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Technical Specifications (In-Cash Procurement)

Technical specification_Diagnostic Document Production Plan Creation

This document describes the specification for technical document placeholder production work for the ITER Diagnostics Systems.

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1 Purpose

This document describes the specification for technical document placeholder production work for the ITER Diagnostics Systems.

2 Scope

The work described below is related to the development of the Document Production Plans (DPP) for the diagnostic systems of PBS 55.

Because PBS 55 has many (107) medium sized projects (rather than 1 or 2 large projects for most other PBS in the ITER project) it was deemed that each project would need its own DPP to make the documentation management feasible. These DPPs will, however, all follow a similar structure.

This work package covers the creation of the DDPs for all diagnostic systems. More details are covered in section 6 Work Description

3 Definitions

CDR: Conceptual Design Review

C-RO: Contractor Responsible (e.g. at the head office). See Contract specifications for definition of duty.

C-TRO: Contractor Task Responsible Officer (carrying out the contract tasks). See Contract specifications for definition of duty.

DPP: Document Production Plan

FDR: Final Design Review

IDM: ITER Documentation Management system

IO-CT: ITER Organization (Central Team)

IO-DA: Domestic Agency

IO-TRO: ITER Organization Technical Responsible Officer for this contract. See Contract specifications for definition of duty.

PA: Procurement Arrangement

PBS: Plant Breakdown Structure

PDR: Preliminary Design Review

PPD: Port Plug and Diagnostics Engineering Division

RO: Responsible officer (for a diagnostic project, either at the DA or at IO)

For a complete list of ITER abbreviations see: ITER Abbreviations (ITER_D_2MU6W5).

4 References

Links inserted in text.

5 Estimated Duration

The work shall be for a period of 12 months starting from the starting date of the task order. Services are to be provided 100% at the IO work site.

6 Work Description

6.1 Background

As part of the Design Plan for ITER systems, a Documentation Production Plan (DPP) is required. This DPP captures the engineering documents (existing or planned) to be produced and the required input documents (produced by other units and that have to be controlled). It should make clear which documents are required *when* and *for what use*. They shall be organized per system identified by its PBS no. (Plant Breakdown Structure). All documents shall be stored in the ITER Document Management system (IDM) and for planned documentation placeholders shall be foreseen in IDM.

Whereas for most ITER systems a DPP is created at PBS level 1, this is not deemed feasible for the PBS 55 – Diagnostics because **the diagnostic system consists of 107 subsystems/projects** (at PBS level 2) that …

- … are based on different measurement concepts (magnetic, spectroscopic, laser based, microwave based, X-ray, neutronic …)
- … provide a specific subset of the objectives in terms requirements and the operational role (machine protection, basic control, advanced control or physics).
- … are distributed, for design and manufacturing, over both IO-CT and all 7 IO-DA's through both Functional Specification and Built-to-Print Procurement Arrangements (PA).
- … are distributed 'physically' throughout the whole ITER complex (vacuum vessel, the divertor cassettes, port plugs, Tokamak Building (B11), the Diagnostics Building (B74), the Tritrium Building (B14) and/or the Assembly Building (B13) …).
- … have different need dates in terms of delivery, assembly, installation and commissioning spread over the 4 phases (first plasma, pre-fusion operation 1, pre-fusion operation 2, full DT operation) of the ITER project.

Therefore, it was decided that for PBS 55 diagnostics the DPPs would be created at PBS level 2; i.e. per diagnostic project.

To ensure efficient management of the diagnostic DPPs (and the associated documents themselves) all of these 107 DPPs will follow the same structure identified in the DPP template for PBS 55 (ITER_D_RZJ4LM). This lists which documents are needed for all diagnostics including:

- the location/folder to store them (which provide information on the *use* of the document: description, justification, manufacturing …)
- the roles of the author (e.g. DA RO), reviewers (e.g. Interfacing ROs) and approvers (e.g. Section Leader)
- the required maturity at different design (conceptual, preliminary and final reviews) and manufacturing (readiness review, factory testing, final acceptance) milestones (which links to the "*when*" requirement of the DPP)

There are of order 200 documents defined in this DPP template.

