	<b>Manufacturing, testing and supply of vacuum vessels for HNB3 (Beam Line Vessel and Beam Source Vessel) and DNB Annexure-1: Technical bid format and bidder's confirmation</b>	INDUS Ref No
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## Scope

This Annexure describes the Technical Bid Format to be followed by the bidder. Bidder will enclose technical bid in this format in **Section-B of bid**. Bidder shall submit two set of documents in support of the information provided in this Annexure.


Bidder shall give the name of the subcontractor/s, if any of the following requirements which will be met by his subcontractor/s. Bidder will attach the confirmation letter in this regard from the subcontractor/s. Bidder shall give presentation covering following points **(A to K)** in total twenty (20) slides) to the ITER-India at the time of Pre-bid meeting (will be held in-person / Online depending on the COVID situation) with the bidder(s) for bid evaluation. Bidder will also submit two set of the documents along with their bid in hard copy in support of following points.

### A. Information about bidder:


Sr. No.	Requirements	Bidder's Response
1	Bidder's Profile (a) Over all profile and organization structure (b) Bidder's strength specifically in the areas of Nuclear, Defense, Heavy engineering and space	
2	Bidder's Sub-contractors: (a) Procedure for selection of sub-contractors (b) List of subcontractors. (c) Sub-contractor's experience in executing the heavy machining projects.	
3	Financial status of the bidder (a) Current Cost of on-hand Projects (b) Cost of projects completed in 2019-2020.	

### B. Bidder's Experience

Sr. No.	Requirements	Bidder's Response
1	Design and Engineering experience (a) Bidder's experience in engineering and design of equipment (In house or with subcontractor). - Design of Manufacturing of Jigs & Fixtures (In house or with subcontractor).	

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	<p>-Preparation of Manufacturing Design/drawings (In house or with subcontractor).</p> <p>- FEA analysis if any performed for designing or validation of design (In house or with subcontractor).</p> <p>Projects completed in the area of nuclear and space are preferred.</p> <p>(b) Availability of CATIA facilities; In-house or with subcontractor.</p> <p>(C) Bidder's / their sub-contractor's experience for performing welding simulation (for distortion assessment and deciding the weld sequence) through software.</p>	
2	<p><b>Manufacturing Experience</b></p> <p>(a) Bidder's experience in manufacturing of Austenitic Stainless Steel Vacuum/Pressure Vessels</p> <p>– Minimum two specific examples to be submitted.</p> <p>Preference to be given to the projects in nuclear and space establishments, accordingly Bidder should provide relevant details including applicable codes</p>	
3	<p><b>Bidder's experience in Welding</b></p> <ul style="list-style-type: none"> <li>- Materials welded</li> <li>- Maximum thickness welded</li> <li>- Welding processes used</li> </ul>	
4	<p><b>Project Execution Experience:</b></p> <p>(a) Project execution methodology with the tools like Primavera/MS Project for project management.</p>	
5	<p><b>Packing Experience:</b></p> <p>(a) Bidder should submit details of the projects executed in the past to establish sea worthy packing experience.</p>	

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	(b) Bidder should submit details of the projects executed in the past to establish experience of handling heavy equipment.	
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### C. Manufacturing Facilities with Bidder:

Sr. No.	Requirements	Bidder's Response
1	Manufacturing facilities (a) Details of over-all manufacturing and testing facilities with bidder, (b) Details of machining facilities available with the bidder/or his sub-contractors	
2	Welding facilities to execute parallel manufacturing of DNB and HNB-3 Vessel (a) Specifications with Quantity	
3	NDE facilities available with Bidder or subcontractor for Ultrasonic testing, Radiography, Liquid Penetrant Examination and Leak Testing.	
4	Instruments for alignment and measurement with detailed specifications	

### D. Other Required Infrastructure:

Sr. No.	Requirements	Bidder's Response
1	Enclosed clean area for storage of (a) Raw Material and components (b) Finished/Packed Components	
2	Shop floor and material handling - Provide the details of largest crane capacity installed in the shop floor, suitable for handling the DNB Vessel and HNB3 Vessel (BLV and BSV separately). - Provide the area available for dedicated SS fabrication.	

