

**INSTITUTE FOR PLASMA RESEARCH**  
**NEAR INDIRA BRIDGE, BHAT, GANDHINAGAR 382 428**  
**GUJARAT STATE**

**Phone: 079 23962020, 23962021 Fax: 079 23962277**

**TENDER NOTICE DATED 17-04-2015**

Sealed tenders are invited in **TWO PART** from reputed and eligible parties for the following.

Sr. No	Tender Notice No.	Item	Qty.	Due Date & Time for		Tender Fee (Rs.)	EMD (Rs.)
				Submission of tender	Opening of tender		
1.	IPR/TN/PUR/3/15-16 (TWO PART TENDER)	Fabrication, testing and supply of U-shaped 10-Channel First Wall (FW) Mock-up	1 Unit	03.06.2015 by 1.00 p.m.	03.06.2015 at 2.30 p.m.	1000.00	110000.00

Tender documents are available on IPR Website : <http://www.ipr.res.in/documents/tenders.html>. Tenderers meeting the eligibility criteria mentioned in the tender documents may, at their option, download the tender documents from the website and submit their offer along with prescribed **Tender Fee (non refundable) and EMD** in the form of Demand Draft from any nationalized/scheduled bank drawn in favour of **Institute for Plasma Research** and payable at **Ahmedabad** as per the details given in the tender documents. In case party desires to collect the tender documents by post, they may contact the Purchase Officer along with prescribed tender fee. Tender documents will be issued upto **29.05.2015**. Representative who is going to attend the tender opening should carry an authorization letter from the organization for participation in the tender opening failing which he/she will not be allowed to attend the tender opening.

**TENDER NOTICE No.IPR/TN/PUR/3/15-16 DATED 17/04/2015**  
**(TWO PART)**

**For Fabrication, testing and supply of U-shaped 10-Channel First Wall (FW) Mock-up – 1 Unit**

**NOTE: THIS IS A TWO PART TENDER. KINDLY SUBMIT TECHNO-COMMERCIAL BID (PART-A) AND PRICE BID (PART-B) SEPARATELY IN TWO DIFFERENT ENVELOPES SUPERSCRIBING TECHNICAL BID AND PRICE BID IN ONE SINGLE ENVELOPE**

**NOTE:**

1. Full details and specifications of the items and general instructions to be followed regarding submission of tenders are indicated in the tender documents.
2. **Proof for fulfillment of eligibility criteria mentioned hereunder should be submitted along with the tender. If the tender is submitted without valid documents, we shall not consider your offer. Tenders received without proof of eligibility criteria will be rejected.**
3. Tender documents can also be obtained by submitting a written request to the Purchase Officer together with prescribed tender fee, provided that the eligibility criteria is fulfilled. Last date for issue of Tender documents is 29/05/2015.
4. While requesting for Tender Documents, such request shall indicate **the “REQUEST FOR TENDER DOCUMENTS AGAINST TENDER NOTICE NO.IPR/TN/PUR/3/15-16 DATED 17/04/2015”.**
5. The tender fee of Rs.1,000/- (non refundable) should be made in the form of **DEMAND DRAFT issued by SBI/nationalized banks or any one of the scheduled banks mentioned in the bracket (Axis Bank, HDFC Bank, ICICI Bank and IDBI Bank) drawn in favour of Institute for Plasma Research and payable at Ahmedabad.** Vendor's name and tender number shall be indicated on the reverse side of the Demand Draft.
6. **The scheduled banks approved by IPR are Axis Bank, HDFC Bank, ICICI Bank and IDBI Bank. No other scheduled banks except above are acceptable to IPR.**
7. **DD should not be prior dated to the date of advertisement. Separate request letter and separate Demand Draft shall be sent for each tender.**
8. Those who use the downloaded tender documents from IPR Website may submit the prescribed Tender Fee keeping in a separate envelope along with the tender.
9. **Tenders received without the prescribed tender fee will be rejected.**
10. No request for the extension of due date will be considered.

11. Late/Delayed offers will not be accepted.
12. **Tender in a sealed envelope (Technical Bid, Commercial terms and conditions and EMD [Part-A] in one envelope and Price Bid [Part-B] in another envelope) superscribing the envelope with the above tender no., date, due date and brief description of tendered item should be submitted to the *Purchase Officer* at the above address by 1.00 p.m. on 3<sup>rd</sup> June, 2015. Part-A (Technical Bid along with Tender Fee of Rs.1,000/-, commercial terms and conditions and EMD for Rs.1,10,000/-) received upto 1.00 p.m. on 03/06/2015 will be opened on the same day at 2.30 p.m. in the presence of attending tenderers.**
13. In the event of any date indicated above is a declared Holiday, the next working day shall become operative for the respective purpose mentioned herein.
14. IPR will not be responsible for any delay/loss of documents in transit.
15. Tenders received without the details asked for including proof of eligibility for participating in the tender may not be considered.
16. Tenderers should furnish/enclose full technical details/literature, delivery period and confirm the terms and conditions attached with the tender.
17. **Those who do not meet with the eligibility criteria need not submit Tender.**
18. The Director, IPR reserves the right to accept or reject any offer in full or part thereof without assigning any reason thereof.
19. **Quotations received without EMD will not be considered.**

## **20. AUTHORITY LETTER**

- a) **Tenderers who wish to attend the tender opening should invariably carry an authorization letter from their company, failing which they will not be allowed to participate in the tender opening process. However a single participation is only allowed from each company**
- b) **The tenderers representative, who reaches the venue of the tender opening late, i.e. after the starting time specified for opening of the tenders, may not be allowed to take part in the tender opening. It should be noted that only one representative of each tenderer will be permitted to participate in the tender opening.**

### **ELIGIBILITY CRITERIA:**

1. The vendor must have past experience in machining and fabrication related activities on Cr-Mo Alloy Steels (preferably, Grade 91 steel). (***Submit Purchase Order copies for documentary evidence along with technical details.***)
2. The vendor must have EDM cutting facility to cut the square channels of at least 1500mm length as well as hot bending facility at its disposal. (***Submit details regarding***

***the capacity of these equipment for handling this particular job as documentary evidence).***

3. The vendor should have average annual turn over of at least Rs.2.5 Crore for last 3 financial years (2010-2011 to 2012-2013). Audited financial statement of accounts for the above financial years to be submitted

The response to tender without submission of proof of above points will summarily be rejected without further communication.

**NOTE: Issue of tender documents does not mean that a vendor is qualified to submit tenders. IPR's decision to consider as to whether a vendor has met with the eligibility criteria is final.**

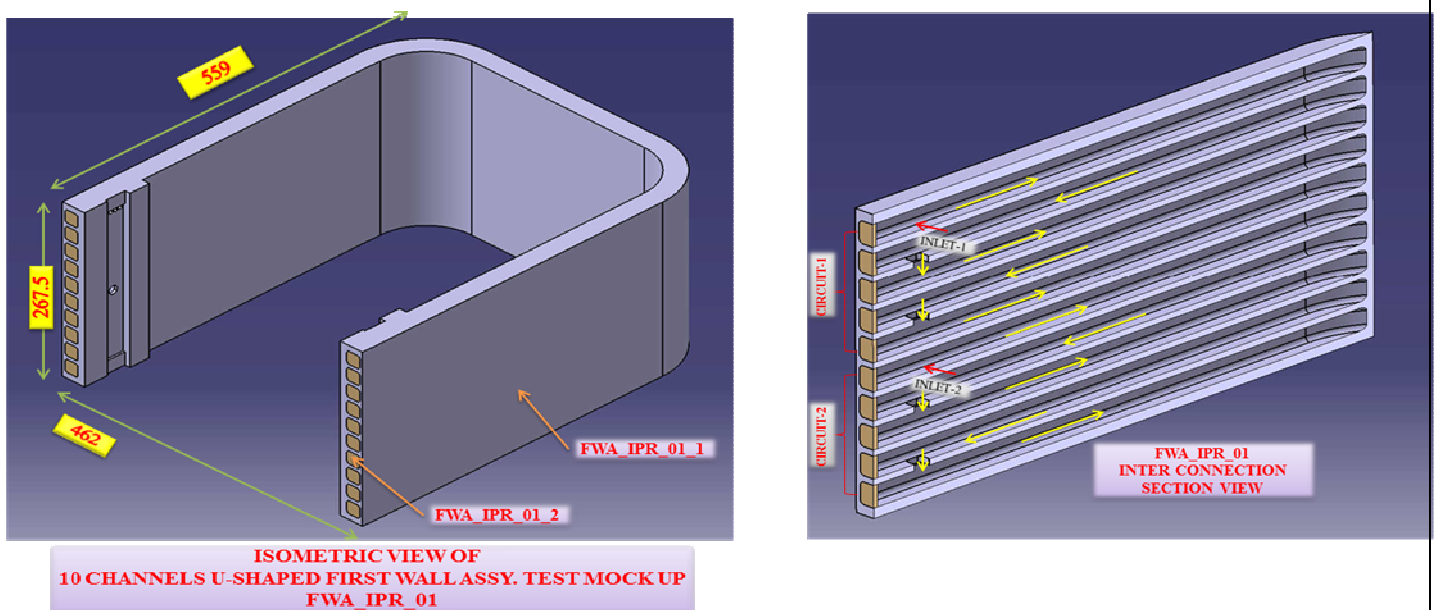
Technical specification

Fabrication, Testing & Supply of U-shaped 10-Channel First Wall (FW)  
Mock-up

**1. INTRODUCTION**

First Wall (FW) is an integral component of the Blanket Module of Fusion Reactor. The plasma facing FW is required to be free of weld joints. This FW is a single U-shaped component of dimensions (1.66m in poloidal direction, 0.484m in toroidal direction and 0.536m in radial direction) with hollow square channels of 20mm x 20mm (65 channels) running along the toroidal and radial direction. There are 13 circuits; each circuit consisting of 5 channels with inlet on the 1st channel of one side and the outlet on the 5<sup>th</sup> channel of other side of each circuit in the U-shaped FW. High pressure helium gas shall flow through this channels at 8 MPa pressure and at 300°C.

Therefore, it is essential to develop the technology to fabricate this component and to qualify the developed technology. One such technology involves the use of Gun drilling and EDM Wire Cutting to make such long square channels followed by Hot Bending of this entire component into U-shape. To validate the fabrication feasibility and to qualify this technology, a scaled down mock-up of FW component needs to be fabricated. Therefore, it is proposed to fabricate a scaled down U-shaped FW mock-up of ASTM A387 Grade 91 steel by gun drilling and Wire EDM cutting technology with 10 channels and consisting of 2 circuits in this particular project (see Figure - 1). The dimensions of this mock-up has been chosen in such a way that functional requirements of full-sized Blanket Module shall be fulfilled. The 10-channel U-shaped mock-up fabricated by this technology shall help in establishing and qualifying the technology for machining of such long channels in a single plate and the hot bending of the 10-channels component) along with inspection for even larger mock-ups of FW and 1:1 FW.



**Figure – 1: Isometric View of 10-channels U-shaped First Wall Mock-up & Cross-sectional view of the channels**

## 2. SCOPE

### 2.1. *The item of supply constitutes:*

<i>Sr. No.</i>	<i>Items</i>	<i>Drawing</i>	<i>Qty</i>
1.	U-shaped 10-channel FW and plug assembly mock-up	<i>FWA_IPR_01</i>	1 unit

### 2.2. *Scope of work:*

- 2.2.1. Preparation of detailed fabrication/manufacturing drawings based on the engineering drawings provided by IPR.
- 2.2.2. Preparation of manufacturing documents such as procedures for fabrication (machining, hot bending, welding etc), examination, testing, cleaning, quality control for various stages of work, etc.
- 2.2.3. Procurement (including inspection, and evaluation) of plates, weld consumables and other needed raw materials. Chemical composition analysis, mechanical tests & ultrasonic examination to be carried out at an NABL approved Laboratory for the procured plates.
- 2.2.4. Evaluation and development of fabrication methods, if any
- 2.2.5. Cutting & pre-machining of plates by suitable processes.
- 2.2.6. Gun drilling of holes and Wire/Spark Erosion EDM cutting to make square channels throughout the plate.
- 2.2.7. Detailing of gauges, special tools, test set-up etc & Dimensional Inspection.
- 2.2.8. Hot bending of the 10-channel FW mock-up to form “U” shape component. Development of any required special purpose tooling or bending equipment is in the scope of the vendor.
- 2.2.9. Closing of the ends of channels by welding plugs/stop-plugs on the openings.
- 2.2.10. Quality assurance & control – testing, examination, and inspection on all stages of manufacturing.
- 2.2.11. Non-Destructive Examination, Leak testing & Hydro-test at manufacturer’s shop. Fabrication of fixtures for Helium leak test and hydro-test.
- 2.2.12. Cleaning by Chemical/electro polishing of the complete component.
- 2.2.13. Packing, Transportation and safe delivery at site.
- 2.2.14. Complete documentation including photographs and videographs, if any.
- 2.2.15. Any item/service, which may not have been specifically mentioned herein but are needed for satisfactory operation of the component, shall also be treated as included and the same shall also form part of supply, unless otherwise specifically excluded.

