification criterion relating to prior experience-prior turnover may be relaxed as per guidelines issued by Ministry of MSMEs & as amended from time to time.

Interested vendors shall specifically claim the benefit with supporting documents.

##### d) Purchase / Price preference to Make-in-India Products:

Preference shall be given to Class 1 local supplier as defined in public procurement (Preference to Make in India), Order 2017 as amended from time to time and its subsequent Orders/Notifications issued by concerned Nodal Ministry for specific Goods/Products. The minimum local content to qualify as a Class 1 local supplier is denoted in the bid document 50%. If the bidder wants to avail the Purchase preference, the bidder must upload a certificate from the OEM regarding the percentage of

the local content and the details of locations at which the local value addition is made along with their bid, failing which no purchase preference shall be granted. In case the bid value is more than Rs. 10 Crore, the declaration relating to percentage of local content shall be certified by the statutory auditor or cost auditor, if the OEM is a company and by a practicing cost accountant or chartered accountant for OEMs other than companies as per the Public Procurement (preference to Make-in-India) order 2017 dated 04.06.2020. In case Buyer has selected Purchase preference to Micro and Small Enterprises clause in the bid, the same will get precedence over this clause.

## 2. Instruction to Foreign Suppliers:

- a) Payment Terms shall be as specified in RFP. If not specifically mentioned Our normal payment term is SIGHT DRAFT, Please confirm acceptance in your offer, if you insist for L/C, and all bank charges shall be to your account. Confirm acceptance.
- b) Please specify whether any export clearance is required in case of an order on you.
- c) Warranty/Guarantee applicable for the item shall be mentioned in your offer
- d) Special Certification for packing Material : as per Plant Quarantine (Regulation of Control into India) Order 2003, Articles packed with packing material of plant origin viz., hay, straw, wood shavings, wood chips, saw dust, wood waste, wooden pallets, Dunn age Mats, wooden packages, coir pith, peat or sphagnum moss etc., will be allowed entry by Customs only with a Phytosanitary Certificate. In case of a Purchase Order, if you propose to us any of the above material for packing such a certificate issued by your local Plant Quarantine Authority shall be furnished.
- e) Confirm whether any Export License is required and for which End User Certificate is to be provided by us, in case of an Order on you. (Enclose format for EUC, if applicable)
- f) Either Indian Agent on behalf of the foreign principals or the foreign principal directly can quote against this order, but not both. In either case an Indian agent cannot represent more than one principal against the same tender.
- g) In case the quote is in INR we prefer to execute the same on HSS Basis and for which Concessional Customs duty as per Notification no.50/2017 Customs dated 30.06.2017, Serial No.539(A) as amended by Notification no.05/2018 dated 25.01.2018. In case the quote is on Indian Rupee (Outside High Sea Sale), the price shall include taxes and duties if any. We shall not be able to provide any duty or IGST tax exemption/concession certificates. If the item quote is of USA make, please quote for all-inclusive price since we prefer to get the item on FOB destination basis.
- h) Any bidder from a country which shares a land border with India will be eligible to bid in any procurement whether of goods, services (including consultancy services and non-consultancy services) or works (including turnkey projects) only if the bidder is registered with Competent Authority as specified in Office Memorandum no.F.No.6/18/2019-PPD, Ministry of Finance, Department of Expenditure, Public Procurement Division dated 23rd July 2020. All the conditions mentioned in the above OM is applicable for this tender.

Common terms to Indigenous and foreign suppliers:

### 3.Warranty

You shall provide applicable warranty for the items offered by you without fail. For the applicable period you shall provide necessary warranty certificate.

### 4.Performance Bank Guarantee

Towards the performance of the systems during the warranty period you shall submit a performance bank guarantee equivalent to 3% of the order value to cover the warranty period. This PBG shall be interest free and the same shall be returned to you on successful completion of all contractual obligations. The said PBG shall have a further claim period of 2 months.

### 5.Security Deposit

On acceptance of the order, you shall submit an interest free amount equivalent to 3% of the total contract/order value towards security deposit. This security deposit is collected towards the performance of the Contract. The said Security Deposit shall be submitted either in the form of Bank Guarantee/Demand Draft/FDR receipts duly endorsed in the name of the centre. The Security Deposit will be returned to you on successful completion of the Contractual obligations; failing which it shall be forfeited/adjusted.

6.Offer Validity : - In case of single part tender - the validity of offers/tenders should be 90 days. In case of two part tender - 120 days from the date of opening of Part-I bid and 60 days from the date of opening of Part-II bid. Tenders shorter than offer validity mentioned above will not be considered for evaluation.

### 7.Liquidated Damages:

If you fail to deliver the ordered items satisfactorily within the time specified or any extension thereof, Liquidated Damage @ 0.5%(zero point five percent) of the order value or part thereof the un-delivered items for each calendar weeks of delay shall be recovered from your bill. However total Liquidated Damage shall not exceed 10% (ten percent) of the order value.

### FORCE MAJEURE:

Should a part or whole work covered under this contract be delayed in delivery/completion of work due to reasons of Force majeure which shall include legal lockouts, strikes, riots, civil commotion, fire, accidents, quarantines, epidemic, acts of God & War, stoppage of deliveries by the Government , freight embargoes etc; the delivery period/completion of work referred to in this Contract shall be extended by a period not in excess of duration of such Force Majeure. The occurrence shall be notified by either party within reasonable time.

### 8.Offers received through post, courier, fax or email will not be considered.

9. Technical and commercial bid (Part-I) shall not contain any price details. Optional accessories or other price details, if any shall be uploaded in Supporting documents related to Price Bid, to be opened along with Price Bid.

10. In respect of FIM being issued, the fabricator shall submit Bank Guarantee for equivalent sum compulsorily. In case, submission of Bank Guarantee is not possible, the reasons there for shall be clearly mentioned. However, for such cases the fabricators at their cost shall secure such FIM through

Insurance Policy with Director, SDSC SHAR as beneficiary. In case of PSU and Government Organization, Indemnity Bond in lieu of Bank Guarantee is acceptable. Balance FIM/Scrap, if any shall be returned along with the supply of the items. Please confirm acceptance in your quotation.

11. SDSC SHAR shall have the right to place part order among the parties for the items for which they are the lowest.

12. Arbitration:

In the event of any dispute/s, difference/s or claim/s arising out of or relating to the interpretation and application of the Contract, such dispute/s or difference/s or claim/s shall be settled amicably by mutual consultations of the good Offices of the respective Parties and recognizing their mutual interests attempt to reach a solution satisfactory to both the parties. If such a resolution is not possible, within 30 days from the date of receipt of written notice of the existence of such dispute/s, then the unresolved dispute/s or difference/s or claim/s shall be referred to the Sole Arbitrator appointed by the Parties by mutual consent in accordance with the rules and procedures of Arbitration and Conciliation Act 1996 as amended from time to time. The arbitration shall be conducted in Bengaluru in the Arbitration and Conciliation Centre Bengaluru (Domestic and International) as per its rules and regulations. The expenses for the Arbitration shall be shared equally or as may be determined by the Arbitrator. The considered and written decision of the Arbitrator shall be final and binding between the Parties. The applicable language for Arbitration shall be English only.

Work under the Contract shall be continued by the CONTRACTOR during the pendency of arbitration proceedings, without prejudice to a final adjustment in accordance with the decision of the Arbitrator unless otherwise directed in writing by the DEPARTMENT or unless the matter is such that the works cannot be possibly continued until the decision (whether final or interim) of the Arbitrator is obtained.

## **2. General Instructions to Vendor**

### **1. Instructions to tenderers**

TeleNo.08623-225174/226377

Fax No.08623-225170/22-5028

e-Mail ID : hps@shar.gov.in, nair\_binu@shar.gov.in, akdas@shar.gov.in

1. Interested tenderers may, at their option, login to <https://eproc.isro.gov.in> and submit your offers.

2. TENDER FEE IS NOT APPLICABLE.

3. EARNEST MONEY DEPOSIT IS NOT APPLICABLE IF NOT MENTIONED IN THE RFP SPECIFICATION.

4. Indian agents while quoting on behalf of their principals are requested to attach Principals original quote, necessary authorization letter from their Principals, copy of agency agreement etc. in their bid.

5. TWO PART BIDS: In case of Two part tender, price details shall not be uploaded in the Technical & Commercial Bids (Part I), failing to which the bid will be treated as INVALID.

6. VALIDITY OF OFFER: - In case of single part tender - the validity of offers/tenders should be 90 days. In case of two part tender - 120 days from the date of opening of Part-I bid and 60 days from the date of opening of Part-II bid. Tenders shorter than offer validity mentioned above will not be considered for evaluation.

7. Due date & time: Sufficient time has been allotted for Bid submission. Vendors are requested to complete Bid submission well in advance. Last minute requests for due date extension citing server problems etc. will not be entertained. Bids will not be entertained after the due date and time.

7 (A). Request for the extension of the due date will not be considered.

8.

(a) Bid Opening for Public Tender: In case of Public Tender-Two Part Tenders: Technical and Commercial Bids will be opened on the first day specified for Tender opening. Interested vendors can attend the tender opening session to know the bidding details (Bidders presence is not mandatory to consider the quote for evaluation). Price Bid opening of the selected vendors will be scheduled later and it will be intimated to the selected Bidder (s).

(b) For Limited Tender: Bidders participation is not allowed.

9. Prices are required to be quoted according to the units indicated.

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

11. (a) All available technical literature, catalogues and other data in support of the specifications and detail of the items should be furnished as attachments.

(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 non-acceptance 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 dimensions details are available the same should be indicated in your offer.

(d) Specifications: Stores offered should strictly conform to our specifications. Deviations, if any, should be clearly indicated by the tenderer in their quotation. The tenderer should also indicate the Make/Type number of the stores offered and provide catalogues, technical literature and samples wherever necessary. Test certificates wherever necessary should be attached. Whenever options are 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.

12. 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 portion of quantity offered and the tenderers shall supply the same at the rates quoted.

13. All amounts shall be indicated both in words as well as in figures. Where there is difference between amounts quoted in words and figures, amount quoted in words shall prevail.

14. The tenderer will be required to furnish a document containing the name of his bankers as well as the latest income-tax clearance certificate duly counter signed by the Income-tax Officer of the Circle concerned under the Seal of his office, if required by the Purchaser.

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

16. Sr. Head, Purchase and Stores, SDSC SHAR SRIHARIKOTA reserves the right to accept or reject any bid in part or full without assigning any reason thereof.

17. Any bidder from a country which shares a land border with India will be eligible to bid in any procurement whether of goods, services (including consultancy services and non-consultancy services) or works (including turnkey projects) only if the bidder is registered with Competent Authority as specified in Office Memorandum no.F.No.6/18/2019-PPD, Ministry of Finance, Department of Expenditure, Public Procurement Division dated 23rd July 2020. All the conditions mentioned in the above OM is applicable for this tender.

#### 18. Micro and Small Enterprises [MSEs]

a). In order to avail the benefits extended by Government of India to the Micro and Small Enterprises [MSEs] in respect of Goods and Services as per provision of the policy, MSEs registered with District Industries Centre [DIC] or Khadi and Village Industries Commission [KVIC] or Khadi and Village Industries Board [KVIB] or Coir Board or National Small Industries Commission [NSIC] or Directorate of Handicrafts and Handlooms or Udyog Aadhar Memorandum, or any other Body specified by Ministry of MSME have to submit a copy of Valid Certificate with self-attestation along with the Technocommercial bid. No Certificate claiming exemption will be entertained after Tender due date.

b). MSEs are entitled for [i] issue of Tender documents Free of Cost [ii] Exemption of Earnest Money Deposit [EMD]. However, Performance Security is mandatory for Goods and Services.

c). If the Tenderer[s] is/are SC/ST/Woman entrepreneur owned MSEs, specific mention for the same should be there in the valid certificate submitted by the tenderer.

d). Tenderers claiming MSME benefit shall furnish copy of UAM No. as uploaded on CPP portal to avail benefit.

## 19. Public Procurement [Preference to Make in India]:

Public Procurement (Preference to Make in India) order 2017- revision issued by Government of India, Department of Promotion of Industry and Internal Trade [DPIIT] Public Procurement [preference to Make in India] vide Order No P-45021/2/2017-PP(BE II) dated 16/09/2020 or as amended thereafter. The Tenders submitted are subjected these orders.

Bidders are required to submit necessary certificates & documents as detailed in the above referred GOI Order in support of their claim to avail benefit against this order. The bidders who claim Purchase Preference under Make in India Policy shall fulfill all requirements of tender document applicable for Indigenous Manufacturer. FAILURE TO SUBMIT THE REQUIRED DOCUMENTS MAY RENDER A TENDER UNACCEPTABLE.

Local Content means the amount of value added in India which shall, unless otherwise prescribed by the Nodal Ministry, be the total value of the item procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties) as a proportion of the total value, in percent.

Local Supplier: Class-I Local Supplier means a supplier whose product offered for procurement has local content equal to or more than 50%. Class-II Local Supplier means a supplier whose product offered for procurement has local content more than 20% but less than 50%. Non-Local Supplier means a supplier whose product

Margin of Purchase Preference: For being eligible for purchase preference under this clause, the Margin of purchase preference shall be 20% (i.e. L1 + 20% band). Preference: Purchase Preference shall be given to Class-I Local Supplier only in the manner specified here under:

(a) In the procurement of Goods which are divisible in nature:

i. If L1 is from a Class-I local supplier, the contract for full quantity will be awarded to L1.

ii. If L1 is not 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, and contract for that quantity shall be awarded to such Class-I local supplier subject to matching the L1 price. 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 case some quantity is still left uncovered on Class-I local supplier, then such balance quantity may also be ordered on the L1 bidder

(b) In the procurement of Goods which are not divisible in nature:

- i. If L1 is Class-I local supplier, the contract for full quantity will be awarded to L1
- ii. If L1 is not Class-I local supplier, 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, and the contract shall be awarded to such local supplier subject to matching the L1 price.
- iii. In case such lowest eligible Class-I local supplier fails to match the L1, 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 contract shall be awarded accordingly. In case none of the local suppliers within the margin of purchase preference matches the L1 price, then the contract may be awarded to the L1 bidder

(c) Class-II local supplier will not get purchase preference

Verification of local content:

- i. The Class-I local supplier / Class-II local supplier at the time of bidding shall be required to indicate percentage of Local Content and provide self-certification that the items offered meet the local content required for Class-I local supplier/ Class-II local supplier and shall give the details of the location(s) at which the local value addition is made .
- ii. False declarations will attract banning of business of the bidder or its successor(s) for a minimum period of three years along with any other penal action as may be deemed fit including rejection of the offer, forfeiture of all dues including EMD/ Security Deposit / banning of the firm.
- iii. A supplier who has been debarred by any procuring entity for violation of this order shall not be eligible for preference for procurement for the duration of debarment. It will be the bidders responsibility to provide self-certification, clearly stating that the bidder is not serving debarment from any procuring entity for the tendered item at the time of tendering.

