शुद्धिपत्र CORRIGENDUM-5

दिनांकित DATED 12-11-2024

निविदा सूचना सं TENDER NOTICE NO: I-I/ET-TPT/24007/24-25
दिनांकित DATED 04-09-2024
(Tender ID: 2024_ITERI_824477_1)

काम / मद का विवरण Work / Item Description: Manufacturing, testing and supply of Duct Liners for ITER Neutral Beam Systems

बोलीदाताओं को सूचित किया जाता है कि उपर्युक्त निविदा के एनआईटी, भाग-A(I) और भाग-A(III) में निम्नलिखित संशोधन किया गया है। **संशोधन-2 दिनांकित 12.11.2024** के साथ अद्यतन बोली-पूर्व स्पष्टीकरण (सेट-2 बोली-पूर्व स्पष्टीकरण के साथ) के साथ अनुलग्नक-1 के रूप में संलग्न है और इसे CPP पोर्टल https://eprocure.gov.in/eprocure/app के साथ-साथ संस्थान की वेबसाइट https://www.iterindia.in/tenders पर भी अपलोड किया गया है।
It is notified to the bidders that the following amendment is made in NIT, Part-A(I) and Part-A(III) of the above mentioned tender. The **Amendment-2 dated 12.11.2024** along with updated Pre-bid Clarifications (with addition of Set-2 Pre-bid clarifications) is attached herewith as **Annexure-1** and also uploaded on CPP Portal **https://eprocure.gov.in/eprocure/app** as well as on Institute's website **https://www.iterindia.in/tenders**.

विवरण Description	**निविदा के अनुसार तारीख Date as per Tender**	**विस्तारित तारीख Extended Date**
निविदा जमा करने की अंतिम तारीख **Bid submission closing date**	**14.11.2024 by 5:30 p.m.**	**22.11.2024 by 5:30 p.m.**
भाग-**A** को ऑनलाइन खोलने की तारीख और समय (तकनीकी बोली) **Time and date of online opening of Part-A (Technical Bid)**	**18.11.2024 by 2:30 p.m.**	**25.11.2024 by 2:30 p.m.**

इस शुद्धिपत्र और इससे पहले जारी शुद्धिपत्रों को छोड़कर, सभी आवश्यक पात्रता मानदंड, तकनीकी विनिर्देश, नियम और शर्तें और उपरोक्त निविदा के अन्य विवरण अपरिवर्तित रहेंगे।

Except this corrigendum and corrigendums made earlier, all Technical Specifications, Terms & Conditions and other details of the above mentioned tender shall remain unchanged.

Amendment-2 dated 12.11.2024

1. Ref. Tender Part No.	2. Ref. / Clause No.	3. In Place of	4. To be read as
Part-A(III)	1.8	**Free Issue Material** No free issue material shall be provided by Purchaser. All the material required execute the scope of work and scope of supply mentioned in the contract shall be arranged by the contractor.	**Free Issue Material** 1.8.1 ITER-India will provide following materials as Free Issue Material (FIM) to the Contractor for this Contract. **Details of Free Issue Material (FIM)** Sr. No / Item Details 1 — feedthrough box (FEEDTHROUGH_BOX_HNB12_ASSY_6DM63L_v1) along with feedthrough mounted on flanges 2 — Thermocouples (THERMOCOUPLE_10_PIN_ASSY_6ACKJY_v1) (THERMOCOUPLE_12_PAD_ASSY_8TKGWM_v1), (THERMOCOUPLE_L25 to THERMOCOUPLE_L140) 3 — Cables 4 — Connectors (DL_EXT_THERMOCOUPLE_ASSY_1_5YT9V4_v1) and (DL_TC_BOX_5Y2Q4H_v1) **Total Value of FIM: Two Million Euro approximately** 1.8.2 Contractor shall collect the FIM on his own cost and risk from Purchaser against submission of Insurance Policy towards adequate security for the materials provided by the Purchaser as Free Issue Material (FIM) for the due execution of the Contract. Contractor shall also provide Indemnity Bond for FIM as per format given in **Annexure-9**. 1.8.3 Contractor shall take an Insurance Policy for the value of the FIM + 10% covering all insurable risks, including risks not expressly mentioned in this Contract. The Insurance Policy shall be valid till the actual delivery date and shall cover the following. **INSURED:** Name and address of the Contractor **BENEFICIARY:** ITER-India, IPR acting through Project Director or any other Officials authorized by ITER-India. **RISKS COVERED:** Any loss or damage to the Purchaser's material due to Fire, riot, burglary, strike, theft, civil commotion and any damages arising out of external sources such as damages due to the materials falling on Purchaser's