- 2.2.16.** The vendor must have welding facilities for Gas Tungsten Arc Welding/Electron Beam welding/Laser Welding with qualified welder/operator as well as facilities for heat treatment and hot bending and must have carried out hot bending of steel components. In addition to these, the vendor shall have facilities for Ultrasonic Testing, Radiography Testing, Liquid Penetrant Test, Helium Leak Test & Hydro-testing. In case these facilities are not available with vendor, all suitable outside facilities for the above work shall be identified and the vendor must have access to these facilities.
- 2.2.17.** The list of all the outside facilities shall be submitted to IPR at the time of technical bid.

**3. APPLICABLE DRAWINGS:**

- 3.1. Tender drawings:** The list of tender drawings is identified below:

<b>Sr. No.</b>	<b>Drawing No.</b>	<b>Description</b>
<b>1.</b>	<b>FWA_IPR_01</b>	<b>U-shaped 10-channel First Wall and Plug Assembly Mock-up</b>
<b>2.</b>	<b>FWA_IPR_01_1</b>	<b>U-shaped 10-channel First Wall</b>
<b>3.</b>	<b>FWA_IPR_01_2</b>	<b>Plug</b>

**3.2. Manufacturing drawings:**

- 3.2.1.** The Vendor shall submit (two sets of hard copy and two sets of soft copy in Compact Disc/DVD) the detailed manufacturing drawings to obtain approval from IPR.
- 3.2.2.** The manufacturing drawings shall give details of manufacture such as different stages of machining with machining margin, weld edge preparation, chamfer and counter sink dimensions, surface finishes, dimensions with numerical value of tolerances (shall be sufficiently bold for ease in reading), geometrical tolerances of form and positions, accuracy of built-in dimensions, attachments weld joint details, method of Inspection/Testing, bill of materials, surface treatment instructions, besides other relevant information and details.
- 3.2.3.** The drawings shall be prepared in accordance with ISO standards. (Viz. ISO 128: “Technical drawings-General principles of presentation; parts 1, 20, 21 etc.”, ISO 406: “Technical drawings-Tolerancing of linear and angular dimensions, ISO 5459 “Technical Drawings-Geometrical tolerancing- Datums and datum-systems for geometrical tolerances”, ISO 2692 “Technical Drawings-Geometrical tolerancing- Maximum material principle”, ISO 2553 “Welded, brazed and soldered joints- Geometric representation on drawings”, ISO 6410 “Technical drawings- Screw threads and threaded parts; parts 1,2,3 etc.”, ISO 10578 “Technical drawings- Tolerancing of orientation and location- Projected tolerance zone” etc.) .

- 3.2.4.** The manufacturing drawings shall be inclusive of but not limited to the following:
- a) General Assembly and Subassembly drawings shall identify the inter-stage checks/inspections to be performed at sub assembly levels.
  - b) Detailed fabrication drawings for all components.
  - c) All drawings for the design of fixtures/connections for inspection & testing.
- 3.2.5.** The Vendor shall also carry out preparation/revision of drawings in order to incorporate any subsequent modifications required in the drawings before and during the manufacture.
- 3.2.6.** Any deviation/revision in the fabrication drawings from the tender drawings will need the approval from IPR. IPR reserves the right to ask for further revision based on deviations in manufacturing processes and/or use of improved technology without any extra cost to the IPR.
- 3.2.7.** The checking and approval of all fabrication documents by the IPR shall not relieve the Vendor from full responsibility for ensuring correct interpretation of tender drawings and specifications and for the completeness and accuracy of the fabrication drawings and relevant specifications / documents.
- 3.3. As-Built drawings:** Prior to shipment of the equipment, the Vendor shall prepare 'As-Built' drawings which will show actual dimensions achieved on the component. IPR is free to ask additional dimensional/geometrical measurements to be performed, and incorporated in the as-built drawings. The deviations occurred during the manufacture (regularised through Non-Conformance Requests (NCR)) shall also be reflected.



#### **4. APPLICABLE CODES & STANDARDS:**

- 4.1. All aspects of the raw-material and manufacture (i.e. fabrication, welding, heat treatment, inspection, etc.) shall be governed by ASME Section VIII Div-1 requirements. The additional requirements identified in this document, and requirements of other standards like IS/ASTM/ISO referred in this document, shall also be met with.
- 4.2. ASTM/ASME Section II A shall be followed for ferrous raw material in plate form. For welding consumables, ASME Section II C shall be followed.
- 4.3. Non-Destructive Examination shall be carried out as per ASME Section V.
- 4.4. Welding Qualification shall be as per ASME Section IX.
- 4.5. **Relevant standards to be followed during various stages of manufacture shall be brought out clearly during technical part of the bid.**
- 4.6. The latest editions of the standards shall be applicable. In the event of any conflict between the codes/standards and the requirements of this specification, the more stringent of the requirements shall govern.

#### **5. GENERAL REQUIREMENTS:**

- 5.1. The specification establishes the technical requirements for the procurement of Grade 91 steel plates and machining of 10 nos. of square channels from one single plate. Dimensions of the channels and pitch distance required are shown in Drawing No: *FWA\_IPR\_01 & FWA\_IPR\_01\_1*
- 5.2. Thickness tolerance after pre-machining of the plates shall be as per applicable drawings.
- 5.3. The dimensions of the square channels (with tolerance) and surface finish of inside of all square channels shall be as per Drawing No.: *FWA\_IPR\_01 & FWA\_IPR\_01\_1*
- 5.4. The machined plate shall be bent under hot operation in “U” shape as per Drawing No.: *FWA\_IPR\_01 & FWA\_IPR\_01\_1*. Bend radius should not be more than 3 times the plate thickness at the bend. The hot bending operation shall be carried out in a special purpose machine with specified strain rate.
- 5.5. For closing the ends of channels using plugs/stop-plugs, either of Gas Tungsten Arc Welding (GTAW), Electron Beam Welding or Laser Welding shall be carried out by qualified welders and as per qualified Welding Procedure Specifications (WPS). The WPS and Welder Performance Qualification (WPQ) report shall be submitted to IPR for approval.

#### **6. MATERIAL OF CONSTRUCTION:**

- 6.1. ASTM A387/ASME SA 387 Grade 91 Class 2 Steels shall be used in plate form.

- 6.2. These steel plates in adequate number and of adequate thickness shall be procured by the vendor as per the above mentioned standards/specifications.
- 6.3. Chemical composition & the mechanical properties of the procured steel plates shall be as per ASTM A387/ASME SA 387 Grade 91 Class 2 steels. The vendor shall carry out the chemical composition analysis, mechanical testing (tensile tests at Room temperature & Elevated Temperature) and ultrasonic inspection of the procured plates from an IPR referred Laboratory to ensure that the plates being procured are satisfactory.
- 6.3.1. Chemical composition analysis shall meet the requirements of ASTM A387/ASME SA 387 Grade 91 steels.
- 6.3.2. Tensile tests shall be carried out as per ASTM A370. The tensile test results should meet the following requirements:
- a) Room temperature:
    - Ultimate Tensile Strength : 585 MPa – 760 MPa
    - Yield Strength : 415 MPa minimum
    - Elongation : 18% in 50mm gauge length
  - b) Elevated Temperature (550°C):
    - Ultimate Tensile Strength : To be reported
    - Yield Strength : 270 MPa minimum
    - Elongation : To be reported
- 6.4. The Ultrasonic Examination shall be carried out as per ASME Section V, Article 5. The vendor shall submit the Material Test Certificates of the plates and Chemical Composition Analysis report, mechanical testing reports & Ultrasonic Inspection reports to IPR for approval.

## 7. **MACHINING:**

- 7.1. The plates shall be cut and machined to size as required in Drawing No.: ***FWA\_IPR\_01 & FWA\_IPR\_01\_1*** (Approximate developed length of plate required for final fabricated FW mock-up as per design drawing is 1452mm; on adding 20mm extra on both sides for plugging, length may be taken as 1492mm. However, the vendor shall take extra length for the initial plate size to consider allowances for leak testing, hydro-test attachments etc)
- 7.2. To achieve required surface finish, the entire plate shall be ground by surface grinder. Plate shall be first rough machined to 30mm thick (with 40mm thickness for 150mm length on both edges of the plate for machining projections). Ultrasonic testing of the ground and sized plate shall be carried out.

- 7.3. Both the faces of the plate shall be ground for reference and machining shall be done with 1mm extra material on both side.
- 7.4. Further machining operation by drilling and EDM wire cutting/spark erosion to make the square channels shall be done after this.
- 7.5. Final machining of the plate will be done after 20mm x 20mm square channels are cut. Projections shall be machined after bending the plate to U-shape, helium leak (section 11.7.1 ii), and hydro testing (section 11.8.1 a).
- 7.6. Inter-connections between successive channels shall be machined as shown in Drawing No.: *FWA\_IPR\_01* & *FWA\_IPR\_01\_1* using suitable techniques after the hot bending of the plate in U-shape is carried out.
- 7.7. Plugs/Stop-plugs of dimensions as shown in Drawing No.: *FWA\_IPR\_01\_2* shall also be prepared from the procured Grade 91 steel plate.
- 7.8. The vendor shall make suitable fixture/gauges for checking the hole-center distance and drift.
- 7.9. Suitable go/no go gauge shall be made for checking the square channels.
- 7.10. During machining and related operations, the vendor shall consider the thickness reduction that may take place during bending operation.
- 7.11. No repair by welding is allowed on the machined surfaces. If at any stage, defect is observed in the channels' internal or external walls, the job shall be rejected and fresh component shall be made. The cost of re-machining shall be borne by the vendor. The vendor shall conduct ultrasonic test in the raw material (plate) stage to rule out defect arising due to the procured material
- 7.12. The vendor may propose any other alternative for machining provided the requirements of the drawing are fulfilled. The proposed plan may be submitted to IPR for consideration and approval.
- 7.13. The time required for this job shall be estimated by the vendor and indicated in the tender bid.

## **8. BENDING:**

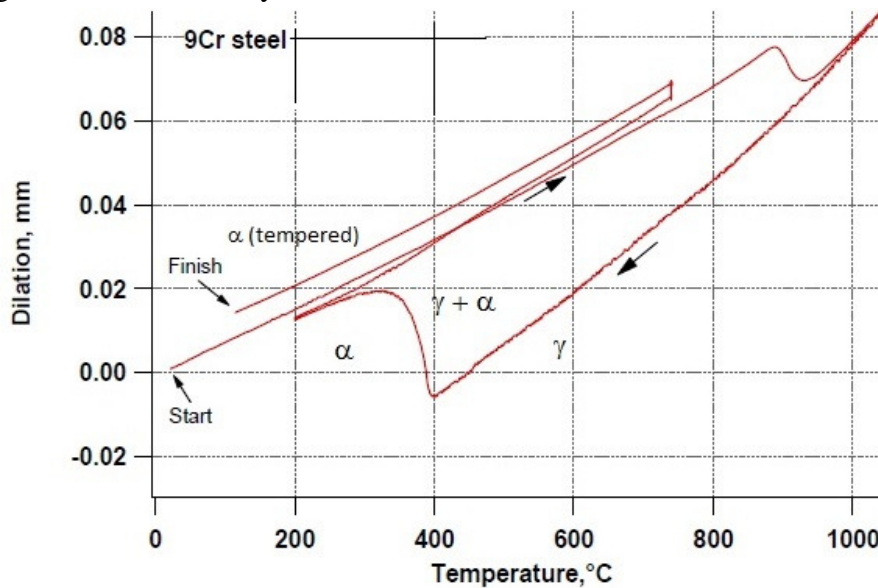
- 8.1. The entire plate shall be kept heated at 700°C-750°C for 30-40 minutes or less during bending operation followed by slow cooling in air.
- 8.2. Suitable thermocouples shall be employed to measure the temperature during this bending process. Only calibrated thermocouples shall be used for this purpose.
- 8.3. Extreme care shall be taken by the vendor regarding the temperatures during the bending process so that the temperature anytime during bending doesn't exceed 800°C.
- 8.4. The bending operation shall be carried out in presence of IPR representatives.

