

IDM UID 8MVB9W
VERSION CREATED ON / VERSION / STATUS 12 Jul 2023 / 2.1 / Approved
EXTERNAL REFERENCE / VERSION

Report

Technical Specification for Simplified SSAT #1 POBSA and SOAP

Technical Specification for Simplified SSAT #1 POBSA and SOAP

Approval Process			
	Name	Action	Affiliation
Author	Watson E.	12 Jul 2023:signed	IO/DG/MCD/MAI
Co-Authors			
Reviewers	Koczorowski S.	12 Jul 2023:recommended (Short Cycle)	IO/DG/MCD/SMDA
Previous Versions Reviews	Brown A.	30 Jun 2023:reviewed v2.0	IO/DG/FPD/PCD/CAL
	Gomikawa K.	03 Jul 2023:recommended v2.0	IO/DG/MCD/SMDA/TFC
	Qin Z. *	03 Jul 2023:recommended v2.0	IO/DG/SQD/QMD
	Macklin B.	04 Jul 2023:reviewed v2.0	IO/DG/MCD
	Okugawa R.	05 Jul 2023:recommended v2.0	IO/DG/MCD/MAI
	Perrin J.- L.	30 Jun 2023:recommended v2.0	IO/DG/CIO/PFI/DIS
	Regad M.	06 Jul 2023:recommended v2.0	IO/DG/SQD/SHS/OHS
Approver	Yang H. Y.	17 Jul 2023:approved	IO/DG/MCD/MAI
Document Security: Non-public - Unclassified RO: Watson Emma			
Read Access	AD: ITER, AD: IO_Director-General, AD: External Management Advisory Board, AD: IDM_Controller, AD: Auditors, AD: ITER Management Assessor, project administrator, RO		

<i>Change Log</i>			
Technical Specification for Simplified SSAT #1 POBSA and SOAP (8MVB9W)			
<i>Version</i>	<i>Latest Status</i>	<i>Issue Date</i>	<i>Description of Change</i>
v0.0	In Work	26 May 2023	
v1.0	Revision Required	26 May 2023	First upload
v2.0	Revision Required	30 Jun 2023	Comments from reviewers considered as per the attachment to the IDM placeholder. Action items from the Technical Review implemented.
v2.1	Approved	12 Jul 2023	Schedule removed - milestones added.

Table of Contents

1	Introduction	2
2	Definitions	2
3	Scope	3
3.1	INCLUDED IN THE SCOPE OF SUPPLY	6
3.2	OUT OF SCOPE	6
3.3	DELIVERABLES	7
3.4	EXCEPTIONS AND DEVIATIONS	8
4	Requirements.....	8
4.1	GENERAL REQUIREMENTS	8
4.2	IMPLEMENTATION OF CHANGES & STUDIES	9
4.3	QUALITY REQUIREMENTS	16
4.4	INTERFACE REQUIREMENTS.....	16
4.5	SOAP MOVEMENT MECHANISM	16
4.6	TECHNICAL REVIEW	17
4.7	MANUFACTURING READINESS REVIEW.....	17
4.8	MANUFACTURING PHASE: MATERIAL CHOICE AND SURFACE FINISHING.....	17
4.9	SITE INSTALLATION AND SITE ACCEPTANCE TESTS (SAT) PHASE.....	18
4.10	ORDER OF PRECEDENCE.....	18
4.11	CE MARKING.....	18
4.12	FACTORY ACCEPTANCE TEST REQUIREMENTS.....	18
4.13	DELIVERY REQUIREMENTS	19
4.14	MAINTENANCE.....	19
4.15	RELIABILITY, AVAILABILITY, MAINTAINABILITY & INSPECTABILITY (RAMI).....	19
4.16	QUALITY CLASS.....	19
4.17	SCHEDULE REQUIREMENTS	20
4.18	CONTROL POINTS.....	20
5	References	20

1 Introduction

This document is the Technical Specification for the manufacturing, testing, delivery and onsite assembly of the POBSA and SOAP access Platforms for the SSAT #1.

The SSAT #1, is located in the assembly building (13), alongside the SSAT #2. They are provided with permanent ladders and platforms to access the main operating systems of the tool.

SSAT #2 has been complemented with a set of POBSA and SOAP that gives access to, provides support for tooling and allows the sub-assembly process of the sectors. An additional set is now required for the SSAT #1.

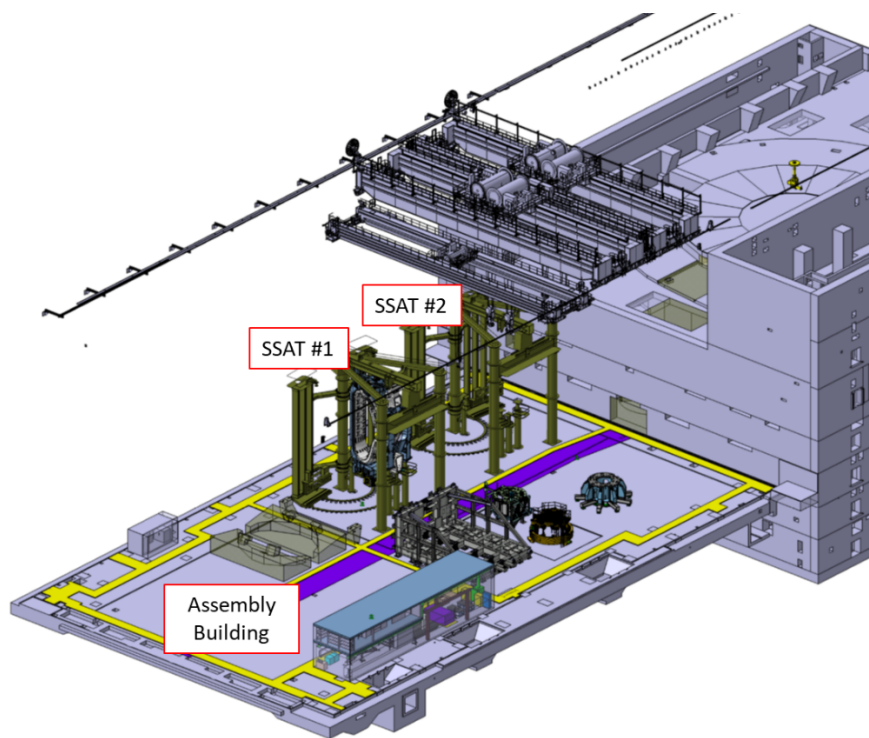


Figure 1: General view of the SSATs in Assembly building (13)