1. Ref. Tender Part No.	2. Ref. / Clause No.	3. In Place of	4. To be read as
			materials and to protect against weather conditions and any risks as covered under ICC(A). 1.8.4 The Contractor shall be responsible and liable for the safety of the FIM all through the period during which the materials will remain in his possession. The Contractor shall take all necessary precautions against any loss, deterioration or destruction of the FIM from whatever cause arising whilst the said material remains in his possession and/or his custody or control, the Contractor shall also not mix-up the material in question with any of his goods and shall render true and proper accounts of the material actually used. The Contractor shall not use the FIM for other than Purchaser's job and utmost care should be taken to minimize the wastage or loss. Contractor will be held responsible for spoilage and damage during the process. The Contractor shall be liable for loss/damage to any of the FIM whilst in his possession/custody, if the Purchaser confirms the loss/damage attribution due to the Contractor. The decision as to whether the Contractor has occasioned any loss, deterioration or destruction of the FIM whilst in his possession, custody or control from whatever cause arising, as also the decision regarding quantum of the damages suffered by the Purchaser shall be final and binding upon the Contractor. All FIM will be received by the Purchaser along with the Items in an integrated/ loose form with the Items. 1.8.5 The Purchaser at all times has the right to enter the Contractor's premises where the free issue materials are stored or where the free issue materials under manufacture. The Supplier shall return safely the FIM duly integrated with the ordered items (at his own cost) to the Purchaser at delivery address as mentioned in clause no. **1.14** of Part-A(III).

Annexure – 9 - INDEMNITY BOND FOR FIM

(On non-judicial stamp paper of appropriate value)

WHEREAS ..... the party of one part (party receiving Free Issue Material), hereinafter called the (.....) has entered into a Contract with the party of other part, i.e. the ITER-India (Institute for Plasma Research), Block – A, Sangath Skyz, Bhat-Motera Road, Koteshwar, Ahmedabad - 380005, hereinafter called the "ITER-India"(I-I)/Purchaser, vide Contract No. …… dated DD/MM/YYYY for …….. (item description as stated in contract/PO) at a total consideration of Rs. ……. (Rupees…….. (in words).

AND WHEREAS as per the terms of the said Contract the (…….) is to ensure safety and security of the …….. (name of material), which is issued to the …….. as Free Issue Material, hereinafter called FIM, valuing Rs. ..... (Rupees …… in words) for carrying out the job as per the Contract. The (……) shall furnish I-I/Purchaser a copy of insurance policy as a proof of it having insured along with this Indemnity Bond for an amount of Rs. ……..(Rupees …… …… (in words). The Contractor shall indemnify the Purchaser and keep the Purchaser indemnified to the extent of full value of FIM for such time the entire Contract is executed and proper account for the FIM is rendered by the Contractor to the Purchaser.

NOW the (……..) hereby agrees unequivocally and unconditionally to pay, within 48 hours on demand, in writing from I-I/Purchaser or any officer authorized by it in this behalf and without demur, any amount upto and not exceeding Rs.…… Rupees…….(in words) till the completion and handing over the job to the satisfaction of I-I/Purchaser as per the terms and conditions mentioned in the Contract.

NOTWITHSTANDING anything contained hereinabove,

(i) The liability of the (……..) is restricted to Rs……(Rupees …… …….. (in words)

(ii) (ii) This Indemnity Bond shall be valid upto DD/MM/YYYY (till the completion of the Contract).

(iii) The liability of the (……) to make payment shall arise and the (……) shall be liable to indemnify the amount or any part thereof under this Indemnity Bond, only if I-I/Purchaser serves upon the (……..) a written claim or demand in terms of the Indemnity Bond on or before DD/MM/YYYY.

IN WITNESS WHEREOF, we, the (…….) has executed this Indemnity Bond on this _____ day _____ 20XX.