- 8.5. The route carried out for the bending operation shall ensure that bending of the plate with square channels inside shall give a “U” shape and as per dimensions specified in Drawing No.: *FWA\_IPR\_01 & FWA\_IPR\_01\_1*.
- 8.6. The ovality of the square channel shall not exceed 4-5%.
- 8.7. If needed, the vendor shall develop special purpose machine for carrying out this job and shall consider the charges for the SPM Development and trials.
- 8.8. The hydraulic ram movement shall commensurate with the permitted strain rate of the material at elevated temperature.
- 8.9. The vendor shall establish the suitable bending temperature from the hot tensile test data and the dilation curve provided in *Figure – 2* below.
- 8.10. The % elongation at bend location shall be kept well below the room temperature test (approximately 18%) while bending so that stress-rupture does not take place at the extrados.
- 8.11. The vendor shall consider 5-6% spring back of the material. The spring back property may be established experimentally or theoretically by the vendor.
- 8.12. The normalizing of bend plate, if carried out, shall be done as per **Section 8** of this specification and shall be done in suitable fixture so that unwanted deformation doesn't take place.
- 8.13. The bend radius at center line shall not be more than 3 times the machined thickness of the plate at the bend region.
- 8.14. Vendor shall take adequate margins in thickness for the oxidation scale formation on surface and thinning in bend location (extrados) of the square channel.
- 8.15. The vendor shall submit the detailed procedure to IPR for approval.
- 8.16. Any inability to achieve the dimensions specified in the drawings shall be conveyed by the vendor to IPR clearly during the technical discussions.

## **9. HEAT TREATMENT:**

- 9.1. If, because of any reasons, the hot bending temperature exceeds 800°C, the plate material shall be normalized at  $1075 \pm 10^\circ\text{C}$  for 50-60 minutes followed by forced air cooling to 650°C and slow air cooling to 300°C afterwards. After normalizing, the plate shall be tempered at  $780 \pm 10^\circ\text{C}$  for 90 minutes.
- 9.2. During heat treatment, the job shall be held in suitable fixture so that changes in grain structure morphology and residual stresses do no change overall dimensions. The fixtures to be used will require to be approved by IPR.
- 9.3. However, before deciding on the heat treatment, two samples undergoing hot bending (one without tempering and other one with normalizing and tempering) shall be submitted to IPR for material characterization and confirmation of heat treatment procedure.

- 9.4. Figure - 1 gives the material structure at various temperatures. The vendor shall judge the hot workability from this.



**Figure – 2: Dilatation vs Temperature Phase Transformation Diagram**

## 10. **CHEMICAL CLEANING:**

- 10.1. After machining is complete, the vendor shall perform vapor degreasing and chemical cleaning.
- 10.2. During technical discussions, the vendor shall inform about the cleaning procedure and chemical agents to be used for these process.
- 10.3. Finally electro polishing may be performed so that inside surface of all channels are clean from any oxide and machining chips.
- 10.4. ASTM A380 may be referred. Detail procedure shall be submitted to IPR.

## 11. **WELDING:**

### 11.1. **General:**

- 11.1.1. After the helium leak test is carried out for each individual channels after the hot bending process, the channel openings on both the ends shall be cut to achieve dimensions as per that required in Drawing No.: *FWA\_IPR\_01* & *FWA\_IPR\_01\_1*.
- 11.1.2. The channel openings shall be closed by welding using plugs/stop plugs shown in Drawing No.: *FWA\_IPR\_01\_2*. After welding, the outer surface of the plugs shall be ground to match it with the surface of the ligaments between the channels and final dimensions shall be as per Drawing No.: *FWA\_IPR\_01*.

- 11.1.3. The welding shall be carried out by Gas Tungsten Arc Welding (GTAW)/EB welding/Laser Welding and shall be performed by qualified welder, procedure and filler wire.
- 11.1.4. All tack welds shall be performed only by GTAW process.
- 11.1.5. The welding shall be carried out as per the requirements of ASME Section VIII Division 1 and ASME Section IX.
- 11.1.6. In case of GTAW, Welding Consumable (Filler wires) manufactured by reputed firms duly approved by IPR shall only be used. **The make/grade of filler wires envisaged shall be identified in the technical Bid itself as per ASME Section II, Part – C.** The welding consumables shall be stored in a dehumidified space in their original packing. They shall remain identified throughout the period of manufacture and the issue of filler wire has to be so regulated that only the required quantity of filler wires that can be consumed for the day are issued.
- 11.1.7. Necessary precautions and measures shall be taken to ensure preheating, maintain inter-pass temperature, post-heating to slower the cooling rate of the weld.
- 11.1.8. The welds shall be subjected to post-weld heat treatment (PWHT). PWHT shall be carried out for the welds at 750°C ( $\pm 5^\circ\text{C}$ ) for 2 hours and cooled within the furnace.
- 11.1.9. All butt welds and groove welds shall be full penetration welds unless otherwise specially exempted on a case-to-case basis through Design Concession Request (DCR) subject to approval by IPR.
- 11.1.10. Any grinding adjacent to the weld seam or on the base material shall be carried out only with the concurrence of IPR.
- 11.2. **Welding Procedure Qualifications:**
- 11.2.1. Qualification of the welding procedures to be used shall conform to the requirements of the ASME Code, Section-IX, Welding procedure qualification to cover supplementary requirements like microstructure, impact toughness, hardness, heat treatment (in case of welds on heat treated parts) applicable to corresponding parent materials.
- 11.2.2. The Vendor shall be responsible for qualifying any welding procedure; welders under him would use. The Vendor shall submit the welding procedure specification (WPS) for approval by IPR. After approval by IPR, the procedure qualification test shall be carried out by the Vendor, at his own expense, duly witnessed by IPR. A complete set of test results shall be submitted to the IPR for approval immediately after successful completion of procedure qualification test. All tests as required by the ASME Code Section-IX shall be carried out. The Welding Procedure Specification (WPS) shall require re-qualification if any of the essential variables or supplementary variables is altered.

- 11.2.3. All welding procedures shall be approved by IPR prior to start of any welding activity covered under those procedures.
- 11.2.4. Welding Procedure Specifications (WPS) shall conform to ASME Section-IX, form QW-482.
- 11.2.5. Procedure Qualification Records (PQR) shall conform to ASME Section-IX, form QW-483 or equivalent.
- 11.2.6. A weld map with weld descriptions and a table and fabrication drawing (sketch) that specifies where each procedure will be used, shall be submitted to the IPR along with the Welding Procedure Specification (WPS) and Procedure Qualification Record (PQR) documents for each component. All welds in a component shall be identified by serial nos. indicated on a weld reference sketch and a Weld data sheet (WDS) shall be filled for each of these welds. The WDS shall be signed by the all Inspection agencies as specified by WPS & QAP.

### 11.3. **Welder Qualifications:**

11.3.1. All welders shall be qualified in accordance with the applicable code and this specification and this applies to all welding, including tack, temporary and repair welds.

#### 11.3.2. *Qualification Of Welders Shall Meet The Following Requirements:*

- a) The Vendor shall be responsible for the qualification and certification of his own welders as well as those of sub-vendors or welding operators in accordance with the applicable code and standards.
- b) The Vendor shall establish and maintain a welder identification system that is acceptable to IPR.

### 11.4 **Tack Welds**

11.4.1 All tack welds shall be made by qualified welders.

11.4.2 The required preheat temperature, wherever applicable, shall be attained prior to tack welding.

11.4.3 Tack welds shall be of sufficient size to maintain joint alignment.

11.4.4 Tack welds, which are to be incorporated into the final weld, shall be thoroughly cleaned, prepared at each end and inspected for cracks. Any cracked tacks shall be removed before welding the joint.

11.4.5 Any temporarily welded attachments or temporary tack welds shall be ground off. Attachments may be cut off no closer than 3 mm to the base metal surface, prior to the required grinding. Arc strikes, gouges and other indications of careless workmanship (such as porosity, uneven weld profiles and undercut) shall be removed by grinding.

11.4.6 If any grinding reduces the base metal less than the design minimum, the ground area may be welded and ground flush with the original base metal surface. This shall be done only by a repair procedure with the prior approval of IPR.

**11.4.7** Inspection, by liquid penetrant methods shall be made on areas where temporary welds have been removed or weld repairs to ground areas of the base material have been made and radiographed as per requirements of applicable code.

## **11.5 Weld Repair**

**11.5.1** Welds may be repaired maximum once. If the weld is still not acceptable after the first repair, IPR shall have the sole authority to permit additional repair attempt or to require the entire weld be cut out.

**11.5.2** Repair welding shall be performed using a properly qualified and approved procedure. In-process repairs (i.e. repairs performed prior to completion of the joint, using the same welding procedures as for the original fabrication) during production do not require a separate procedure.

**11.5.3** All repaired welds shall, as a minimum, be inspected using the original testing method. Additional test methods may also be required, if deemed necessary by IPR.

**11.5.4** Damage to the base metal or welds, including dimensional changes caused by external forces, requires special repair and inspection procedures be submitted to IPR for review and approval prior to undertaking the repairs.

**11.5.5** Any weld not meeting the acceptance criteria of the applicable code or standard shall be cut out or repaired.

**11.5.6** Repair of surface defects in welds by grinding is permitted provided the minimum required wall thickness plus corrosion allowance is maintained without abrupt changes in section thickness.

**11.5.7** Repair welding of minor defects, as defined below, shall be done by qualified welders using a qualified welding procedure.

Minor defects:

Base Metal - Repair cavities or edge defects smaller than 10 % of thickness, excluding crack.

Weld Metal - Porosity, Undercut, Crater cracks

**11.5.8** Defects in welds and base materials shall be repaired only after a written procedure for each individual repair has been approved by IPR. The written procedure shall include a sketch detailing extent and location of the defect, how defects will be removed, how removal will be verified, qualified welding procedure to be used, subsequent heat treatment and non-destructive examination.

## **12. INSPECTION & TESTING (FACTORY ACCEPTANCE TESTS (FAT)):**

### **12.1. General:**

**12.1.1.** The vendor shall be responsible to perform all the inspection and testing specified in their scope herein both in-stage and final stage.

**12.1.2.** The vendor shall also provide all the inspection procedures and quality assurance plan to IPR for approval before starting the job.



**12.1.3.** All inspection and testing shall be carried out in presence of IPR Scientist/Engineer. In case, IPR feels that additional tests are required, the same shall be carried out without any extra charge.

**12.1.4.** Vendor shall submit all UT, RT, LPT, Hydro-test, other inspection and dimensional test procedure to IPR for approval.

**12.2. Liquid Penetrant Test (LPT):**

**12.2.1.** All machined external surfaces shall be tested by Liquid Penetrant Test as per ASME Section III, Division I; Sub-section **NB-5350** by the vendor.

**12.2.2. Acceptance:**

- a) Any indication which is believed to be non-relevant shall be re-examined to verify whether or not actual defects are present.
- b) Surface conditioning may precede the re-examination.
- c) Non-relevant indications and broad areas of pigmentation which would mask defects are unacceptable.
- d) Relevant indications are indications which result from imperfections.
- e) Linear indications are indications in which the length is more than three times the width.
- f) Rounded indications are indications which are circular or elliptical with the length equal to or less than three times the width.
- g) Only imperfections producing indications with major dimensions greater than 1/16 in. (1.6 mm) shall be considered relevant imperfections. Imperfections producing the following indications are unacceptable:
  - i. any cracks or linear indications with length three times greater than the width;
  - ii. rounded indications with dimensions greater than 3/16 in. (4.8 mm);
  - iii. four or more rounded indications in a line separated by 1/16 in. (1.6 mm) or less edge to edge;
  - iv. Ten or more rounded indications in any 6 sq in. (3 871 mm<sup>2</sup>) of surface with the major dimension of this area not to exceed 6 in. (152 mm) with the Area taken in the most unfavorable location relative to the indications being evaluated.

**12.2.3.** The Liquid Penetrant tested areas shall be cleaned by hot detergent wash. The water temperature shall be kept 60°C and then the plate shall be dried using clean air. In case, vendor finds unacceptable defect, the same shall be notified to IPR.

**12.2.4.** After Liquid Penetrant test, the item shall be cleaned by procedure referred in ASTM A380.

**12.3. Dimensional Inspection:**

12.3.1. The vendor shall make suitable Go/No Go gauge and fixture to measure the dimensions as shown in Drawing No. *FWA\_IPR\_01* & *FWA\_IPR\_01\_1*. (Go and No-go gauges shall be sufficiently long, maybe full length, to prevent negotiation of bends in machined area).

**12.4. Radiography Testing for Bend Region:**

12.4.1. X-ray radiography testing shall be carried out at the bend location after hot bending is done as per ASME Section V Article – 2 and NB – 5300. The procedure shall be submitted to IPR for approval.

12.4.2. Gamma ray radiography is not permitted.

12.4.3. The film and the X-ray report shall be submitted to IPR.

12.4.4. The X-ray examination shall be in accordance with ASTM E-94. Suitable IQI or ASME penetrameters (2-2T) as per ASME Section III Division 1 shall be place on film side.

12.4.5. The density of film after exposure shall be 2 or more. Suitable high contrast slow speed film shall be selected.

12.4.6. The SFD shall be so adjusted that 5.5mm ligament is seen clearly. For inner and outer 4mm thickness cover may be done with double wall single image technique.

12.4.7. Acceptance:

a) Any defects interpreted more than the IQI visible on film shall be recorded. However, x-ray defect shall be checked by UT for confirmation and acceptance.

b) Since, no welding is involved, interpretation of defect (as per ASME Section III Division 1 Sub-section NB – 5420) shall be modified and read as indications shown on the radiographs characterized as crack, hot tears, laminations and laps or any other elongated indication which has a length greater than the 20% of square channel thickness.

c) Final acceptance is based on He Leak Test.