### **3. Tender- Two part Instructions**

1. This requirement can be quoted only through online e-procurement mode using ISRO portal <https://eproc.isro.gov.in>. No manual tender will be considered.
2. The vendors have to get themselves registered in above site to download the tender details. To register in above ISRO portal (<https://eproc.isro.gov.in>) the vendors need to have digital certificate The digital certificate can be obtained from any digital certifying authority like M/s (n)Code solutions; M/s Tata Consultancy Ltd., M/s Satyam Information System etc.
3. The parties are advised to download the tender and submit the bid on online at least two days prior to tender closing date to avoid last minute network problem. The due date shall not be extended due to

network or computer related problems.

4. Tender fee is not applicable.

5. This being a two part tender i.e. Technical & Commercial Part and Price Part, the tenderer should not attach any documents containing Pricing information along with Technical & Commercial Bid. Normally we do not open PART-II (Price bid), if PART-I (Technical Offer) does not meet with our technical specification requirements. Price bid opening date mentioned in the tender document/ Schedule is tentative only. However, price bid opening will be made only after satisfactory completion of Part-I technical bid evaluation and with prior intimation to vendors.

6. Our Tender Enquiry contains technical requirements and specification. The detailed technical specification of your offer should be covered in the technical part. The Technical documents need to be attached online as a single PDF file without any prior information. The tender attachments containing Price details will be treated as unsolicited offers and rejected.

7. The quote should indicate quantity wise unit rate separately which have to be filled online. The Prices are to be mentioned both in figures as well as in words. The taxes, duties etc. are to be calculated and indicated in the column provided in online forms explicitly.

8. Bidders are expected to comply with the technical & commercial and other terms and conditions given in vendor specified terms of this tender. In case of any deviation, the reasons thereof should be clearly specified in the vendor specified terms column.

9. The vendors have to compulsorily submit the compliance statement online otherwise their offer will not be considered for further evaluation. Before entering the compliance statement, vendors are advised to refer the detailed specification provided in the Technical Write-up/ Drawings document. The specification offered by the vendors may also be indicated in the compliance statement wherever necessary.

10. The Technical Specification / Drawing / Product Catalogues / Works carried by vendor / Make offered etc. as a single PDF file without any financial details has to be uploaded online mode by the vendor. This being TWO PART TENDER the PDF document uploaded should not contain any commercial/pricing details. If the attached PDF contains any pricing detail the offer will be treated as unsolicited and will be summarily rejected.

11. Original Equipment Manufacturer (OEM) or their representative can submit bid. Indian agents while quoting on behalf of their principals are requested to attach necessary authorization letter from their Principals in their bid.

12. Instructions on Indian Agent (if any):- Bidders are required to provide the following information in respect of their authorized Indian Agent, if any, alongwith technical bid as the same is mandatory as is required for consideration of the bid. Name, Address, Telephone no. , fax no., email of the Indian Agent including the contact person.

13. A letter from the OEM in the current date certifying that the said Indian Agent is their authorized Indian Agent and also indicating the responsibilities/role of the Indian Agent under the proposed purchase. Remuneration/service charges payable to the Indian Agent under the proposed purchase.

14. The offer should be valid for a minimum period of 120 days from the date of tender opening or as specified in the tender document.

15. Due date & time: Sufficient time has been allotted for Bid submission. Vendors are requested to complete Bid submission well in advance. Last minute requests for due date extension citing server

problems etc. will not be entertained. Bids will not be entertained after the due date and time.

17. The vendors may contact +91471 2565454/4574/2527/3753/3289 or eproc@vssc.gov.in for any technical assistance in bid submission.

18. Once the offer is submitted in on line mode by the vendor and bid submission period is over, vendor will not be able to provide revised offer.

19. Request for the extension of the due date will not be considered.

20. Tender which are not prepared in terms of these instructions are liable to be rejected.

21. Based on the response to the e-Public Tender Notice, SDSC SHAR reserves the right to change any milestone date of the tendering activity.

22. SDSC SHAR reserves the right to verify all claims made by the bidder.

23. Tender Opening : The Technical and Commercial Bid [Part-I] will be opened on the specified day mentioned in the schedule and in case any further clarification/ discussion are required, such clarification/discussion shall be called for before opening the Price Bid.

24. The exact date and time of opening of price bid of successful tenderers will be intimated later.

25. Tenderers can participate in the said tender opening to know the details on for which, the representative of the firm shall be duly authorized by Competent Authority. Against proper authorization only such representatives shall be allowed to attend the tender opening. Tenderer Presence is not mandatory to consider the Quote for evaluation.

26. SDSC SHAR, SRIHARIKOTA reserves the right to accept or reject any/or all the tenders in part or full without assigning any reasons thereof.

## C. Bid Templates

### C.1 Technical Bid - Fabrication of SS piping for CABA system

**1. PIPING: Fabrication ,Erection & Commissioning of Compressed air & Breathing air system and eye wash shower system at CESB as per specifications mentioned in the enclosed annexure.**

**Document : SPECIFICATIONS TO ANNEXURE**

**2. PIPING: Replacement of GI drain line with SS for eye wash shower system as per specifications mentioned in the enclosed annexure.**

**3. PIPING :Fabrication contract for removal of Fire water CS pipelines & MS structural supports from MLP as per specifications mentioned in the enclosed annexure.**

#### **Common Specifications (Applicable for all items)**

Sl No	Specification	Value	Compliance	Offered Specification	Remark
1	as per indent specifications	as per tender specifications	Yes / No / Explain		

#### **Supporting Documents required from Vendor**

**1. As per annexure to the indent**

**2. Furnish UDYAM Registration Certificate**

**3. MII Local Content Declaration**

**4. Land Border Declaration as per Rule 144(xi) of GFR**

5 additional documents can be uploaded by the vendor

## C.2 Commercial Terms / Bid

Sl. No.	Description	Compliance	Vendor Terms
1	As per annexure to the indent	Yes / No / Explain	
2	GST AND OTHER COSTS, IF ANY: Please mention only in percentage. (HSN/SAC code shall be indicated for each item and accordingly mention the GST Rate applicable as per prevailing guidelines).	Yes / No / Explain	
3	P&F CHARGES, IF ANY: Please mention percentage. Note: Suppliers are requested to explicitly state whether Quoted percentage is Extra or Inclusive, If Not i.e, if you quote as "YES/Accepted /Noted/ As per tender specifications" it will be treated as included in the quoted basic cost.	Yes / No / Explain	
4	FREIGHT CHARGES, IF ANY: Please mention the percentage. Note: Suppliers are requested to explicitly state whether Quoted percentage is Extra or Inclusive, If Not i.e, if you quote as "YES/Accepted /Noted/ As per tender specifications" it will be treated as included in the quoted basic cost.	Yes / No / Explain	
5	VALIDITY OF OFFER: In case of single part tender - the validity of offers/tenders should be 90 days. In case of two part tender - 120 days from the date of opening of Part-I bid and 60 days from the date of opening of Part-II bid. Tenders shorter than offer validity mentioned above will not be considered for evaluation.	Yes / No / Explain	
6	BEING A TWO PART TENDER, WE REQUEST YOU NOT TO DISCLOSE/INDICATE ANY OF THE PRICE VALUE WHILE SEEKING/PROVIDING CLARIFICATION. IN CASE IF YOU DISCLOSE ANY OF THE PRICE AMOUNT, YOUR OFFER WILL BE REJECTED.	Yes / No / Explain	
7	DELIVERY PERIOD/Contract Period: 24 MONTHS from the date of release of Purchase Order.	Yes / No / Explain	
8	DELIVERY TERM: FOR - Sriharikota	Yes / No / Explain	

9	PAYMENT TERMS: 100% payment for Erection/Fabrication/Cutting & removal works on pro-rata basis as applicable (as per clause 1.2.4 of General T&C of tender document).	Yes / No / Explain	
10	EVALUATION CRITERIA: As per clause 5.10 of General conditions of T&C of tender document, Splitting of the order is not envisaged due to nature of the works are interrelated and overall technically suitable lowest offer only will be recommended.	Yes / No / Explain	
11	LIQUIDATED DAMAGES: The Delivery Date stipulated in this Order is the essence of the Contract. You should adhere to delivery schedule as stated above and execute the order before the stipulated date. In case of delay, Liquidated Damages @ 0.5% (Half Percent) per week or part thereof on undelivered portion as pre-estimated damages subject to a maximum of 10% of total order value.	Yes / No / Explain	
12	QUANTITY VARIATION: As per clause 5.4 of General conditions of T&C of Section-A, Quantity Variation of Plus/Minus 10% has to be considered for all the line items as the scope of work is for fabrication of pipelines in site.	Yes / No / Explain	
13	WARRANTY: The offered items shall have warranty for a period of ONE YEAR from the date of supply, commissioning (if any) and acceptance against any manufacturing defects/ bad workmanship. If any defects are noticed during the above period, the same should be rectified/ replaced at FREE OF COST.	Yes / No / Explain	



14	<p><b>PERFORMANCE BANK GUARANTEE (PBG):</b> A Bank Guarantee for 3% of the order value (or as notified by Govt. Of India/ISRO from time to time) shall be provided towards the performance of the system. PBG may be furnished in the form of Insurance Security Bonds, Account Payee Demand Draft, Fixed Deposit Receipt from a commercial Bank, Bank Guarantee (including e-Bank Guarantee) from a Commercial bank executed on Rs.200/- non-judicial stamp paper or online payment in an acceptable form valid till the successful completion of warranty period plus 60 days. This will not carry any interest and shall be returned to you after successful completion of warranty period against your request. In case of nonperformance/poor performance the Bank Guarantee shall be forfeited</p>	Yes / No / Explain	
15	<p><b>SECURITY DEPOSIT (SD):</b> If Order value exceeds Rs.5 Lakh, Security Deposit shall be submitted for 3% of the order value (or as notified by Govt. Of India/ISRO from time to time) in single instalment through Insurance Surety Bonds/ Account Payee Demand Draft/ Bankers Cheque/ Fixed Deposit Receipts or Bank Guarantee (including e-Bank Guarantee) from a Commercial bank executed on Rs.200/- non-judicial stamp paper or payment online in an acceptable form within 14 days after receipt of Purchase Order valid till completion of the Delivery period plus 60 days claim period. This security deposit shall not carry any interest and shall be returned to you only after successful completion of total scope of work. In case of poor performance/ non performance of the contractual obligation security deposit shall be forfeited. In case of non submission of Security deposit within the stipulated period, this order shall be liable to be cancelled.</p>	Yes / No / Explain	
16	<p><b>COMBINED BANK GUARANTEE:</b> In case, if You are unable to provide two separate BGs, i.e., one for SD and one for PBG, You can submit a combined BG for SD &amp; PBG for 3% of the Order value valid till the completion of total contractual obligation (i.e. Delivery period plus Warranty period plus 60 days). Please confirm.</p>	Yes / No / Explain	

17	INSURANCE: Being a Govt. Of India Dept., Insurance is not required at our cost. Please ensure the safe delivery of the ordered item with proper transport worthy pack.	Yes / No / Explain	
18	Compliance to the Technical specifications, Terms and conditions and Annexures shall be mentioned.	Yes / No / Explain	
19	Purchase preference to Micro and Small Enterprises (MSEs): Purchase preference will be given to MSEs as defined in Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012 dated 23.03.2012 issued by Ministry of Micro, Small and Medium Enterprises and its subsequent Orders/Notifications issued by concerned Ministry. If the bidder wants to avail the Purchase preference, the bidder must be the manufacturer of the offered product in case of bid for supply of goods. Traders are excluded from the purview of Public Procurement Policy for Micro and Small Enterprises. In respect of bid for Services, the bidder must be the Service provider of the offered Service. Relevant documentary evidence in this regard shall be uploaded along with the bid in respect of the offered product or service. If L-1 is not an MSE and MSE Seller (s) has/have quoted price within L-1 plus 15% (Selected by Buyer) of margin of purchase preference/price band defined in relevant policy, such Seller shall be given opportunity to match L-1 price and contract will be awarded for 25% (selected by Buyer) percentage of total QUANTITY. Please specify whether you belong to MSE or not. If YES, supporting documents shall be uploaded.	Yes / No / Explain	
20	Do you have Unique GeM Seller ID? If YES, provide details. If NO, As per Office Memorandum No 6/9/2020-PPD dated 24/08/2020 of Department of Expenditure, it is mandatory for sellers providing Goods and Services to Central Government Organizations to be registered on GeM and obtain a Unique GeM Seller ID, at the time of Placement of Order/acceptance of contract. Tenderer shall ensure the same.	Yes / No / Explain	