Signature of the Contractor :

Name and Designation :

Seal

Address :

Witness :

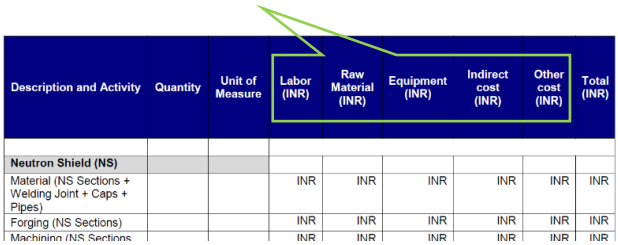
(i) Name and address :

Signature :

(ii) Name and address :

Signature :

Annexure-1 Pre-bid Clarifications

<table>
<tr><th>No.</th><th>Reference</th><th>Clarification</th></tr>
<tr><td colspan="3">Pre-bid clarifications Set-1 date of issue 01.11.2024</td></tr>
<tr><td>1</td><td>Part_B1_Price_break_up_ET24007</td><td>These are total price for the given qty and not ‘Unit rate’.
 
<table>
<tr><th>Description and Activity</th><th>Quantity</th><th>Unit of Measure</th><th>Labor (INR)</th><th>Raw Material (INR)</th><th>Equipment (INR)</th><th>Indirect cost (INR)</th><th>Other cost (INR)</th><th>Total (INR)</th></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Neutron Shield (NS)</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Material (NS Sections + Welding Joint + Caps + Pipes)</td><td></td><td></td><td>INR</td><td>INR</td><td>INR</td><td>INR</td><td>INR</td><td>INR</td></tr>
<tr><td>Forging (NS Sections)</td><td></td><td></td><td>INR</td><td>INR</td><td>INR</td><td>INR</td><td>INR</td><td>INR</td></tr>
<tr><td>Machining (NS Sections</td><td></td><td></td><td>INR</td><td>INR</td><td>INR</td><td>INR</td><td>INR</td><td>INR</td></tr>
</table></td></tr>
<tr><td>2</td><td>Clarification on the Material of DLM Panels:</td><td>HNB1:

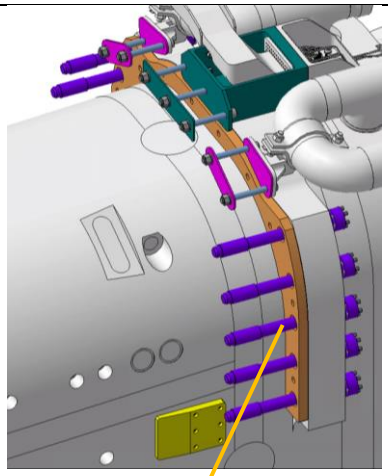
Panels made from CuCrZr:

<table>
<tr><td>HNB1-T1</td><td>HNB1-B1</td><td>HNB1-R2A</td></tr>
<tr><td>HNB1-T2</td><td>HNB1-B2</td><td>HNB1-R2B</td></tr>
<tr><td>HNB1-T3</td><td>HNB1-B3</td><td>HNB1-R3A</td></tr>
<tr><td>HNB1-T4</td><td>HNB1-B4</td><td>HNB1-R3B</td></tr>
</table>
Panels made from SS 316LN + 0.6mm Cu coating:

<table>
<tr><td>HNB1-L1A</td><td>HNB1-L5A</td></tr>
<tr><td>HNB1-L1B</td><td>HNB1-L5B</td></tr>
<tr><td>HNB1-L1C</td><td></td></tr>
<tr><td>HNB1-L1D</td><td></td></tr>
</table>
Panels made from SS 316LN: Remaining all

HNB2/3:

<table>
<tr><td>HNB2-T1</td><td>HNB2-B1</td><td>HNB2-R2A</td><td>HNB2-L1C</td></tr>
<tr><td>HNB2-T2</td><td>HNB2-B2</td><td>HNB2-R2B</td><td></td></tr>
<tr><td>HNB2-T3</td><td>HNB2-B3</td><td>HNB2-R3A</td><td></td></tr>
<tr><td>HNB2-T4</td><td>HNB2-B4</td><td>HNB2-R3B</td><td></td></tr>
</table></td></tr>
</table>

No.	Reference	Clarification
		Panels made from SS 316LN + 0.6mm Cu coating: NIL Panels made from SS 316LN: Remaining all
3	Page 38 of 247 of Tech Spec. Footnote of Table 2:	The DL I&C procurement (The feedthrough box and I&C components (thermocouples, connectors, cables) are not included in the scope, although the assembly of the I&C is, as outlined in Table 2. They will be shipped to the DL manufacturer for integration into the DL. the procurement of the DN100 Trunking pipe is within the scope of the procurement.
4	Table-4: For Site Acceptance Test	Scope 'S=provide technical support' is limited to Participation only.
5	CAPTIVE_BOLT_M36_49R WZH_v1	 These are HYTORC Smart-Bolt, mainly made of X6NiCrTiMoVB25-15-2 (A286). Drawing: CT07X-M03604-A28 6AS-292MMOL-DIM.
6	Part_A_I_TQC_Instructions _ET24007	**For the requirement related to:**