**12.5. Radiography Testing for Plug/Stop-plug Welds:**

12.5.1. Radiographic testing of welds shall conform to the applicable code. For all thickness X-rays shall be used as source of radiation. Gamma rays shall be employed only when X-rays is not feasible and with IPR's approval.

12.5.2. Image Quality Indicator (IQI) as per ASME Sec. III (ND) shall be used and location of the IQI shall be placed transversely over the weld at extreme ends of a spot and face the radiation source.

12.5.3. If otherwise, this shall be clearly indicated on the radiographic film.

12.5.4. The IQI image and essential hole (2T) visibility shall conform to the applicable code.

**12.5.5.** Acceptance criteria shall conform to ASME Section-III ND paragraph 5320 together with other requirements as mentioned here in.

**12.5.6.** Acceptance:

Following defects / discontinuities as revealed by radiography shall not be acceptable.

- a) Cracks, Lack of Penetration (LOP), Lack of Fusion (LOF), Oxidation, Undercuts, Linear and angular defects of any type, surface defects in the region of weld and HAZ involving either stress raisers or loss of wall thickness, root concavities.
- b) Porosity and spherical inclusions in excess of limits stated below:
  - i. Plate thickness 3mm & less: Defect free weld is required. In case of appearance of any defect each case shall be considered on a case by case basis by the IPR.
  - ii. Plate thickness >3mm upto and including 6mm: Isolated globular inclusions / porosity permitted provided they are not larger than 0.8 mm diameter in any portion of the weld and do not exceed 4 in number in any length of 300 mm and are separated from each other by at least 4 times their diameter
  - iii. Plate thickness >6mm upto and including 16mm: Isolated globular inclusions / porosity permitted provided they are not larger than 1.5 mm diameter in any portion of the weld and do not exceed 4 in number in any length of 300 mm and are separated from each other by at least 4 times their diameter

**12.5.7.** Radiographic film interpretation shall be done by personnel certified to ASNT level II, film interpreter or approved equivalent. In the case of radiography is not practical due to space constraint or any other reason, IPR reserves the right to opt for LPT of all passes.

**12.5.8.** Radiography shall be carried out employing the procedure approved by IPR

**12.6.** **Ultrasonic Examination for the machined & bend areas:**

**12.6.1.** In addition to test in a) & c) above, Ultrasonic examination shall be carried as per *ASME section V, Article 5 & 23 and ASME Section III, Division I; Sub-section NB - 5300*. This shall be carried out in presence of IPR representative.

**12.6.2.** The Ultrasonic Examination procedure shall be submitted to IPR for approval. The UT report shall be submitted to IPR.

**12.6.3.** Acceptance:

Any indications characterized as crack, hot tears, laminations and laps or any other elongated indication which has a length greater than the 20% of the square channel thickness shall not be acceptable. Final acceptance is based on Helium leak test.

## **12.7 Helium leak testing:**

**12.7.1** Helium leak testing shall be carried out at following stages:

- i) Prior to bending, leak testing of the individual straight channels shall be carried out.
- ii) After bending, leak testing of the individual “U”-shaped channels shall be carried out.
- iii) After Hydro-test of the U-shaped component with all channels together and prior to machining of inter-connections and welding of plug/stop-plugs.
- iv) After machining of inter-connections and welding of plugs/stop-plugs, leak testing of each of the two circuits shall be carried out. (One circuit is set of 5 channels with inlet in the first channel on one side and the outlet in the fifth channel on the other side)
- v) After Hydro-testing of the entire component, leak testing of the entire component shall be carried out.

**12.7.2** The vendor is responsible for the fabrication of suitable and appropriate fixtures/connections for helium leak test and the same shall be supplied to IPR with the final mock-up.

**12.7.3** For leak testing mentioned in section 12.7.1 i) & ii), the vendor is responsible to carryout helium leak testing as per **ASME Section V Article 10** of the 5.5mm thick wall between the channels (10 nos.) and between channels and 4mm thick inner and outer walls. The channel selected for test shall be blocked by stopper plugs at ends and connected to Helium Mass Spectrometer Leak Detector (MSLD) and vacuum pump. Helium shall be sprayed in the adjacent holes.

**12.7.4** For testing as per 12.7.1 iii) & iv), helium leak testing shall be carried out for the entire component by appropriate technique which shall be indicated by the vendor at the time of technical bid.

**12.7.5** The **leak rate shall not exceed  $1 \times 10^{-8}$  mbar liters/second** for all of the above leak tests. The helium leak detector shall be calibrated with standard leak source. ALCATEL make helium leak detector is preferred.

**12.7.6** When the hole is connected to helium leak detector, helium may be sprayed from outside through some confined sealed bag for testing the extrados/intrados walls.

**12.7.7** Helium gas shall be 99.995% pure with following composition: O<sub>2</sub><5 ppm; H<sub>2</sub>< 2ppm; N<sub>2</sub>< 8ppm; CO<sub>2</sub>< 1ppm; H<sub>2</sub>O < 5ppm. The He leak rate shall be computed as bellow.

$$\text{Actual Leak Rate (mbar liters/second)} = (L_3 - L_0) \times S$$

**where;** L<sub>3</sub> is Overall Leak Value obtained during Testing after spraying Helium Gas on the job (mbar liters/second),

L<sub>0</sub> is Leak Rate as measured on the job without Helium (mbar liters/second),

S is Sensitivity across the Job, =  $L_1/L_2$ ,

$L_1$  is Standard Leak Value as measured on the machine (mbar liters/second),

$L_2$  is Standard Leak Value as measured on the job (mbar liters/second),

**12.8 Channel Inspection:**

12.8.1 The inside surfaces (all 4 sides) will be inspected by videoscope/fibroscope prior to the welding of plugs/stop-plugs to the ends of the channels.

12.8.2 The vendor shall arrange for this inspection. The inside surface shall be free of scratch and burns.

**12.9 Hydro test:**

12.9.1 The vendor shall arrange hydro-testing at following stages

a) After helium leak testing of bent U-shaped FW for all channels together (without interconnections).

b) final assembled component after welding of the plugs

12.9.2 The test shall be carried out at 150 bar.

12.9.3 The vendor shall make suitable connections for channel hydro-testing.

12.9.4 Hydro-tests shall be conducted in steps of 20 bar up to 150 bar.

12.9.5 The hydro-testing shall be carried out as per ASME Sec. III (ND) and ASTM-E-1003 and procedure for testing shall be prepared by the Vendor and submitted to the IPR for approval.

12.9.6 The hydro-test shall be carried out using demineralized water with following quality:

- Conductivity < 10 micro mho/cm
- pH- Neutral
- Total halogen content < 25 ppm.

12.9.7 The entire component shall be dried immediately the test is completed.

12.9.8 The connections for the hydro-test shall not be removed after the test and the entire component shall be delivered in this condition to IPR.

**13. INFORMATION TO BE FURNISHED WITH TECHNICAL BID (MANDATORY):**

The vendors are expected to go through the technical specification before filling the form below apart from the additional information sought in the Purchase Order.

<b>Sr. No.</b>	<b>Technical Description</b>	<b>Your Offer and Acceptance</b>
1.	Do you have machining facility? In case, yes; enclose list of machines capable to handle this particular job	
2.	Do you have drilling facility to the required size and accuracy needed for this job? Give supportive proof	

3.	How do you plan to make square channels of 1600 mm? Demonstration sample shall be shown in technical bid opening	
4.	Do you have cutting facility at your disposal to cut the square channels of 1600mm length? If you do not have, then how do you propose to this job? Give details of your capability and planning.	
5.	Do you have heat treatment facility as required in this specification? Give details	
6.	Do you have hot bending facility to the requirement as per drawing? How do you plan to do this “U” bend? How will you control the shape of 20mm square channels as per drawing requirement? Submit details	
7.	If you do not have a hot bending facility, then are you planning to develop SPM for the hot bending requirement? Give brief outline of your planning in technical bid. Separate costing to be provided in commercial bid.	
8.	Do you have testing facility for UT, Helium Leak Testing, Hydro testing and Dimensional inspection? If not, how do you plan to do it? Are you familiar with Quality Assurance Plan?	
9.	Do you have experience in development job with IPR or any other Dept. of Atomic Energy unit?	
10.	Enclose the proposed (tentative) quality assurance plan for this job. Give sample of the inspection plan (proposed QAP) showing Review, Hold point and Witness points for this job	

**14. PACKING & SUPPLY:**

**14.1** After inspection by IPR representative and issuance of dispatch clearance by IPR, the fabricated and inspected FW mock ups shall be suitably packed by vendor to avoid any damage during transportation. Safe transportation of the FW assembly to the indenter’s premises is the responsibility of the vendor.

**14.2** The package shall be delivered to IPR.

**15. PROPOSAL:**

Before starting the job, the vendor shall submit a proposal in brief for making the job.

**16. WORK COMPLETION:**

The above job shall be completed within 6 months from the award of contract.

**17. CONFIDENTIALITY CLAUSE:**

No party shall disclose any information to any third party concerning the matter under this contract.

**18. PROHIBITION AGAINST USE OF IPR'S NAME WITHOUT PERMISSION FOR PUBLICITY PURPOSE:**

The contractor or sub-contractor, consultant, adviser or the employees engaged by the contractor shall not use IPR's name for any publicity purpose through any public media like press, Radio, T.V. or Internet without the prior written approval of IPR.

**(1) INSTRUCTIONS TO BIDDERS AND TERMS AND CONDITIONS**

- 1.1 The quotation and any order resulting from this tender/enquiry shall be governed by our General Conditions of contract and supplier quoting this tender shall be deemed to have read and understood the same in toto.
- 1.2 Where counter terms and conditions have been offered by the supplier, the same shall not be deemed to have been accepted by us, unless our specific written acceptance thereof is obtained.
- 1.3 **Tender Fee:** Tenders received without the prescribed Tender fee will be rejected.
- 1.4 **Eligible Bidders**
- 1.4.1 This Invitation of Bids is open to all suppliers who meet the **Eligibility criteria** mentioned in the tender documents.
- 1.4.2 The Bidders quoting in foreign currency against this tender shall submit offer either the Indian agent on behalf of the Principal/OEM with authorization letter or the principal/OEM itself. Both Indian agent or principal/OEM can not bid simultaneously for the same item/product in the same tender. If an agent submits bid on behalf of principal/OEM, the same agent shall not submit a bid on behalf of another principal/OEM in the same tender for the same item/product.
- 1.4.3 **Authority of Agents:** In case where a tender is submitted by an Indian Agent on behalf of his foreign principal, such tender should be supported with a “Letter of Authority” from such principal that the Indian Agent has been authorised to submit the tender on behalf of the principal. Tenders not accompanied by such a Letter of Authority are liable to be ignored. A copy of Registration Certificate with DGS&D also be provided with the offer.
- 1.4.4 The Bidder shall bear all costs associated with the preparation and submission of its bid and the Purchaser will no case be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.
- 1.5 **Clarifications:**
- 1.5.1 Any technical and commercial questions, information, clarifications etc. that may be required pertaining to this tender may be obtained from the Purchase officer. Bidder will send the request for such clarifications to the Purchase Officer minimum 10 working days prior to the due date to submit the bid.
- 1.5.2 Bids shall be complete in all respects and shall include properly filled in prices, other specifications, schedules, relevant drawings and catalogues as necessary alongwith the bid covering letter, all in duplicate.
- 1.6 **Scope of work/Supply and Specifications:**
- 1.6.1 Scope of work/supply, specifications and drawings under this tender notice are given in **Part-A(i)**. Materials should be offered strictly conforming to the specifications within acceptable tolerance level given in specifications / drawings given in tender document. Deviations, if any, should be clearly



indicated by the bidder in their bid. The supplier should also indicate the Make/Type number of the materials offered and catalogues, technical literature and samples, wherever necessary should accompany the quotation.

1.6.2 Any fittings or accessories which may not be specifically mentioned in the Specifications or Particulars but which are usual or necessary for proper and efficient functioning of the Stores as per the specifications of the tender shall be supplied by the Contractor without extra charge to the Purchaser, the Stores supplied shall be complete in all respects.

1.7 **Alteration of specifications, Patterns and Drawings:**

1.7.1 The Purchaser reserves the right to alter, whenever necessary, specifications, patterns and drawings. As from the date, the Stores shall be in accordance with the specifications, patterns and drawings so altered, which the contractor is bound to comply with.

1.7.2 In the event of such alteration involving a revision in the cost, or in the delivery period, the same shall be discussed and mutually agreed to, taking into account the unit rates of similar items in the Contract. In case of disagreement, the decision of the Purchaser, in the cost or the delivery period, shall be final and conclusive.

1.8 **Minor modifications / Additional Scope of Work:** Minor modifications / additional scope of work to the tune of 2% of the total contract value will be carried out by the contractor without any extra cost to IPR.