21	<p><b>FORCE MAJEURE:</b> If at any time during the continuance of the order the performance in whole or part by either party of any obligation under this order shall be prevented or delayed by reasons of any war, hostility, acts of public enemy, civil commotion, sabotage, fire, floods, lightening, epidemic, quarantine restrictions, strikes, go-slow, lockout or acts of God, notice of which is given either party to the other within 21 days from the date of occurrence thereof, neither party shall be reasons of such eventually be entitled to terminate this order nor shall either party have any claim for damages against the other in respect of such non-performance or delay in performance.</p>	Yes / No / Explain	
22	<p><b>ARBITRATION:</b> The Contract shall be interpreted, construed and governed by the Laws in India. In the event of any dispute/s, difference/s or claim/s arising out of or relating to the interpretation and application of the Work Package Order(s), such dispute/s or difference/s or claim/s shall be settled amicably by mutual consultations of the good Office of the respective Parties and recognizing their mutual interests attempt to reach a solution satisfactory to both the parties. If such a resolution is not possible, within 30 days from the date of receipt of written notice of the existence of such dispute/s, then the unresolved dispute/s or difference/s or claim/s shall be referred to the Sole Arbitrator appointed by the Parties by mutual consent in accordance with the rules and procedures of Arbitration and Conciliation Act 1996 as amended from time to time. The arbitration shall be conducted in Bengaluru in the Arbitration and Conciliation Centre - Bengaluru (Domestic and International) as per its rules and regulations. The expenses for the Arbitration shall be shared equally or as may be determined by the Arbitrator. The considered and written decision of the Arbitrator shall be final and binding between the Parties. The applicable language for Arbitration shall be English only.</p>	Yes / No / Explain	

23	Vendors may note the Guidelines on Debarment of Firms vide O.M No. F.1/20/2018-PPD dated 02.11.2021 in line with rule no.151 & 175 (Code of Integrity) of GFR (General Financial Rules)	Yes / No / Explain	
24	Please send your queries through clarification provision. However, bidder may also send a copy to smpcu1- purchase@shar.gov.in duly quoting tender number. Contact No.08623-22-6377.	Yes / No / Explain	
25	Please furnish details of the person to contact, i.e. Name of the person, valid E-mail id, Mobile no/ Landline no. etc. for further communication.	Yes / No / Explain	
26	OTHERS: Items are to be delivered on Working days ONLY i.e Monday to Friday (excluding Public Holidays).	Yes / No / Explain	
27	Remarks, if any	Yes / No / Explain	

### C.3 Price Bid

Sl. No.	Item	Quantity	Unit Price	Currency	Total Price	Remark
1	PIPING: Fabrication ,Erection & Commissioning of Compressed air & Breathing air system and eye wash shower system at CESB as per specifications mentioned in the enclosed annexure.	1.00 Lot		-		
2	PIPING: Replacement of GI drain line with SS for eye wash shower system as per specifications mentioned in the enclosed annexure.	1.00 Lot		-		

3	<b>PIPING</b> : Fabrication contract for removal of Fire water CS pipelines & MS structural supports from MLP as per specifications mentioned in the enclosed annexure.	1.00 Lot		-		
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**Common charges (Applicable for all items)**

<b>Additional Charges, if any (P&amp;F, Freight etc.)</b>	
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## Annexure

**Fabrication, Erection, Testing & Commissioning of Compressed Air & Breathing Air system at CESB, SLP. Replacement of Eye wash shower GI pipeline with SS pipeline at MST, FLP and Removal of Fire water CS pipelines & MS structural supports from MLPs at SLP, SDSC SHAR.**

### 1.0 Introduction:

- 1.1 This specification is for fabrication, erection, testing and commissioning as per layout and P&I diagram of Stainless steel piping of Compressed Air & Breathing Air system at CESB, SLP. Replacement of Eye wash shower GI pipeline with SS pipeline at MST, FLP and Removal of Fire water CS pipelines & MS structural supports from MLPs at SLP, SDSC SHAR Centre, Sriharikota.
- 1.2 These works are required to be carried out at SDSC SHAR Sriharikota which is about 100 Km from Chennai and 20 km from Sullurpeta.

### 2.0. Scope of Work:

- 2.1 Scope of work covered under this contract includes Fabrication, erection, testing and commissioning of Stainless steel (SS) piping of Compressed Air & Breathing Air systems at CESB, SLP. Replacement of Eye wash shower GI pipeline with SS pipeline at MST, FLP and Removal of Fire water CS pipelines & MS structural supports from MLPs at SLP as per drawings.
- 2.2 The work also includes 10% of radiography of the butt welded joints, DP testing of all weld joints, Hydro testing painting and commissioning and interconnection with the existing system of the following piping and associated structures:

Sl. No	Description of the works to be carried out	Qty.
I.	Fabrication,Erection & commissioning of Breathing Air system and eye wash shower system at Crew Escape Service Building, SLP.	1 Lot* (Refer Table-1 for schedule of quantities & Sl. 3.0 for drawings)
II.	Replacement of GI drain line with SS for eye wash shower at MST, FLP.	1 Lot* (Refer Table-2 for schedule of quantities & Sl. 3.0 for drawings)
III.	Fabrication contract for removal of fire water CS pipelines & MS structural supports from MLPs in SLP.	1 Lot* (Refer Table-3 for schedule of quantities & Sl. 3.0 for drawings)

Note: **\*One Lot consists of the following schedule of the quantities given in Table-1, Table-2 & Table-3.**

**The Scope of work includes the following**

**Table - 1**

<b>Sl. No.</b>	<b>Description</b>	<b>Qty.</b>	<b>Units</b>
1	Butt welding of SS Pipes and pipe fitting which includes marking, cutting, profiling, aligning, fit up, Tack welding, cleaning, chipping, placement of wind shields and / or weather protection, Root and subsequent passes with TIG welding (GTAW process). GTAW welding shall be with 99.99% purity argon gas shielding & purging, DP testing of root and subsequent passes and 10% radiography with weld consumables as per the specifications Chapter - 1		
1.1	Size: 50NB	40	Joints
1.2	Size: 40NB	70	Joints
1.3	Size: 25NB	130	Joints
1.4	Size: 15NB	30	Joints
2	Socket welding of SS Pipes and pipe fittings which includes marking, cutting, profiling, aligning, fit up, Tack welding, cleaning, chipping, placement of wind shields and / or weather protection, Root and subsequent passes with TIG welding (GTAW process). GTAW welding shall be with 99.99% purity argon gas shielding & purging, DP testing of root and subsequent passes with weld consumables as per the specifications. Chapter - 2		
2.1	Size: 50NB	20	Joints
2.2	Size: 40NB	30	Joints
2.3	Size: 25NB	30	Joints
2.4	Size: 15NB	40	Joints
3	Erection of SS piping which includes Installation of flow components like Ball valves, filters with required SS fasteners, SS spiral wound gaskets and mounting of Instruments like pressure gauges, pressure transmitters etc., as per P&I diagram. Erection work also includes providing supports from pedestals and also from concrete wall by using anchor fasteners where ever required, U-clamp fixing. Hydro testing, Pickling & passivation, painting of pipe lines and tag numbers. Pneumatic/Hydro testing and commissioning as per the specifications Chapter - 3		
3.1	Size: 50NB	50	Meters
3.2	Size: 40NB	120	Meters
3.3	Size: 25NB	120	Meters
3.4	Size: 15NB	50	Meters
4	Fabrication & erection of structural supports as per the specifications Chapter - 4	600	kgs

**Table - 2**

<b>Sl. No.</b>	<b>Description</b>	<b>Qty.</b>	<b>Units</b>
1	Butt welding of SS Pipes and pipe fitting which includes marking, cutting, profiling, aligning, fit up, Tack welding, cleaning, chipping, placement of wind shields and / or weather protection, Root and subsequent passes with TIG welding (GTAW process). GTAW welding shall be with 99.99% purity argon gas shielding & purging, DP testing of root and subsequent passes as per the specifications Chapter - 1		
1.1	Size: 100NB	50	Joints
1.2	Size: 40NB	120	Joints
2	Socket welding of SS Pipes and pipe fittings which includes marking, cutting, profiling, aligning, fit up, Tack welding, cleaning, chipping, placement of wind shields and / or weather protection, Root and subsequent passes with TIG welding (GTAW process). GTAW welding shall be with 99.99% purity argon gas shielding & purging, DP testing of root and subsequent passes with weld consumables as per the specifications Chapter - 2		
2.1	Size: 100NB	40	Joints
2.2	Size: 40NB	80	Joints
3	Erection of SS piping which includes Installation of flow components like Ball valves, filters with required SS fasteners, SS spiral wound gaskets and mounting of Instruments like pressure gauges, pressure transmitters etc., as per P&I diagram. Erection work also includes providing supports from pedestals and also from concrete wall by using anchor fasteners where ever required, U-clamp fixing. Hydro testing, Pickling & passivation, painting of pipe lines and tag numbers. Pneumatic/Hydro testing and commissioning as per the specifications Chapter - 3		
3.1	Size: 100NB	120	Meters
3.2	Size: 40NB	120	Meters
4	Fabrication & erection of structural supports as per the specifications Chapter - 4	500	kgs
5	Cutting & Removal of existing GI Pipe line Size: 100NB along with unwanted structural supports.	120	Meters
6	Cutting & Removal of existing GI Pipe line Size: 40NB along with unwanted structural supports.	120	Meters



**Table - 3**

<b>Sl. No.</b>	<b>Description</b>	<b>Qty.</b>	<b>Units</b>
1	Cutting & Removal of existing Structural supports in MLP at height of 7 mtrs	9000	Kgs
2	Cutting & Removal of existing 300NB CS pipeline from structural supports in MLP at height of 7 mtrs	270	Meters
3	Cutting & Removal of existing 200NB CS pipeline from structural supports in MLP at height of 7 mtrs	200	Meters

**Note:**

- **Table - 1 from Sl.No.01 to 04, Table - 2 from Sl.No.01 to 06 & Table - 3 from Sl.No.01 to 03** the Quantity mentioned is indicative only. The party shall give undertaking to hold the same quoted unit prices for +/- 10% variation of order quantities for each and every item based on site conditions. The payment will be made only for the quantities executed at site.
- The contract will be awarded to overall lowest only. Since procurement, supply and work contracts are interlinked, splitting of order is not possible.
- If necessary the Bidders, may visit the SDSC SHAR for understanding the system requirements and assessing the site conditions before submitting the bid.

**3.0 List of Drawings:**

<b>Sl.No</b>	<b>Description</b>	<b>Drg. No.</b>
1	CESB CABA Layout	SLP/SS/CABA/CESB/01
2	P&ID of CESB Breathing Air System	SS/CESB/BA/P&I/01
3	Eye wash Shower drain line	01/FLP/SS/SOSE
4	MLP Ring Header & Fixed Water Monitor Pipeline Supports Details	SLP/SS/MLP/01

**4.0 DETAILED SCOPE OF WORK:****4.1 Fabrication, Erection & commissioning of Compressed Air & Breathing air system and eye wash shower system at CESB (Crew Emergency Service Building) at SLP**

- Extension of Compressed Air line from SLP GLR to CESB (Crew Emergency Safety Building) at SLP.

**4.2 Replacement of Eye wash shower GI pipeline with SS pipeline at MST, FLP**

- Replacing of old GI drain line with SS pipe lines for eye wash showers at MST.

**4.3 Removal of MS Structural & Carbon steel pipelines in MLP**

- MLP Ring Header (300 NB) & Fixed Water Monitor (200 NB) CS pipelines & MS Structural supports removal work in MLP-1, MLP-2 & Mk-III MLP.
- MLP will be positioned inside VAB/SSAB/SVAB facility based on availability before starting the work.

- CS pipelines & MS Structural supports at EL 7m to be cut & removed from MLP using Gas cutting set. Scissor Lift will be in the scope of Department.
- Projections in MLP surface should be removed using Grinding machine.
- Pipelines & Structural members after removal should be loaded on Trailer using Hydra/Crane (Department scope).
- Movement of removed materials from VAB/SSAB/SVAB facility to Central Stores Yard in Trugger/Trailer (Department scope).

### **5.0 Onsite Fabrication & Erection Activities:**

The Contractor shall be responsible for the following activities as part of onsite erection & commissioning:

- a) Fabrication, erection and testing of piping/equipment as per the procedures stipulated in specifications.
- b) It is the responsibility of the contractor to depute one experienced supervisor (Degree/Diploma in Mechanical Engg) with minimum 3-5-year experience in similar Fabrication works & documentation. Also Quality & safety personnel shall be deployed throughout the contract period for coordinating the following works at site irrespective of no. of batches.
- c) Discussion and Finalization of nature of fabrication works with Department Engineers.
- d) Collection and mobilization of required Pipes/Fittings/Consumables etc.
- e) Co-ordination with Quality Assurance/Site Engineers for fabrication, Deployment of required manpower and following Safety precautions.
- f) Mobilization of Adequate skilled, semi-skilled manpower like 6G qualified TIG pipe welders, arc welders, fitter / fabricator, grinders and un-skilled helper gangs.
- g) The purchaser reserves right to Demand for Deployment of multiple batches at a time for the timely completion of project works. Hence the contractor should have capacity to mobilize required number of batches for successful completion of the work.
- h) The contractor shall follow the safety norms dictated by the safety team of the department during welding, erection & testing.
- i) The personnel safety shall be taken care by the contractor including the compliance to all statutory and labour regulations.

### **6.0 Scope of Department:**

The following items will be supplied by the department at free of cost:

- 5.1 Required SS304L/316L pipes and pipe fittings.
- 5.2 Potable water/DM water will be supplied free of charge by Department at specified tapping points.
- 5.3 Electricity required for machine tools like grinders, welding machine etc., (Will be provided at the nearest available power point which may be around 200-250m from the proposed area of work)
- 5.4 Radiography source pit and dark room for development of films.
- 5.5 Calibration of pressure gauges required for conducting hydro test.
- 5.6 Pneumatic supply for purging and testing activities.

**SECTION – A**  
**GENERAL TERMS & CONDITIONS**

## **General Terms & Conditions/ Instructions to Bidder**

### **1. Cost of Bidding:**

All direct and indirect costs associated with the preparation, submission of bid shall be to Bidder's account, and SDSC SHAR will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bid process.

### **1.2. Commercial Terms:**

#### **1.2.1 GST:**

GST as applicable based on the HSN code.

#### **1.2.2 Income Tax:**

Income tax at the prevailing rate as applicable and if applicable from time to time shall be deducted from the supplier's bills as per Income Tax Act and a certificate issued (TDS Certificate).

#### **1.2.3 Delivery Period:**

Twenty-Four months (24) from purchase order release date.

#### **1.2.4 Terms of Payments:**

100% payment for erection/fabrication/cutting & removal works on pro-rata basis as applicable.

#### **1.2.5 Liquidated Damages (LD):**

Since delivery is the essence of this order, LP @ 0.5% per week or part thereof subject to a maximum of 10% of PO value for the delayed period of supply.

