

**Technical specification for Supply of Stub end SS Metallic Flexible Hoses**

**SCOPE**

Manufacture, Inspection, Testing, Packing and Delivery of SS metallic flexible hoses with SS wire braiding as per the following specifications and conditions.

**1. Technical Specifications**

- 1.1 Technical details of hoses like bore size, length, Maximum Operating Pressure (MOP), stub end length and quantity are given in Table-1.
- 1.2 Hoses shall be designed and tested as per ISO10380/Equivalent.
- 1.3 All hoses **with seamless stub ends** shall be made of Stainless steel (SS304L/316L), AISI 316L/304L corrugation (bellow) with stainless steel bright wire braiding of AISI 304. Minimum double SS wire braiding shall be used for 400 bar hoses.
- 1.4 Tentative Hose drawing is attached for ref. (Refer Dwg No: CGS/HOSE-01).
- 1.5 All butt weld joints shall be radiographed using x-ray or Gamma ray and socket weld joints shall be DP tested.
- 1.6 The hoses shall be used for Helium/Hydrogen gas service and the working temperature is in the range of **80K to 333K**

**2. Drawings & Approvals**

- a. Hose construction/fabrication drawings indicating part nos., material of construction, NB, minimum ID of hose, MOP for each size of the hose shall be furnished for purchaser's approval before commencing fabrication/production.
- b. **SS bellow:** Chemical composition of SS bellow shall be as per relevant code. The SS bellow material TC's shall be provided for review and approval.
- c. Tentative QAP attached. However, after placement of PO detailed QAP shall be submitted to the purchaser for approval

**3. Testing & Inspection**

**3.1 Material testing:**

- a. **Raw Material:** Materials used for manufacturing the items shall be tested in Govt/NABL accredited labs/ Manufacturers' MTC for mechanical properties, chemical composition and IGC
- b. **SS Wire Braid:** Chemical analysis shall be carried out for each size of the SS wire.

### 3.2 Final Testing:

- a. All Hose assemblies shall be strength tested (1.5 times of maximum operating pressure) with DM water. DM water having chloride content less than 25 ppm only shall be used) DM water chloride content analysis certificate shall be provided. Testing with RO & potable water is not acceptable.
- b. All hose assemblies shall be tested to 1.25 times of maximum operating pressure as given in Table-1 with nitrogen whilst the hoses are submerged in DM water tub.
- c. **Burst Test details:** Burst test details and type test certificates are to be provided along with the offer. Burst test pressure shall be a minimum of 3 times of MOP. If previous burst test details/reports are not available then supplier should produce one additional 400 bar hose with minimum 1000 mm length (exclusive of supply quantity) shall be subjected to burst pressure test during inspection. Cost of specific test & the sample hose shall be inclusive of quoted price and NO EXTRA cost will be paid by the purchaser.
- d. All hoses shall be cleaned for oxygen service.
- e. MSLD Leak check: All the hoses shall be subjected to vacuum leak test where in  $<1 \times 10^{-3}$  mbar vacuum in the hose shall be created and tested for leak by employing polythene bag external to the hose in which gaseous helium shall be sprayed. Leak rate shall be observed in the MSLD connected to the vacuum side of the hose. Acceptable leak rate shall be better than  $5 \times 10^{-8}$  mbar liter/s.
- f. Minimum bore at stub end shall be ensured with gauge.

### 3.3 Scope of Inspection:

The supplier has to inform the purchaser about readiness of the materials for inspection well in advance (at least two weeks' time) for arranging the purchaser's representative for inspection at supplier's premises as per approved QAP. The items shall be dispatched only after inspection by the purchaser at supplier premises.

The scope of inspection is as follows in different stages.

- a. Review of raw material test certificates for chemical, mechanical & IGC testing for each heat/ lot / each size of the rod for hose, braiding and end fittings.
- b. Witnessing of Hydro test, Pneumatic test, MSLD test, and burst test (if applicable)
- c. Visual inspection of finished hoses like cleanliness and braiding intactness
- d. Verification of tags, certification and clearance for dispatch.
- e. All qualification tests shall be carried out at the manufacturer's premises only and supplier shall provide the required inspection tools during inspection.
- f. Review of cleanliness certificates.

#### 4. General Terms and Conditions:

- 4.1 Total price of hoses shall be inclusive of all costs (Eg. All testing charges, Price of additional hose used for burst test and any other charges as applicable).
- 4.2 Nominal length of hoses shall be as given in Table -1 of specifications. However, 1% variation over nominal length is allowed.
- 4.3 All hoses shall be free of particulate matter such as rust, dirt, scales or weld spatter that obstruct the flow. Same shall be ensured with by checking with lint free cloth.
- 4.4 All hoses shall be free of any surface fill, oxidant, grease, oil and other lubricants. Inside surface of hoses shall be cleaned for Oxygen service and free of water
- 4.5 Hose assemblies shall be supplied with SS tags indicating Tag No., size, material of construction and maximum operating pressure, year of manufacturing and PO number. Wherever possible the above details shall be etched on the sleeve/Stub end.
- 4.6 Wherever material of construction is not mentioned, it shall be of SS 304L/316L only. Other than the specified SS, any other material is NOT accepted.
- 4.7 The supplier shall submit a detailed plan of (QAP) applicable examinations and tests required for the individual components and assembly prior to the commencement of manufacturing. The same will be reviewed and approved by the department as per timeline given in Table-A. All inspection and testing shall be carried out as per approved QAP by purchaser. A tentative QAP (Quality Assurance Plan) may be followed as given in the Table-4.
- 4.8 Timeline for the activities to be carried out for supply of metallic flexible hoses is as given below.

