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Technical Specification

Tech Spec Engineering Support

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Change Log

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Tech Spec Engineering Support (PUB3J7_v2_7)	v2.7	Approved	25 Sep 2014	Deleted Security clause Minor changes in wording
Tech Spec Engineering Support (PUB3J7_v2_6)	v2.6	Signed	24 Sep 2014	New version requested by Approver CHANGES * Improved tasks description ADDITIONS * Alignment with deliverables * Effort % estimation * Added Security clause * Added Flexibility clause DELETIONS * Deleted Project introduction to simplify document
Tech Spec Engineering Support (PUB3J7_v2_5)	v2.5	Approved	17 Sep 2014	Improved with suggestions from Procurement
Tech Spec Engineering Support (PUB3J7_v2_4)	v2.4	Signed	16 Sep 2014	Deleted legacy comments.
Tech Spec Engineering Support (PUB3J7_v2_3)	v2.3	Signed	16 Sep 2014	Added feedback from Procurement
Tech Spec Engineering Support (PUB3J7_v2_2)	v2.2	Signed	16 Sep 2014	Right version
Tech Spec Engineering Support (PUB3J7_v2_1)	v2.1	Signed	16 Sep 2014	Minor corrections.
Tech Spec Engineering Support (PUB3J7_v2_0)	v2.0	Signed	16 Sep 2014	Major upgrade.
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Tech Spec Engineering Support (PUB3J7_v1_0)	v1.0	Signed	07 Sep 2014	First draft

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1 Purpose

This document specifies the technical requirements for Engineering Support for PBS 69.

PBS 69 (Access Control and Security) is currently

- Issuing technical specifications for signing with an Integrator
 - Contracts for the 1st group of Buildings to be delivered early 2015
 - A Framework contract for all other buildings
 - Contracts for all other Buildings
- Managing interfaces with other IO structures

All this work requires heavy Engineering Support work.

2 Definitions

DA : Domestic Agency

DET : Data Exchange Tasks

DER : Data Exchange Request

FR : Functional Reference

IO : ITER Organization

ICD : Interface Control Document

IS : Interface Sheet

RO : Responsible Officer

RE : Responsible Engineer

PCR : Project Change Request

DDD : Design Description Document

SSC : System, Structure, or Component

- Shall: Mandatory requirement
- Should/May/Will: Recommendation or action which is advised but not required. “Will” is used for all actions to be performed by IO and/or the others.

For a complete list of ITER abbreviations see: [ITER Abbreviations \(ITER_D_2MU6W5\)](#).

3 References

- [1] “ITER System Design Process (SDP),” [Online]. Available: <http://user.iter.org/?uid=4CK4MT>.
- [2] “ITER Abbreviations,” [Online]. Available: <http://user.iter.org/?uid=2MU6W5>.
- [3] “ITER Design Review Procedure,” [Online]. Available: <http://user.iter.org/?uid=2832CF>.
- [4] “ITER Environmental Conditions Room Book,” [Online]. Available: <http://user.iter.org/?uid=2UUZ23>.
- [5] “ITER Numbering System for Components and Parts,” [Online]. Available: <http://user.iter.org/?uid=28QDBS>.
- [6] “ITER On-site testing activities of Access Control & Security System,” [Online]. Available: <http://user.iter.org/?uid=778FUK>.

- [7] “ITER Operations Handbook,” [Online]. Available: <https://user.iter.org/?uid=34B2UF>.
- [8] “ITER Operations Handbook - 2 Operational States,” [Online]. Available: <http://user.iter.org/?uid=2LGF8N>.
- [9] “ITER Preliminary Safety Report (RPrS),” [Online]. Available: <https://user.iter.org/?uid=3ZR2NC>.
- [10] “ITER Project Requirements (PR),” [Online]. Available: <http://user.iter.org/27ZRW8>.
- [11] “ITER Quality Assurance for ITER Safety Codes,” [Online]. Available: http://user.iter.org/?uid=ITER_D_258LKL.
- [12] “Iter Quality Assurance Program,” [Online]. Available: <https://user.iter.org/?uid=22K4QX>.
- [13] “ITER Requirements for Preparing and Implementing a Manufacturing and Inspection Plan,” [Online]. Available: <http://user.iter.org/?uid=22MDZD>.
- [14] “ITER Requirements Regarding Contractors Deviations and Non Conformities,” [Online]. Available: <http://user.iter.org/?uid=22F53X>.
- [15] “ITER Requirements Regarding Contractors Release Notes,” [Online]. Available: <http://user.iter.org/?uid=22F52F>.