#### **1.2.6 Warranty:**

Warranty for the offered item shall be from the date of acceptance of the item at our site for a minimum period of one year or specified in the tender document.

#### **1.2.7 Performance Bank Guarantee (PBG):**

The contractor has to submit a PBG from a Nationalized / Scheduled Bank for 3% of the order value at the time of supply valid till the completion of warranty period plus 60 days towards claim period.

#### **1.2.8 Security Deposit (SD):**

3% value of the order shall be deposited with SDSC within 10 days from the date of the Purchase Order towards security deposit in the form of Bank Guarantee towards performance of the Contract valid till completion of the contract period plus sixty days towards claim period. (This will be returned by SDSC immediately on execution of the order satisfactorily as per order terms. If not, the amount will be forfeited).

#### **1.2.9 Validity of Offer:**

The validity of the offers / tenders should be 120 days from the date of opening of the tenders. Tenders shorter than offer validity mentioned above will not be considered for evaluation. Bidder has to quote for all the items listed in the Technical specification (Section- B), Schedule of quantities without which the offer will not be considered.

### **2.0 Transportation & Material Handling:** The contractor shall ensure:

- 2.1.1 Own Transport vehicles required for movement of contract personnel from/to work site and Gate I / Sullurpeta, including internal movement within site.

- 2.1.2 Relevant derricks, hoists and fixtures for handling and positioning of pipelines & equipments on designated pipe pedestals/pipe trenches /foundations including alignment tools.
- 2.1.3 Material handling support for pipes transportation from department stores which is about 4-5 km to work spot will be arranged by department.
- 2.1.4 Handling of pipes in yard and placing pipes on RCC pedestals, on pipe supports in trenches and inside facilities after fabrication is in the scope of the contractor.
- 2.1.5 For erection of Major piping/equipment if any, Department may provide material handling support on chargeable basis.

### **3.0 Electrical:**

- The contractor shall ensure Safe distribution of electrical power from single point source identified by Department to various contractors' utility points / equipment.
- The nearest power source point will be 250-350m from the actual work site in yard. Necessary cables have to be arranged by contractor along with junction boxes, fuses, circuit breakers etc., as per the mandatory requirements of department electrical safety.

### **4.0 The following are minimum requirements need to be ensured by contract agency:**

#### **4.1.1 Medical Assistance:**

While executing this service contract work, if any of the workers engaged by contract agency is injured, contract agency has to take care of medical treatment.

#### **4.1.2 Inspection and Documentation:**

Inspection and clearance for pipe fit up, root DP final DP, alignment checks etc.,

After awarding the contract: Contractor has to submit the following for approval.

- a. During the execution of work:
  - Preparation of Material identification
  - Preparation of line and weld history sheets
  - Preparation of test packs and reports.
  - Preparation of as built drawings.
- b. After commissioning (3 sets Hard copies and one soft copy):
  - Submission of as built drawings.
  - Submission of final test dossier with neatly bounded condition.

### **5.0 General Conditions:**

Payment shall be as per actual quantity fabricated /erected on Pro-rata basis on submission of bills duly certified by the Department.

- 5.1 In case the supplier fails to execute the quantum of work satisfactorily, the order will be short closed.
- 5.2 Site will be kept open for round the clock basis and the contractor shall be allowed to work in three shifts for carrying out site works. Accordingly, manpower shall be planned by the contractor.

- 5.3 Validity of Contract: The validity of the contract shall be for a period of **24 months** from the date of release of Purchase Order.
- 5.4 Quantity variation: As the scope of work is for fabrication of pipelines in site, quantity variation of (+/- 10 %) has to be considered for all the line items.
- 5.5 Contractor shall take enough care to ensure the progress of the work without any material and personnel damage. It is the sole responsibility of contractor to ensure all safety norms to his personnel during transportation between work spot and Department/Contractor stores, and work in prefabrication area, in storage shed and in yard. Department will not hold responsibility to any mishap happened to the contractor personnel.
- 5.6 Contractor has to give an undertaking that they will comply with prevailing Safety norms at site put forth by Department. Safety officer shall have full access to work spot for inspection.
- 5.7 During the entire work necessary precautions are to be taken. Equipment's, pipes and fittings should not get damaged during execution, if any damage occurred equal cost will be recovered from the contractor.
- 5.8 The contractor shall be responsible for the safe storage of radiography sources of his sub-contractor. Radiography source shall be stored in a room which is located about 5 Km from the work spot. However, transportation of source from the storage room to the work spot and back shall be the responsibility of contractor.
- 5.9 The contractor shall take prior approval from the Department for awarding sub contract for full / partial works in the contract if any and the payment for the subcontractor shall be the responsibility of the contractor. The Department reserves the right to pay the subcontractor directly from the running bills in case the contractor fails to pay his sub-contractor in the interest of completion of work.
- 5.10 Splitting of the order is not envisaged due to nature of the works are interrelated and overall technically suitable lowest offer only will be recommended.**
- 5.11 The contractor has to ensure that minimum wages, EPF, ESI applicable as per labour act for his manpower during the execution of work.
- 5.12 The proposed fabrication drawings (indicative) & materials supply list will be provided to the contractor after release of PO.
- 5.13 House keeping of fabrication area near to work spot identified the purchaser for pre fabrication works as well as storage of department free issue material to be maintained neatly.
- 5.14 Contractor shall give an undertaking that they will comply with prevailing safety norms at site put forth by department. Safety officer shall have full access to contractors storage shed / office at any time for inspection.
- 5.15 Utmost care shall be taken during removal and positioning of equipments/ flow components/pipes & fittings etc.
- 5.16 Nearby equipment if any shall be protected prior to erection of new equipments to avoid any damage.

**SECTION – B**  
**TECHNICAL SPECIFICATIONS**

<b>1. No.</b>	<b>Technical Specifications</b>	<b>Chapter</b>
1	Fabrication (Butt-welding & Socket Welding) and Erection of Stainless steel pipe (SS304L/316L) TIG Welding and Radiography of Butt-welding weld joints	Chapter -1
2	Stainless steel piping system Erection works	Chapter -2
3	Fabrication and Erection of M.S Structural Steel	Chapter -3
4	MS structural material	Chapter-4
5	Paints primer and Final coat paints	Chapter-5
6	SS Studs	Chapter-6
7	SS U-clamps	Chapter-7
8	SS Spiral wound gaskets	Chapter-8
9	Electro Galvanized Anchor Fasteners	Chapter-9



**Procedure for Fabrication (Butt-welding & Socket welding) and erection of Stainless steel pipe (SS304L/316L) TIG Welding and Radiography of Butt-welding weld joints**

1. This work includes marking, cutting, profiling, aligning, fit up, Tack welding, cleaning, chipping, placement of wind shields and / or weather protection, DP testing of Root & Final Pass (Both Butt and Socket weld types), X- Ray/gamma Ray radiography (for 10% Butt weld joints).
2. Only Qualified welder to a Level of 6G as per ASME Sec. IX, will be permitted for carrying out of the welding work. Qualification of welder need to be carried out in the presence of Department representative suiting to the pipe size/schedule requirements. The welder qualification has to be carried out at Sriharikota only. The Fitters / Fabricators / Grinders should be of well experienced persons.
3. Argon Gas TIG welding is to be adopted for root pass and subsequent passes. The purity of Argon Gas used for TIG welding and purging should be of 99.99%. Cleaning of all welds with SS wire brush for stainless steel materials.
4. Dye-Penetrant Test: All welding joints shall be tested with Dye-penetrant test after root pass and final pass welding for both Butt welding and Fillet / Socket welds as per ASME Sec. V.
5. All butt-welds shall be subjected to 10% Radiographic Examination as per ASME Section-V for a sensitivity of 2-2T. All shop welded joints, and in-situ joints shall be radiographed by using X-Ray/Gama-Ray. Interpretation of weld joints radiographs shall be done by Department Engineers as per relevant construction codes such ANSI B 31.3 and ASME-Sec-V.
6. It is the responsibility of the supplier to produce sound weld joints. If any defective welds are noticed during radiography film review, they have to be rectified by the contractor.

**7.0 SCOPE OF THE CONTRACTOR:**

**7.1.0 Deployment of Manpower & Machinery**

- 7.1.1 Machinery & Man Power required for two independent teams for SS piping works. The teams shall work if required, on three-shift basis based on site requirement to complete the work within the stipulated period.
- 7.1.2 Requisite machinery like TIG welding machine, arc welding machine, grinders- angle/pencil, gas cutting sets and bench / hand drilling machines and concrete drillers, tube benders, pipe cutting machine & hydro test pump shall be mobilized by the contractor for the above scope of work.
- 7.1.3 Adequate skilled, semi-skilled manpower like 6G qualified TIG pipe welders, arc welders, fitter /fabricator, grinders, un-skilled helper gangs and site supervisor (Degree/Diploma in Mechanical Engg) with minimum 3-5-year experience in carrying out similar Fabrication works & documentation, and Quality & safety personal shall also be deployed throughout the contract period.
- 7.1.4 Since the fabrication, erection & commissioning has to be carried out within the stipulated period, the contractor has to engage multiple teams and shall plan work in three shifts if required and also contractor shall engage sufficient numbers of batches to complete the work within the stipulated period of **24** months.
- 7.1.5 Extra machinery and teams shall be deployed in case of site requirement calls for to meet time schedule within 2-3 days.

7.1.6 One welding team includes 6G qualified pipe welder (1 no), Fitter/Fabricator (1 no), Grinder (1 no) & helper (1 no).

7.1.7 All erection tools like chain pulley blocks, D-shackles, slings, belts, necessary wooden logs, fixtures or special tools etc. for erection / lifting of equipments.

## **7.2 Consumables:**

The consumables such as SS Filler wires (ER SS 308 L / 316 L), for MS structural welding electrodes (E 7018 / E 6013), Grinding Wheels, Industrial Gases (Oxygen / Acetylene), Gas cutting set, Argon gas, Dye-Penetrant Test Kit, Argon regulator, Flow Meters, Face shields, Gloves, SS Wire Brush, SS alignment shim plates of various sizes, Emery cloth, etc., required for the work shall be in the scope of contractor

- **SS Filler Wires:** Size 1.6 mm / 2.0 mm / 2.5 mm, Make (Philips / ESAB / Advani). Manufacturers material test certificates shall be produced for approval.
- **Electrodes for Structurals:** Size 2.5 mm / 3.15 mm, Make (Philips / ESAB / Advani). Manufacturers material test certificates shall be produced for approval.
- **Argon Gas cylinder & Oxy / Acetylene cylinders:** Grade Commercial, Purity 99.99%, Cylinder Capacity 50 Ltrs, Make (Praxair / Bhoruka / Inox / BOC)
- Dye-Penetrant test Kit Containing cleaner / Penetrant / Developer, Make (Magnaflux / Check Mate)
- **Grinding wheels:** Make Universal carburandum/ Norton
- **Oxy- Acetylene cylinders:** Capacity: 50 Lit, Pressure 140-150 bar (g)
- Supply of chemicals required for Degreasing, Pickling & Passivation.
- Hydro test pump for conducting hydro test.

**Note:** Contractor has to provide all the welding consumables materials TC's for department engineer review and the material shall be used after getting the clearance only.

## **7.3 Deployment of supervisor:**

- It is the responsibility of the Contractor to depute one experienced supervisor for coordinating the following works at site irrespective of no. of batches.
- Discussion and Finalization of nature of fabrication works with Department Engineers.
- Collection and mobilization of required Pipes/Fittings/Consumables etc.,
- Co-ordination with Quality Assurance/Site Engineers for fabrication, Deployment of required manpower, Safety precautions.

## **7.4 Mobilization:**

The supplier has to mobilize men and machinery including internal mobilization during works by his own arrangement.

## **7.5 Evaluation of Machinery and Manpower:**

Machinery and manpower shall be subjected to Technical Evaluation by the Department Engineer to ascertain their complete suitability /performance for the jobs described above. Based on this Evaluation clearance shall be given for taking up the actual job. Any welder producing beyond acceptable no. of repairs joints, shall be replaced with another welder after due qualification.

## **7.6 Radiography works:**

- The Radiography is required to be carried out in stainless steel pipe line/fittings, in storages and yard. The thickness range from 1mm to 10mm. The type of weld joints are pipe to pipe, pipe to fittings, fittings to fittings, etc
- Gamma-ray technique shall be followed
- Image quality (sensitivity) level required for Radiography shall be at least 2% (2-2T) for both X-ray and gamma-ray.
- The Evaluation of Radiography shall be in accordance with ASME Sec-V boiler and pressure vessel code.
- The penetrometer used shall confirm to ASTM E 1025/ASTM E 747 (or) relevant DIN standards.
- The Radiography film grades of D5 (Agfa) / NDT -55
- (DuPont) and size 5" X 3" shall be used for both X-ray and gamma-ray for pipe line joints.
- Safety code IS 258 is to be strictly followed while carrying – out Radiography.
- Mobilization of men and machinery such as X-ray machines, gamma ray source, penetrometer, screens, Films, developing chemicals, Radiation sign boards, warning Lamps, red flags, survey meter etc. required to carry out Radiography.
- Radiography film processing facility need to be established by the contractor. Alternatively based on availability the existing facilities shall be spared duly authorized by the department based on the request from the supplier.
- Repeat radiography due to rejection of Radiograph owing to bad image quality shall be at the cost of contractor.
- Radiography shall be carried out by qualified technicians (i.e.) minimum Level-I of ISNT/ASNT and qualification certificates shall be produced with latest renewal to the department before proceeding to the work.
- For handling Gamma – ray source, the radiographer has to possess valid certificate issued by BARC.
- Necessary clearance has to be obtained from concerned authorities (DAE /BARC) for moving Gamma ray source from the contractor's work place to Sriharikota, before every visit to Sriharikota.
- Radiography film shall be evaluated and report shall be submitted by Level II ISNT/ASNT (or) equivalent qualified person/TPI/ Department engineer.
- Radiography shall be carried out during night time only.
- The Radiographer's who are going to be engaged to carry out the Radiography work should have insurance coverage.