**Table-A**

Sl.No	Submission/ Approval Time Line	Description
1.	<b>T0</b>	Date of Release of purchase order
2.	T1 = T0+1 Week	Receipt and acceptance of the purchase order.
3.	T2 = T1+2 Weeks	Submission of fabrication drawings and QAP of metallic hoses for approval
4.	T3 = T2+3 Weeks	Approval of fabrication drawings and QAP by department. The comments if any, offered by Department have to be incorporated and the documents shall be sent back to the purchaser for final approval

5.	T4 = T3+2 Weeks	Raw Materials identification and certificates review
6.	T5 = T4+11 Weeks	Fabrication of Metallic hoses
7.	T6= T5+3 Weeks	Witnessing of Burst test (if Applicable), Hydro test, Pneumatic test, MSLD test, Dimensional check, Verification of tags and witnessing of cleanliness & Packing
8.	T7= T6+2 Weeks	Review of Final Documentation
<p><b>Note: All the above events including entire scope of Purchase Order shall be completed within 6 months (24 Weeks) from the date of release of purchase order.</b></p>		

- 4.9 The individual hose assembly shall be packed in plastic bag and in seaworthy cases and the hose ends shall be plugged with plastic cap.
- 4.10 **WARRANTY:** Hoses with accessories supplied shall be warranted for trouble free service of 12 months period from the date of receipt and acceptance. In case any defects noticed during the above period due to faulty design, poor workmanship, use of substandard materials etc., the same shall be rectified / replaced by party with free of cost within a reasonable period.
- 4.11 Supplier shall confirm the purchase order full quantity will be supplied within **6 months** from the purchase order receipt and acceptance.
- 4.12 All correspondence and documents shall be supplied only in English version.
- 4.13 All the indent specifications shall be confirmed point wise in the offer as given in Annexure-II
- 4.14 For this procurement, bids from Class-I & class-II Local Suppliers are admissible. Hence provisions contained in Public Procurement (Preference to Make in India), Order 2017 issued by Department for Promotion of Industry and Internal Trade (DIPP), Ministry of Commerce & Industries vide letter No. P-45021/2/2017-PP(BE-II) dated 04.06.2020 and subsequent amendment & directives shall be followed. Accordingly, offer will be evaluated & processed in conformation with above referred GOI order (Specially mentioned below). The bidder shall provide compliance and undertaking as per order and hereafter amendments:
- Order no: F.No.6/18/2019 PPD dated 23.07.2020 of Department of Expenditure, Ministry of Finance Under Public procurement division for the General Financial rule (GFRs).
  - Class-I local supplier means a supplier or service provider, whose goods, service or works offered for procurement, has local content equal to or more than 50%, as defined under order.

- c) Class-II local supplier means a supplier or service provider, whose goods, services or works offered for procurement, has local content more than 20% but less than 50%, as defined under this Order.
- d) Verification of local content:
- i. The Class I local supplier/ Class- II local supplier at the time of tendering, bidding or solicitation shall be required to indicate percentage of local content and provide self-certification that the item offered meets the local content requirement for Class-I local supplier / Class II local supplier as the case may be. They shall also give details of the location(s) at which the local value addition is made.
  - ii. In case bid value is in excess of Rs. 10 Cr., Class-I local supplier / Class-II local supplier shall be required to provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.
  - iii. False declarations will be in breach of the code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules (GFR) for which a bidder or its successors can be debarred for up to two years as per Rule 151(iii) of the general Financial Rules along with such other actions as may be permissible under Law.
  - iv. A supplier who has been debarred by any procuring entity for violation of this order shall not be eligible for preference under this order for procurement by any other procuring entity for the duration of the debarment.
- e) The percentage of local content should be specifically mentioned in the offer, without which it will be summarily rejected.
- f) Preference will be given to Class-I Local supplier and in their absence, Class-II Local supplier will be considered.

## **5. Documents to be furnished**

Inspection/Test Certificates shall be supplied for the following:

1. Certificate of conformance.
2. Warranty Certificate
3. Material test certificates (Physical, chemical properties & IGC),
4. Certificate of strength test with DM water.
5. Certificate of Pneumatic test.
6. Certificate of cleaning for oxygen service.
7. MSLD leak check certificate

8. Certificate of Burst pressure test on 400 bar hose (if applicable)
9. Visual, dimensional checks and final inspection reports.