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3	<p>Cleaning requirements</p> <p>(a) Bidder's experience in cleaning of large size components and assemblies including pickling and passivation (alternate techniques like paste / gel are also allowed)</p> <p>(b) Give the specifications of cleaning facilities or commitment to establish needed facilities within three months of LOI.</p> <p>(c) Bidder's assessment of cleaning requirements like area, tools and fixtures etc. for the DNB and HNB-3 Vessel</p>	
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#### E. Quality System and Assurance:

Sr. No.	Requirements	Bidder's Response
1	<p>Bidders Management system</p> <p>(a) Quality Management System</p> <p>(b) Environment Management System</p> <p>(c) Health and Safety Management System</p>	
2	<p>Quality Assurance</p> <p>(a) Bidder's proposed methodology to carry out dimensional inspection.</p> <p>(b) Qualification and experience of personal for Welding, NDE and QC/QA.</p> <p>List of NDE personnel qualified (Level II and Level III) in accordance with written practice of ASNT or similar international standards.</p> <p>(c) Bidder's compliance with the quality and documentation requirements as described in Technical specification.</p>	

#### F. Codes and Standards:

Sr. No.	Requirements	Bidder's Response
1	<p>Codes and standards (C &amp; S) Experience</p> <p>(a) Bidder's experience in using ASME, ASTM, EN, ISO, RCC-MR for manufacturing,</p>	

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	material and inspection and testing of equipment. Project details to be provided. (Preferences are nuclear and space establishments).	
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### G. Bidder's assessment for manufacturing requirements:

Sr. No.	Requirements	Bidder's Response
1	Bidder's assessment of DNB and HNB-3 vessel manufacturing requirements. Bidder have to submit following documents, (i) Manufacturing plan (ii) Manufacturing Challenges/Risk with Mitigation (iii) Additional mock ups if any (iv) Plan of Helium Leak Testing	
2	Compliance report (clause wise compliance matrix) to the technical specifications Section-B and its annexures along with the identified codes and standards.	

### Note:


1. ITER-India may visit bidder's and/or sub contractor's premises if needed to ensure available facilities.
2. ITER-India may further seek more clarifications/document during Bid evaluation or at the time site visit.

### H. Scope of supply confirmed by the bidder

Bidder has to certify and confirm acceptance of technical specifications, management specifications, the entire scope of supply and scope of work by giving an undertaking as per format given in **Annexure-A5: Letter for Acceptance of Tender SECTION-A (I)**.

### I. Declarations

1. Bidder and their subcontractors have to submit a declaration for the code compliance of RCC-MR as per the technical specification. Further, declaration shall also include that, the bidder shall be

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purchasing the required RCC-MR/ISO/EN codes and standards mentioned in the technical specifications as and when required and specified in the technical specification. Declaration shall be provided on the company letter head duly signed and stamped by the competent authority.

2. Bidder has to submit a declaration that in case of non-availability of suitable overhead crane for handling the DNB Vessel and HNB3 Vessel (BLV and BSV separately), bidder shall install an overhead crane / Floor mounted crane in the shop floor by MRR. No mobile crane will be used to handle any of the equipment after completion of manufacturing.
3. Declaration above the deputing the skilled manpower for the contract:
  - a) Bidder has to submit a declaration that welding activities shall be entirely coordinated, supervised and endorsed by a qualified welding engineer through IIW (International Welding Engineer / International Welding Technologist). He shall be responsible for performing all the qualification / production welds / control of filler material, monitoring of all the welds and ensuring the compliance with RCC-MR along with the tender requirements.
  - b) Bidder has to submit a declaration that all the QC / inspection activities shall be entirely coordinated, supervised and endorsed by a qualified and experienced inspector (atleast 10 years in the field of heavy fabrication), which has to be dedicated for this contract.
  - c) Bidder has to submit a declaration that all the Quality Assurance activities shall be entirely coordinated, supervised and endorsed by personnel, trained qualified as per 'QMS ISO 9001:2015 Lead Auditor', which has to be dedicated for this contract. Bidder may opt for external agency / consultation for the above activities. In such a situation, bidder has to declare the same and the consultation shall be pre- approved by ITER-India.

#### J. Any additional information bidder wants to give in support of his bid:

To be specified here

#### K. Compliance of delivery schedule by bidder:

Bidder shall comply with delivery schedule as given in **Table-1 of Section A-(II): Terms and Conditions of Contract.**