1.9 **Subletting or Assignment of Contract:**

1.9.1 The Contractor shall not sublet, transfer or assign the Contract or any part thereof or bills or any other benefits, accruing therefrom or under the contract without the prior written consent of the Purchaser (All Sub-contractors are required to be appraised and approved by the Purchaser before placement of orders by the Contractor/Supplier). However, such consent shall not be unreasonably withheld by the Purchaser, if such stores are not normally manufactured by the Contractor, such assignment or subletting shall not relieve the Contractor from any contractual obligation or responsibility under the Contract.

1.9.2 Any breach of this condition shall entitle the Purchaser to cancel the Contract or any part thereof and to purchase from other sources at the risk and cost of the Contractor and shall recover from the Contractor damages arising from such cancellations.

1.9.3 In case the Contractor sublets, transfers or assigns any part of the Contract with the prior written consent of the Purchaser, all payments to the Sub-Contractor shall be the responsibility of the Contractor and any requests from such sub-Contractor shall not be entertained by the Purchaser.

1.10 **Conditional Discount:** In case the tenderer offers any conditional discount with regard to acceptance of their offer within a specific payment terms, delivery, quantity etc. the purchaser will not take into consideration such conditional discount while evaluating their offer.

- 1.11 **Past performance:** In case the past performance of the tenderer is not found to be satisfactory with regard to quality, delivery, warranty obligation and non-fulfillment of terms and conditions of the contract, their offer is liable to be rejected by the purchaser.
- 1.12 **Compliance with the Security Requirements of the Purchaser:** The Contractor shall strictly comply with the Security Rules and Regulations of the Purchaser in force and shall complete the required formalities including verification from Police and any other authority and obtain necessary prior permission for entry into the Purchasers premises, wherever authorized by the Purchaser.
- 1.13 **Manner & method for submission of tenders**
- 1.13.1 **Language of Bid:** The bid prepared by the Bidder, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Purchaser, shall be written in English language only especially when the details are technical.
- 1.14 **Submission of tenders:**
- 1.14.1 All tenders in response to this invitation shall be submitted in TWO PARTS as under and in the different envelopes.
- 1.14.2 **Part-A (Techno-commercial):** This part of the the tender shall include/contain all technical details, technical specifications, drawings and also the commercial terms and conditions of contract for the supplies to be made and the services to be rendered **EXCLUDING ANY PRICE DETAILS THEREOF.**

**Part-A (Techo-commercial)** should contain/include only technical specifications, technical details, literature, reference to earlier supplies of similar equipment, drawings, quantity, time required for submission and approval of drawings, manufacturing and delivery schedule, inspection/testing procedure, itemized list of spares and quantity (without price) recommended by the tenderer for purchase, term of price, mode and terms of payment, mode of dispatch, the quantum/percentage of statutory levies payable by the purchaser as extra and all related commercial terms and conditions for the supplies and for the services like erection and commissioning to be rendered by the tenderers. This part of the tender, i.e. Part-A (Techno-commercial without price) shall be enclosed separately in an envelope duly sealed and superscribed with the purchaser's tender number and the last date and time specified for receipt and opening indicated in the instruction sheet of this tender document. The tenderer shall take special care NOT TO MIX UP the price of the stores in this part of the tender.

- 1.14.3 **Part-B (Price):** This part should contain only the prices of the stores offered for the services to be rendered.

**Part-B (Price)** shall include/contain only price, price break-up, freight/safe delivery charges, charges for training of the Purchaser's engineers wherever applicable, lumpsum charges for erection and commissioning work or per diem charges for the supervision of erection and commissioning work as is envisaged in the Purchaser's tender document, testing charges, third party inspection charges, etc. This part of the tender, i.e. Part-B (Price) shall be enclosed separately in an envelope duly

sealed and superscribed with the Purchaser's tender number and the last date and time specified for receipt and opening of the tenders as in the tender document.

1.14.4 If tenderer includes prices of any nature in Part-A (Techno-commercial) of the tender such offers are liable for rejection without any notice to the tenderers.

1.14.5 **Deadline for submission of Bids:**

1.14.5.1 Bids must be received by the Purchaser at the address specified in Invitation for bids not later than the time and date specified therein. In the event of the specified date for the submission of Bids being declared a holiday for the Purchaser, the Bids will be received up to the appointed time on the next working day. Any delay / loss in transit for submitting the hard copy of the bid will not be entertained.

1.14.5.2 The Purchaser may, at its discretion, extend the deadline for submission of bids by issuing a **Corrigendum** in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline will thereafter be subject to the deadline as extended.

1.14.6 **Late Bids:**

1.14.6.1 Any bid received by the Purchaser after the deadline for submission of bids prescribed by the Purchaser will be rejected.

1.14.6.2 Such tenders shall be marked as late and not be considered.

1.15 **Confidentiality:**

1.15.1 Information relating to the examination, evaluation, comparison, and post qualification of bids, and recommendation of contract award, shall not be disclosed to bidders or any other persons not officially concerned with such process until the Purchase Order is released.

1.15.2 Any effort by a Bidder to influence the Purchaser in the examination, evaluation, comparison and post qualification of the bids or contract award decisions may result in the rejection of its Bid.

1.16 **Bid Prices:**

1.16.1 The Bidder shall indicate on the appropriate price schedule form, the Unit prices and total bid prices of the goods it proposes to supply under the contract. Bidders should confirm that the price quoted is the lowest export price applied to scientific and educational institute in India.

1.16.2 Quotation should be submitted on on door delivery basis without extra charge wherever possible. For quotations on Ex-Works, Ex-godown basis the approximate packing and forwarding charges should be indicated by the supplier. In the case of local suppliers, the material is to be delivered at our stores free of charge. Unit rate/s should be valid throughout the validity of purchase order/contract period for addition/deletion purposes. Break-up of price should be furnished. The quoted price should not be subject to price escalation for whatsoever reasons. The quoted price shall be firm, fixed and non-revisable during the validity/extended validity of purchase order/contract.

1.16.3 The prices quoted must be FIRM and preference will be given to such tenders. In exceptional cases (e.g. items involving substantial use of raw materials susceptible to sharp fluctuations in prices) if prices quoted subject to variation it shall be on the basis of a standard 'Price Variation Formula'. The basis for

calculation shall be very clearly stated. Here again preference will be given to the tenders with a specific ceiling on escalation. Price escalations occurring during the extended delivery period are not allowed. However, PVC is considered only if the delivery period is more than 18 months.

- 1.16.4 Prices are required to be quoted according to the units indicated in the tender form. When quotations are given in terms of units other than those specified in the tender form, relationship between the two sets of units must be furnished.
- 1.16.5 Wherever options are specified in the tender documents, IPR reserves the right to accept any option/s irrespective of whether all the vendors have quoted for all the options or not. The decision of IPR in this regard will be final.
- 1.16.6 The purchaser reserves the right to accept tenders for any quantity of his choice and the tenderer shall be bound to accept a contract for any quantity. The Purchaser also reserves the right to accept or reject lowest or any tender in full or in part without assigning any reasons. If tenderer wishes, they can offer price for different quantity slabs.
- 1.16.7 **For Goods manufactured abroad**, the price of the goods quoted shall be on FCA basis (named place of delivery abroad) or FOB (named port of shipment). The charges for transportation of the goods to the port/place of destination, Agency commission etc. shall also be indicated separately in the bid.

The terms FOB, FCA, CIF, CIP etc. shall be governed by the rules prescribed in the current edition of the Incoterms published by the International Chamber of Commerce, Paris.

- 1.17 **TDS/Work Contract Tax/or any other leviable taxes or duties:** If applicable, the same shall be recovered from the contractors bill and necessary certificate will be issued to the contractor.
- 1.18 Tender should be free from Correction and Erasures. Corrections, if any, must be attested. 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.
- 1.19 IPR 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 the quantity offered and the tenderers shall supply the same at the rates quoted.
- 1.20 **Sales tax/VAT:** IPR does not issue "C" or "D" form. The percentage of Sales Tax/VAT, surcharge, if applicable, and other levies legally leviable and intended to be claimed should be clearly indicated in the tender. Where this is not done, no claim on these accounts would be admissible later.
- 1.20.1 **VAT Registration:** Bidder may submit a copy of VAT Registration certificate along with their quotation (if applicable).
- 1.21 **Service Tax:** Wherever Service tax is applicable, it should be mentioned clearly. You may indicate percentage of Service Tax in your quotation.
- 1.22 **Excise Duty:** IPR is exempted from payment of Excise Duty under Government of India Notification No.10/97-CE (Central Excise) dated 1-3-1997. Excise Duty Exemption Certificate, wherever applicable, and as per rules will be issued at

the appropriate time. Hence Excise Duty should not be included in the BID. However, prevailing percentage of Excise Duty may be indicated.

1.23 **Customs Duty:** IPR is exempted from payment of Customs Duty as per notification No.51/96 Customs. However from 1st March 2002 the Government of India has imposed an advalorem Customs Duty up to 5% vide Notification 24/2002 Customs on all imports covered under Notification No.51/96 as amended by notification no. 24/2007 Customs dtd. 1-3.2007. Accordingly Certificate will be issued from IPR. Bidders are requested to take into account this at the time of submitting the bids.

1.24 **Packing, forwarding and insurance:** The contractor will be held responsible for the stores being sufficiently and properly packed for transport by rail, road, sea or air, to withstand transit hazards and ensure safe arrival at the destination. The packing and marking of the packages shall be done by and at the expense of the contractor. The purchaser will not pay separately for transit insurance, all risks in transit being exclusively of the contractor and the purchaser shall pay only for such as are actually received in good conditions, in accordance with the contract.

1.25 **Octroi:** Octroi is not applicable in our case.

1.26 **Delivery Date:** Bidders must indicate the firm delivery date by which the materials will be despatched/delivered by them from the date of our order/contract.

The time for and the date of delivery stipulated in the Purchase Order/Contract shall be deemed to be the essence of the contract. Delivery must be completed within the dates specified in Delivery Schedule.

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

1.28 **Acceptance of Stores:**  
(a) The contractor shall tender the stores for inspection at such places as may be specified by the purchaser at the contractor's own risk, expenses and cost.  
(b) It is expressly agreed that the acceptance of the stores contracted for is subject to final approval by the Purchaser, whose decision shall be final.

1.29 **Inspection:** Materials on its arrival at IPR will be inspected by Stores Officer, and his decision in the matter will be final.

1.30 **Earnest Money Deposit (EMD):**

1.30.1 The e Bidder shall submit, as part of its bid, interest free Earnest Money Deposit (EMD) for an amount as specified in the Invitation for Bids. EMD shall be submitted by way of Demand Draft from **SBI/nationalized banks or any one of the scheduled banks mentioned in the bracket (Axis Bank, HDFC Bank,**

**ICICI Bank and IDBI Bank) issued in favour of "Institute for Plasma Research" and payable at Ahmedabad. Tender received without EMD will be rejected at the discretion of IPR. (For this tender, the EMD amount is Rs.1,10,000/-)**

- 1.30.2 The EMD of unsuccessful Bidder will be discharged/returned after finalizing award of the Contract/placement of Purchase order.
- 1.30.3 The successful Bidder's EMD shall be discharged upon the Bidder submitting the Security Deposit as specified in the contract/purchase order, without any interest.
- 1.30.4 **Exemption from payment of EMD:** The firms registered with DGS&D, NSIC and registered MSME's are exempted from payment of EMD subject to submission of valid registration certificate. In the case of foreign bidders, payment of EMD is exempted if they submit their bid directly or through their indian agent in **Foreign currency** against the tender document bought by them, so that the order can be placed directly on their Principas.
- 1.31 **The EMD may be forfeited:**
- 1.31.1 If a Bidder withdraws or amends or modifies or impairs or derogates its bid during the period of bid validity specified by the Bidder on the Bid Form; or
- 1.31.2 In case of a successful Bidder, if the Bidder fails to furnish order acceptance within 15 days of the order or fails to submit the Security Deposit within 21 days from the date of contract/order.
- 1.32 **Period of validity of Bids:**
- 1.32.1 Bids shall remain valid for minimum of 120 days after the date of bid opening prescribed by the Purchaser.
- 1.32.2 In exceptional circumstances, the Purchaser may solicit the Bidder's consent to an extension of the period of validity. The request and the responses thereto shall be made in writing. A Bidder granting the request for extension will not be required nor permitted to modify its bid.
- 1.33 **Clarification of Bids:**  
To assist in the examination, evaluation, comparison and post qualification of the bids, the Purchaser may, at its discretion, ask the Bidder for a clarification of its bid. The request for clarification and the response shall be in writing. However, no negotiation shall be held except with the lowest bidder, at the discretion of the purchaser. Any clarification submitted by a bidder in respect to its bid which is not in response to a request by the purchaser shall not be considered.
- 1.34 **Preliminary Examination:**
- 1.34.1 The Purchaser shall examine the bids to confirm that all documents and technical documentation requested in the tender specification/documents have been provided, and to determine the completeness of each document submitted.
- 1.34.2 The Purchaser shall confirm that the following documents and information have been provided in the Bid. If any of these documents or information is missing, the offer shall be rejected.
- 1.34.3 Tenders submitted in accordance with the tender specification/documents.