## 6. SCHEDULE METALLIC FLEXIBLE HOSES WITH SS BRAIDING:

**TABLE-1**

Sl. No	Description	End connection		Max. Oper. Pressure (MOP) (bar)	Nom. bore size (mm)	Length (mm)	Quantity (Nos)
		First End	Second End				
1.	HP-1: SS metallic flexible Hoses with inner 6mm bore along with stub ends.	Stub end (8mm OD x 2mm Thk), Length: 50 mm	Stub end (8mm OD x 2mm Thk), Length: 50mm	400	6	6000	11
2.	HP-2: SS metallic flexible Hoses with inner 6mm bore along with stub ends.	Stub end (8mm OD x 2mm Thk) . Length: 50mm	Stub end (8mm OD x 2mm Thk). Length: 50mm	400	6	5000	11

## 7. Bid/Offer Submission details:

a) Supplier shall present the bids on two-part basis as highlighted below:

- ✓ **Part-I: Techno-Commercial bid.**
- ✓ **Part-II: Price bid indicating the price.**

### 7.1 Part-I: Techno-Commercial bid:

**The tenderer shall necessarily present the following in the techno-commercial bid:**

- The tenderer shall furnish **point-wise confirmation (Technical Compliance attached in Annexure-II)** for the technical specifications given in the enquiry. However, change of specifications/ deviations (if any) shall be brought out in the offer with detailed justification. Suppliers are expected to furnish quotations with best match to design standards, materials of construction and other technical conditions.
- Supplier has to provide previous purchase orders (P.O.) of metallic hoses at MOP of **250bar (minimum)**.

- Tenderer need to furnish the details related to commercial terms indicating payment terms, details of bank guarantee in case of advance payments.
- Place of manufacturing shall be clearly indicated in the offer.
- Bidder need to submit Un-priced price bid copy (**Table-2**) indicating the description of all the cost elements considered, without indicating the price. Tenderer shall note that indication of price in the techno-commercial bid will lead to dis-qualification of the supplier in the evaluation of bid.
- The price bids will be opened only after evaluation and acceptance of the technical bid of the respective tenderer.

## 7.2 Format of Un-Priced Price Bid:

### Confirmation of item wise cost break up by the supplier

**Table-2**

Sl. No	Description	Quantity (Nos)	Unit Cost	Total Cost	Taxes if any	Total Cost including Tax	Separate Cost mentioned in price bid (YES/NO)
1.	HP-1: SS metallic flexible Hose (400 Bar) with stub end(8mm OD x 2mm Thk), 6mm hose bore, Length-6000mm	11	Unpriced	Unpriced	Unpriced	Unpriced	
2.	HP-2: SS metallic flexible Hose (400 Bar) with stub end (8mm OD x 2mm Thk), 6 mm hose bore, Length-5000mm	11	Unpriced	Unpriced	Unpriced	Unpriced	

### 7.3 Part-II: Price bid indicating the price:

Price bid should be submitted by the tenderer in the following format.

**Table-3**

Sl. No	Description	Quantity (Nos)	Unit Cost	Total Cost	Taxes if any	Total Cost including Tax
1.	HP-1: SS metallic flexible Hose (400 Bar) with stub end (8mm OD x 2mm Thk), 6mm hose bore, Length-6000mm	11	To be filled	To be filled	To be filled	To be filled
2.	HP-2: SS metallic flexible Hose (400 Bar) with stub end (8mm OD x 2mm Thk), 6 mm hose bore, Length-5000mm	11	To be filled	To be filled	To be filled	To be filled

**Note:**

- 1. Total price of hoses shall be inclusive of all costs (Eg. All testing charges, Price of additional hose used for burst test and any other charges as applicable).**

**8. Offer Validity:**

The validity of the offers / tenders should be 120days from the date of opening of the tenders. **Tenders with offer validity less than the period mentioned above, will not be considered for evaluation.**

**9. Taxes:**

- a. GST details are given below:

GSTIN : 37AAAGS1366J1Z1

LEGAL NAME : SATISH DHAWAN SPACE

CENTRE SHAR

VALIDITY FROM : 29/08/2017

TYPE OF REGISTRATION : REGULAR



**10. Payment Terms:**

100% payment within 30 days after receipt and acceptance of items at purchaser's (SDSC-SHAR, Sriharikota) site.

**11. Mode of Payment:**

Bidders can submit the banker details and payments can be made through NEFT/RTGS/ECS through PFMS.

**12. Liquidated Damages:**

In all cases, delivery schedule indicated in the Purchase Order/Contract is the essence of the contract and if the party fails to deliver the material within the delivery schedule, Liquidated Damages will be levied @ 0.5% per week or part thereof subject to a maximum of 10% of total order value.

**13. Performance Bank Guarantee:**

Performance Bank Guarantee for 3% of the order value should be furnished in the form of Bank Guarantee from nationalized/scheduled bank till warranty period (12months) plus sixty days.

**14. Security Deposit:**

Security Deposit for 3% of the order value is mandatory. Party shall furnish the Security Deposit in the form of Bank Guarantee from nationalized/scheduled bank or by Demand Draft valid till completion of the contract period plus sixty days for faithful execution of the contract.

**15. Combined Bank Guarantee:**

Combined Bank Guarantee for performance bank guarantee & security deposit of 3% of the order value should be furnished in the form of Bank Guarantee from nationalized/scheduled bank till warranty period plus sixty days **within 10 days from the receipt of PO**

**16. 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.

**17. Minimum qualification criteria:**

- a. Tenderers should have satisfactorily executed the order for supply of SS metallic flexible hoses of 250 bar and above involving complete manufacturing and supply during the last five years ending with 31-03-2024 at least.
  - Single order value not less than Rs. 24 Lakhs (or)
  - Two orders of value not less than Rs. 18 lakhs each (or)
  - Three orders of value not less than Rs. 12 Lakhs each.
  - Details of the last five years purchase orders shall be submitted along with the offer for proof of above.