## **7.7 Pipe bending works:**

The Pipe lines having line size of 50NB, 40NB, 25NB and 15NB can be bent to a requisite angle by using standard pipe bending machines. Hence required machinery is in the scope of supplier. Bend radius of Minimum 3D-4D shall be maintained to avoid unwanted thinning. Wrinkles and scratches are not permitted on the bends.

## **7.8 Stainless steel piping system erection:**

7.8.1 Erection of piping includes doubling of pipes, positioning of completed pipeline segments at required locations as per isometric drawings, piping layouts and instructions of department focal points depending on the site conditions.

7.8.2 This work includes alignment of pipes & pipe fittings, maintenance of required slopes, providing necessary SS Fasteners, SS Spiral wound gaskets,

SS 'U'-clamps, Hydro test, pickling & passivation, cleanliness checks, fixing of flow components, pipe fittings & instruments and laying such pipelines over structural pipe supports/ RCC pedestals / in trenches and in Hume pipes, Pneumatic testing, Painting of Pipe lines and tag numbering.

- 7.8.3 Detailed procedure for piping erection, testing and commissioning is given in chapter-2.

## **7.9 MS Structural Fabrication works:**

- 7.9.1 Fabrication of MS structural pipe supports shall be carried out by means of SMAW welding with arc electrodes of AWS E6010/E6011/E6013. Drilling and /or bolting as defined in the approved drawings. Drilling and anchoring of pipe supports, hangers and other wall / floor / roof embedment shall be carried out as required.
- 7.9.2 Supplier shall supply M.S structural material about 1500kg consisting of channels, angles, M.S plates etc., as per IS:2062 of reputed makes like TATA/SAIL/RINL/VSP (Rerolled structures not acceptable) and carry out fabrication & Erection and painting. **The individual quantity of structural sections will be provided after placement of order.**
- 7.9.3 Detailed procedure for fabrication and erection of MS structural steel is given in chapter -3

**Procedure for Stainless steel piping system erection works:**

1. SS piping erection includes Installation of flow components like Ball valves, filters, Pressure regulators, SRV's, check valves with required SS Spiral wound metallic gaskets and mounting of Instruments like pressure gauges, pressure transmitters etc., as per P&I diagram.
2. Erection work also includes providing supports from pedestals and also from concrete wall by using anchor fasteners where ever required, U-clamp fixing, Hydro testing, Pickling – Passivation, cleanliness checks, testing at Max. Operating pressure, painting of pipe lines and tag numbers as per P&I diagram and commissioning as per the details given below point 3 to point 6.
3. Erection of piping includes doubling of pipes, positioning of completed pipeline segments at required locations as per isometric drawings, piping layouts and instructions of department focal points depending on the site conditions.
4. This work includes alignment of pipes & pipe fittings, maintenance of required slopes, providing necessary U-clamps, Gaskets, fixing of flow components & instruments as per P& I and laying such pipelines over structural pipe supports/ RCC pedestals, in trenches, in Hume pipes etc., with proper supports.
5. The work also includes integration of such pipelines with equipment including proper clamping of pipes on such supports.
6. After the pipe spool pieces fabrication & qualification, they are to be assembled with flow components & equipments as per the P & ID.
7. Hydro testing of welded pipe lengths & Commissioning
- 7.1 Scope of work:
  - Hydro testing of welded pipe lengths / spool pieces with pipe fittings and flanges.
  - Assembly of flow components/ pipe spools with gaskets
  - Commissioning of the system including dew point checks, leak checks.

**7.1.1 Hydro testing**

Hydrostatic / Pneumatic leak checks on completed piping segments shall be carried out at defined pressure rating as informed by the department personnel. Hydrostatic test shall be carried out with DM water for SS Pipe lines (water will be free issue by Department).

The items required for hydro test like hydro test pump, calibrated pressure gauges, blinds etc. are in the scope of supplier.

- Sequence of Testing for SS Pipelines:
- Flushing of piping segments with DM water.
- Hydro test as per department specified pressures.
- Flushing of all circuits with DM water.
- Replacement of test gaskets with actual gaskets.
- Purging of all circuits with dry / N2 gas with requisite dew point.
- Cleanliness check of fluid circuits.

- Pneumatic leak test of the total system as an integrated system ready for process functional checks at operating conditions.

#### 7.1.2 Commissioning of the system:

- The total system shall be commissioned end to end to meet the purchaser's requirement.
- Commissioning includes assembly of flow components with gaskets. The joints shall be tightened by SS studs.
- The total system shall be leak checked with compressed air at operating pressure condition.
- All the flow components shall be functional tested.
- After the satisfactory performance of leak testing & flow components testing, the system will be subjected to actual working fluid.
- The total system is subjected to test & evaluation as per department procedure.
- Supplier also shall involve during such activities.
- The system will be declared as commissioned after performance testing of the integrated system.

### 8. Specification for Pickling & passivation (for SS Pipe lines)

#### 8.1 Pickling:

This is carried out after mechanical cleaning and degreasing operations to remove all the rusts and scales. Pickling is carried out with a solution containing Hydrofluoric acid and Nitric acid. The composition of the pickling solution and duration of pickling are adjusted after trial test on a sample piece to remove uniformly less than 25 microns thick material. The composition is as follows:

HNO <sub>3</sub>	-	15 to 20% by volume
HF	-	2 to 5% by volume
DM Water	-	Balance
Temperature	-	Ambient
Duration	-	2 hours

- After pickling, rinsing with ordinary potable water until all the acid traces are removed.
- The bath solution has to be changed if the level of Iron in the bath reaches 8 grams/litre.

#### 8.2 Passivation:

This is done after the pickling operation, a solution having the following specifications shall be used.

HNO <sub>3</sub>	-	25% by volume
DM Water	-	75% by volume
Temperature	-	Ambient

Duration of the passivation should be minimum 2 hours. The bath solution has to be analyzed frequently and the bath replenished if the level of iron exceeds 5 g/liter. Finally rinsing with demineralized water (conductivity less than 10 micro siemens/cm) is carried out till final rinse water PH is in the range of 6.5 to 7.5 to minimize staining.

#### 8.3 Checking of chemicals used for pickling & Passivation Test for acid after pickling and Passivation:

- 8.3.1 After rinsing with water/DM water, the washings shall be checked with methyl orange indicator until the colour becomes golden yellow. A red colour shows the presence of acid and rinsing shall be continued.
- 8.3.2 Test for fluoride: This shall be done using Zirconium Oxy Chloride solution using Xylenol Orange as indicator. The bleaching of Zirconium Xylenol orange complex will indicate the presence of fluoride.
- 8.3.3 Determination of acid concentration: Pipette out 25 ml of pickling or passivation bath solution into 100 ml flask. Dilute to 100 ml with distilled water, pipette 20 ml of this solution into 250 ml flask and dilute to 100 ml with distilled water. Add 2/3 drops of methyl orange indicator and Titrate against N/2 NaOH contained in a burette. Take reading when colour change from (red to yellow) (pink to yellow). Percentage of acid = No. of ml X 0.67
- 8.3.4 Estimation of iron: Pipette out 10 ml of solution into a flask and dilute it to 100 ml with distilled water. Pipette 10 ml of dilute solution into flask and add 10 ml of 50% Sulphuric acid.
- 8.3.5 Titrate against N/10 KMNO<sub>4</sub> solution till the pink colour persists for about 15 seconds. Percentage of iron = No. of ml of N/10 KMNO<sub>4</sub> X 0.56
- 8.3.6 Inspection after cleaning for the presence of free iron:
  - i) Copper Sulphate Test
  - ii) Ferroxyl test

For all testing, the contractor shall establish a small laboratory facility on his own and all chemicals purchased by the contractor will be subjected to the approval of department inspection agency.

#### **8.3.6 Drying:**

The drying to be done on Air receivers as well as piping to remove water and this is done as given below: Oil free compressed air dew point less than -40 Deg. C is used to purge initially. Purging with dry Nitrogen having Dew point less than -40 Deg. C and free from oil and greases (less than 10 PPM at 60 Deg. C till the moisture level at the exit comes to the inlet concentration value.

#### **8.3.7 Sealing:**

After drying, the Air pipes/equipment should be sealed so that ambient moisture never enters inside. The pipes/equipments are to be pressurized to 0.5 bar with dry Air gas at -40o C dew point Temperature.

### **9.0 Painting works**

#### **9.1 Scope of work:**

- Painting of equipment's & pipe lines.
- Painting of structural items & hand rails
- Tag numbering of flow components
- Painting of pipe line numbers / designation

#### **9.2 Painting of all equipment /pipe lines:**

- 9.2.1 The paints to be applied are special type (epoxy paints) i.e. two component paints. Both the components (3:1 ratio) are to be mixed and applied immediately on mixing. All the surfaces shall be applied with one coat of primer & one coat of finish coat.
- 9.2.2 In order to protect the surface of the pipe lines and equipments from rust and dry coastal saline weather, application of primer and finish coat paint shall be carried out.

- 9.2.3 The metal surface shall be cleaned thoroughly for surface preparation with Stainless Steel brushes for pipelines and Mild Steel for structural as applicable.
- 9.2.4 A high build epoxy primer suitable for Stainless Steel surface of 120 +/- 10-micron Dry Film Thickness (DFT) followed by a finish coat of aliphatic / acrylic, Polyurethane finish paint of 40 microns DFT shall be applied so that the total DFT Achieved will be 150 +/- 10 microns.
- 9.2.5 The tag numbering of pipelines and flow components shall be written at appropriate places as per P & I diagram.
- 9.2.6 All paints and necessary consumables fall under the scope of the contractor.

### 9.3 Painting of Structures/platforms:

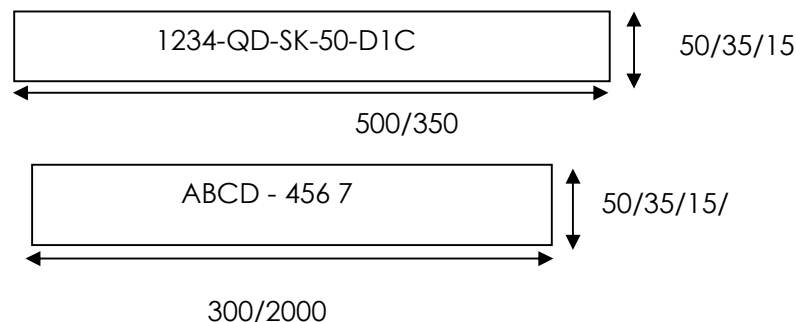
- 9.3.1 Painting of MS pipe Supports/Structures, platforms includes surface preparation, mixing and application of paints.
- 9.3.2 Primer & Final coat as per required thickness. All paints and necessary consumables fall under the scope of the contractor.
- 9.3.3 Painting Scheme shall be followed given below:
- Epoxy mastic coating : 120 - 130 microns
  - Aliphatic Polyurethane : 30 - 40 microns
  - Total Dry film thickness : 150 +/- 10 microns
- 9.3.4 Colour scheme: The colour code scheme for compressed air, breathing air and eye wash shower lines etc. and in general as per relevant Indian standards and which will be applicable for final coat.

**The finish colour shade of compressed air system is sky Blue as per IS-101.**

**The finish colour shade of eye wash and shower system is Sea Green as per IS 217. The finish colour shade of Nitrogen system is brilliant green**

- 9.3.5 Tag numbering / Pipe line numbering:

- Numbers are to be painted on the pipelines using white synthetic enamel paint on a back ground painted surface as follows:



- Height, width & thickness of letters/numbers are 25, 50 & 5 mm respectively. One set consists of numbering with white enamel on a black background. Black background is to be painted prior to numbering with stencils.

### 9.3.6 For flow components:

Finish coat of aliphatic / acrylic, polyurethane finish paint of 40 microns DFT shall be applied. The colour shade of flow components is Azure Blue.



The contractor shall take clearance from department engineers prior to application of Paint and the final DFT measurement shall be offered for inspection.

**9.3.7 For MS Structural:**

Epoxy Mastic coating (primer):120-130 (DFT)  
Aliphatic polyurethane (Finish coat): 30-40 microns DFT  
Total DFT achieved will be 150 +/- 10 microns.

**The finish colour shade: Structural Grey as per IS:631**

The contractor shall take clearance from department engineers prior to application of paint and the final DFT measurement shall be offered for inspection.

**9.3.8 General conditions:**

- Experienced painters shall be employed.
- Spray painting / manual brush mode painting shall be employed.
- While painting uniform DFT shall be maintained.
- The brushes, waste/ cotton cloths, spray gun are in the scope of supplier.
- Paint / Thinner should not be wasted.
- Tag numbering / pipe line numbers will be provided at the time of painting works.
- (Paints procured shall be from the reputed makes like Berger / CDC Carboline / Asian Paints / Bombay Paints/ Goodlas Nuralac/GPC only).

**Procedure for Fabrication and Erection of M.S Structural Steel**

1. The scope includes the MS structural steel supply, fabrication, assembly and installation of all types and size of structures like truss/frame works structural supports, base plates Working platforms, hand rails, pipe supports and cable tray works and any other type structures as per the design.
2. It also includes supply of foundation bolts, Hilti anchor bolts, studs/ bolts & fabrication, cutting, drilling, welding, assembly, installation, fixing of bolts and providing necessary torque after installations and adjustment of the structures according to the requirements at specified locations.
3. There shall be no limitation to the number of welds or drillings to be carried out per kilogram of the structural works.

**4.0 Material of construction:**

- Structural Sections: Material shall conform to IS 2062 Grade E 275BR.

**5.0 Specification for MS Fabrication:**

- 5.1 Fabrication of MS pipe supports, structural platforms, cable trays shall be carried out by means SMAW welding with arc electrodes of AWS E 7018.
- 5.2 Drilling and anchoring of pipe supports on floor & wall, welding on wall / floor / roof embedment shall be carried out wherever required and after completing the erection and testing of the piping and equipments.
- 5.3 The procurement of MS structural materials like angles, channels, cable trays etc., is in the scope of the contractor which is already mentioned in the supply portion of the tender.
- 5.4 All necessary handling, transportation, measuring, cutting, drilling, fabrication are to be carried out by the Contractor.
- 5.5 Electrodes for Structural: Size 2.5 mm/3.15 mm, Make (Philips/ESAB/Advani).