1.34.4 All the tenders received will first be scrutinized to see whether the tenders meet the basic requirements as incorporated in the tender enquiry document. The tenders, who do not meet the basic requirements, are to be treated as unresponsive and ignored. The following are some of the important points, for which a tender may be declared as unresponsive and to be ignored, during the initial scrutiny:

- (i) The Bid is unsigned.
- (ii) The Bidder is not eligible.
- (iii) The Bidder has quoted for goods manufactured by a different firm without the required authority letter from the proposed manufacturer.
- (iv) Bidder has not agreed to give the required Security Deposit
- (v) The goods quoted are sub-standard, not meeting the required specification, etc.
- (vi) Against the schedule of Requirement (incorporated in the tender enquiry), the tenderer has not quoted for the entire requirement as specified in that schedule.
- (vii) The tenderer has not agreed to any essential condition(s) incorporated in the tender enquiry.

1.35 **Responsiveness of Bids:**

1.35.1 Prior to the detailed evaluation, the purchaser will determine the substantial responsiveness of each bid to the bidding documents. For purposes of this clause, a substantive responsive bid is one, which conforms to all terms and condition of the bidding documents without material deviations, reservations or omissions. A material deviation, reservation or omission is one that:

- (a) affects in any substantial way the scope, quality, or performance of the Goods and Related Services specified in the Contract; or
- (b) limits in any substantial way, inconsistent with the Bidding Documents, the Purchasers rights or the Bidders obligations under the Contract; or
- (c) if rectified, would unfairly affect the competitive position of other bidders presenting substantially responsive bids.

1.35.2 The purchases determination of a bids responsiveness is to be based on the contents of the bid itself without recourse to extrinsic evidence.

1.35.3 If a bid is not substantially responsive, it will be rejected by the Purchaser and may not subsequently be made responsive by the Bidder by correction of the material deviation, reservation or omission.

1.36 **Non-Conformity, Error and Omission:**

1.36.1 Provided that a Bid is substantially responsive, the Purchaser may waive any nonconformities or omissions in the Bid that do not constitute a material deviation.

1.36.2 Provided that a bid is substantially responsive, the Purchaser may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities or omissions in the bid related to documentation requirements. Such omission shall not be related to any aspect of the price of the Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.

1.36.3 Provided that the Bid is substantially responsive, the Purchaser shall correct arithmetical errors on the following basis:

- (a) if there is a discrepancy between the unit price and the line item total that is obtained by multiplying the unit price by the quantity, the unit price shall prevail and the line item total shall be corrected, unless in the opinion of the Purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the line item total as quoted shall govern and the unit price shall be corrected;
- (b) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
- (c) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.

1.36.4 Provided that a bid is substantially responsive, the purchaser may request that a bidder may confirm the correctness of arithmetic errors as done by the purchaser within a target date. In case, no reply is received then the bid submitted shall be ignored and its EMD may be forfeited.

1.37 **Examination of Terms & Conditions, Technical Evaluation:**

1.37.1 The Purchaser shall examine the Bid to confirm that all terms and conditions specified in the tender documents have been accepted by the Bidder without any material deviation or reservation.

1.37.2 The Purchaser shall evaluate the technical aspects of the Bid submitted in accordance with the technical specifications mentioned in the tender documents, to confirm that all requirements specified in Schedule of Requirements of the Bidding Documents have been met without any material deviation or reservation.

1.37.3 If, after the examination of the terms and conditions and the technical evaluation, the Purchaser determines that the Bid is not substantially responsive in accordance with the tender specification, it shall reject the Bid.

1.38 **Conversion to Single Currency:**

To facilitate evaluation and comparison, the Purchaser may convert all bid prices expressed in the amounts in various currencies in which the bid prices are payable to Indian Rupees.

1.39 **Evaluation and comparison of Bids:**

1.39.1 The Purchaser shall evaluate each bid that has been determined, up to this stage of the evaluation, to be substantially responsive.

1.39.2 The bids shall be evaluated on the basis of final landing cost which shall be arrived as under:



**For goods manufactured in India**

- (a) The price of the goods quoted ex-works including all taxes already paid.
- (b) VAT and other taxes like excise duty etc. which will be payable on the goods if the contract is awarded.
- (c) Charges like packing, forwarding, insurance and transportation/freight required for delivering the goods at the desired destination.

**For goods manufactured abroad**

- (a) The price of the goods, quoted on FCA (named place of delivery abroad) or FOB (named port of shipment), as specified in the bidding document.
- (b) Other charges like Customs Duty etc.
- (c) The charges for transportation of the goods to the port/place of destination including insurance.
- (d) The agency commission etc., if any.

**Note:** Where there is no mention of packing, forwarding, freight, insurance, taxes etc. such offers shall be treated as incomplete.

- 1.39.3 In the case of Purchase of many items against one tender, which are not inter-dependent or, where compatibility is not a problem, normally the comparison would be made on ex-works, (in case of indigenous items) and on FOB / FCA (in the case of imports) prices quoted by the firms for identifying the lowest quoting firm for each item.
- 1.39.4 Wherever the price quoted on FOB/FCA and CIF/CIP basis are the same, the Contract would be made on CIF / CIP basis only.
- 1.39.5 The mode of transport shall be specified i.e., whether by air/ocean/road/rail.
- 1.39.6 The Purchaser shall compare all substantially responsive bids to determine the lowest valued bid, in accordance with the tender specifications.

**1.40 Contacting Purchaser**

- 1.40.1 Subject to clause No.1.33 hereinabove, no Bidder shall contact the Purchaser on any matter relating to its bid, from the time of the bid opening to the time the Contract is awarded.
- 1.40.2 Any effort by a Bidder to influence the Purchaser in its decisions on bid evaluation, bid comparison or contract award may result in rejection of the Bidder's bid.

**1.41 Award of Contract:**

- 1.41.1 **Negotiations:** There shall not be any negotiation normally. Negotiations, if at all, shall be an exception with the lowest evaluated responsive bidder.

- 1.41.2 **Award Criteria:** Subject to the conditions mentioned under clause No.1.41.3, the Purchaser will award the contract to the successful Bidder whose bid has been determined to be substantially responsive and has been determined to be the lowest evaluated bid, provided further that the Bidder is determined to be qualified to perform the contract satisfactorily.
- 1.41.3 **Purchaser's right to accept Any Bid and to reject any or All Bids:** The Purchaser reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to award of Contract, without thereby incurring any liability to the affected Bidder or Bidders.
- 1.41.4 **Purchaser's right to vary Quantities at the time of Award of contract:** The Purchaser reserves the right at the time of Contract award to modify the quantity of goods and services originally specified in the Schedule of Requirements without any change in unit price or other terms and conditions, if it is felt absolutely necessary.
- 1.41.5 **Notification of Award:** The Purchaser will notify the successful bidder in writing by registered letter/speed post or fax or e-mail that the bid has been accepted and a separate purchase order shall follow through post.
- 1.41.6 Until a formal contract/purchase order is prepared and executed, the notification of award should constitute a binding contract.

**Security Deposit:**

- 1.41.7 Within 21 days of receipt of the notification of award/PO, the Supplier shall furnish Security Deposit for 10% of the contract/order value by way of Bank Guarantee valid till final acceptance of the material.
- 1.41.8 In case the tenderer is registered with DGS&D, NSIC or MSME's, they can be considered for exemption from Security Deposit to the extent of the monetary limit of such registration, subject to production of proof of valid registration certificate.
- 1.41.9 The Security deposit shall be forfeited in case the selected Bidder does not start the work within the time limit specified or fail to complete the work within the stipulated delivery period or fail to comply with any of the terms and conditions in the purchase order/contract.
- 1.41.10 The Security Deposit shall be submitted in Indian Rupees for the offers received for supplies within India and submitted in the currency of the contract in the case of offers received for supply from foreign countries.
- 1.41.11 In the case of imports, the Security Deposit may be submitted either by the principal or by the Indian agent and, in the case of purchases from indigenous sources, the Security Deposit may be submitted by the vendor to whom the order/contract is issued.
- 1.41.12 The Security Deposit shall be in one of the following forms:

A Bank guarantee issued by SBI/Nationalized Bank or any one of the scheduled banks mentioned in the bracket (Axis Bank, HDFC Bank, ICICI Bank and IDBI Bank) located in India for the offers received for supplies within India and in the case of imports a first class international reputed bank with preferably its operating branch in India in the form provided in the bidding documents.

- 1.41.13 The Security Deposit will be discharged by the Purchaser and returned to the Supplier not later than 60 days following the date of completion of the Supplier's performance obligations without levy of any interest.
- 1.41.14 Whenever, the bidder submit the Security Deposit in the form of Bank Guarantee, he should advise the banker issuing the Bank Guarantee to immediately send by Registered Post (A.D.)/Speed post/Courier an unstamped duplicate copy of the Guarantee directly to the Purchaser with a covering letter to compare with the original BG for the correctness, genuineness, etc.

## (2) **GENERAL CONDITIONS OF CONTRACT**

### 2.1 **Scope of supply:**

The Goods and related services as specified in the contract/purchase order is/are to be supplied as per the specifications and technical details mentioned in the tender documents.

### 2.2 **Suppliers Responsibilities:**

The Supplier shall supply all the Goods and Related Services included in the Scope of Supply in accordance with Scope of Supply Clause of the Contract/purchase order, and the Delivery and Completion Schedule, as per Clause relating to delivery and document.

### 2.3 **Standards:**

The Goods supplied and services rendered under this Contract shall conform to the standards mentioned in the Technical Specifications, and, when no applicable standard is mentioned, to the authoritative standard appropriate to the Goods' country of origin and such standards shall be the latest issued by the concerned institution.

### 2.4 **Use of Contract Documents and Information**

- 2.4.1 The Supplier shall not, without the Purchaser's prior written consent, disclose the Contract, or any provision thereof, or any specification, plan, drawing, pattern, sample or information furnished by or on behalf of the Purchaser in connection therewith, to any person other than a person employed by the Supplier in performance of the Contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far, as may be necessary for purposes of such performance.
- 2.4.2 The Supplier shall not, without the Purchaser's prior written consent, make use of any document for information enumerated above except for purposes of performing the Contract.

2.4.3 Any document, other than the Contract itself, enumerated above shall remain the property of the Purchaser and shall be returned (in all copies) to the Purchaser on completion of the Supplier's performance under the Contract if so required by the Purchaser.

## 2.5 **Patent Indemnity**

2.5.1 The Supplier shall, subject to the Purchasers compliance with Clause 2.5.2 mentioned hereinbelow, indemnify and hold harmless the Purchaser and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorneys fees and expenses, which the Purchaser may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract by reason of:

- (a) the installation of the Goods by the Supplier or the use of the Goods in India; and
- (b) the sale in any country of the products produced by the Goods.

2.5.2 If any proceedings are brought or any claim is made against the Purchaser, the Purchaser shall promptly give the Supplier a notice thereof and the Supplier may at its own expense and in the Purchasers name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claims.

## 2.6 **Security Deposit:**

The Contractor shall execute a Bank Guarantee from SBI/nationalized banks or any one of the scheduled banks mentioned in the bracket (Axis Bank, HDFC Bank, ICICI Bank and IDBI Bank) valid till final acceptance of the goods for 10% of contract value towards Security Deposit for faithful execution of the contract. This Bank Guarantee shall be furnished within 21 days from the date of LOI/Purchase order.

## 2.7 **Terms of Payment:**

2.7.1 10% advance against submission of Bank Guarantee for an equivalent amount from SBI/nationalized banks or any one of the scheduled banks mentioned in the bracket (Axis Bank, HDFC Bank, ICICI Bank and IDBI Bank) valid till delivery of the entire material covered in the contract/purchase order. This payment will be made only after signing the contract/Purchase order and submission of Security Deposit.

2.7.2 10% after approval of major drawings by IPR and on receipt of Bank Guarantee for an equivalent amount from SBI/nationalized banks or any one of the scheduled banks mentioned in the bracket (Axis Bank, HDFC Bank, ICICI Bank and IDBI Bank) valid till delivery of the entire material covered in the contract/purchase order.

2.7.3 60% of basic price + 100% of all other charges will be paid against delivery of material at IPR site, its verification by IPR representative and on receipt of Proforma Invoice in triplicate.

2.7.4 20% within 30 days from the date of final acceptance and on receipt of Performance Bank guarantee for 10% of the contract value amount from SBI/nationalized banks or

any one of the scheduled banks mentioned in the bracket (Axis Bank, HDFC Bank, ICICI Bank and IDBI Bank) valid through out the guarantee period mentioned in the contract/purchase order.