**Note:**

- i. Manufacturers of SS Metallic flexible hoses of 250 bar and above only shall submit the quote.
- ii. In case the supplier has not manufactured and supplied 400 bar hoses, Purchaser reserves the right for evaluation of supplier by visiting his manufacturing premises by witnessing hydro test (600 bar), pneumatic test (400 bar) & burst test. The decision of the purchaser is final in this regard.
- iii. **Manufacturing through sub vendors is not acceptable.**
- b. Offers from dealers and traders are not acceptable. Party shall produce a proof that they are manufacturers of high pressure metallic hoses. In case of manufacturing at overseas, authorized Indian agent shall confirm its principles are manufacturers of high pressure hoses and Indian agent should meet MII clause.
- c. Tenderers should have minimum average annual turnover for the last three years (FY: 2021-22, 2022-23& 2023-24) of Rs.36 lakhs.
- d. The Bidders shall submit Profit & Loss Accounts, Balance Sheets duly certified by the auditor and IT returns for the last three financial years with acknowledgement from IT Department up to last 3 years (ending with 31-03-2024). Necessary documents shall be submitted.
- e. Solvency certificate for the financial year 2024-25 from a scheduled bank for a value not less than Rs.12 Lakhs. The Solvency certificate must have been issued during current financial year. Latest solvency certificate from any nationalized bank/scheduled bank shall be submitted for a value of minimum Rs.12 Lakhs.
- f. 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
- g. The tenderer shall necessarily furnish the details of previously executed orders confirming the manufacturing and delivery of SS metallic flexible hoses 250 bar & above. Necessary documentary evidence along with end user certificate (confirming the satisfactory performance of the goods supplied) shall be submitted along with offer for our review.
- h. Party shall have in house manufacturing facilities like, wire braiding, hose making and testing equipment. Documentary evidence for the above shall be

provided. **Non-compliance of this requirement shall lead to technical rejection of the offer.**

- i. **In case of manufacturing at overseas, authorized Indian agent shall produce authorization certificate from its principles confirming OEM is manufacturer of high-pressure hoses.**

**18. Bid Evaluation criteria:**

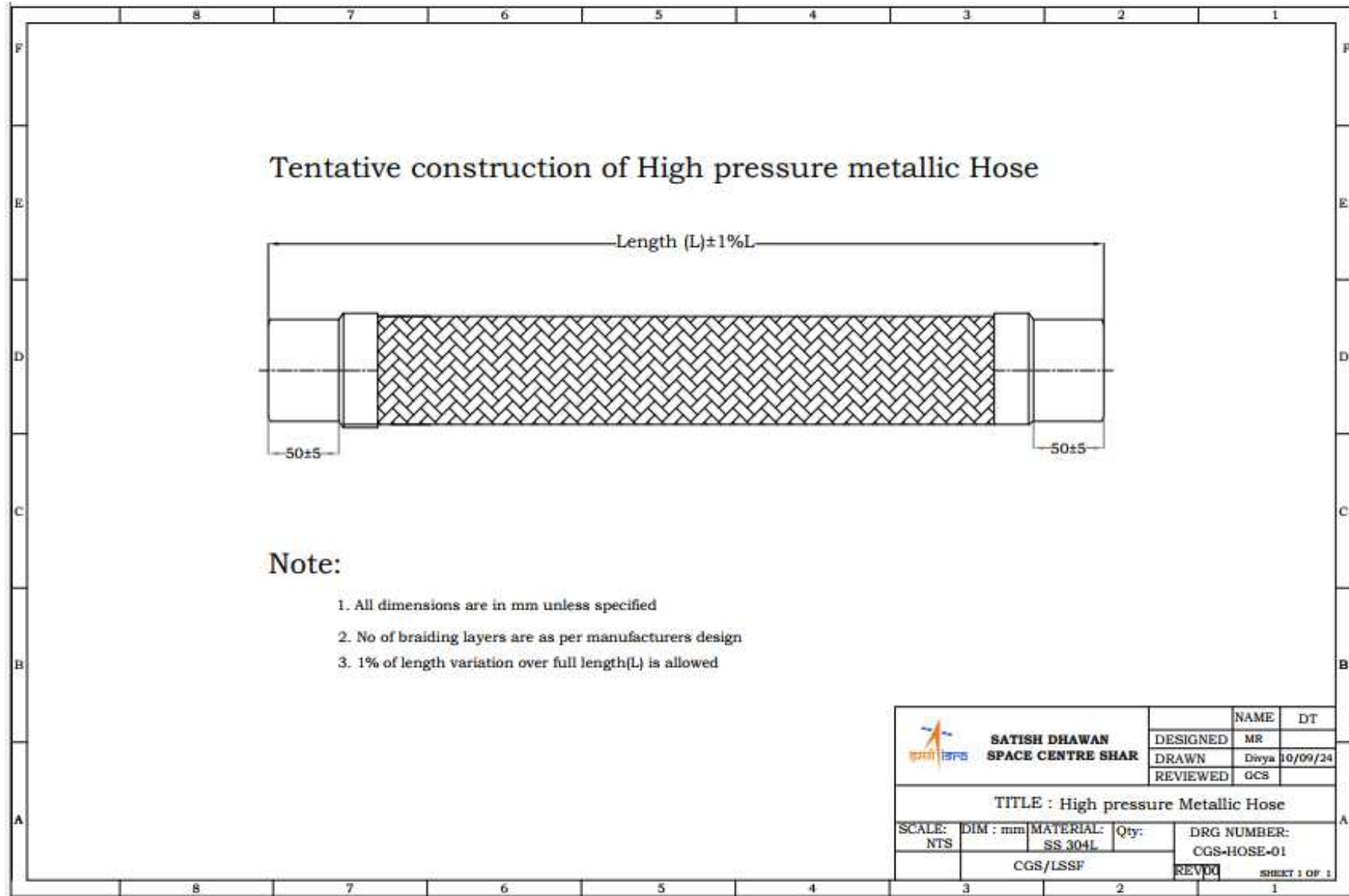
- a. In respect of Two-Bid system, the technical bids submitted by the bidders will be evaluated by the Department with reference to the technical specifications as mentioned in the specification document. The compliance of Technical Bids would be determined on the basis of the parameters specified in the specification.
- b. During evaluation, SDSC SHAR may request Bidder for any additional clarification/document on the bid, if required.
- c. SDSC SHAR reserves the right to reject any bid if not meeting the technical/commercial requirements and terms & conditions. Such decisions by the SDSC SHAR shall bear no liability whatsoever consequent upon such decision
- d. Purchaser reserves the right to place part quantity order with same offered cost. **Party shall confirm the same in the offer.**

