

## Clarifications Log

Title	Manufacturing of diagnostic generic Port Plug structures (Upper and Equatorial)
Reference	IO/MS/23/AJI
Issuance Date	01/02/24
Log no	4

Clarif No	Log No	Clarification Request	Clarification Answer
1	1	<p><b>EWB</b> Should we do the EWB welding or can you do it yourself? If it has to be made by us, can you highlight what elements it should be made of? highlight the elements in the attached Drawing. Do I also need to weld the EWB hole plugs?</p>	<p>IO does not require but rather recommends using EBW type welding procedures in those joints that may be susceptible to large deformations during the process, which cannot be easily corrected later by other processes, such as for example the machining of the parts if they are designed with sufficient extra thickness.</p> <p>The welding of closing plugs of the cooling circuit can be carried out with automatic, robotic or manual welding processes based on GTAW (TIG) technology.</p> <p>GTAW (TIG) technology is also recommended for welding cooling pipes.</p> <p>For the rest of the weld cases, where PPs have mainly longitudinal welds, main tunnel welds or the joint of the tunnel</p>

Clarif No	Log No	Clarification Request	Clarification Answer
			<p>with the flange, the EBW welding process can be recommended because this process potentially generates a low level of distortions. The correct justification of the use of other low distortion welding processes for the case would be advisable if selected. All welding processes, their selection, qualification, execution, inspection, quality control and incorporation within the global manufacturing plan must be studied, justified and carried out by the candidate/manufacturer and are not scope IO, therefore IO will not carry out the EBW.</p>
2	1	<p><b>RAW MATERIAL</b> Will you provide us with the material to make the doors or should we provide it?</p>	<p>As indicated in the Market Survey questionnaire, candidates are required to send their non-binding cost estimate according to Technical Description for both cases, including the component material and a second version without the material.</p>
3	1	<p>If we can supply them, can you confirm it should be AISI 316L grade or do you need AISI 316L ITER GRADE?</p>	<p>For the exercise of the market survey, it is indicated in the documentation and proposed drawings that the listed items must be supplied in grade X2CrNiMo 17-12-2 ITER GRADE. At this stage only pipes</p>

Clarif No	Log No	Clarification Request	Clarification Answer
			are not mandatory in IG.
4	1	<p><b>MECHANICAL TREATMENT ON INTERNAL SURFACE</b> Should internal mechanical processes be carried out before or after welding?</p>	<p>The supplier is responsible for analysing the drawings and defining the most appropriate welding and machining sequence to achieve the required dimensional tolerances (and rest of requirements). IO does not obligate any specific strategy for the internal surfaces, but in any case, the complete manufacturing process to achieve the requested tolerances must be sufficiently justified with technical reports, prior to manufacturing activities.</p>
5	2	<p>Clause no 2.2 of Questionnaire: We do not possess ASME Stamp N or NPT for ASME Sec III. But, we have executed many projects for nuclear industry with ASME Sec III. We also do not have any previous experience in RCC-MR 2007, but we have handled fast breeder reactor equipment and followed similar code; but not RCC MR. Please clarify whether these are mandatory requirements, or you may relax this clause.</p>	<p>Experience in RCC-MR 2007 is not mandatory, it is only recommended taking into account the need to effectively apply various sections of it without errors during the manufacturing process. In any case, if manufacturing experience is provided under a code of similar complexity and level of requirements (for example, ASME Sec III Div 1) and with similar scopes/structures, it will be</p>

Clarif No	Log No	Clarification Request	Clarification Answer
			considered sufficient.
6	2	Clause no 4 is asking about break up of cost estimation. As we understand this RFI is for market survey. Can we write in clause no 4 that we will provide the cost details at RFQ stage? Please clarify	The main purpose of this Market Survey is to evaluate the market situation and to identify candidate suppliers having the potential capabilities to respond to the IO solicitation process that will follow. But it is also to get from potential suppliers a non-binding cost estimation for the supply in subject. It is requested to submit a cost estimation even if only for information.
7	2	Can you please share with us the 3D model of EQ port plug structure and Upper port plug structure?	In the current stage of a market survey, IO staff understand that the provided drawings collect sufficient information for the candidates.
8	2	Can you please share with us the delivery period of the equipment?	The contract will include some units whose supply must be urgent. However, there is a prior phase corresponding to the qualification of all manufacturing, inspection and testing procedures, which must be passed before starting manufacturing and which, depending on the candidate's