Currently documents are uploaded by the IO-CT or IO-DA RO to the relevant folder IDM at the time they are produced, whereby the DPP template is used as guideline. However, placeholders for planned documentation (with due date) are typically not yet created. This is not in line with the requirement for the DPPs. Moreover, it runs the risk of late production – or even omission – of required documentation. Moreover, there is no control over whether or not the DPP template is truly followed. This work package aims to streamline the DPP production for each diagnostic project.

6.2 Tasks

This work package will cover following tasks **for each diagnostic project**:

1. Check the folder structure of the diagnostic project in IDM against the DPP template. Record corrections to the folder structure where necessary.
2. Identify existing documentation against the DPP template and ensure the correct folder location, author/reviewers/approvers and next version due date. Record corrections and suggest renaming where necessary.
3. Identify and record documentation listed in the DPP template not yet available as document or placeholder in IDM.
4. Based on the observations recorded in tasks 1 to 3, agree with the IO-RO of the diagnostic project the proposed changes to the IDM folder structure, the existing IDM documents and the planned extra placeholders.
5. Update the IDM folder structure and existing documentation (metadata) where applicable (directly in IDM).
6. Generate a (Excel) list, based on the DPP template and in agreement with the IO-RO, of the planned documentation. This list should be in a format that allows bulk creation of IDM placeholders by the IT division that subsequently will bulk-upload the placeholders to IDM.
7. Run the DPP reporting tool that will automatically scan through the IDM folder structure of the diagnostic project and create the DPP for that system based on the documents/placeholders in the IDM folder structure, their due date and their folder location. The resulting (Excel) file shall be stored as the DPP for that system.

As mentioned in the previous subsection, the work concerns about 200 documents to be cross-checked for 107 diagnostic projects.

The work is mainly administrative, but needs a person with sufficient technical background. This means (s)he needs to understand the content and use of the documents in the DPP (documents such as Load Specification, Structural Integrity analyses, Remote Handling assessment, Electronics Radiation Hardness Assessment, RAMI analysis, I&C architecture, Maintenance and operation plan, test plans …). This is required in order to be able to assess, in communication with the project IO-RO, which documents are potentially less relevant for the system in question and which documents are critical. It is also necessary in order to assess which already existing documents might be equivalent to documents mentioned in the DPP template, even if they do not necessarily have the name as proposed in the DPP template (task 2).
Good communication skills are also a prerequisite given the required communication with the system ROs of task no. 3.

As deliverables a number of reports on the above tasks will be required in which links are provided to the completed DPPs. The number of DPPs to be created per deliverable report will gradually increase from 4 to 10 in the first 4 deliverables. This is based on the assumption that the person performing the above tasks will be able to use the experience of previously created DPPs to more efficiently create the next DPPs. The deliverables are defined in Section 8 List of Deliverables and due dates.

7 Responsibilities

7.1 Contractor's Responsibilities

In order to successfully perform the tasks in these Technical Specifications, the Contractor shall:

- Strictly implement the IO procedures, instructions and use templates;
- Provide experienced and trained resources to perform the tasks;
- Contractor's personnel shall possess the qualifications, professional competence and experience to carry out services in accordance with IO rules and procedures;
- Contractor's personnel shall be bound by the rules and regulations governing the IO ethics, safety and security IO rules.

7.2 IO's Responsibilities

The IO shall:

- Nominate the Responsible Officer to manage the Contract (IO-TRO);
- Organise a monthly meeting(s) on work performed;
- Provide offices at IO premises.
- Grant the access to the IDM as Author to the contractor, in order to upload documentations.