**TABLE- 4****TENTATIVE QUALITY ASSURANCE PLAN (QAP).**

<b>Sl. No</b>	<b>Characteristics/ Type of check</b>	<b>Reference documents</b>	<b>Method of check</b>	<b>Supplier's QC</b>	<b>Purchaser's Inspector</b>
1.	Raw material test certificates per heat/lot with chemical, physical, and IGC test reports (ASTM 262 Practice-E) for production of hoses. (Parent material check).	-----	Raw material Identification and test certificates review.	H 100%	R 100%
2.	Burst Test (if applicable)	As per Purchase order	Witnessing	H 100%	W 100%
3.	Hydro test	As per Purchase order	Witnessing	H 100%	W 100%
4.	Pneumatic Test	As per Purchase order	Witnessing	100% H	100% W
5.	MSLD Test	As per Purchase order	As per Purchase order	100% H	100% W
6.	Dimensional check of hoses	Approved drawings	Measurement and Visual inspection	100%H	100% W
7.	Verification of tag Nos and serial nos	As per purchase order	Verification	100%H	100%W
8.	Witnessing of cleanliness and packing	As per purchase order	Visual inspection	100%H	10%W (Random)
9.	Final Documentation	As per P.O	Verification of Documents / Certificates	100%H	100%R

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

# Tentative Hose Drawing for ref.



**Technical Compliance**

**(To be submitted by the bidder along with Technical Bid)**

Tenderer shall furnish point-wise confirmation for the following. Change of specifications/ deviations (if any) shall be brought out in the offer with detailed justification.

<b>Sl. No</b>	<b>ISRO Description</b>	<b>Technical Compliance (To be filled by the party)</b>
1.	Technical details of hoses like bore size, length, Maximum Operating Pressure (MOP), stub end length and quantity are given in Table-1.	
2.	Hoses shall be designed and tested as per ISO10380/Equivalent.	
3.	All hoses <b>with seamless stub ends</b> shall be made of Stainless steel (SS304L/316L), AISI 316L/304L corrugation (bellow) with stainless steel bright wire braiding of AISI 304. Minimum double SS wire braiding shall be used for 400 bar hoses.	
4.	Tentative Hose drawing is attached for ref. (Refer Dwg No: CGS/HOSE-01).	
5.	All butt weld joints shall be radiographed using x-ray or Gamma ray and socket weld joints shall be DP tested.	
6.	The hoses shall be used for Helium/Hydrogen gas service and the working temperature is in the range of <b>80K to 333K</b>	
	<b>Drawings &amp; Approvals</b>	
7.	Hose construction/fabrication drawings indicating part	

SI. No	ISRO Description	Technical Compliance (To be filled by the party)
	nos., material of construction, NB, minimum ID of hose, MOP for each size of the hose shall be furnished for purchaser's approval before commencing fabrication/production.	
8.	<b>SS bellow:</b> Chemical composition of SS bellow shall be as per relevant code. The SS bellow material TC's shall be provided for review and approval.	
9.	Tentative QAP attached. However, after placement of PO detailed QAP shall be submitted to the purchaser for approval.	
<b>Testing &amp; Inspection</b>		
10.	<b>Raw Material:</b> Materials used for manufacturing the items shall be tested in Govt/NABL accredited labs/ Manufacturers' MTC for mechanical properties, chemical composition and IGC	
11.	<b>SS Wire Braid:</b> Chemical analysis shall be carried out for each size of the SS wire.	
<b>Final Testing:</b>		
12.	All Hose assemblies shall be strength tested (1.5 times of maximum operating pressure) with DM water. DM water having chloride content less than 25 ppm only shall be used) DM water chloride content analysis certificate shall be provided. Testing with RO & potable water is not acceptable.	
13.	All hose assemblies shall be tested to 1.25 times of maximum operating pressure as given in Table-1 with nitrogen whilst the hoses are submerged in DM water tub.	
14.	<b>Burst Test details:</b> Burst test details and type test	