2 Definitions

Abbreviation	Definition
POBSA	Platform for Outboard Sector Access
SOAP	Sliding Outboard Access Platform
C of G	Centre of Gravity
CAD	Computer Aided Design
CMA	Construction Management Agent
EQ	Equatorial
FFL	Finished Floor Level
HSPC	Health and Safety Protection Coordinator
IB	Inboard
IO	ITER Organization
IOIS	Intermediate Outer Intercoil Structure
IV	In-Vessel
LH	Left Hand
OB	Outboard

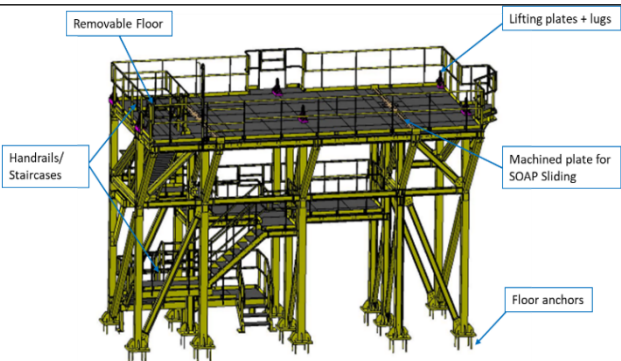
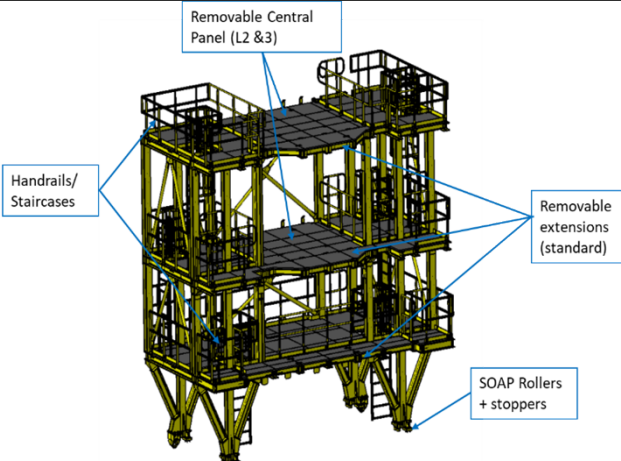
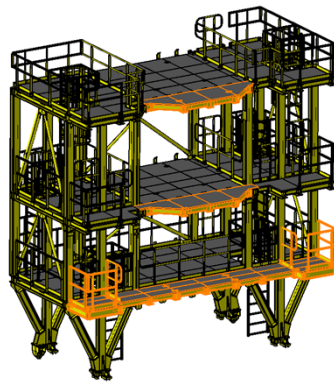
PPSPS	Plan Particulier de sécurité et de protection de la santé
RFE	Request For Engineering
RH	Right Hand
SSA	Sector Sub-Assembly
SSAT	Sector Sub-Assembly Tool
TF	Toroidal Field
TFC	Toroidal Field Coil
VV	Vacuum Vessel
VVTS	Vacuum Vessel Thermal Shield
WAR	Work Authorization Request

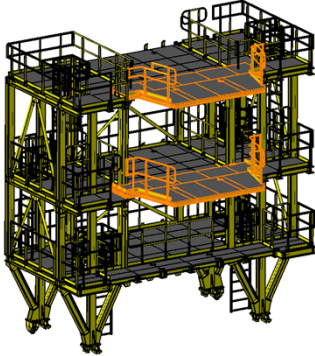
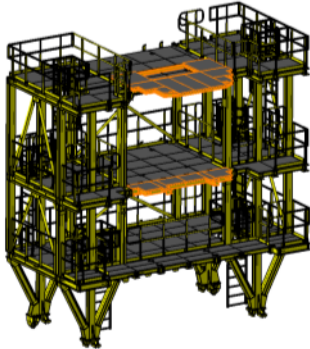
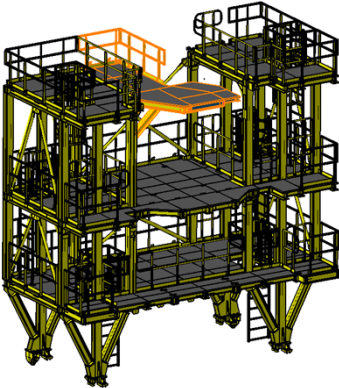
For a complete list of ITER abbreviations see: ITER_D_2MU6W5 - ITER Abbreviations

3 Scope

The overall supply cycle of the SSAT #1 POBSA/SOAP shall be;

- Implementation of Changes to the SSAT #2 POBSA/SOAP design and additional design work as defined herein to create a simplified design for the SSAT#1 POBSA/SOAP;
- Manufacturing Design of the SSAT #1 POBSA/SOAP;
- Manufacture of the simplified SSAT#1 POBSA/SOAP;
- FAT at suppliers premises;
- Packing;
- Delivery and Unloading at the IO site;
- Onsite Assembly of the SSAT#1 POBSA/SOAP

Platform	Qty	
SSAT #1 POBSA (Platform of OutBoard Sector Access) <ul style="list-style-type: none"> • Structure (~23 tonnes) • Dimensions (H = ~6.2m, L = ~10m, D = ~5.2m) • Linked to SOAP • Stainless Steel Gratings • Machined plate for SOAP Sliding • Anchor bolts via chemical anchors to B13 floor • Handrails • Removable floor for VVTS port shroud installation • Stair case 	1 set	
SSAT #1 SOAP (Sliding OutBoard Access Platform) <ul style="list-style-type: none"> • Structure (~26 tonnes) • Dimensions (H = ~7.8m, L = ~8.4m, D = variable) • Linked to POBSA • Stainless Steel Grating, plate around interfaces • Handrails • Rollers + stoppers for manual movement on POBSA • Removable extensions (as below) • Ladders 	1 set	
SOAP Standard Extensions level 1, 2 & 3 <ul style="list-style-type: none"> • Level 1 #4H46L3 • Level 2 #8UFMQQ • Level 3 #8WDN4V 	1 x LV1 1 x LV2 1 x LV3	
VVTS Light Extensions for Level 2 and 3 only. <ul style="list-style-type: none"> • Level 2 #4H46Q5 • Level 3 #3UDP6V 	1 x LV2 1 x LV3	