**6.0 General conditions:**

- 6.1 Separate ARC welding teams should be available for carrying out the structural fabrication works.
- 6.2 Experienced welder, fitter and helpers should be available in each team.
- 6.3 The machineries, grinding wheel/ cutting wheel, drilling machines are in the scope of the supplier and they should be in good conditions. The machineries and consumable will be evaluated by the purchaser before actual use for fabrication works. Gas cutting set & arc welding machine with accessories are in the scope of supplier.
- 6.4 The supplier has to provide multiple teams based on the requirement to complete the project in time else penalty clause will be imposed.

Sl. No	Description	Qty.
1	MS structural fabrication works; Fabrication of (Arc welding) of platforms, pipe supports	1100 kg

**General conditions of supply:**

**Scope of supply: MS structural as per the following details:**

<b>Sl.No.</b>	<b>Description</b>	<b>Dimension/Size</b>	<b>Kgs</b>
1	ISMC	100 x 50	600
2	ISA - Angle	50 x 50 x 6	
3	MS Plain plate	8/10mm thick	500

1. The items to be supplied shall confirm to IS 2062 and IS 1852.
2. The materials shall be free from scratches, pin holes, corrosive layer, material defects, etc. The latest stock items shall be supplied.
3. The commercial leading brands like TISCO, SAIL, VIZAG / equivalent meeting the specifications steel only to be supplied.
4. The items shall be inspected at supplier's premises before dispatch. Hence supplier has to inform us for pre-delivery inspection.
5. The confirmatory material test certificates shall be provided along with the materials/at the time of inspection.
6. The actual requirement shall be as per details engineering requirement.

**Preferable Make / Brands: TATA/TISCO/SAIL/JINDAL/VIZAG STEEL / equivalent meeting the specifications**

## SPECIFICATIONS OF PAINTS PRIMER AND FINAL COAT PAINTS

**Preferable Brands: Grand Polycot, Asian, Berger, Nerolac**

**Quantity required: Suitable quantity required for the erected pipe lines and flow components.**

Painting of MS structure's / SS Pipelines (Primer coat)::

Painting of MS Structural, SS piping work includes surface preparation, Mixing and application of paints. Primer & Final coat as per required thickness. Primer paint shall be Aluminium-IS 235, Finish paint shall be light grey IS631.

- Painting Scheme shall be followed given below:
- **Epoxy mastic coating : 120 - 130 microns**
- **Aliphatic Polyurethane : 30 - 40 microns**
- **Total Dry film thickness : 150 +/- 10 microns**

**A. HIGH BUILT EPOXY COATINGS (Primer):**

This primer paint shall confirm the following requirements:

- High performance general maintenance coating for new or old MS material.
- Self-priming topcoat over most existing coatings.
- Can be over coated with wide range of topcoats.
- 125 microns or more in a single coat.
- Two component, catalyst cured.
- Minimum theoretical coverage rate of 32 Sq.M/ Litre at 25 Microns DFT.
- Volume solid (Volume) 80%.
- Mixing ratio 3:1.

**B. ALIPHATICPOLYURETHANE PAINTS (Finish):**

These finish paints shall confirm to the following requirements:

- Catalyst isocynade.
- High gloss finishes.
- Gloss & color retentive upon prolonged exterior exposure.
- Suitable as an exterior finish coat over an inorganic primer and inhibitive polyamide epoxy intermediate coat.
- Hard, tough, flexible & abrasion resistance.
- Minimum theoretical coverage rate of 17 Sq.M / Litre at 25 Micron DFT.
- Mixing ratio 3:1.
- Paint application method is by brush.
- Color shade shall be as per IS-05.

**General conditions:**

- The primer & finish coat part life / self-life shall be 12 months.
- Ordering quantity variation shall be  $\pm 4$  liters.
- Scope of inspection:
  - Viscosity of the paint.
  - Volume solid test
  - Coverage rate of the paint as per the specification.
  - Before dispatch the supplier has to inform for inspection.

**Note: The contractor to consider the Qty. and cost of paints along with SS pipe erection as per the details given in Table – 1 (Sl.No.01 to 04) & Table - 2 (Sl.No.01 to 06)**

**CHAPTER – 6**  
**SPECIFICATIONS OF SS STUDS**

1. Stainless Steel fully threaded studs with two numbers of hexagonal nuts and two numbers of washers (one set consists of 1 no of stud + 2 nos of nuts + 2 nos of washers).

Studs and nuts shall be confirm as follows:

- Studs : ASTM A 193 Gr.B8M
- Nuts : ASTM A 194 Gr.8M
- Washers : SS 316 (1.5 mm thick up to M12, 2 mm thick up to M16 and 3 mm for larger sizes).

2. The process of manufacture of studs shall be as given below:
  - Receipt of rolled rods of required size and quantity.
  - Cutting to required lengths.
  - Solution Annealing as per standards
  - Samples for Chemical, Mechanical and IGC test drawn (To be drawn by purchaser's representative).
  - Cylindrical grinding to achieve required dimensions.
  - Thread rolling
  - Pickling and Passivation followed by thorough washing with DM water.
  - Checking with nuts.
  - Purchaser's Representative will draw samples for Chemical Test from finished products.
3. All threads shall be made by Thread rolling method only. Threading by machining is not allowed All Nuts shall be of forged quality, Cast nuts will not be acceptable. Nuts shall be tested as per standard specified.
4. Material tests shall be conducted as per code specified. Chemical & physical tests and IGC tests shall be carried out in Government recognized laboratories only. Minimum of one specimen shall be drawn from each heat and each size as per QAP. Testing charges will be paid at actual against documentary proof. All Test Certificates shall be furnished to the purchaser.
5. The pitch of the threads shall be standard.
6. All bolts, nuts and washers shall be pickled by dipping in the acid solution of 20% of Nitric acid, 2% Hydrofluoric acid in balance water for about 2 hours and passivated by dipping in the acid solution of 25% Nitric acid in DM water.

Suppliers list:

1. Venkatewara Industries, Chennai
2. Mechwell fittings , Ahmedabad
3. Tec aero devices, Hyderabad
4. Lee hydraulics, Hyderabad
5. Dabir, Thane
6. VK technical works, Hyderabad

## QUALITY ASSURANCE PLAN

S. No.	Characteristics/ Type of Check	Ref. Document	Method of Check	Quantum of Check	
				Manufacturer's QC	Department Representative
Raw material analysis					
1.	Mechanical Testing (Number of Samples : SIX)	ASTM 193 A Gr. B8M	Review of Test Certificates	100%R	Sample Selection & Review of Test Reports
2.	Chemical Analysis (Number of Samples : SIX)	ASTM 193 A Gr. B8M	Verification of material certificates	100%R	
3.	I.G.C Test (Number of Samples : SIX )	ASTM A262 Practice-E	Review of Test Certificates	W & R	
Note : The supplier has to obtain clearance from purchaser, to commence production based on test reports					
After manufacturing studs					
4.	Dimensional and Visual Inspection of Studs & Nuts	As per PO	Measurement and Visual Inspection	100% H	10% RN
Note: The Studs/Nuts are to be packed and sealed in the presence of Purchaser's Representative, after selecting samples for final chemical analysis.					
After physical Inspection of Studs / Nuts					
5.	Chemical Analysis of Nuts (Number of samples: Two)	ASTM A194 Gr.8M	Verification of material certificates	100% H	Sample Selection & Review of Test Reports
6.	Final Chemical Analysis of SS Studs (Number of Samples : Two)	ASTM 193 A Gr. B8M	Verification of material certificates	100% H	Sample Selection & Review of Test Reports
Note: Dispatch clearance will be given by Purchaser's Representative after the review of Final Chemical Analysis reports.					
1. The Studs/Nuts are to be dispatched in as assembled condition.					

Legend: R-Review, W- Witness, RN- Randomly, H-Hold

**Note: Quantity required: Suitable quantity required for the erected pipe lines and flow components.**

**The minimum quantity Studs, nuts with lock nuts and washers required for following flanged joints in piping:**

<b>Sl.No</b>	<b>SS Forged Flanges</b>	<b>No. of Studs</b>	<b>MOC</b>
1	100NB Slip-on Raised Face Flange (SORF)	80	304L
2	50NB Slip-on Raised Face Flange (SORF)	40	304L
3	40NB Slip-on Raised Face Flange (SORF)	160	304L
4	25NB Slip-on Raised Face Flange (SORF)	80	304L
5	15NB Slip-on Raised Face Flange (SORF)	40	304L

**Note: The contractor to consider the cost of the SS studs required along with SS pipe erection as per the details given in Table – 1 (Sl.No.01 to 04) & Table - 2 (Sl.No.01 to 06)**

**CHAPTER -7**  
**SPECIFICATION FOR SS U- CLAMPS**

**Supply of SS U-clamps (partially threaded) with four Nos. of hexagonal nuts, four Nos. of 1.5 thick plain washers and one No. of 2 mm thick shim plate.**

**1. Material of Construction:**

U-Clamps & Nuts - **Gr ASTM A 193 Gr. B8 SS 304**

Washers& shim plate - SS 304

2. Threads of U-clamps shall be made **by Thread rolling** only without burrs to have a better finish and strength.
3. All the U-clamps and nuts shall be pickled and passivated as per standard procedure **ASTM-A380**. The final finish of items shall be bright finish.
4. Clamps thread ends shall be made as per IS 1368 and thread dimensions shall be as per **IS 4218**

**5. TESTING:** Chemical and Mechanical analysis:

- After fabrication, U-clamps, nuts, washer and shim plate shall be tested for mechanical and chemical properties (**one number of samples in each size and each heat number of the U-clamp set**) in a Government approved laboratory.
- The sample will be picked up from the inspected lot and it will go for the testing
- Chemical test by spectra analysis -No of samples -5nos
- Mechanical test – Tensile test -No of samples -05 nos
- Proof loading test for Nut - No of samples -05 nos
- Machining charges for Mechanical test- No of samples-05
- Total testing charges should be quoted in their offer itself.

**6 INSPECTION:**

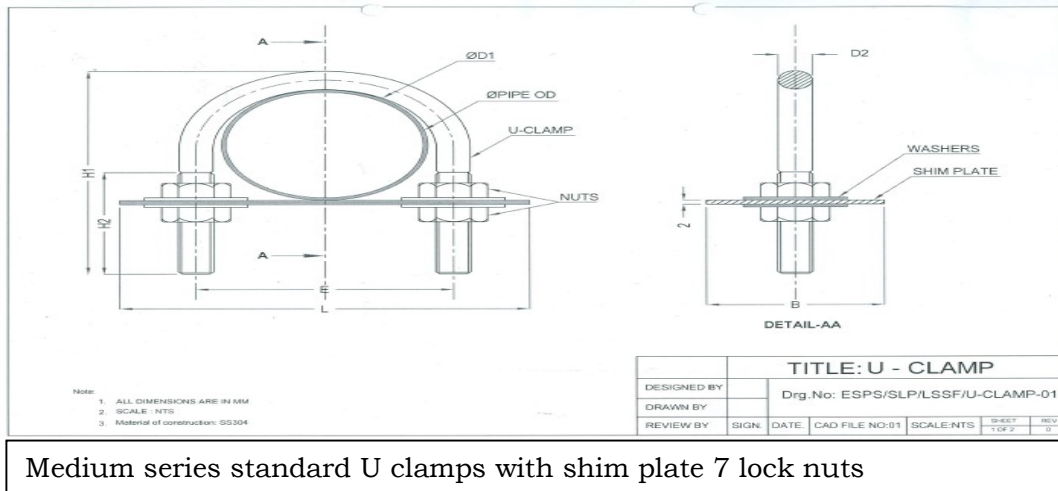
- Manufacture shall strictly adhere / follow QAP and necessary records shall be made available at the time of inspection.
- All nuts shall be made forged/machined from bar stock only.
- Each clamp shall be supplied with assembled condition, i.e 4 Nos of plain washer and 4 Nos of nuts in the clamp with shim plate.

**QUALITY ASSURANCE PLAN (QAP):**

Sl. No.	Characteristic/ Type of Check	Ref. Document	Method of check	Quantum of check	
				Manufactu rer's QC	Department Representati ve
1.	Dimensions and Visual inspection	As per Purchase order	Measurement and Visual inspection	100% H	10% W
2.	Mechanical Testing	ASTM A193 Gr.B8 ASTM A194 Gr.8	Review of Test certificates	100%R	100%R
3.	Chemical analysis	ASTM A193 Gr.B8 ASTM A194 Gr.8	Verification of material certificates	100%R	100%R
4.	Final Documentation	As per P.O	Verification of Documents / Certificates	100%H	100%R

**LEGEND: R-Review, W-Witness, H-Hold.**





#### Suppliers list:

1. Venkatewara Industries, Chennai.
2. Mechwell fittings , Ahmedabad.
3. Tec aero devices, Hyderabad.
4. Lee hydraulics, Hyderabad.
5. Dabir, Thane.
6. VK technical works, Hyderabad.

**Note: Quantity required: Suitable quantity required for the erected pipe lines and flow components.**

Sl. No.	Description of Pipeline for which U -Clamps to be provided	No. of Clamps	MOC
1	100NB Pipe Stainless Steel Pipe	60	304L
2	50NB Pipe Stainless Steel Pipe	25	304L
3	40NB Pipe Stainless Steel Pipe	120	304L
4	25NB Pipe Stainless Steel Pipe	60	304L
5	15NB Pipe Stainless Steel Pipe	25	304L

**Note: The contractor to consider the cost of SS U-Clamps along with SS pipe erection as per the details given in Table - 1 (Sl.No.01 to 04) & Table - 2 (Sl.No.01 to 06)**

**CHAPTER -8**

**SPECIFICATION FOR SS SPIRAL WOUND TEFLON GASKETS WITH SS INNER & OUTERRINGS**

**Preferable Make: IGP/MIP/ uniklinger**

1. The gasket shall confirm to API 601 standard.
2. The thickness of the inner & outer rings shall be 3mm and that of gasket shall be 4.5mm. The SS spiral rings should not be projected beyond the Teflon rings.  
**The Teflon ring thickness of 0.25 mm extra is required top & bottom so that the total thickness of gasket will be 5 mm.**
3. The material of the rings (inner & outer) shall be 316L.
4. All the gaskets are to suit flanges of ANSI B 16.5 RF Standard, wherever specified.
5. Inspection & testing shall be carried-out as per code specified for dimensional, material tests, leak tightness, compressibility, sealability test etc.,
6. Cut edges of gaskets shall be neat & burr free

**General conditions:**

1. All items shall be inspected and cleared by Purchaser/Engineer before dispatch.
2. Readiness of items for inspection shall be intimated to the purchase well in advance.
3. All the inspection and Test Certificates shall be furnished to the Purchaser.
4. The size, class rating, material of gaskets shall be marked on the ring wherever possible and others are to be tagged.
5. All gaskets suitably packed so that they don't get damaged during handling & transport.