SI. No	ISRO Description	Technical Compliance (To be filled by the party)
	certificates are to be provided along with the offer. Burst test pressure shall be a minimum of 3 times of MOP. If previous burst test details/reports are not available then supplier should produce one additional 400 bar hose with minimum 1000 mm length (exclusive of supply quantity) shall be subjected to burst pressure test during inspection. Cost of specific test & the sample hose shall be inclusive of quoted price and NO EXTRA cost will be paid by the purchaser.	
15.	All hoses shall be cleaned for oxygen service.	
16.	<b>MSLD Leak check</b> : All the hoses shall be subjected to vacuum leak test where in $<1 \times 10^{-3}$ mbar vacuum in the hose shall be created and tested for leak by employing polythene bag external to the hose in which gaseous helium shall be sprayed. Leak rate shall be observed in the MSLD connected to the vacuum side of the hose. Acceptable leak rate shall be better than $5 \times 10^{-8}$ mbar liter/s.	
17.	Minimum bore at stub end shall be ensured with gauge.	
<b>Scope of Inspection:</b>		
18.	The supplier has to inform the purchaser about readiness of the materials for inspection well in advance (at least two weeks' time) for arranging the purchaser's representative for inspection at supplier's premises as per approved QAP. The items shall be dispatched only after inspection by the purchaser at supplier premises.	
19.	The scope of inspection is as follows in different stages. Supplier shall give compliance to all the points.	
20.	Review of raw material test certificates for chemical,	



<b>Sl. No</b>	<b>ISRO Description</b>	<b>Technical Compliance (To be filled by the party)</b>
	mechanical & IGC testing for each heat/ lot / each size of the rod for hose, braiding and end fittings.	
21.	Witnessing of Hydro test, Pneumatic test, MSLD test, and burst test (if applicable)	
22.	Visual inspection of finished hoses like cleanliness and braiding intactness	
23.	Verification of tags, certification and clearance for dispatch.	
24.	All qualification tests shall be carried out at the manufacturer's premises only and supplier shall provide the required inspection tools during inspection.	
25.	Review of cleanliness certificates.	
<b>General Terms and Conditions:</b>		
26.	Total price of hoses shall be inclusive of all costs (Eg. All testing charges, Price of additional hose used for burst test and any other charges as applicable).	
27.	Nominal length of hoses shall be as given in Table -1 of specifications. However, 1% variation over nominal length is allowed.	
28.	All hoses shall be free of particulate matter such as rust, dirt, scales or weld spatter that obstruct the flow. Same shall be ensured with by checking with lint free cloth	
29.	All hoses shall be free of any surface fill, oxidant, grease, oil and other lubricants. Inside surface of hoses shall be cleaned for Oxygen service and free of water	
30.	Hose assemblies shall be supplied with SS tags	

SI. No	ISRO Description	Technical Compliance (To be filled by the party)
	indicating Tag No., size, material of construction and maximum operating pressure, year of manufacturing and PO number. Wherever possible the above details shall be etched on the sleeve/Stub end.	
31.	Wherever material of construction is not mentioned, it shall be of SS 304L/316L only. Other than the specified SS, any other material is NOT accepted.	
32.	The supplier shall submit a detailed plan of (QAP) applicable examinations and tests required for the individual components and assembly prior to the commencement of manufacturing. The same will be reviewed and approved by the department as per timeline given in Table-A. All inspection and testing shall be carried out as per approved QAP by purchaser. A tentative QAP (Quality Assurance Plan) may be followed as given in the Table-4.	
33.	Timeline for the activities to be carried out for supply of metallic flexible hoses is as given below.	
34.	The individual hose assembly shall be packed in plastic bag and in seaworthy cases and the hose ends shall be plugged with plastic cap.	
35.	<b>WARRANTY:</b> Hoses with accessories supplied shall be warranted for trouble free service of 12 months period from the date of receipt and acceptance. In case any defects noticed during the above period due to faulty design, poor workmanship, use of substandard materials etc., the same shall be rectified / replaced by party with free of cost within a reasonable period.	
36.	Supplier shall confirm the purchase order full quantity will be supplied within <b>6 months</b> from the purchase	

<b>Sl. No</b>	<b>ISRO Description</b>	<b>Technical Compliance (To be filled by the party)</b>
	order receipt and acceptance.	
37.	All correspondence and documents shall be supplied only in English version.	
38.	For this procurement, bids from Class-I & class-II Local Suppliers are admissible. Hence provisions contained in Public Procurement (Preference to Make in India), Order 2017 issued by Department for Promotion of Industry and Internal Trade (DIPP), Ministry of Commerce & Industries vide letter No. P-45021/2/2017-PP(BE-II) dated 04.06.2020 and subsequent amendment & directives shall be followed. Accordingly, offer will be evaluated & processed in conformation with above referred GOI order (Specially mentioned below). The bidder shall provide compliance and undertaking as per order and hereafter amendments:	
39.	Order no: F.No.6/18/2019 PPD dated 23.07.2020 of Department of Expenditure, Ministry of Finance Under Public procurement division for the General Financial rule (GFRs).	
40.	Class-I local supplier means a supplier or service provider, whose goods, service or works offered for procurement, has local content equal to or more than 50%, as defined under order.	
41.	Class-II local supplier means a supplier or service provider, whose goods, services or works offered for procurement, has local content more than 20% but less than 50%, as defined under this Order.	
42.	Verification of local content:  The Class I local supplier/ Class- II local supplier at the time of tendering, bidding or solicitation shall be	