		
<p>IOIS plate Insertion Tool Extensions for Level 2 and 3 only</p> <ul style="list-style-type: none"> • Level 2 #5WT3D7 • Level 3 #8WDW7E • Level 3 (removable area) #8WDW9D 	<p>1 x LV2 1 x LV3</p>	
<p>IOIS Pins installation Tool Extension for Level 3 RH only</p> <ul style="list-style-type: none"> • Level 3 RH #8WANZB 	<p>2 x LV3 RH</p>	

A complete design and manufacture and assembly has already been completed for the SSAT #2 POBSA/SOAP structure. The main design documents and models are referenced below;

Document	IDM reference
Load Specification for design	[12]
Structural Design Report	[13]
User Manual	[16]
Risk Analysis	[17]
Bill of Materials	[22] & [23]
Assembly Drawings	[32] & [34]
Erection Drawings	[33] & [35]
3D model	[30]

3.1 Included in the scope of supply

The contractor is responsible to perform the manufacturing design and to supply all equipment after proper tests with corresponding documentation necessary to meet this technical specification. This comprises but is not limited to;

1. Implementation of changes and completion of design work as described in 4;
2. Deliverables as per 3.3
3. Structural analysis update & report
4. Update of 3D model where necessary
5. Update drawings
6. Design Review of major design changes (SOAP movement mechanism, lifting arrangements and grating fixation method)
7. Manufacturing Readiness Review
8. Bi-weekly progress meetings
9. Manufacturing of steel parts for the POBSA/SOAP structure + extensions
10. Procurement of Gratings, SOAP rollers, SOAP Rails, Handrails, anchor bolts + chemical mortars
11. Pre-assembly in factory as far as possible of the POBSA/SOAP structure + extensions
12. Visual inspections
13. Labelling of all parts and supply of delivery documentation
14. Supply of all documentation in line with CE marking and QA processes
15. CE marking
16. Packing and transportation to IO site of the POBSA/SOAP structure + extensions
17. Assembly Procedure
18. Site Acceptance Test
19. Onsite preparation & equipment (documentation and attendance of daily meetings)
20. On-site Assembly of SSAT #1 POBSA/SOAP + tooling required for assembly

3.2 Out of scope

The Contractor is not responsible for the following;

1. Electrical systems included in the design of the SSAT #2 POBSA/SOAP including electrical fixtures and cable trays
2. Lifting equipment (Jib crane, monorails) included in the design of the SSAT #2 POBSA/SOAP
3. Motorized SOAP movement, included in the design of the SSAT #2 POBSA/SOAP
4. Crane operation at the IO Site and lifting plans

3.3 Deliverables

The documents to be delivered shall be uploaded to IDM or SMDD or drawings.

The 3D model shall be transferred via the IO procedures found in [10] and can be uploaded to or CATIA v5 or in .step file format.

	Document	Update or not?	Design Phase
1.	SSAT #1 POBSA/SOAP Analysis Report for IOIS plate installation tool	New document	Design phase
2.	SSAT #1 POBSA/SOAP User Manual	Update [16]	Before delivery
3.	SSAT #1 POBSA/SOAP Health and Safety Risk Assessment	Update [17]	Design phase
4.	SSAT #1 POBSA/SOAP Bill of Material (BOM) and Component Classification	New document	Before delivery
5.	SSAT #1 POBSA/SOAP Interface Definition including loading	Update [15]	Design phase
6.	SSAT #1 POBSA/SOAP Manufacturing and Inspection Plans (MIP) (including hold points and witness points)	New document	Design phase
7.	Quality Plan	New document	Design phase
8.	SSAT #1 POBSA/SOAP Testing and Inspection Procedure	New document	Design phase
9.	Drawing; Manufacturing drawings & erection drawings in SMDD,	New document	Design phase
10.	Update the model in ENOVIA (tree location to be defined by IO before the upload).	Updated Model	Design phase
11.	SSAT #1 POBSA/SOAP Factory Test Reports/ Site Acceptance Test Reports	New document	Before delivery
12.	SSAT #1 POBSA/SOAP Inspection Reports (material certifications, NDT tests, completed MIP, visual inspection, dimensional inspection)	New document	Before delivery
13.	SSAT #1 POBSA/SOAP EC Declaration of Conformity (if needed)	New document	Before delivery
14.	SSAT #1 POBSA/SOAP Release note	New document	Before delivery
15.	SSAT #1 POBSA/SOAP Packing List	New document	Before delivery
16.	SSAT #1 POBSA/SOAP On site Assembly Method Statement	New document	Before assembly
17.	SSAT #1 POBSA/SOAP Risk Assessment for site operations	New document	Before assembly
18.	SSAT #1 POBSA/SOAP Environmental Respect Plan	New document	Before assembly
19.	SSAT #1 POBSA/SOAP Specific Health and Safety Protection Plan (PPSPS)	New document	Before assembly
20.	SSAT #1 POBSA/SOAP Inspection and Test Plan for assembly (ITP)	New document	Before assembly + completed ITP after completion of assembly

3.4 Exceptions and deviations

The Contractor shall supply materials and complete the work in accordance with this Specification. Unless otherwise notified and agreed in writing, the Contractor will be deemed to be in full compliance with the requirements of this Specification and associated referenced specification, Codes and Standards.

Any comments or exceptions to this Specification, the attachments or referenced codes and standards shall be clearly listed by the Contractor in the proposal. Any comments or exceptions shall make clear reference to the relevant paragraph number within this Specification or any applicable documents.

Any comments and exceptions shall be subject to the formal approval from IO via the deviation request as defined in [3].