4 Scope

4.1 Scope of Work

The scope of this task is to provide engineering support to the activities of PBS 69 RO which belongs to PCA/AOP/OPS. Tasks will be assigned and directed by the RO.

5 Requirements

5.1 Engineer Support Task Location and communications language

The Engineer undertaking the Engineer Support Task shall be required to be located in the IO offices for the duration of the task.

Iter project language is English.

5.2 Availability

The Engineering Support shall be assigned exclusively for the execution of the task during contract validity.

6 Responsibilities

6.1 IO PBS 69 Responsibilities

- a) IO shall assign one IO PBS 69 RO, to work as the Contractor interface for administration of the contract;
- b) The IO PBS 69 RO will assess the performance and quality of the work;
- c) The IO PBS 69 RO shall be responsible for checking the deliverables against requirements and schedule;
- d) IO shall give access rights to the Contractor, to all technical data and documents which the Contractor requires to carry out its obligations pursuant to this specification.

6.2 Contractor's responsibilities

The Contractor shall guarantee that all input information provided to perform the tasks remain property of IO and shall not be used for any other activity than the one specified in this specification;

- a) The Contractor shall work in accordance with the QA plan approved by IO;
- b) The Contractor shall perform the activities accordingly to this specification taking into account all relevant additional documents and IO processes into account (hand books, export control, intellectual properties, ...);
- c) The Contractor shall be responsible to produce and manage, using the ITER software platform, all the required documents listed;

Prior to the start of work on each activity, the Contractor shall review the input technical information made available to him by IO for completeness and consistency, and shall advise the IO PBS 69 RO of any deficiencies it may find.

The Contractor shall not be responsible for errors in the input technical information which could not be reasonably detected during such review; duration of this review will be agreed between Contractor and IO PBS 69 RO and will have no impact on the delivery schedule.

7 Duration

The duration of this Engineering Support task is **one year** starting from kick-off meeting, with an optional additional **year**.

8 Schedule, Flexibility, Deliverables, and Performance

8.1 Schedule

Tasks will generally be executed in any order indicated by the RO. There is a requirement to allow undertaking several tasks simultaneously, re-prioritising tasks, or undertaking unforeseen tasks.

8.2 Flexibility

The priorities for PBS 69 engineering tasks may change from time to time. Therefore it is required that the Contractor have the flexibility to reallocate tasks and scope at short notice. These changes to the engineering tasks will not affect the overall services workload as other tasks would be put on hold while the higher priority work is done.

The Contractor is informed that other resources may be assigned to the same scope of work.

8.3 Deliverables

The Contractor shall deliver the following deliverables in the course of the Engineering Support tasks:

Task	Deliverable	Estimated Workload For information purposes only
Upon request from RO, deliver specifications of PBS 69 equipment and cabling location and connectivity to be used by Designers to update PBS 69 2D and 3D diagrams.	Deliverables are accepted when the 2D and 3D drawings is approved and the configuration management is updated.	20%
Correction of Class 1 and Class 2 CHITs arising from PBS 69 FDR. A list of amended documents will be delivered.	Deliverable is accepted when FDR is accepted.	10%
Deliver a new version of PBS 69 DDD in order to incorporate the CHITs after Final Design Review.	Deliverable is accepted when updated DDD 69 is approved in IDM	10%
Deliver the new version of PBS 69 SRD 4.0 in order to better match Safety requirements requested in Version 3.3 of PBS 69 SRD. This includes assisting the RO in writing the Change Request requesting update of PBS 69 SRD.	Deliverable is accepted when SRD 69 is approved in IDM	10%
Assist the RO in Radiation Hardening presentations in the Radiation Hardening Work Group	Deliverable is accepted when SRD 69 does the presentation in the Workgroup meetings	5%
Deliver an updated compliancy matrix between Project Requirements and SRD requirements after SRD 4.0 is delivered	Deliverable is accepted when the Updated Compliancy Matrix is approved in IDM	5%
Assist the RO in the writing of Technical Specifications for the Framework Contract as scheduled in Primavera during 2014/2015.	the Framework Contract are approved in IDM	10%
Assist the RO in supporting Procurement during the contract negotiation process of the Framework Contract	Deliverable is accepted when the Framework Contract is approved in IDM	25%
Assist the RO in the writing of the Contract for deploying PBS 69 equipment in the First Group of buildings, as scheduled in Primavera for 2014/2015.	Deliverable is accepted when the Technical Specification for Contract for the First Group of Buildings is approved in IDM	3%