**2.7.5 Advance payments other than mentioned above will be loaded with interest @ 12% p.a. upto the delivery period quoted for the purpose of comparison of price amongst the bidders.**

2.7.6 Wherever, advance payment is involved, it will be paid only against submission of Bank Guarantee from SBI/nationalized banks or any one of the scheduled banks mentioned in the bracket (Axis Bank, HDFC Bank, ICICI Bank and IDBI Bank). Bank Guarantees should be furnished as per IPR format.

2.7.7 **Bank Charges:** All bank charges to be borne by the Contractor/Supplier.

2.7.8 No correspondence will be entertained within 30 days from the date of receipt of material and bills, whichever is later.

**2.8 Delivery:**

Delivery of the Goods and completion and related services shall be made by the contractor in accordance with the terms specified Purchaser in the contract including additional requirements, if any.

2.8.1. **Extension of delivery period:**

2.8.1.1 Delivery of the Goods and performance of the services shall be made by the supplier in accordance with the time schedule specified by the purchaser

2.8.1.2 If at any time during performance of the contract, the supplier or its sub-contractor(s) should encounter conditions impeding timely delivery of the goods and performance of services, the Supplier shall promptly notify the Purchaser in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of Supplier's notice, Purchaser shall evaluate the situation and may, at its discretion, extend the Suppliers time for performance with or without penalty, in which case the extension shall be ratified by the parties by amendment of the Contract.

2.8.1.3 If the completion of supply of Stores/Goods is delayed due to reasons of Force Majeure such as acts of God, acts of public enemy, acts of Government, fires floods, epidemics, quarantine, restrictions, strikes and freight embargoes, the Contractor shall give notice within 5 days to the purchaser in writing of his claim for an extension of time. The purchaser on receipt of such notice after verification, if necessary, may agree to extend the Contract delivery date as may be reasonable but without prejudice to other terms and conditions of the contract.

**2.8.2 Delay in completion/Liquidated Damages:**

2.8.2.1 If the contractor fails to deliver the Stores/Goods within the time specified in the Contract or any extension thereof, the purchaser shall recover from the Contractor as liquidated damages sum of half percent (0.5 percent) of the total Contract price (Basic price) for each calendar week of delay. The total liquidated damages shall not exceed five percent (5 %) of the contract price. Stores/Goods will be deemed to have been delivered only when all its component parts are also delivered If certain components are not delivered in

time, the Stores/Goods will be considered as delayed until such time as the missing parts are delivered.

2.8.2.2 Where the Contract entered into is a composite one with supply cum erection and installation/commissioning activities and the completion of erection and installation/commissioning is delayed irrespective of the fact that whether supply of material has been made within the original delivery period, the contract is to be considered as a whole and Liquidated Damages will be recovered on the total contract value.

2.8.3 **Recovery of Sums Due:**

2.8.3.1 Wherever any claim for the payment of Liquidated Damages or loss suffered by the Purchaser arises in terms of money out of the contract against the Contractor, the Purchaser shall be entitled to recover such sums from any due payment under the Contract. In the event of this amount being insufficient, then the amount of damages or loss shall be recoverable from the payment that may become due to the contractor from this Contract or any other Contract with the Purchaser. Should this sum be not sufficient to cover the amount of damages or loss that may be recoverable, the Contractor shall pay to the Purchaser on demand, amount due. Similarly if the Purchaser had made any claim against the contractor under this contract or any other contract with the Purchaser, the payment of all sums payable under the Contract to the Contractor shall be withheld to the extent of claims due according to the Purchaser till such claims of the Purchaser are finally paid by the Contractor, pending which the same will be adjusted. Notwithstanding the provision for recovery through adjustment the Purchaser shall be free to recover his claims from the contractor as per the terms of this contract.

2.8.3.2 All demurrage, wharfage and allied expenses incurred by the Purchaser, if any, due to delayed clearance of Stores in view of non receipt, incomplete or delayed receipt of documents by the Purchaser, shall be recovered from the payment due to the Contractor.

2.9 **BAR/PERT Chart:**

To be provided as per the requirement of Purchaser.

2.10 **Subcontracts:**

The Contractor shall not subcontract, awarded under this Contract/purchase order if not already specified in the tender document.

2.11 **Assignment:**

The Contractor shall not assign, in whole or in part, its obligations to perform under the Contract, except with the Purchaser's prior written consent.

2.12 **Termination for Default**

2.12.1 The Purchaser may upon written notice of default to Contractor terminate the contract in whole or in part in circumstances detailed hereunder:

- (a) If in the judgment of the Purchaser the Contractor fails to make delivery of Stores/Goods within the time specified in the Contract

Agreement or within the period for which extension has been granted by the Purchaser to the Contractor.

- (b) If in the judgment of the Purchaser the Contractor fails to comply with any of the other provisions of this contract.

2.12.1 In the event the Purchaser terminates the contract in whole or in part as provided in clause No.2.12.1 hereinabove, the Purchaser terminates the right to Purchase upon such terms and in such a manner as he may deem appropriate stores similar to that terminated and the Contractor shall be liable to the Purchaser for any additional costs for such similar stores and / or for liquidated damages for delay as defined in clause No.2.8.2 above until such reasonable time as may be required for the final supply of stores.

2.12.2 If the contract is terminated as provided in clause No.2.12.1, the Purchaser in addition to any other rights provided in the Article, may require the Contractor to transfer title and deliver to the Purchaser under any of the following cases in the manner and as directed by the Purchaser.

- (a) Any completed Stores

- (b) Such partially completed Stores, drawing information and contract rights thereafter called manufacturing material as the Contractor has specifically produced or acquired for the performance of the contract as terminated. The Purchaser shall pay to the Contractor the Contract price for completed Stores delivered to and accepted by the Purchaser and for manufacturing materials delivered and accepted.

2.12.4 In the event the Purchaser does not terminate the Contract as provided in Clause No. 2.12.1 the Contractor shall continue the performance of the Contract in which case he shall be liable to the purchaser for liquidated damages for delay as set out in Clause 2.8.2 until the Stores are accepted.

**2.13 Termination for Insolvency:**

The Purchaser may at any time terminate the contract by giving written notice to the Supplier, if the Supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of action or remedy, which has accrued or will accrue thereafter to the Purchaser.

**2.14 Termination for Convenience:**

2.14.1 The Purchaser, by written notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time. The notice for termination shall specify that termination is for the Purchaser's convenience, the extent to which performance of the Supplier under the contract is terminated, and the date upon which such termination becomes effective.

2.14.2 IPR shall have the right to accept or to cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and for materials and parts previously procured by the Supplier.

**2.15 Replacement:**

If the Stores/Goods or any portion thereof is damaged or lost during transit, the purchaser shall give notice to the Contractor setting forth particulars of such stores damaged or lost during transit. The replacement of such Stores shall be effected by the Contractor within a reasonable time to avoid unnecessary delay in the intended usage of the stores.

**2.16 Rejection:**

In the event that any of the Stores/Goods supplied by the Contractor is found defective in material or workmanship otherwise not in conformity with the requirements of the Contract specification, the purchaser shall either reject the Stores/Goods or request the Contractor, in writing to rectify the same. The Contractor, on receipt of such notification shall either rectify or replace the defective Stores/Goods free of cost to the Purchaser.

If the Contractor fails to do so, the purchaser may at his option either:

- (a) replace or rectify such defective Stores/Goods and recover the extra cost so involved from the Contractor or
- (b) terminate the Contract for default as provided under Clause No.2.12 and its sub-clauses above
- (c) acquire the defective Stores/Goods at a reduced price considered equitable under the circumstances. The provision of this article shall not prejudice the purchaser's rights under Clause No. 2.17.

**2.17 Guarantee/Warranty & Replacement:**

- (a) The Contractor shall guarantee the stores/goods supplied shall comply fully with the specifications laid down, for material, workmanship and performance.
- (b) The Stores/material/goods/equipment offered by the bidder should be guaranteed for a minimum period of twelve months from the date of acceptance, against defective materials, design, workmanship, operation or manufacture. If any defects are discovered therein or any defects therein are found to have developed under proper use arising from faulty materials, design or workmanship, contractor shall remedy such defects at his own cost provided he is called upon to do so within a period of 12 months from the date of acceptance thereof.
- (c) Should Contractor fails to rectify, the purchaser shall have the right to reject or repair or replace at the cost of the Contractor the whole or any portion of the defective Stores.
- (d) The decision of the purchaser, notwithstanding any prior approval or acceptance or inspection thereof on behalf of the Purchaser, as to whether or not the Stores supplied by the Contractor are defective or any defect has developed within the said period of twelve months after the acceptance of the stores or as to whether the nature of the defects requires renewal or replacement, shall be final, conclusive and binding on the Contractor.



- (e) To fulfill guarantee/warranty conditions outlined in Clause 2.17 (a) to (c) above, the Contractor shall furnish a Bank Guarantee as per IPR format from a nationalized/scheduled Bank for an amount equivalent to 10% of the value of the Contract. The Bank Guarantee shall be valid through out the guarantee/warranty period. On the performance and completion of the Contract in all respects, the Bank Guarantee will be returned to the Contractor without any interest.
- (f) All the replacement Stores/Goods shall also be guaranteed for a period of 12 months from the date of arrival of Stores/Goods at Purchaser's site.

## **2.18 Contractor's Liability for Defective Stores:**

2.18.1 The Purchaser may accept the Stores, if it is complete in all respects or alternatively accept the same on such terms as may be considered appropriate. If the Stores, after the acceptance thereof is discovered to have defects, latent or otherwise, notwithstanding that such defects could have been discovered at the time of inspection, or any defects therein are found to have developed during the Guarantee Period while under proper use of subsequently it is found that Stores failed to fulfill the requirements or Particulars of the Contract or developed defects after erection / put into use within a period of 12 (twelve) months from the date of acceptance, the Purchaser shall be entitled to give a notice to the Contractor within 12 months from the date of acceptance of stores setting forth details of such defects or failure and Contractor shall forthwith make the defective Stores good or alter the same to make it comply with the requirements of the Contract at his own cost. Further, if in the opinion of the Purchaser, defects are of such a nature that the same cannot be made good or repaired without impairing the efficiency or workability of the Stores or if in the opinion of the Purchaser, such opinion being final, the Stores cannot be repaired or altered to make it comply with the requirements of the Contract, the Contractor shall remove and replace the same with a Stores conforming in all respects to the stipulated specifications at the Contractor's own cost. If the Contractor fails to make the desired repairs/ replacement within reasonable time then such repairs/replacement at the cost of the Contractor shall be carried out by the Purchaser, with Stores of the same Particulars or when the stores conforming to the stipulated particulars are not in opinion of the Purchaser readily procurable, such opinion being final, then the nearest available substitute thereof.

2.18.2 Should the Contractor fails to comply within a reasonable time of issue of notice, the Purchaser may reject at the cost of the Contractor, the whole or any part of the Stores as the case may be, which is defective or fails to fulfill the requirements of the Contract and make the desired repairs/replacement as stipulated above.

2.18.3 In the event of such rejection the Purchaser shall be entitled to use the Stores in a reasonable and proper manner for such time as sufficient to

enable the Purchaser to obtain replacement, as hereinbefore provided.

2.19 **Performance Bank Guarantee:** The Contractor/Supplier will have to furnish to the Purchaser an interest free performance bank guarantee, as per IPR format, for 10% (Ten percent) of the total order value/contract value by way of providing a Bank Guarantee from a Nationalized Bank/Scheduled Bank on a non-judicial stamp paper for the satisfactory performance of the plant/machinery/instruments/goods supplied against the Contractor. The Performance Bank Guarantee (PBG) will be effective from the date of final acceptance and shall remain in force two months beyond the guarantee/warranty period mentioned in the Contract. In the event that the Bank Guarantee needs extension, the Contractor shall extend the validity of PBG for suitable period at his expenses. On the performance and completion of all contractual obligations, the original PBG shall be returned to the Contractor without any interest on receipt of a request from the Contractor.

2.20 The Contractor/Supplier shall at all times indemnify the purchaser against all claims which may be made in respect of the stores/material/goods/equipment for infringement of any right protected by Patent Registration of design or Trade Mark and shall take all risk of accidents or damage, which may cause failure of supply from whatever cause arising and the entire responsibility for sufficiency of all means used by him for the fulfillment of the contract.

2.21 **Cancellation/Termination of Contract for default**

The Purchaser may, without prejudice to any other remedy for breach of contract, by written notice of default sent to the supplier, terminate the contract whole or in part:

- (a) if the supplier fails to deliver any or all of the stores within the time period(s) specified in the contract, or any extension thereof granted by the Purchaser; or
- (b) if the supplier fails to perform any other obligation under the contract within the period specified in the contract or any extension thereof granted by the Purchaser.

In the event the Purchaser terminates the contract in whole or in part; the Purchaser may take recourse to anyone or more of the following actions. The termination will not relieve the Contractor from submitting the Performance Bank Guarantee for the portion not terminated.

- (a) the Security Deposit is to be forfeited
- (b) the Purchaser may procure, upon such terms and in such manner as it deems appropriate, stores similar to those undelivered, and the supplier shall be liable for all available actions against it in terms of the contract.
- (c) however, the supplier shall continue to perform the contract to the extent not terminated.
- (d) recovery of Liquidated Damages as per the Contract.