4 Requirements

4.1 General Requirements

The following design drivers must be kept in mind during the study phase where changes are being made;

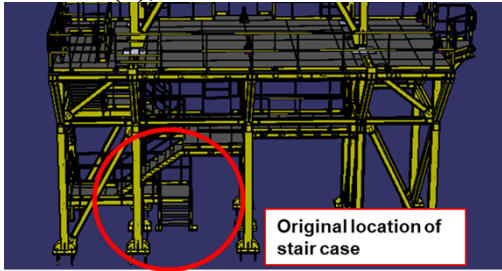
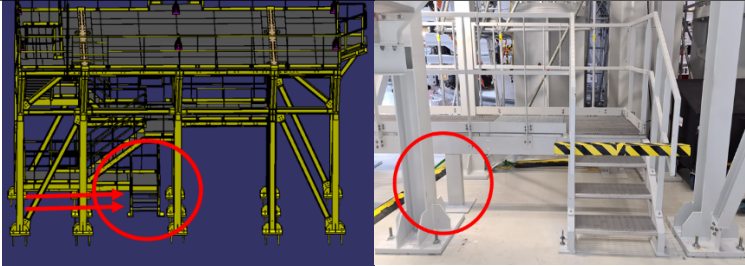
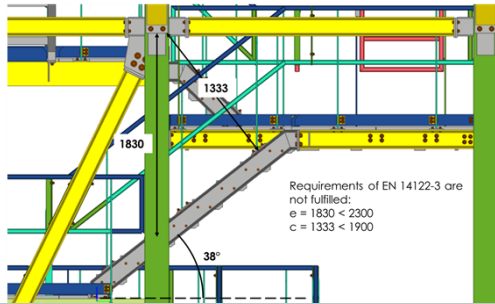
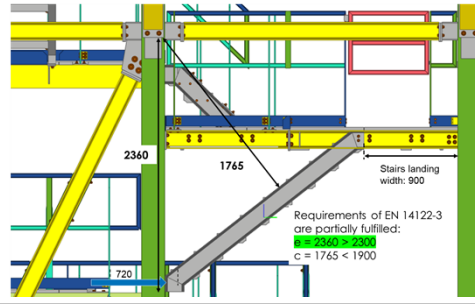
- [Req.1] The Contractor shall be responsible for implementing the changes requested by IO in 4.2;
- [Req.2] Changes as a result of studies conducted by the manufacturer shall be presented and approved by IO before implementation at the design review 4.6;
- [Req.3] The Contractor shall be responsible for proposing modifications that will reduce the risk of non-conformities and therefore necessary on-site modifications;
- [Req.4] The finalised 3D model + manufacturing drawing shall be reviewed and approved by the IO before manufacture as per [11];
- [Req.5] For any installation/removal of the platform components, operational and maintenance activities; work at height shall be avoided, where no other solution is possible adequate fencing and protection shall be provided as per the relevant Codes and Standards;
- [Req.6] The access shall provide a safe environment for personnel that meet all of the requirements of the French/European Codes and Standards and Regulations. Where fencing performs the joint function of preventing access to dangerous areas it should be designed to fulfil both functions;
- [Req.7] The access supplied shall prevent the possibility of accidentally dropped objects falling to the floor or lower levels (grating design + metal plate);
- [Req.8] The access supplied shall consider the component footprints as well as the load of the component to be supported on the platforms as given in the Load Specification at [12] and in the new load case at [29];
- [Req.9] Each Platform shall be earthed;
- [Req.10] Relevant data shall be made available by the Supplier to the IO through IDM each time a control point is requested, a deviation is requested, or a non-conformance report issued, which is part of the Contract deliverables is issued by the Supplier, in accordance with the [8];

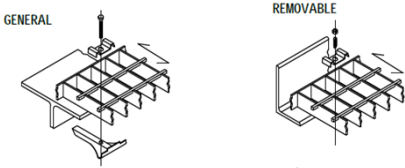
4.2 Implementation of Changes & studies

Following the use of the SSAT #2 POBSA/SOAP and using lessons learned, some modifications are required to the SSAT #1 POBSA/SOAP. Additionally, numerous non-conformities delayed the assembly of the SSAT #2 POBSA/SOAP, meaning on-site modifications. A simplified version of the existing POBSA/SOAP is proposed in this specification for the SSAT #1.

The main changes have been updated already into the 3D model. Changes that require some study have not.

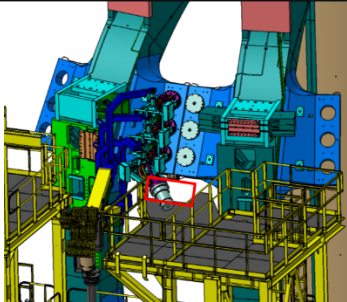
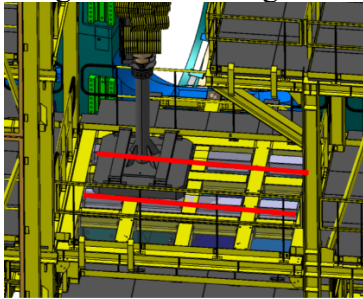
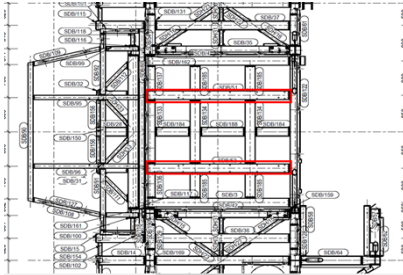
The changes and required studies are listed below for the SSAT #1 POBSA;