Clarif No	Log No	Clarification Request	Clarification Answer
			<p>capacity, may be more or less long. It is the candidate's obligation to evaluate these circumstances and consider their best disposition for the project, however at this stage the candidate will not be required to report this information or detailed working schedule.</p> <p>There is a prior phase corresponding to the qualification of all manufacturing, inspection and testing procedures, which must be passed before starting manufacturing. IO can expect 6-8 months for this qualification phase. After this, it is supposed that 2 EPP units and 2.5 UPP units can be supplied every year until the end of the contract.</p>
9	3	<p>Reviewing the document, we have a query about gun drilling operation on a plate. As it is very difficult to make the long hole on a plate as we need to rotate the plate for this operation. Therefore, we would like to propose a weld joint as described in the attached sketch.</p> <p>Please inform us whether this proposal is acceptable. Else, please suggest the source for this Gun Drilling operation.</p>	<p>The manufacturing of the cooling channels in port plug structure plates clearly shows an interconnected network of channels made by gun drilling. Although the proposed solution could be accepted for a specific hole, it does not seem compatible with executing the complete circuit. This solution and its compatibility with the rest of the cooling circuit</p>

Clarif No	Log No	Clarification Request	Clarification Answer
			<p>network must be justified and compatible with the intersections of the other crossed and angled holes in EPP and UPP. Candidates' gun drilling techniques and strategies must be supported by suitable mock-ups that reproduce the more complex manufacturing conditions in the contract MRR phase.</p>
10	4	<p>The following documents are required to prepare the RFI.</p> <ol style="list-style-type: none"> <li>1. applicable document No.4 listed on page 5 of Annex I TS_PP manufacturing to prepare market survey due 22 January.</li> <li>2. Design drawing of applicable document No.5, 6 not PDF.</li> </ol>	<p>Doc N0.4 is attached with this clarification log.</p> <p>Regarding docs 5 and 6, a series of explanatory Drawings of the structures of the EQ and Upper Ports plugs structures have been included in the documentation of this market survey (in PDF format).</p> <p>We understand these are sufficient as the exercise of the market study.</p> <p>Candidates could refer to them for their studies and submission.</p>

Clarif No	Log No	Clarification Request	Clarification Answer																												
		<p><b>4.1 Applicable Documents</b></p> <p>This section includes a brief list of main documents that need to be considered and applied for manufacturing and supply of the port plug structures.</p> <table border="1" data-bbox="289 495 1528 876"> <thead> <tr> <th>No</th> <th>Title</th> <th>IDM ID</th> <th>Rev</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Codes and Standards for ITER Mechanical Components</td> <td><a href="#">25EW4K</a></td> <td>4.0</td> </tr> <tr> <td>2</td> <td>ITER Vacuum Handbook</td> <td><a href="#">2EZ9UM</a></td> <td>2.5</td> </tr> <tr> <td>3</td> <td>ITER Dimensional Metrology Handbook</td> <td><a href="#">46FN9B</a></td> <td>2.1</td> </tr> <tr> <td>4</td> <td>Order related 7 February 2012 relating to the general technical regulations applicable to BNI-EN<sub>1</sub></td> <td><a href="#">7M2YKE</a></td> <td>1.0</td> </tr> <tr> <td>5</td> <td>EQ port plug structure component Drawings</td> <td><a href="#">VYS5WKP</a></td> <td>1.0</td> </tr> <tr> <td>6</td> <td>UPPER port plug structure component Drawings</td> <td><a href="#">W5FAL6</a></td> <td>1.0</td> </tr> </tbody> </table>	No	Title	IDM ID	Rev	1	Codes and Standards for ITER Mechanical Components	<a href="#">25EW4K</a>	4.0	2	ITER Vacuum Handbook	<a href="#">2EZ9UM</a>	2.5	3	ITER Dimensional Metrology Handbook	<a href="#">46FN9B</a>	2.1	4	Order related 7 February 2012 relating to the general technical regulations applicable to BNI-EN <sub>1</sub>	<a href="#">7M2YKE</a>	1.0	5	EQ port plug structure component Drawings	<a href="#">VYS5WKP</a>	1.0	6	UPPER port plug structure component Drawings	<a href="#">W5FAL6</a>	1.0	
No	Title	IDM ID	Rev																												
1	Codes and Standards for ITER Mechanical Components	<a href="#">25EW4K</a>	4.0																												
2	ITER Vacuum Handbook	<a href="#">2EZ9UM</a>	2.5																												
3	ITER Dimensional Metrology Handbook	<a href="#">46FN9B</a>	2.1																												
4	Order related 7 February 2012 relating to the general technical regulations applicable to BNI-EN <sub>1</sub>	<a href="#">7M2YKE</a>	1.0																												
5	EQ port plug structure component Drawings	<a href="#">VYS5WKP</a>	1.0																												
6	UPPER port plug structure component Drawings	<a href="#">W5FAL6</a>	1.0																												
		<p><b>Table 2: Applicable Documents</b></p> <p>1. SS316L(N)-IG2 : Material Specification for the supply of XCrNiMo17-12-2 Iter Grade</p>																													