No.	Reference	Clarification
	Table 1(a) Technical Qualification Criteria for the bidders 2.2 Manufacturing Readiness and Control Points	*Preparation and submission of Manufacturing Readiness Review (including but not limited to MIP, Manufacturing procedure, cleaning procedure, manufacturing drawings and design models, and qualification programs) for approval before commencing production.* **It is clarified to bidders that:** Criteria 2.2's objective is to provide either templates intended for use in this project or examples from similar past projects completed by the manufacturer.
7	7.6.10 Page 63 of 247 of Tech Spec.	Thermal cycling temperature (maximum possible operating temperature) for CuCrZr is upto 325 C and for SS Panel is upto 370 C. Panel wise temperature varies and it depends on the heat flux during the operation. The input related to panel wise temp shall be provided during execution.
8	49.1 Page 230 of 247 of Tech Spec.	**Pl. note following clarifications:** 1. Each DLM at sub-component level- leak tested at min. and max. design temp. (i.e operating temp) 2. Neutron shield assembly- leak test at ambient temperature 3. Assembly of NS and DL- to be baked and then leak tested at ambient temperature. 4. He pressure inside the component during Hot Helium Leak test shall be 40bars.
9	[Annexure REQ 348] The chemical composition shall be within the limits specified in Table 1 (Content in wt. %).	To be read as Table 29.

No.	Reference	Clarification
10	Page 236 of 247 of Tech Spec. [Annexure REQ 927] The Supplier shall define and submit for F4E approval the acceptance criteria for this requirement during contract implementation.	To be read as 'IO'.
11	Positional tolerance of DLM panels	±2mm in the theoretical position of the DLM will be applied.
12	5.1.2 (ITER_D_9GGSM4 - DL Manufacturing report	The manufacturing report, chapter 5.1.2 (ITER_D_9GGSM4 - DL Manufacturing report), proposes machining the NS after welding assembly; however, the manufacturer can assess whether it is necessary, depending on the welding process used. If the overall profile of the Neutron shield is achieved in 'as welded' condition, there is no mandatory requirement of post-assembly machining. (The welding locations would be grounded for smooth transition to the surfaces according to the convexity requirements specified in the code)
13	Page 225 of 247 of Tech Spec. [Annexure REQ 858] Pressure Test shall be done with Deionized Water.	**Clarification:** A pneumatic test is acceptable, provided that all necessary safety precautions are taken.
14	7.6.11 Page 64 of 247 of Tech Spec. [REQ-164] mentions Vacuum Plasma Spray as	**Clarification:** Air Plasma Spray can be used as an alternative process if it complies with the requirements.

No.	Reference	Clarification
	one of the identified process.	
15	7.6.11 Page 64 of 247 of Tech Spec.	Surface finish requirement for coating shall be same as the base material (i.e 6.3 microns Ra, as per IVH).
Pre-bid clarifications Set-2 date of issue 12.11.2024		
1	1. feedthrough box (FEEDTHROUGH_BOX_HNB12_ASSY_6DM63L_v1) along with feedthrough mounted on flanges 2. Thermocouples (THERMOCOUPLE_10_PIN_ASSY_6ACKJY_v1) (THERMOCOUPLE_12_PAD_ASSY_8TKGWM_v1), (THERMOCOUPLE_L25 to THERMOCOUPLE_L140) 3. Cables 4. Connectors (DL_EXT_THERMOCOUPLE_ASSY_1_5YT9V4_v1) and (DL_TC_BOX_5Y2Q4H_v1)	**All the I&C equipment listed here shall be provided to the contractor as 'Free issue'.** However, their integration (including fixing the TC to the DL with silver cement) with the main component shall be part of Vendor's scope.

<table>
<tr><th>No.</th><th>Reference</th><th>Clarification</th></tr>
<tr><td>2</td><td>Material specification and Drawing for the ‘Smart Bolt’</td><td>Drawing shall be as attached at the end of this document.