Task	Deliverable	Estimated Workload For information purposes only
Assist the RO in supporting Procurement during the negotiation process of the Contract for deploying PBS 69 equipment in the first group of buildings	Deliverable is accepted when the Contract for the First Group of Buildings is signed by Procurement	2%

8.4 Performance Monitoring

The above deliverables shall be reviewed and accepted in IDM. In case of non-compliance / conformity of a deliverable or a set of deliverables, the Contractor shall correct them and re-submit them again for review and acceptance.

8.5 Performance evaluation Criteria

Performance will be evaluated according to deliverables acceptance.

9 Quality Assurance (QA) requirement

The Contractor should have ISO 9001 accredited quality system. Otherwise the Contractor shall have QA Program approved by the IO.

The general requirements are detailed in [ITER Procurement Quality Requirements \(ITER_D_22MFG4\)](#).

Prior to commencement of the work, a Quality Plan which complies with [Procurement Requirements for Producing a Quality Plan \(ITER_D_22MFMW\)](#) shall be submitted to IO for approval with evidence of the above.

Where any deviation is requested or non-conformity has happened from the Technical Specification, Contractors Deviations and Non Conformities the [ITER Requirements Regarding Contractors Deviations and Non Conformities \(ITER_D_22F53X\)](#) shall be followed.

IO will monitor implementation of the Contract's Quality Plan. Where necessary, IO will assess the adequacy and effectiveness of the quality system specified in the Quality Plan through surveillance or audit.

The use of computer software to perform a safety basis task activity such as analysis and/or modelling, etc. shall be reviewed and approved by the IO prior to its use, in accordance with [Quality Assurance for ITER Safety Codes \(ITER_D_258LKL\)](#). Where applicable, [Software Qualification Policy \(KTU8HH v1.2\)](#) shall be taken into consideration to ensure quality and integrity of software prior to application.

10 Safety requirements

ITER is a Nuclear Facility identified in France by the number-INB-174 ("Installation Nucléaire de Base").

For Protection Important Components and in particular Safety Important Class components (SIC), the French Nuclear Regulation must be observed, in application of the Article 14 of the ITER Agreement.

In such case the Suppliers and Subcontractors must be informed that:

- The Order 7th February 2012 applies to all the components important for the protection (PIC) and the activities important for the protection (PIA).
- The compliance with the INB-order must be demonstrated in the chain of external contractors.
- In application of article II.2.5.4 of the Order 7th February 2012, contracted activities for supervision purposes are also subject to a supervision done by the Nuclear Operator.

For the Protection Important Components, structures and systems of the nuclear facility, and Protection Important Activities the contractor shall ensure that the requirements of the Order 7th February 2012 [20] are fulfilled (Please refer to [ITER_D_4EUQFL - Overall supervision plan of external interveners chain for Protection Important Components, Structures and Systems and Protection Important Activities](#)).

11 Expertise requirements

1. Proven experience in writing specifications for Security equipment positioning (CCTV cameras, sensors, locks, public address, emergency phones,...)
2. Experience in High-security locks specification
3. Experience in cabling issues (electrical cabinets, design, manufacturing, deployment,...)
4. Master Degree in Electronic Engineering preferable
5. At least 5 years experience in managing contractors in equipment deployment
6. Proven transversal communication skills
7. At least 2 years experience in an international work environment
8. Experience in Testing and Commissioning of industrial equipment
9. Minimum 20 years experience in industrial environment
 - o At least 10 years experience in imaging and vision fields
 - o At least 10 years experience in industrial sensors
10. Good knowledge of Excel
11. Fluent English, both written and oral
12. Knowledge of Iter would be an advantage