2.22 **Amendments:**

Any amendment to the Contract which may be necessary will be a result of a mutual agreement between the Parties. It will be established within a reasonable time in the form of an amendment to the Contract, to be signed by both the Parties.

2.23 **Force Majeure:**

Force Majeure is herein defined as any cause which is beyond the control of the Contractor or the Purchaser, as the case may be which they could not foresee or with a reasonable amount of diligence could not have foreseen and which substantially affects the performance of the Contract, such as:-

- (i) Natural Phenomena, including but not limited to floods, droughts, earthquakes, and epidemics.
- (ii) Acts of any Government, domestic or foreign including but not limited to war-declared or undeclared, priorities, quarantines, embargoes.
- (iii) Other Phenomena including but not limited to hostilities riots, civil commotion and declared lock-out in Contractor's works.
- (iv) Provided that Parties shall not be liable for delays in performing its obligations resulting from any Force Majeure causes as referred to/or defined above. The date of completion will subject to hereinafter provided, be extended by reasonable time even though such cause may occur after contractors performance of his obligations has been delayed for other cause. However, the Contractor is not entitled to increase in statutory levies that has come into force during the extended delivery period.

2.24 **Exercising the Rights and Powers of the Purchaser:**

All the rights, discretion and powers of the Purchaser under the Contract shall be exercised by the Purchaser through written communications which shall be given by the Director or other officers authorized by him for and on behalf of the Purchaser.

2.25 **Jurisdiction:** The contract/Purchase order shall be governed by the Laws of India for the time being in force. The Courts of Ahmedabad only shall have jurisdiction to deal with and decide any legal or dispute arising out of this contract.

2.26 **Settlement of disputes:**

2.26.1 The Purchaser and the Contractor shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.

2.26.2 If the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Purchaser or the Supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given. Any dispute or difference in respect of which a notice of intention to commence arbitration has been given in accordance with this Clause shall be finally settled by arbitration. Arbitration may be commenced prior to or after delivery of the Goods under the Contract.

2.26.3 The dispute settlement mechanism/arbitration proceedings shall be concluded as under:

- (a) **For indigenously supplied items:** In case of Dispute or difference arising between the Purchaser and a domestic supplier relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the Indian Arbitration & Conciliation Act, 1996, the rules there under and any statutory modifications or re-enactments thereof shall apply to the arbitration proceedings. The dispute shall be referred to the Arbitrators one each nominated by the Purchaser and Contractor from their respective organisations. In case the said Arbitrators are not able to settle the dispute by themselves, the matter shall be referred to the Arbitrator mutually nominated by the Purchaser and the Contractor and whose decision will be final and binding on both the parties.
- (b) **For imported supplies:** In the case of a dispute between the purchaser and a Foreign Supplier, the dispute shall be settled by arbitration In accordance with provision of sub-clause (a) above. But if this is not acceptable to the supplier then the dispute shall be settled in accordance with the Rules of Conciliation and Arbitration of the International Chamber of Commerce by one or more Arbitrators appointed in accordance with the said Rules.

2.26.4 The venue of the arbitration shall be the place from where the purchase order or contract is issued.

2.26.5 Notwithstanding any reference to arbitration herein, the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and the Purchaser shall pay the Supplier any due to the Supplier.

2.27 **Permits and Licenses:** The Contractor shall secure and pay for all permits and licence which he may require to comply with in respect of all laws, ordinances and regulations of the Government or Public Authorities in connection with the performance of his obligations under the Contract. The successful contractor shall be responsible for all damages and shall indemnify and save the Purchaser harmless from and against all claims for damages and liability which may arise due to his failure to comply with what is stated above.

2.28 **Training:** The successful tenderer shall, if required by the Purchaser, provide facilities for the practical training of Purchaser's engineering or technical personnel for their active association on the manufacturing process throughout the manufacturing period of the Contract/stores, number of such personnel to be mutually agreed upon. If demanded by the Purchaser, such training shall be conducted at Purchaser's site by the Contractor free of charge. The duration of training shall be mutually decided upon by the Purchaser and the Contractor.

2.29 **Operation/Instruction Manual:** Where operation/instruction manual is essential to enable the Purchaser to put the Stores to proper use, the Contractor shall furnish such operation/instruction manual along with the Stores in duplicate or the quantity required by the Purchaser.

2.30 **Test Certificate:** Wherever required, test certificates should be sent along with the despatch documents.

2.31 **Indemnity:** The Contractor shall warrant and be deemed to have warranted that all stores supplied against this contract are free and clean of infringement of any Patent, copy right or trade mark and shall at all times indemnify the Purchaser against all claims which may be made in respect of the stores for infringement of any right protected by patent. Registration of design or Trade Mark and shall all risk of accidents of damage which may cause a failure of the supply from whatever cause arising and the entire responsibility for the sufficiency of all the means used by him for the fulfilment of the contract.

2.32 **Counter terms and conditions of Suppliers:** Where counter terms and conditions printed or cyclostyled conditions have been offered by the supplier, the same shall not be deemed to have been accepted by the Purchaser unless specific written acceptance thereof is obtained.

2.33 **Erection of plant & Machinery:**

2.33.1 Tenderers must clearly and separately furnish in their offers the terms of supervision of erection and commissioning particularly in respect of plant/machinery/equipment.

2.33.2 Whether erection of a plant or machinery is the responsibility of the contractor as per the terms of the contract and in case the contractor fails to carry out the erection as and when called upon to do so within the period specified by the purchaser, the purchaser shall have the right to get the erection done through any source of his choice. In such an event, the contractor shall be liable to bear any additional expenditure that the purchaser is liable to incur towards erection. The contractor shall, however, not be entitled to any gain due to such an action by the Purchaser.

2.33.3 In respect of Contractors involving installation and commissioning by the overseas supplier where identifiably charges for the same has been quoted by the tenderer, he shall bear the income tax liability as per the rates prevailing at the time of undertaking the job in accordance with the income tax act in force in India, which at present is 20% on the installation and commissioning charges.

2.33.4 In all cases where contracts provide for supervision of erection and commissioning or for test at the Purchaser's premises the Purchaser except where otherwise specified, shall provide free of charge, such labour, Materials, fuels, stores, apparatus and instruments as may be required from time to time and as may reasonably be demanded by the contractor to carryout efficiently such supervision of erection and commissioning and for the requisite test. In case of contracts requiring electricity for the completion of erection and commissioning and testing at site, such electricity shall be supplied free to the Contractor.

2.34 **Free Issue Material (FIM) (If specified in the tender documents):**

2.34.1 Wherever contracts envisage supply of Free Issue Material (FIM) by the Purchaser to the contractor, such Free Issue Material shall be safeguarded by an insurance policy to be provided by the Contractor at his own cost for the full value of such materials

and the insurance policy shall cover, the following risks specifically and shall be valid for six months beyond the contractual delivery date.

- **Risk to be covered:** Any loss or damage to the Purchaser's material due to fire, theft, riot, burglary, strike, civil commotion, terrorist act, natural calamities etc. and any loss or damage arising out of any other causes such as other materials falling on purchaser's materials.
- **Insured by:** (Name of the Contractor)
- **Beneficiary:** Institute for Plasma Research, Near Indira Bridge, Bhat, Gandhinagar-382428.
- **Amount for which insurance policy to be furnished:** The amount will be indicated in the respective contract.

Free Issue Material (FIM) will be issued to the Contractor only after receipt of the Insurance Policy from the Contractor. The contractor shall arrange collection of the FIM from the Purchaser's premises and safe transportation of the same to his premises at his risk and cost.

Notwithstanding the insurance cover taken out by the Contractor as above, the contractor shall indemnify the purchaser and keep the Purchaser indemnified to the extent of the value of free issue materials to be issued till such time the entire contract is executed and proper account for the FIM is rendered and the left over/surplus and scrap items are returned to the Purchaser. The contractor shall not utilize the Purchaser's free issue materials for any job other than the one contracted out in this case and also not indulge in any act, commission or negligence which will cause/result in any loss/damage to the Purchaser and in which case, the Contractor shall be liable to the Purchaser to pay compensation to the full extent of damage/loss. The Contractor, shall be responsible for the safety of the free issue materials after these are received by them and all through the period during which the materials remain in their possession/control/custody. The free issue materials on receipt at the Contractor's works shall be inspected by them for ensuring safe and correct receipt of the material. The Contractor shall report the discrepancies, if any, to the Purchaser within 5 days from the date of receipt of the material. The Contractor shall take all necessary precautions against any loss, deterioration, damage or destruction of the FIM from whatever cause arising whilst the said materials remain in their possession/custody or control. The FIM shall be inspected periodically at regular intervals by the Purchaser for ensuring safe preservation and storage. The contractor shall also not mix up the FIM with any other goods and shall render true and proper account of the materials actually used and return balance remaining unused material on hand and scrap along with final product and if it is not possible within a period of one month from the date of delivery of the final product covered by this purchase order. The Contractor shall also indemnify the Purchaser to compensate the difference in cost between the actual cost of the FIM lost/damaged and the claim settled to the Purchaser by the insurance company. The decision of the Director, Institute for Plasma Research, as to whether the Contractor has caused any loss, destruction, damage or deterioration of the FIM while in his possession, custody or control from whatever cause arising and also on the quantum of damage suffered by the government, shall be final and binding upon the Contractor.

- 2.35 **Governing Language:** The contract shall be written in English language which shall govern its interpretation. All correspondence and other documents pertaining to the

Contract, which are exchanged by the parties, shall be written in the English language only.

- 2.36 **Applicable Law:** The Contractor shall be interpreted in accordance with the laws of the Union of India and all disputes shall be subject to place of jurisdiction as specified in the Contract.
- 2.37 **Taxes and Duties:**
- 2.37.1 For goods manufactured outside India, the Supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside India.
- 2.37.2 For goods Manufactured within India, the Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred till its final manufacture/production.
- 2.37.3 If any tax exemptions, reductions, allowances or privileges may be available to the Supplier in India, the Purchaser shall make its best efforts to enable the Supplier to benefit from any such tax savings to the maximum allowable extent.
- 2.37.4 All payments due under the contract shall be paid after deduction of statutory levies (at source)(like ESIC, WCT, IT, etc.) wherever applicable.
- 2.37.5 **Excise Duty:** If the supply is within India, this institute is exempted from payment of Excise Duty as per notification No.10/97 Central Excise, dated 1st March, 1997 as amended by notification no. 16/2007 - Central Excise dtd. 1.03.2007.
- 2.37.6 **Customs Duty:** If the supply is from abroad this institute is permitted to import goods as per notification No.51/97 as amended by notification No.24/007 Customs dated 01.03.2007.
- 2.37.7 We do not issue C/D form.
- 2.38 Late/delayed tenders will not be accepted. Incomplete tenders may be rejected at the discretion of IPR.
- 2.39 **IPR is not bound to accept the lowest tender. IPR reserves the right to select any vendor at its sole discretion.**
- 2.40 **Result of the tenders:** Unsuccessful tenderers will not be informed of the result of their tenders.
- 2.41 he Director, IPR reserves the right to accept or reject any quotation/tenders fully or partly without assigning any reason.
- 2.42 IPR reserves the right to place order on a single party or to split the order at its sole discretion.

**CONFIRMATION LETTER FROM BIDDER:**

Bidder will attach a confirmation letter (draft given below) with Part-A of the bid.

“This is to confirm that we have studied all documents and specifications of Tender notice for "Fabrication, testing and supply of U-shaped 10-Channel First Wall (FW) Mock-up" (Tender No.IPR/TN/PUR/3/15-16 dated 17-04-2015). We also hereby confirm that our Price Bid is in-line with the terms and conditions, management specifications and technical specifications given in this tender.”

**Place:**

**Signature**

**Date:**

**Name:**

**Name of the bidder:**

**Official Seal:**

**Note: A copy of the terms and conditions {Part-A(ii)} duly signed should accompany your quotation.**



**PRICE BID FORMAT**

*(Bidders are requested to offer their price bid in the following format)*

<b>Sr.No.</b>	<b>Item Description</b>	<b>Quantity</b>	<b>UOM</b>	<b>Currency</b>	<b>Unit Price</b>	<b>Total Price</b>
1	Fabrication, testing and supply of U-shaped 10-Channel First Wall (FW) Mock-up	1	Unit			
2.	Other charges, if any					
	<b>Total</b>					

<b>Description</b>	<b>Indicate percentage except Freight</b>		
	<b>Percentage</b>	<b>Included</b>	<b>Excluded</b>
Packing and forwarding			
Excise Duty			
Sales Tax/VAT			
Insurance			
Service Tax, if any			
Freight			

Description	Vendor Terms
Delivery terms	
Warranty	
Payment	
Delivery schedule	
Validity	
Any other terms	

**Place:**

**Date :**

**Signature of Bidder with seal**