<b>Sl. No</b>	<b>ISRO Description</b>	<b>Technical Compliance (To be filled by the party)</b>
	required to indicate percentage of local content and provide self-certification that the item offered meets the local content requirement for Class-I local supplier / Class II local supplier as the case may be. They shall also give details of the location(s) at which the local value addition is made.	
43.	In case bid value is in excess of Rs. 10 Cr., Class-I local supplier / Class-II local supplier shall be required to provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.	
44.	False declarations will be in breach of the code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules (GFR) for which a bidder or its successors can be debarred for up to two years as per Rule 151(iii) of the general Financial Rules along with such other actions as may be permissible under Law.	
45.	A supplier who has been debarred by any procuring entry for violation of this order shall not be eligible for preference under this order for procurement by any other procuring entity for the duration of the debarment.	
46.	The percentage of local content should be specifically mentioned in the offer, without which it will be summarily rejected.	
47.	Preference will be given to Class-I Local supplier and in their absence, Class-II Local supplier will be considered.	

SI. No	ISRO Description	Technical Compliance (To be filled by the party)
<b>Documents to be furnished</b>		
48.	Inspection/Test Certificates shall be supplied for the following: Certificate of conformance.	
49.	Warranty Certificate	
50.	Material test certificates (Physical, chemical properties & IGC).	
51.	Certificate of strength test with DM water.	
52.	Certificate of Pneumatic test.	
53.	Certificate of cleaning for oxygen service.	
54.	MSLD leak check certificate	
55.	Certificate of Burst pressure test on 400 bar hose (if Applicable)	
56.	Visual, dimensional checks and final inspection reports.	
<b>Bid/Offer Submission details:</b>		
57.	<p><b>Supplier shall present the bids on <u>two-part basis as highlighted below:</u></b></p> <ul style="list-style-type: none"> <li>✓ <b>Part-I: Techno-Commercial bid.</b></li> <li>✓ <b>Part-II: Price bid indicating the price.</b></li> </ul>	
58.	<p>The tenderer shall necessarily present the following in the techno-commercial bid:</p> <p>The tenderer shall furnish point-wise confirmation (Technical Compliance attached in Annexure-II) for the technical specifications given in the enquiry. However,</p>	

SI. No	ISRO Description	Technical Compliance (To be filled by the party)
	change of specifications/ deviations (if any) shall be brought out in the offer with detailed justification. Suppliers are expected to furnish quotations with best match to design standards, materials of construction and other technical conditions.	
59.	Supplier has to provide previous purchase orders (P.O.) of metallic hoses at MOP of <b>250bar (minimum)</b> .	
60.	Tenderer need to furnish the details related to commercial terms indicating payment terms, details of bank guarantee in case of advance payments.	
61.	Place of manufacturing shall be clearly indicated in the offer.	
62.	Bidder need to submit Un-priced price bid copy ( <b>Table-2</b> ) indicating the description of all the cost elements considered, without indicating the price. Tenderer shall note that indication of price in the techno-commercial bid will lead to dis-qualification of the supplier in the evaluation of bid.	
63.	The price bids will be opened only after evaluation and acceptance of the technical bid of the respective tenderer.	
64.	Un Priced bid format shall be as per Table-2 of specification. Supplier shall not indicate price in this format. Indication price in the un priced bid format will lead to rejection.	
65.	Price bid format is as given in Table-3 of specification. Price of the items shall be indicated in this format as part of price bid opening.	

Sl. No	ISRO Description	Technical Compliance (To be filled by the party)
66.	<p><b>Total price of hoses shall be inclusive of all costs (Eg. Customs duty, P&amp;F, Transportation, all testing charges, Price of additional hose used for burst test and any other charges as applicable) except GST. Party shall mention the HSN code for the hoses separately.</b></p>	
67.	<p><b>Offer Validity:</b> The validity of the offers / tenders should be 180 days from the date of opening of the tenders. <b>Tenders with offer validity less than the period mentioned above, will not be considered for evaluation.</b></p>	
68.	<p><b>Taxes:</b> GST details are given below: GSTI : 37AAAGS1366J1Z1 LEGAL NAME: SATISH DHAWAN SPACE CENTRE, SHAR VALIDITY FROM : 29/08/2017 TYPE OF REGISTRATION : REGULAR</p>	
69.	<p><b>Payment Terms:</b> 100% payment within 30 days after receipt and acceptance of items at purchaser's (SDSC-SHAR, Sriharikota) site.</p>	
70.	<p><b>Mode of Payment:</b> Bidders can submit the banker details and payments can be made through NEFT/RTGS/ECS through PFMS.</p>	