8 List of Deliverables and due dates

The main deliverables are listed in the table below

D #	Description			Due Dates*
D01	Report on creation of DPPs	1 to 4	(4 DPPs)	T0 + 1 months
D02	Report on creation of DPPs	5 to 9	(5 DPPs)	T0 + 2 months
D03	Report on creation of DPPs	10 to 17	(8 DPPs)	T0 + 3 months
D04	Report on creation of DPPs	18 to 27	(10 DPPs)	T0 + 4 months
D05	Report on creation of DPPs	28 to 37	(10 DPPs)	T0 + 5 months
D06	Report on creation of DPPs	38 to 47	(10 DPPs)	T0 + 6 months
D07	Report on creation of DPPs	48 to 57	(10 DPPs)	T0 + 7 months
D08	Report on creation of DPPs	58 to 67	(10 DPPs)	T0 + 8 months
D09	Report on creation of DPPs	68 to 77	(10 DPPs)	T0 + 9 months
D10	Report on creation of DPPs	78 to 87	(10 DPPs)	T0 + 10 months
D11	Report on creation of DPPs	88 to 97	(10 DPPs)	T0 + 11 months
D12	Report on creation of DPPs	98 to 107	(10 DPPs)	T0 + 12 months

*T0 is the time of the start of the contract.

9 Acceptance Criteria

These criteria shall be the basis of acceptance by IO following the successful completion of the services:

- The deliverables will be in the form of reports as indicated in section 8 List of Deliverables and due dates.
- The deliverables will be posted in the Contractor's dedicated folder in IDM.
- The IO-TRO is the Approver of the delivered reports.
- The Approver can name one or more Reviewers(s) in the area of the report's expertise.
- The Reviewer(s) can ask modifications to the report in which case the Contractor must submit a new version.
- The acceptance of the document by the Approver is the acceptance criterion.

10 Specific requirements and conditions

Experience of all skills and techniques required to perform the task described in 6 Work Description and to produce the deliverables listed in 8 List of Deliverables and due dates– in particular:

- Meticulous and organized administrative skills, e.g. with respect to carefully cross-checking lists of documents and storage structures against each other;
- Sufficient technical background to be able to understand the content/use of the types of documents mentioned in section 6 Work Description;
- Good communication skills (1-to-1 meetings, presentations, fluency in English …);
- Experience with the ITER documentation Management system (IDM) or similar document management systems;
- Experience with MS Office, specifically Excel;

11 Work Monitoring / Meeting Schedule

The work will be managed by means of Progress Meetings and through the formal exchange of documents and transmitted by emails which provide detailed progress.

Progress Meetings will be called by the ITER Organization or the C-TRO. They will be held as needed and at least bi-monthly on the IO site. Progress meetings will involve C-TROs and the IO-TRO. External experts will be invited to discuss technical matters. The C-RO will be invited in case of contractual discussions.

For all Progress Meetings, minutes, including action items, shall be written by the C-TRO and be stored in the ITER IDM in order to ensure traceability.

12 Delivery time breakdown

See Section 8 List of Deliverables and due dates.

13 Quality Assurance (QA) requirements

The organisation conducting these activities should have an ITER approved QA Program or an ISO 9001 accredited quality system.

The general requirements are detailed in ITER Procurement Quality Requirements (ITER_D_22MFG4).

Prior to commencement of the task, a Quality Plan must be submitted for IO approval giving evidence of the above and describing the organisation for this task; the skill of workers involved in the study; any anticipated sub-contractors; and giving details of who will be the

independent checker of the activities (see Procurement Requirements for Producing a Quality Plan (ITER_D_22MFMW)).

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. 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).

14 CAD Design Requirements (if applicable)

No CAD design tasks are foreseen for this contract.

15 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 a specific management system is implemented for his own activities and for the activities done by any Supplier and Subcontractor following the requirements of the Order 7th February 2012 (PRELIMINARY ANALYSIS OF THE IMPACT OF THE INB ORDER - 7TH FEBRUARY 2012 (AW6JSB v1.0)).