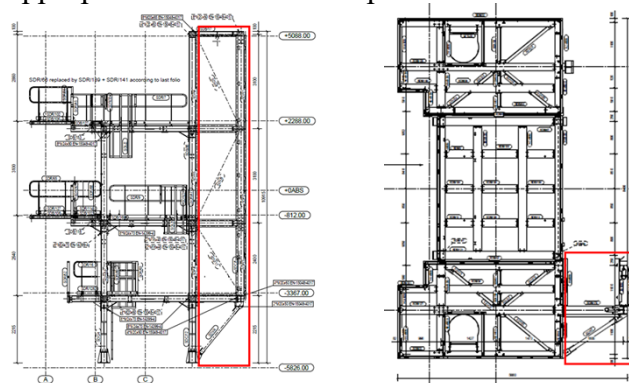
Change	Details	Updated in model [30]
POBSA(a); Stair case movement on lowest level; 	 <p>Shifted location – 1m movement laterally. Additional support included. New dimensions shown in the 3D model. Additional support to be of same material as the rest of the platform + painting.</p>	Yes – Follow dimensions on 3D model
POBSA(b); Additional holes in SOAP rail Original rail hole pattern; [37]	6 additional tapped holes to be included in rail hole pattern at; [21].	Yes – Follow pattern on drawing [21]
POBSA(c); Additional holes in POBSA beam Originally no holes	10 additional thru holes to be included in POBSA Beams at; [19]&[20]. The holes are to be drilled onsite using the interfacing bracket as a guide after the POBSA assembly.	Yes – Follow pattern on drawing [19]&[20]
POBSA(d); Beam + Stair case movement on 3 rd flight stairs 		Yes – Follow dimensions on 3D model
POBSA(e); Check of bolt hole locations, weld location and size and reinforcement block location.	As needed to avoid clashes during assembly and to allow bolts installation.	No

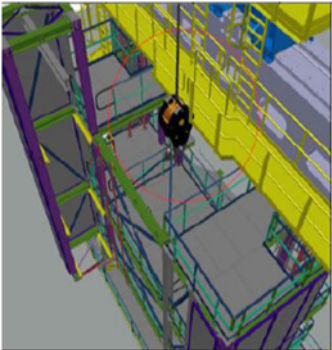
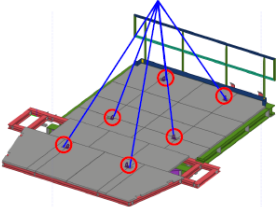
Minor design changes are needed to avoid clashes during installation.		
POBSA(f) ; Method for securing of gratings to be studied and protective plate to be added. Clips to secure gratings become loose when loads are introduced. 	Updated method of securing the gratings to be studied and implemented. Load capacity & material to remain the same as initially designed in [12]. Implementation of an additional cover plate to be studied. Additional cover plate shall prevent dropped objects and shall prevent slipping (checker plate type or equivalent).	No
POBSA(g) ; Deletion of electrical systems and lifting equipment	The electrical systems and the mezzanine monorail included in the SSAT#2 POBSA is out of the scope of this specification.	No
POBSA (h) ; Split of handrails	Splitting of handrail is required for the VVTS Port shroud installation as per the 3D model and shown below. Handrail sections shall be no more than 50kg in any location to allow removal by hand.	Yes – Follow dimensions on the 3D model

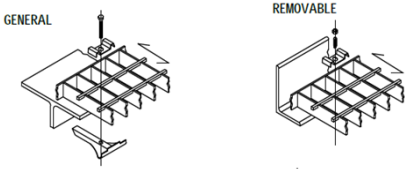
The changes are listed below for the SOAP;

Change	Details	Updated in model [30]
SOAP(a) ; Upper IOIS pins Extension to be modified	Enlarge working area on the extensions. Enlarged area to have the same load capacity as the rest of the platform.	Yes – Follow dimensions on 3D model

		
SOAP(b); Reinforcement of central platform for IOIS Pins installation	<p>2 additional beams on central panel on Level 2 and Level 1. Beams are; HEB200 (200x200x9x15), location of new beams can be found in the 3D model. The new beams shall have the same connection design as the existing beams.</p> 	Yes – Follow location in the 3D model
SOAP(c); Gratings replacement for Upper IOIS plate installation	<p>Deletion of gratings and replacement with checker plates of equal strength between beams on Level 2 central panel. The plates design must not obstruct the 2 beam rails where the IOIS tool is used (shown in red).</p> 	No

	Plates to be designed to same load capacity as the gratings in the original design at; [12]. Plates & gratings to be removable by hand (<25kg per piece)	
SOAP(d); Lifting cage to be deleted	Lifting cage on the SOAP to be deleted (highlighted below). Platform to be made safe according to Codes and standards by filling gaps with appropriate handrails & toe plates. 	Yes – Follow deletion on 3D model
SOAP (e); Interfacing holes to be added	Update of the location of interfacing holes on the IOIS installation tool rails to be in line with [31]. The holes are to be drilled onsite using the interfacing beams as a guide after the SOAP assembly.	Yes – Follow drawing [31].
SOAP(f); Study lifting of the SOAP	Check of the lifting of the SSAT#1 SOAP final design, to ensure lifting is possible with no clash with the SSAT Support Beam Assembly (sheet 4) [43].	No

		
SOAP(g); Study lifting of the Central panels + extensions on the SOAP	<p>The lifting of the central platform + extensions to be studied to allow a single lift using an overhead crane. Currently the lift is not possible due to the SSAT Support Beam Assembly (sheet 4) [43]. Solution could be to add an additional weight to the back of the platform to shift the CofG. Solution to be presented and approved at the technical review 4.6.</p> 	No
SOAP(h); Deletion of electrical systems and lifting equipment	The electrical systems, the jib crane and the monorail included in the SSAT#2 POBSA is out of the scope of this specification.	No

<p>SOAP(i); Method for securing of gratings to be studied and protective plate to be added. Clips to secure gratings become loose when loads are introduced.</p> 	<p>Updated method of securing the gratings to be studied and implemented. Load capacity & material to remain the same as initially designed in [12]. Implementation of an additional cover plate to be studied. Additional cover plate shall prevent dropped objects and shall prevent slipping (checker plate type or equivalent). Solution to be presented and approved at the technical review 4.6.</p>	<p>No</p>
<p>SOAP(j); Check of bolt hole locations, weld location and size and reinforcement block location. Minor design changes are needed to avoid clashes during installation.</p>	<p>As needed to avoid clashes during assembly and to allow bolts installation.</p>	<p>No</p>
<p>SOAP (k); Additional analysis for IOIS plate installation extension on LV2 & IOIS pins installation extension on LV3.</p>	<p>Additional analysis to be performed as per; [29] to check that extensions are within the load limits. Modification required to the platform as a result of this analysis to be presented and approved in the technical review 4.6</p>	<p>No</p>
<p>SOAP (l); Manual movement of the SOAP to be designed</p>	<p>A system to manually move the SOAP to be design including any features and updated in the user manual. Solution to be presented and approved at the technical review 4.6.</p>	<p>No</p>
<p>SOAP (m); Clearances between Central panel beams and main SOAP structure to be increased</p>	<p>Clearances between the SOAP central panels and the main structure shall be increased due to clashes experienced during onsite assembly of the current design. The mounting of the central panel + extensions shall not require forcing of the connections nor loosening of the connections.</p>	<p>No</p>