SI. No	ISRO Description	Technical Compliance (To be filled by the party)
71.	<p><b>Liquidated Damages:</b></p> <p>In all cases, delivery schedule indicated in the Purchase Order/Contract is the essence of the contract and if the party fails to deliver the material within the delivery schedule, Liquidated Damages will be levied @ 0.5% per week or part thereof subject to a maximum of 10% of total order value.</p>	
72.	<p><b>Performance Bank Guarantee:</b></p> <p>Performance Bank Guarantee for 3% of the order value should be furnished in the form of Bank Guarantee from nationalized/scheduled bank till warranty period (12months) plus sixty days.</p>	
73.	<p><b>Security Deposit:</b></p> <p>Security Deposit for 3% of the order value is mandatory. Party shall furnish the Security Deposit in the form of Bank Guarantee from nationalized/scheduled bank or by Demand Draft valid till completion of the contract period plus sixty days for faithful execution of the contract.</p>	
74.	<p><b>Combined Bank Guarantee:</b></p> <p>Combined Bank Guarantee for performance bank guarantee &amp; security deposit of 3% of the order value should be furnished in the form of Bank Guarantee from nationalized/scheduled bank till warranty period plus sixty days <b>within 10 days from the receipt of PO</b></p>	
75.	<p><b>Arbitration:</b></p> <p>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</p>	



<b>Sl. No</b>	<b>ISRO Description</b>	<b>Technical Compliance (To be filled by the party)</b>
	<p>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> <p>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.</p>	

**Minimum Qualification Criteria****(To be submitted by the bidder along with Technical Bid)**

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

<b>Sl.No</b>	<b>Description</b>	<b>Vendor Compliance with supporting documents</b>
1.	<p>Tenderers should have satisfactorily executed the order for supply of SS metallic flexible hoses of 250 bar (or above) involving complete manufacturing and supply during the last five years ending with 31-03-2024 at least.</p> <ul style="list-style-type: none"> <li>• Single order value not less than Rs. 24 Lakhs (or)</li> <li>• Two orders of value not less than Rs. 18 lakhs each (or)</li> <li>• Three orders of value not less than Rs. 12 Lakhs each.</li> <li>• Details of the last five years purchase orders shall be submitted along with the offer for proof of above.</li> </ul>	
2.	Manufacturers of SS Metallic flexible hoses of 250 bar and above only shall submit the quote.	
3.	In case the supplier has not manufactured and supplied 400 bar hoses, Purchaser reserves the right for evaluation of supplier by visiting his manufacturing premises by witnessing hydro test (600 bar), pneumatic test (400 bar) & burst test. The decision of the purchaser is final in this regard.	
4.	<b>Manufacturing through sub vendors is not acceptable.</b>	
5.	Offers from dealers and traders are not acceptable. Party shall produce a proof that they are manufacturers of high pressure metallic hoses. In case of manufacturing at	

Sl.No	Description	Vendor Compliance with supporting documents
	overseas, authorized Indian agent shall confirm its principles are manufacturers of high pressure hoses and Indian agent should meet MII clause.	
6.	Tenderers should have minimum average annual turnover for the last three years (FY: 2021-22, 2022-23 & 2023-24) of Rs.36 lakhs.	
7.	The Bidders shall submit Profit & Loss Accounts, Balance Sheets duly certified by the auditor and IT returns for the last three financial years with acknowledgement from IT Department up to last 3 years (ending with 31-03-2024). Necessary documents shall be submitted.	
8.	<p>Solvency certificate for the financial year 2024-25 from a scheduled bank for a value not less than Rs.12 Lakhs.</p> <p>The Solvency certificate must have been issued during current financial year. Latest solvency certificate from any nationalized bank/scheduled bank shall be submitted for a value of minimum Rs.12 Lakhs.</p>	
9.	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	
10.	The tenderer shall necessarily furnish the details of previously executed orders confirming the manufacturing and delivery of SS metallic flexible hoses 250 bar & above. Necessary documentary evidence along with end user certificate (confirming the satisfactory performance of the goods supplied) shall be submitted along with offer for our review.	
11.	Party shall have in house manufacturing facilities like, wire braiding, hose making and testing equipment. Documentary evidence for the above shall be provided. <b><u>Non-compliance of this requirement shall lead to technical rejection of the offer.</u></b>	

Sl.No	Description	Vendor Compliance with supporting documents
12.	<b>In case of manufacturing at overseas, authorized Indian agent shall produce authorization certificate from its principles confirming OEM is manufacturer of high-pressure hoses.</b>	

	SIGNATURE	:	
	NAME	:	
	DESIGNATION	:	
SEAL OF THE COMPANY	DATE	:	

**Annexure-IV**

**Bid Evaluation Criteria**

**(To be submitted by the bidder along with Technical Bid)**

SI.No	Description	Vendor Compliance with supporting documents
1.	In respect of Two-Bid system, the technical bids submitted by the bidders will be evaluated by the Department with reference to the technical specifications as mentioned in the specification document. The compliance of Technical Bids would be determined on the basis of the parameters specified in the specification.	
2.	During evaluation, SDSC SHAR may request Bidder for any additional clarification/document on the bid, if required	
3.	SDSC SHAR reserves the right to reject any bid if not meeting the technical/commercial requirements and terms & conditions. Such decisions by the SDSC SHAR shall bear no liability whatsoever consequent upon such decision	
4.	Purchaser reserves the right to place part quantity order with same offered cost. <b>Party shall confirm the same in the offer.</b>	

	SIGNATURE	:	
	NAME	:	
	DESIGNATION	:	
SEAL OF THE COMPANY	DATE	:	