This material shall be as per EN 10269 “Steels and nickel alloys for fasteners with specified elevated and/or low temperature properties”. The material grade is X6NiCrTiMoVB25-15-2 and Number 1.4980. The heat treatment is given in abovementioned standards.

Chemical Compisition shall be as follows:
<table>
<tr><th>Elements</th><th colspan="2">Content in wt.%</th></tr>
<tr><td></td><td>min</td><td>max</td></tr>
<tr><td>Fe</td><td>balance</td><td>balance</td></tr>
<tr><td>C</td><td></td><td>0.080</td></tr>
<tr><td>Mn</td><td></td><td>2.00</td></tr>
<tr><td>Si</td><td></td><td>1.00</td></tr>
<tr><td>P</td><td></td><td>0.040</td></tr>
<tr><td>S</td><td></td><td>0.030</td></tr>
<tr><td>Cr</td><td>13.50</td><td>16.00</td></tr>
<tr><td>Ni</td><td>24.00</td><td>27.00</td></tr>
<tr><td>Mo</td><td>1.00</td><td>1.50</td></tr>
<tr><td>Ti</td><td>1.90</td><td>2.35</td></tr>
<tr><td>Al</td><td></td><td>0.35</td></tr>
<tr><td>V</td><td>0.10</td><td>0.50</td></tr>
<tr><td>B</td><td>0.0010</td><td>0.010</td></tr>
<tr><td colspan="3">Additional ITER specific requirements:</td></tr>
<tr><td>Co</td><td></td><td>0.05</td></tr>
<tr><td>Nb</td><td></td><td>0.01</td></tr>
<tr><td>Ta</td><td></td><td>0.01</td></tr>
</table>
</td></tr>
<tr><td>3</td><td>Temperature for thermal cycling of the DLM panels</td><td>The Max. and Min. temp for each panel varies and the same shall be provided during the contract execution.

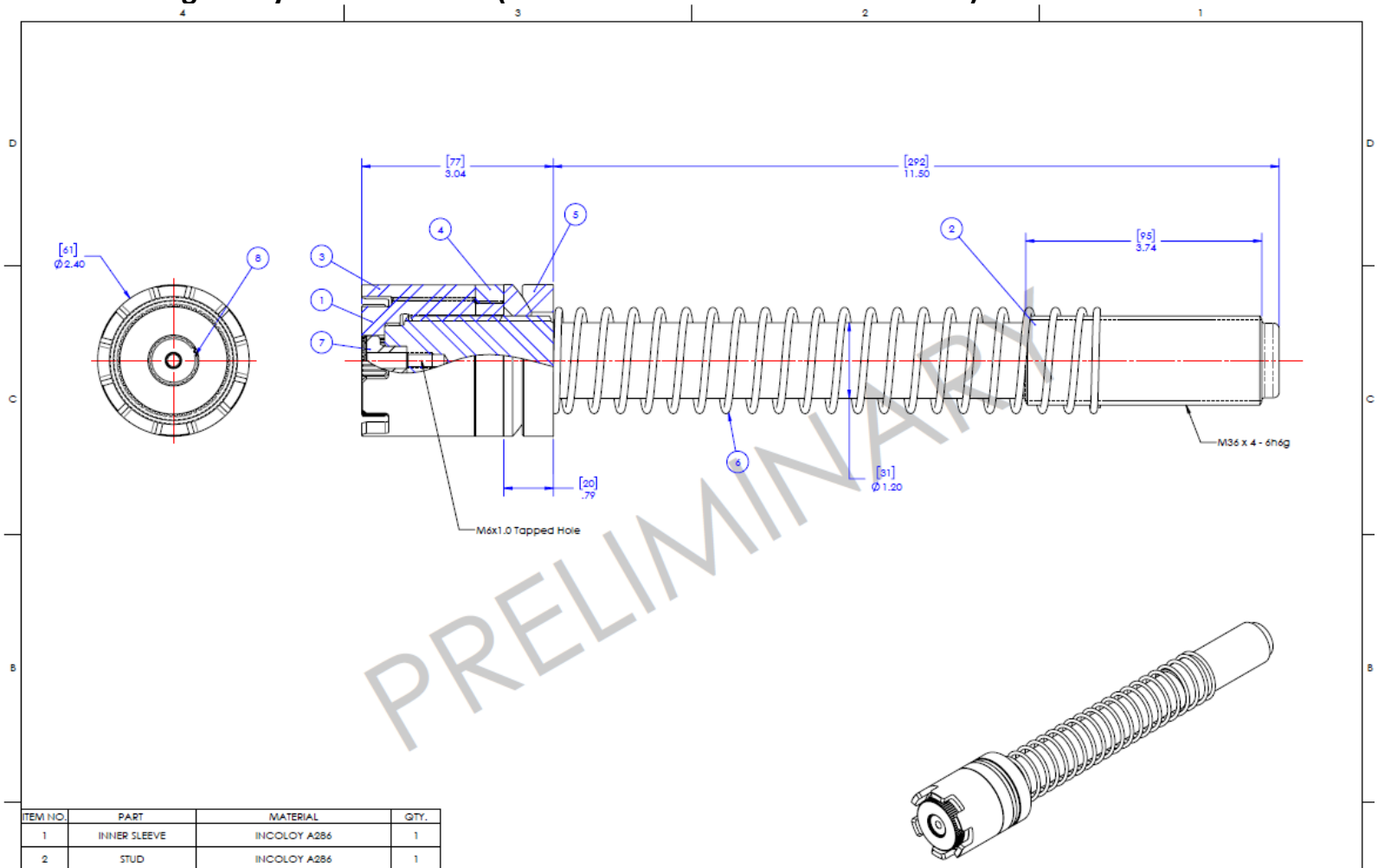
However, to understand the range of temp. pl. note following:

• CuCrZr panels: Max. temp. is upto 325 Deg C
• SS Panels: Max. temp is 370 C (As such they do not require ther thermal cycling (see Sr No. 4)</td></tr>
<tr><td>4</td><td>7.6.10

Page 63 of 247 of Tech Spec.</td><td>• DLM panel made from CuCrZr requires Thermal cycling (after welding of CWC), because they involve the dissimilar material welding.
• DLM panel made from SS do not require Thermal cycling because they do not have dissimilar material welding.</td></tr>
</table>

No.	Reference	Clarification
5	Clarification on Baking and Leak Testing	1. Each DLM must be leak tested at **both the minimum and maximum design temperatures** (Temperatures are as mentioned in Sr. No. 3 above) 2. The NS assembly requires only **a leak test at ambient temperature** due to its overall dimensions. 3. After the DLMs are fixed to the NS, the system shall undergo a baking process, followed by **a leak test at ambient temperature.** The helium pressure inside the component during the Hot Helium Leak test shall be 40 bars.
6	7.6.11 Copper layer Page 64 of 247 of Tech Spec.	Vacuum Brazing (to join SS and Cu) is allowed, provided it meets the specification requirements.
7	Table 2: List of Hardware items 5. Spares to be delivered to the IO site: Page 37 of 247 Page 38 of 247	Spares for thermocouple is **not in the scope of supply**
8	Clause No. 1 of Part-A(I) Page No. 7 Concern regarding bid evaluation methodology considering a scenario in which two bidders get same score	The scenario of same score is most unlikely, however, in case this would happen, IO would open a negotiated procedure with the 2 “winning” entities to create a difference in the overall score, working on the financial side mainly

Drawing for Hytorc Smart bolt (with ref to Sr. No. 2 of above table)



ITEM NO.	PART	MATERIAL	QTY.
1	INNER SLEEVE	INCOLOY A286	1
2	STUD	INCOLOY A286	1
3	OUTER SLEEVE	INCOLOY A286	1
4	WASHER	INCOLOY A286	1
5	SPHERICAL WASHER	INCOLOY A286	1
6	COMPRESSION SPRING	316 STAINLESS STEEL	1
7	LOCKING ADAPTER	316 STAINLESS STEEL	1
8	RETAINING RING	316 STAINLESS STEEL	1

HYTORC
HYTORC CT & LS ASSEMBLY
M36 X 4, SPECIAL CT NUT WITH LOCKED STUD, INCOLOY A286
REF. 2303013
PROPRIETARY AND CONFIDENTIAL
THIS DRAWING IS THE PROPERTY OF THE UNEX CORPORATION AND THE INFORMATION THEREON IS TO BE TREATED AS CONFIDENTIAL. IT IS NOT TO BE USED, COPIED OR DISCLOSED TO OUTSIDE PARTIES WITHOUT OUR WRITTEN CONSENT.
SIZE C | DRAWN: SL | CHECKED: - | DATE: 4/4/2024 | DATE: -
P/N CT07X-M03604-A286AS-292MMOL
DWG. NO. CT07X-M03604-A286AS-292MMOL-DIM
REV. A