4.3 Quality Requirements

- [Req.11] The organisation conducting these activities shall have an ITER approved QA Program or an ISO 9001 accredited quality system. The quality requirements are detailed in Reference [1];
- [Req.12] Prior to commencement of the task, a Quality Plan shall be submitted for IO approval giving evidence of the above and describing the organisation for this task; the skill of workers involved; any anticipated sub-contractors; and giving details of who will be the independent checker of the activities, see Reference [2];
- [Req.13] Prior to commencement of any manufacturing, a Manufacturing and Inspection Plan shall be approved by ITER who will mark up any planned interventions, see [4];
- [Req.14] Non-conformities will follow the procedure detailed in Reference [5]. This shall be noted by the Contractor in their QP;
- [Req.15] Prior to delivery of any manufactured items to the IO Site, a Release Note shall be signed in accordance with Reference [6];
- [Req.16] Documentation developed as the result of this task shall be retained by the performer of the task or the DA organization for a minimum of 5 years and then may be discarded at the direction of the IO;

4.4 Interface requirements

- [Req.17] The main interface are floor anchors which fix the POBSA structure to the Assembly Hall Floor;
- [Req.18] The original POBSA interfaces shall be maintained as the holes in the Assembly Hall floor have already been drilled. Their rough locations are shown in [14], the exact location shall be surveyed and drilled onsite during the assembly phase (out of the scope of this specification) ;
- [Req.19] The POBSA and SOAP design to be lifted with one crane hook above its CofG shall be maintained;
- [Req.20] The study into the lifting of the SOAP in the environment of the SSAT will determine if the lifting point shall be moved to allow this single lifting with no clashes in the Assembly Hall environment;
- [Req.21] The loading definition of the original POBSA/SOAP can be found in [12] and complies with the European requirement for access platforms;
- [Req.22] The new load case to be considered can be found in [29], the POBSA/SOAP have been designed for a seismic event as per the Eurocode 8, however seismic load case is not required for this new load;
- [Req.23] The Interface Definition document shall be updated with the request modifications, unless requested in this specification; the interfaces shall remain the same;

4.5 SOAP movement mechanism

- [Req.24] The rails and guide rollers design along with the fixed bolted connections on the rails for the SOAP movement shall be maintained. The electrical movement method shall be replaced with a manual method to be chose by the Contractor;
- [Req.25] The Contractor shall choose a suitable manual movement method and shall procure the parts necessary. The selection of this method must consider;
 - a. Trip hazards shall be avoided
 - b. There shall be no risk of trapped body parts when operating the manual movement
 - c. The SOAP is required to move with its maximum load attached see [12] and new load case load at [29]

- d. SOAP shall not be operated with personnel on the SOAP
 - e. The risk analysis shall be updated to reflect the presence of personnel on the POBSA platform during SOAP movement;
- [Req.26]The manual method chosen shall be reviewed and approved by the IO before implementation;

4.6 Technical Review

- [Req.27]A Technical Review shall be held with the IO for the design of the; SOAP manual movement mechanism, the lifting arrangements and the grating fixation method (+ cover plate). The objective of the review shall be to approve the design solutions for these three items;
- [Req.28]Changes requested by IO will be communicated to the Contractor via a review report, the comments indicated shall be implemented by the Contractor after the review and before the MRR;

4.7 Manufacturing Readiness Review

- [Req.29]A manufacturing Readiness Review shall be held with the IO following guidelines in [7] before the approval of the manufacturing drawings. The aim of the review is to approve the design changes made by the Contractor following this specification and approve the drawings;
- [Req.30]The design documents shall be made available for review by IO 2 weeks before the review date;
- [Req.31]Any comments made during this review shall be taken into account by the Contractor before manufacturing; this will require update of manufacturing drawings and other documentation.

4.8 Manufacturing Phase: Material choice and Surface Finishing

The following Requirements apply;

- [Req.32]Maximum pre-assembly shall be carried out in the factory considering standard transportation methods;
- [Req.33]Floor surfaces are required to be cleanable with water and detergent;
- [Req.34]The material of the structural elements of the platform shall be the same as the original design indicated in the drawings [32] & [34]. The main structure is generally in Carbon Steel (S235 or S355) which is painted to keep it clean and free from rust. The painting type shall comply with [24];
- [Req.35]The Grating shall be stainless steel and/or aluminium checker plate. The floor surface shall prevent slipping of workers and shall prevent dropped objects falling to lower levels;
- [Req.36]For the SOAP extensions, to keep the items light enough to install be hand, aluminium profiles can be used;
- [Req.37]Reasonable standard engineering methods shall be used to prevent corrosion of metallic items in accordance with [24] unless agreed otherwise with IO;
- [Req.38] The material of all fasteners shall be as per original design; Galvanised Carbon steel (Grade 8.8), unless agreed otherwise with IO;

4.9 Site Installation and Site Acceptance Tests (SAT) Phase

The following Requirements apply;

- [Req.39] For onsite work the Contractor shall follow [44];
- [Req.40] Before commencement onsite, the Contractors onsite team will need to attend an induction training;
- [Req.41] Before the commencement of work onsite, the Contractor shall produce; a PPSPS using template [46], as per the French Regulations, which is to be sent directly to the IO HSPC, a Risk Assessment and An Environmental Plan using template [45];
- [Req.42] A Permit to Work will be required for each day of onsite work;
- [Req.43] The Contractor shall participate in any mandatory meetings such as common inspection with HSPC before commencement of on-site work and co-ordination meetings;
- [Req.44] Any equipment supplied shall be reassembled on site and tested in accordance with the French regulation and the Machinery directive for the moving parts;
- [Req.45] The Contractor shall provide any tooling or equipment required to install, remove and test the SSAT Engineered Access Platforms with the exception of an overhead crane;