**Note: Quantity required: Suitable quantity required for the erected pipe lines and flow components.**

The minimum quantity of SS spiral wound Gaskets to be supplied to suit the flanges of the following sizes:

Sl.No	SS Forged Flanges	No. of Gaskets	Class rating #	MOC
1	100NB Slip-on Raised Face Flange (SORF)	20	150#	304L
2	50NB Slip-on Raised Face Flange (SORF)	10	150#	304L
3	40NB Slip-on Raised Face Flange (SORF)	40	150#	304L
4	25NB Slip-on Raised Face Flange (SORF)	20	150#	304L
5	15NB Slip-on Raised Face Flange (SORF)	10	150#	304L

**Note: The contractor to consider the cost of the SS spiral wound gaskets along with SS piping erection as per the details given in Table – 1 (Sl.No.01 to 04) & Table - 2 (Sl.No.01 to 06)**

## **CHAPTER -9**

### **SPECIFICATIONS FOR SUPPLY OF ELECTRO GALVANIZED ANCHOR FASTENERS**

**Supply of Electro galvanized Anchor fasteners:** Drilling and bolting as defined in the approved drawings. Drilling and anchoring of pipe supports, hangers and other wall / floor / embedment shall be carried out as required. Size of anchor fasteners required M10X150mm long – 200 Nos, M12X150mm long – 200 Nos depending upon the site conditions.

**Note: Quantity required: Suitable quantity required for the erected pipe lines and flow components.**

**Note: The contractor to consider the cost of the Electro galvanized Anchor fasteners along with CS pipe erection as per the details given in Table – 1 (Sl.No.01 to 04)**

**Section-C**  
**Formats to be submitted by Fabricator**

**Format-1: Checklist to be filled and submitted by the contractor**

The contractor shall confirm the following points. With regard to agreement on the scope of supply defined in the specifications without which the order will not be considered.

<b>Sl. No.</b>	<b>Description</b>	<b>Confirmation / Remarks</b>	<b>Deviations, If any</b>
1	Fabrication, erection, testing and commissioning as per layout and P&I diagram of Stainless steel piping of Compressed Air & Breathing Air systems at CESB, SLP. Replacement of Eye wash shower GI pipeline with SS pipeline at MST, FLP and Removal of Fire water CS pipelines & MS structural supports from MLPs at SLP as per the specifications. <b>Schedule of quantities, Table - 1, Table - 2 &amp; Table - 3</b>		
2	Summary of work scope Sl.No.2.0 is fully understood and Accepted.		
3	Detailed scope of work Sl.No.4.0 is fully understood and Accepted.		
4	Onsite Fabrication & Erection Activities Sl.No. 5 is fully understood and Accepted.		
	<b>TERMS AND CONDITIONS FOR BID</b>		
1	Confirm Cost of bidding clause is fully understood as per S.No.1 of Section-A and accepted.		
2	Confirm Taxes clause is fully understood as per S.No.1.2.1 of Section-A and accepted.		
3	Confirm Income Tax clause is fully understood as per S.No.1.2.2 of Section-A and accepted.		
4	Confirm Delivery period clause is fully understood as per S.No.1.2.3 of Section-A and accepted.		
5	Confirm Payment terms clause is fully understood as per S.No.1.2.4 of Section-A and accepted.		
6	Confirm Liquidated Damages clause is fully understood as per S.No.1.2.5 of Section-A and accepted.		
7	Confirm Warranty clause is fully understood as per S.No.1.2.6 of Section-A and accepted.		
8	Confirm Performance bank guarantee clause is fully understood as per S.No.1.2.7 of Section-A and accepted.		
9	Confirm Security deposit clause is fully understood as per S.No.1.2.8 of Section-A and accepted.		
10	Confirm Validity of offer clause is fully understood as per S.No.1.2.9 of Section-A and accepted.		
11	Confirm Transportation & Material Handling clause		

<b>Sl. No.</b>	<b>Description</b>	<b>Confirmation / Remarks</b>	<b>Deviations, If any</b>
	is fully understood as per S.No.2 of Section-A and accepted.		
12	Confirm General Conditions clause is fully understood as per S.No.5 of Section-A and accepted.		
	<b>TECHNICAL SPECIFICATIONS</b>		
1	Acceptance of Specifications for Fabrication (Butt-welding & Socket Welding) and Erection of Stainless steel pipe (SS304L/316L) TIG Welding and Radiography of Butt-welding weld joints as per Chapter-1		
2	Acceptance of Specifications for Stainless steel piping system Erection works as per Chapter-2		
3	Acceptance of Specifications for Fabrication and Erection of M.S Structural Steel as per Chapter-3		
4	Acceptance of Specification for MS structural material as per Chapter-4		
	<b>FORMATS TO BE SUBMITTED BY CONTRACTOR</b>		
1	Formats to be filled and submitted by the contractor <ul style="list-style-type: none"> <li>• Format-1: Checklist to be filled and submitted by the contractor</li> <li>• Annexure-1 Bidder Minimum Qualification Criteria</li> <li>• Annexure-2 Evaluation Criteria</li> <li>• Format-2: Price bid format</li> </ul>		

**Annexure-1****Bidder Minimum Qualification Criteria:**

The following are the minimum essential criteria to further validate/accept the bid. Vendor is requested to provide all the necessary supporting documents. If any deviation/non-compliances/lack of supporting document bid shall be summarily rejected.

Sl. No	Description	Vendor Compliance With Supporting Documents
1	The Bidder should be Society/Firm registered in India since last 3 (Three) years or more as on 31.03.2024. Company Profile along with documentary evidence of services offered and all relevant enclosures to be submitted.	
2	Party should have executed a contract in the last three years ending with 31.03.2024 involving fabrication, erection, testing and commissioning of SS piping for a value not less than Rs. 12 lakhs (in the last five years) as a single order (or) atleast two orders of worth Rs. 9 lakhs each (or) atleast three orders of worth Rs.6 lakhs each.	
3	PO and Satisfactory Work completion certificate by the end user for the previous executed orders shall be submitted without which offer will not be considered	
4	Vendor must undertake supply, erection, testing and commissioning of piping system as per the specifications and requirements indicated.	
5	Technical compliance to the specifications shall be vetted by the bidder.	
6	The firm must provide a self-declaration that there is no complaint/vigilance inquiry against them in any Govt. /Department /PSU and they have not been black listed by any Govt. Department/PSU.	
7	The supplier shall mention his welding team details, equipments / machineries, facilities if any	

**Signature of Authorized Person with Seal**

**Evaluation Criteria:**

The broad guidelines for evaluation of Bids will be as follows:

Sl.No	Description	Vendor Compliance
1	In respect of Two-Bid system, the technical Bids forwarded by the Bidders will be evaluated by the Department with reference to the technical specifications as mentioned. The Price Bids of only those Bidders will be opened whose Technical Bids would clear the technical evaluation.	
2	During evaluation, SDSC SHAR may request Bidder for any clarification on the bid, additional documents.	
3	Bidder must provide the point-by-point compliance to the technical specifications along with deviations. The tender can be rejected if the deviations are not acceptable to the Department.	
4	Performance of Bidder on similar nature of works executed/ under execution shall be taken into consideration before selecting the Bidder for opening his price bid.	
5	The time schedule for completion is given in the document. Bidder is required to confirm the completion period unconditionally.	
6	SDSC SHAR reserves the right to reject any bid if technically/commercially not meeting the requirement/terms & conditions. Such decisions by the SDSC SHAR shall bear no liability whatsoever consequent upon such decision.	
7	Total price inclusive of all taxes, duties, shall be considered for arriving L1 (Overall Lowest) and awarding the contract as per the procedures.	
8	If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price will prevail and the total price will be corrected. If there is a discrepancy between words and figures, the amount in words will prevail for calculation of price.	
9	As all the items within indent are inter dependent, splitting of the order is not possible. Hence Overall lowest bidder will be considered	
10	Department reserves the right to inspect the contractor shop floor/premises for evaluation, if required. After evaluating the contractor, decision of the Department is final.	

**Signature of Authorized Person with Seal**



**FORMAT OF UN-PRICED PRICE BID:**

The schedules of the quantities are as follows:

Serial No.	Description of the works to be carried out	Qty.	Units	Unit cost (Including of Transportation, Testing Charges) Rs.	Applicable Tax in Rs.	Total cost Rs.	Separate Cost Mentioned in Price bid Form (Yes/No)
I.	Fabrication of SS piping for Compressed Air & Breathing Air systems at CESB, SLP.	1 (One)	LOT	Unit cost value shall NOT be mentioned here to be given in price bid only	Applicable Tax value shall NOT be mentioned here to be given in price bid only	Total cost value shall NOT be mentioned here to be given in price bid only	(YES/NO)
II.	Replacement of Eye wash shower GI pipeline with SS pipeline at MST, FLP.	1 (One)	LOT	Unit cost value shall NOT be mentioned here to be given in price bid only	Applicable Tax value shall NOT be mentioned here to be given in price bid only	Total cost value shall NOT be mentioned here to be given in price bid only	(YES/NO)
III.	Removal of Fire water CS pipelines & MS structural supports from MLPs at SLP	1 (One)	LOT	Unit cost value shall NOT be mentioned here to be given in price bid only	Applicable Tax value shall NOT be mentioned here to be given in price bid only	Total cost value shall NOT be mentioned here to be given in price bid only	(YES/NO)

**Format of price bid; Supplier shall quote the following in separate price bid format only.**

**Table - 1**

<b>Sl. No.</b>	<b>Description</b>	<b>Qty.</b>	<b>Units</b>	<b>Unit Price (Including Taxes)</b>
1	Butt welding of SS Pipes and pipe fitting which includes marking, cutting, profiling, aligning, fit up, Tack welding, cleaning, chipping, placement of wind shields and / or weather protection, Root and subsequent passes with TIG welding (GTAW process). GTAW welding shall be with 99.99% purity argon gas shielding & purging, DP testing of root and subsequent passes and 10% radiography with weld consumables as per the specifications Chapter - 1			
1.1	Size: 50NB	40	Joints	
1.2	Size: 40NB	70	Joints	
1.3	Size: 25NB	130	Joints	
1.4	Size: 15NB	30	Joints	
2	Socket welding of SS Pipes and pipe fittings which includes marking, cutting, profiling, aligning, fit up, Tack welding, cleaning, chipping, placement of wind shields and / or weather protection, Root and subsequent passes with TIG welding (GTAW process). GTAW welding shall be with 99.99% purity argon gas shielding & purging, DP testing of root and subsequent passes with weld consumables as per the specifications. Chapter - 2			
2.1	Size: 50NB	20	Joints	
2.2	Size: 40NB	30	Joints	
2.3	Size: 25NB	30	Joints	
2.4	Size: 15NB	40	Joints	
3	Erection of SS piping which includes Installation of flow components like Ball valves, filters with required SS fasteners, SS spiral wound gaskets and mounting of Instruments like pressure gauges, pressure transmitters etc., as per P&I diagram. Erection work also includes providing supports from pedestals and also from concrete wall by using anchor fasteners where ever required, U-clamp fixing. Hydro testing, Pickling & passivation, painting of pipe lines and tag numbers. Pneumatic/Hydro testing and commissioning as per the specifications Chapter - 3			
3.1	Size: 50NB	50	Meters	
3.2	Size: 40NB	120	Meters	
3.3	Size: 25NB	120	Meters	
3.4	Size: 15NB	50	Meters	
4	Fabrication & erection of structural supports as per the specifications Chapter - 4	600	kgs	