4.10 Order of Precedence

In case of conflict between this Specification, Codes, Standards and Project documentation as referenced herein, the order of precedence shall be as follows:

1. France Directive and Regulations
2. This Specification

4.11 CE Marking

If applicable after the selection of the SOAP movement mechanism, the equipment shall be fully compliant with the relevant EC directives in particular:

- Machinery Directive (2006/42/EC) (For SOAP movement)
- [Req.46] As part of the documentation to be supplied with the equipment, the Contractor shall provide a Declaration of Conformity to demonstrate this compliance;
- [Req.47] The equipment supplied shall be CE marked and designed accordance with the applicable standards and regulations;

The following documents are more specific to the subject covered:

- Safety of machinery — Permanent means of access to machinery: NF EN ISO 14122
- IO guideline: [25], [26], [27]

4.12 Factory Acceptance Test Requirements

The following Requirements apply;

- [Req.48] The safety systems of the POBSA/SOAP will be tested, respecting all applicable standards;

[Req.49]The Contractor shall organise and perform all tests required to be performed in the manufacturing premises in accordance with the applicable Codes and Standards or Regulations;

4.13 Delivery requirements

The following Requirements apply;

- [Req.50]All components and all the main subcomponents shall be clearly marked in a permanent way and in a visible place;
- [Req.51]Parts shall be cleaned in accordance with EN12300 before packing;
- [Req.52]The supplier shall design and use appropriate packaging, adequate to prevent damage during shipping, lifting and handling operations, external storage up to 6 months;
- [Req.53]The Contractor shall paint the carbon steel parts (with exception to machined parts) that will be used in a clean environment and so shall be clean and free from rust, painting type shall comply with IO material requirements [24];
- [Req.54] The Contractor shall follow the guidelines outlined in [28] for signage and painting.

4.14 Maintenance

- [Req.55]Operation and Maintenance Manual shall be updated by the Contractor giving comprehensive user instructions and details of scheduled inspection and maintenance requirements (including consumables & spare parts lists) for all equipment, in order to ensure that all equipment can be operated safely and maintained in proper working order;

4.15 Reliability, Availability, Maintainability & Inspectability (RAMI)

All equipment provided for this contract and related instrumentation, control and monitoring systems shall be designed for Reliability, Availability, Maintainability and Inspectability in use for a duration of 10 years.

4.16 Quality Class

The Quality Class of the POBSA/SOAP has been determined according to the ITER procedure for Quality Classification Determination. This classification does not relinquish any requirements which are specified in the applicable Codes and Standards or regulations, but shall be used in supplement to these documents.

The POBSA and SOAP have the same Quality Class as per the below assumptions;

Factor 1 – Functional and Operational Risk	QC3
Factor 2 – Environment, Industrial Safety and Health	QC2
Factor 3 – Cost/Schedule Impacts	QC3
Factor 4 – Compliance	QC3
Factor 5 – Other Classifications	QC3
Factor 6 – Design Complexity	QC2
Factor 7 – Complexity of Manufacturing	QC3
Resulting Quality Class	QC3

4.17 Schedule requirements

The detailed schedule of work shall be provided to IO by the Contractor on commencement of this Task Order. A schedule proposal has been given in **Error! Reference source not found..**

[Req.56]The Contractor shall report monthly on the progress of this Task Order;

[Req.57]The due date for delivery of the POBSA to the IO site is the 04/02/2024;

The proposed delivery schedule for this contract is as follows;

Platform	Deliverable	Deliverable due date
POBSA & SOAP	Contract kick off meeting	<i>T0+1 week</i>
POBSA	Manufacturing Readiness Review	<i>T0+4 weeks</i>
SOAP	Technical Review	<i>T0+4 weeks</i>
POBSA	Manufacturing Drawings Submission	<i>T0+7 weeks</i>
POBSA & SOAP	PO placement for Rails, Rollers and Grating	<i>T0+7 weeks</i>
SOAP	Manufacturing Readiness Review	<i>T0+10 weeks</i>
POBSA	Manufacture - FAT Report & Completed MIP Submission	<i>T0+16 weeks</i>
SOAP	Manufacturing Drawings Submission	<i>T0+13 weeks</i>
POBSA	Delivery to Site	<i>T0+17 weeks</i>
SOAP	Manufacture - FAT Report & Completed MIP Submission	<i>T0+25 weeks</i>
POBSA	Assembly completion – Completed ITP submitted	<i>T0+26 weeks</i>
SOAP	Delivery to Site	<i>T0+26 weeks</i>
POBSA & SOAP	Delivery to site of Rails, Rollers and Gratings	<i>T0+26 weeks</i>
SOAP	Assembly completion – Completed ITP submitted	<i>T0+35 weeks</i>

4.18 Control Points

[Req.58]The Control points for the manufacture and assembly shall be agreed with the IO via the MIP and ITP documents prior to manufacture and assembly onsite.

5 References

	Reference documents
[1]	ITER Procurement Quality Requirements (22MFG4 v5.1)
[2]	Requirements for Producing a Quality Plan (22MFMW v4.0)
[3]	Procedure for the management of Deviation Request (2LZJHB v8.1)
[4]	Requirements for Producing an Inspection Plan (22MDZD v3.7)
[5]	Procedure for Management of Nonconformities (22F53X v9.1)
[6]	Requirements for Producing a Contractors Release Note (22F52F v5.0)
[7]	Working Instruction for Manufacturing Readiness Review (44SZYP v5.0)
[8]	IO/DA Documentation Exchange and Storage (35BVQR v5.0)
[9]	Procedure for Inspection and Testing (TVL3Y5 v2.0)

[10]	Instructions for Structural Analyses (35BVV3 v4.0)
[11]	CAD Data Requirements Summary for Contractor Supplied Data (HPQ64Y v5.0)
[12]	TO3-01 CALCULATION HYPOTHESIS NOTE FOR TOSA POBSA AND SOAP (YFFG24 v3.0)
[13]	TO3-01 Structural Analysis Report of POBSA + SOAP (YFHPB2 v4.1)
[14]	MCEW/TO#13 - Final topo-survey report [D029-ABR-010 rev A] (3TYNRW v1.1)
[15]	Interface Definition including loading POBSA + SOAP (YFHZ66 v2.0)
[16]	USER MANUAL FOR POBSA & SOAP (YHE9ZR v5.0)
[17]	USERS & OPERATIONNAL RISK ANALYSIS FOR POBSA & SOAP PLATFORM (2N2GDN v3.0)
[18]	Completion certificate for POBSA second stairs modification (838L7Z v1.0)
[19]	DR01-IO-2021 POBSA modification for interfaces for Lower Shroud Assy Tool 22SATS-TOL-0900 (6CD495 v2.0)
[20]	058706 - VVTS SHROUDS INSTALLATION TOOLS
[21]	Additional Holes on the POBSA SOAP Platform Rail for Bracing Tools (8MQQBZ v1.1)
[22]	BOM & Component Classification for POBSA (YFPMQ7 v5.0)
[23]	BOM & Component Classification for SOAP (YFR5RT v4.0)
[24]	Appendix 3 Materials (27Y4QC v1.20)
[25]	Lifting equipment and operations - Important safety aspects (SJNV4N v1.3)
[26]	Safe Access for Maintainability (RUGWUK v1.4)
[27]	Safety of Machinery - Essential Health and Safety Requirements (Q4NL36 v1.4)
[28]	ITER Site Signage & Graphics Standards (4ALJEU v2.5)
[29]	Additional Calculation hypothesis note for simplified POBSA/SOAP (93FJPM)
[30]	DET of Simplified POBSA/SOAP Design (93G7XJ)
[31]	051024 - REQ IOIS TOOL ON PLATFORMS SCE
	Drawings
[32]	POBSA ASSEMBLY DRAWING
[33]	POBSA ERECTION LAYOUTS
[34]	SOAP ASSEMBLY DRAWING
[35]	SOAP ERECTION LAYOUTS
[36]	SOAP GRATING
[37]	PBT TO3 - SLIDING SYSTEM - RAIL
[38]	PBT TO3 - SLIDING SYSTEM - BUMPER
[39]	PBT TO3 - SLIDING SYSTEM - THICK WASHE
[40]	PBT TO3 POBSA PLATFORM EQUIPPED - SLIDING SYSTEM
[41]	INTERFACE PLATE FOR POBSA
[42]	INTERFACE PLATE FOR SOAP
[43]	22SASA-M402-000-00-M0 - GA drawing of Sector Sub Assembly Tool #2
	Assembly
[44]	PGC Annex 03 - Rules of cooperation between the HSPC and the contractors (UJ95AV v4.0)
[45]	Environmental Respect Plan english template (9FUP5C v2.3)
[46]	PGC Annex 05 - Individual Health Protection and Safety Plan - template (K7C6SZ v4.1)

	Reference documents
[1]	ITER Procurement Quality Requirements (22MFG4 v5.1)
[2]	Requirements for Producing a Quality Plan (22MFMW v4.0)
[3]	Procedure for the management of Deviation Request (2LZJHB v8.1)

[4]	Requirements for Producing an Inspection Plan (22MDZD v3.7)
[5]	Procedure for Management of Nonconformities (22F53X v9.1)
[6]	Requirements for Producing a Contractors Release Note (22F52F v5.0)
[7]	Working Instruction for Manufacturing Readiness Review (44SZYP v5.0)
[8]	IO/DA Documentation Exchange and Storage (35BVQR v5.0)
[9]	Procedure for Inspection and Testing (TVL3Y5 v2.0)
[10]	Instructions for Structural Analyses (35BVV3 v4.0)
[11]	CAD Data Requirements Summary for Contractor Supplied Data (HPQ64Y v5.0)
[12]	TO3-01 CALCULATION HYPOTHESIS NOTE FOR TOSA POBSA AND SOAP (YFFG24 v3.0)
[13]	TO3-01 Structural Analysis Report of POBSA + SOAP (YFHPB2 v4.1)
[14]	MCEW/TO#13 - Final topo-survey report [D029-ABR-010 rev A] (3TYNRW v1.1)
[15]	Interface Definition including loading POBSA + SOAP (YFHZ66 v2.0)
[16]	USER MANUAL FOR POBSA & SOAP (YHE9ZR v5.0)
[17]	USERS & OPERATIONNAL RISK ANALYSIS FOR POBSA & SOAP PLATFORM (2N2GDN v3.0)
[18]	Completion certificate for POBSA second stairs modification (838L7Z v1.0)
[19]	DR01-IO-2021 POBSA modification for interfaces for Lower Shroud Assy Tool 22SATS-TOL-0900 (6CD495 v2.0)
[20]	058706 - VVTS_SHROUDS_INSTALLATION_TOOLS
[21]	Additional Holes on the POBSA SOAP Platform Rail for Bracing Tools (8MQQBZ v1.1)
[22]	BOM & Component Classification for POBSA (YFPMQ7 v5.0)
[23]	BOM & Component Classification for SOAP (YFR5RT v4.0)
[24]	Appendix 3 Materials (27Y4QC v1.20)
[25]	Lifting equipment and operations - Important safety aspects (SJNV4N v1.3)
[26]	Safe Access for Maintainability (RUGWUK v1.4)
[27]	Safety of Machinery - Essential Health and Safety Requirements (Q4NL36 v1.4)
[28]	ITER Site Signage & Graphics Standards (4ALJEU v2.5)
[29]	Additional Calculation hypothesis note for simplified POBSA/SOAP (93FJPM)
[30]	DET of Simplified POBSA/SOAP Design (93G7XJ)
[31]	051024 - REQ_IOIS_TOOL_ON_PLATFORMS_SCE
	Drawings
[32]	POBSA ASSEMBLY DRAWING
[33]	POBSA ERECTION LAYOUTS
[34]	SOAP ASSEMBLY DRAWING
[35]	SOAP ERECTION LAYOUTS
[36]	SOAP GRATING
[37]	PBT TO3 - SLIDING SYSTEM - RAIL