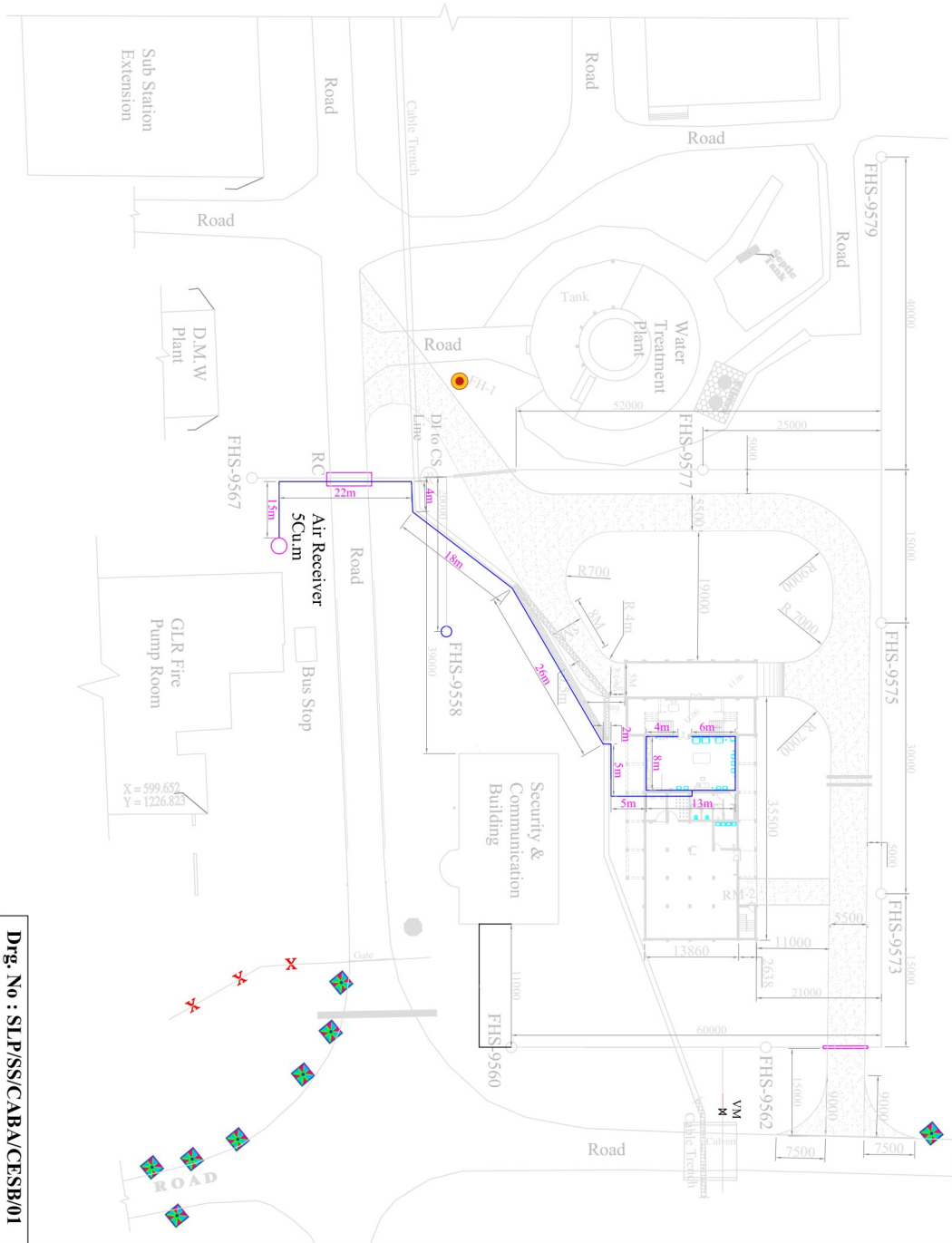
**Table - 2**

<b>Sl. No.</b>	<b>Description</b>	<b>Qty.</b>	<b>Units</b>	<b>Unit Price (Including Taxes)</b>
1	Butt welding of SS Pipes and pipe fitting which includes marking, cutting, profiling, aligning, fit up, Tack welding, cleaning, chipping, placement of wind shields and / or weather protection, Root and subsequent passes with TIG welding (GTAW process). GTAW welding shall be with 99.99% purity argon gas shielding & purging, DP testing of root and subsequent passes as per the specifications Chapter - 1			
1.1	Size: 100NB	50	Joints	
1.2	Size: 40NB	120	Joints	
2	Socket welding of SS Pipes and pipe fittings which includes marking, cutting, profiling, aligning, fit up, Tack welding, cleaning, chipping, placement of wind shields and / or weather protection, Root and subsequent passes with TIG welding (GTAW process). GTAW welding shall be with 99.99% purity argon gas shielding & purging, DP testing of root and subsequent passes with weld consumables as per the specifications Chapter - 2			
2.1	Size: 100NB	40	Joints	
2.2	Size: 40NB	80	Joints	
3	Erection of SS piping which includes Installation of flow components like Ball valves, filters with required SS fasteners, SS spiral wound gaskets and mounting of Instruments like pressure gauges, pressure transmitters etc., as per P&I diagram. Erection work also includes providing supports from pedestals and also from concrete wall by using anchor fasteners where ever required, U-clamp fixing. Hydro testing, Pickling & passivation, painting of pipe lines and tag numbers. Pneumatic/Hydro testing and commissioning as per the specifications Chapter - 3			
3.1	Size: 100NB	120	Meters	
3.2	Size: 40NB	120	Meters	
4	Fabrication & erection of structural supports as per the specifications Chapter - 4	500	kgs	
5	Cutting & Removal of existing GI Pipe line Size: 100NB along with unwanted structural supports.	120	Meters	
6	Cutting & Removal of existing GI Pipe line Size: 40NB along with unwanted structural supports.	120	Meters	

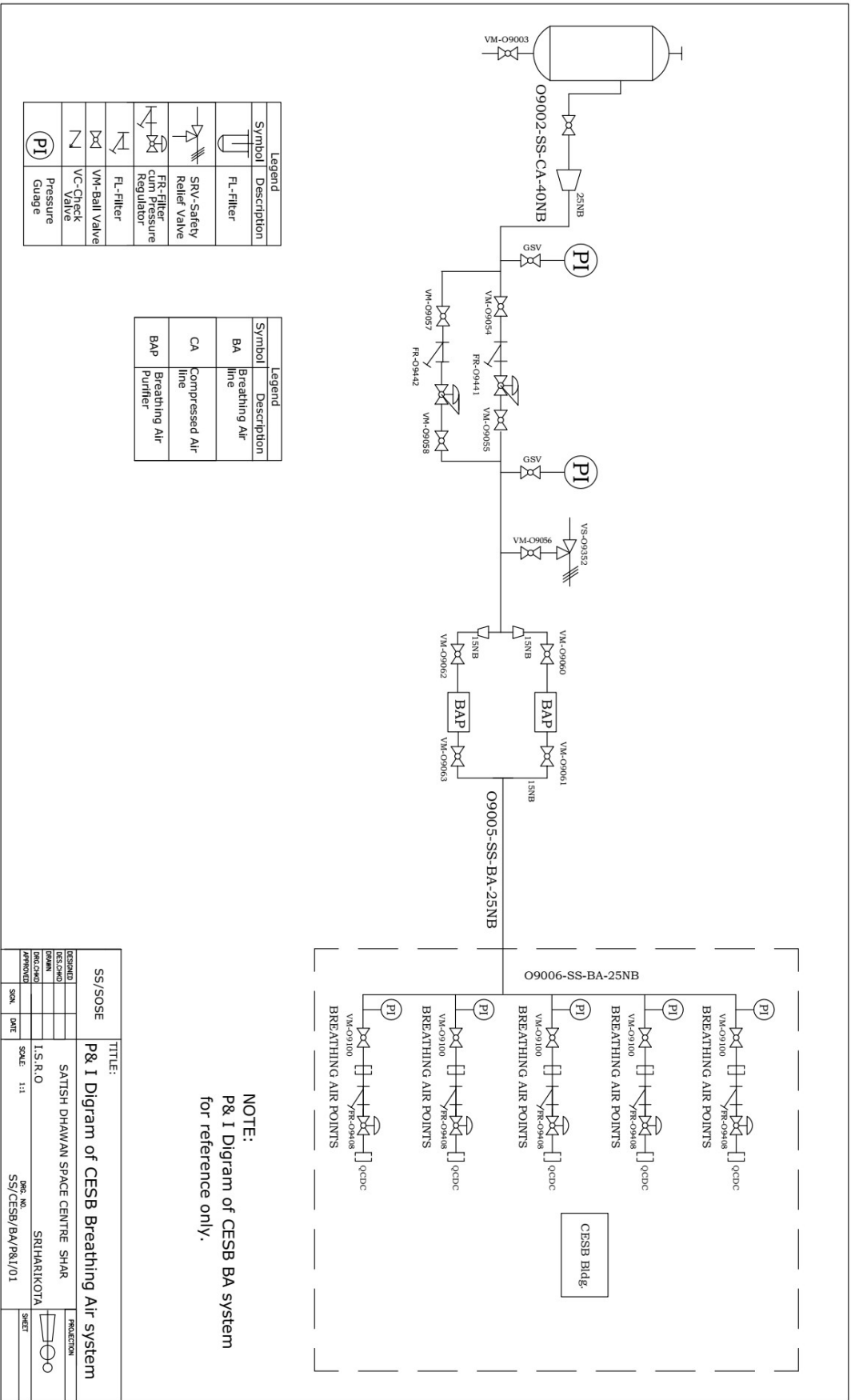
**Table - 3**

<b>Sl. No.</b>	<b>Description</b>	<b>Qty.</b>	<b>Units</b>	<b>Unit Price (Including Taxes)</b>
1	Cutting & Removal of existing Structural supports in MLP at height of 7 mtrs	9000	Kgs	
2	Cutting & Removal of existing 300NB CS pipeline from structural supports in MLP at height of 7 mtrs	270	Meters	
3	Cutting & Removal of existing 200NB CS pipeline from structural supports in MLP at height of 7 mtrs	200	Meters	

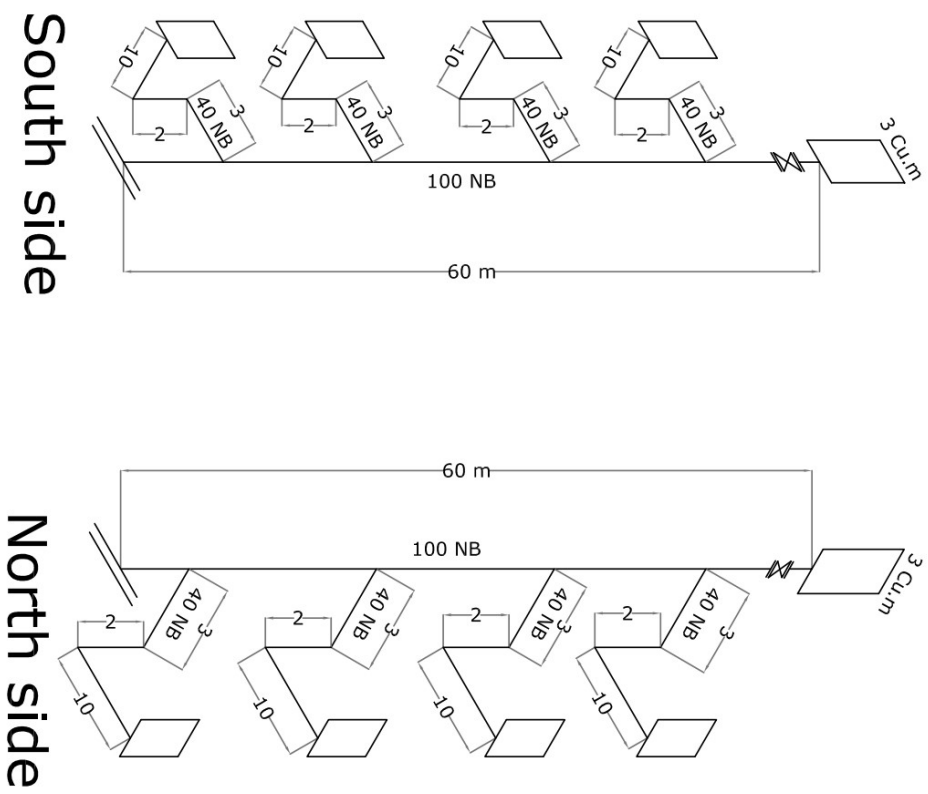
## CESB - CABA Layout



Dwg. No : SLP/SS/CABA/CESB/01



# Eye wash shower drain line



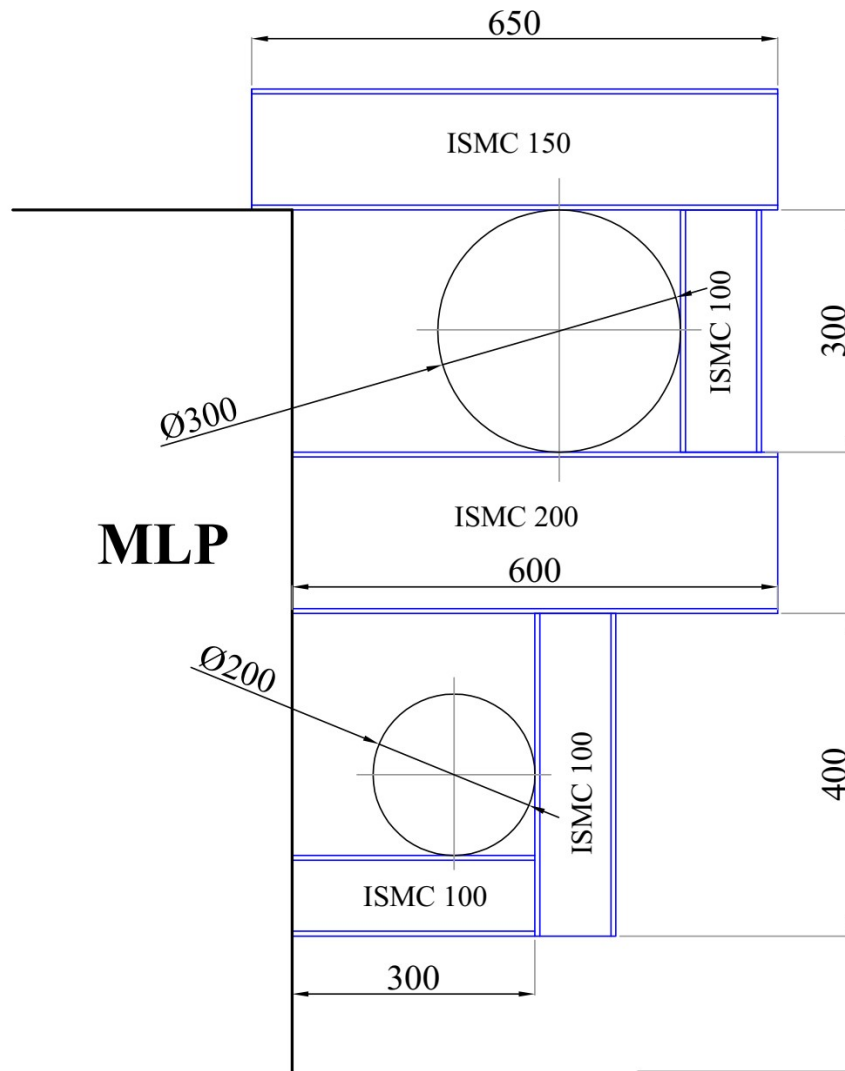
## Bill of Material

Sl no	Description	Size	Qty
1	SS Pipe	40NB	120 m
2	SS Pipe	100NB	120m
3	90° Elbow	40NB	32
4	SORF Flanges	40NB	16
5	SORF Flanges	100NB	8

ALL DIMENSIONS ARE IN Mtr

DRG NO : 01/FLP/SS/SOSE

# **MLP RING HEADER & FIXED WATER MONITOR** **PIPELINE SUPPORTS DETAILS**



ALL DIMENSIONS ARE IN MM

**Drg.No: SLP/SS/MLP/01**