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EXTERNAL REFERENCE

Call for Expert Documents

Technical Specification for Cryogenic Quality Coordinator Contract

The purpose of this contract is to acquire the services of one Quality Coordinator for a fixed period to assist in design, manufacturing, installation and test activities of the ITER Cryogenic System.

Approval Process			
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Technical Specification for Cryogenic Quality Coordinator Contract (HJR5Y9_v1_2)	v1.2	Approved	06 Mar 2014	Comments from D. Sands included.
Technical Specification for Cryogenic Quality Coordinator Contract (HJR5Y9_v1_1)	v1.1	Signed	06 Mar 2014	Modify the title of the Technical Expertise. Taken into account comments from Procurement Add D. Sands as reviewer.
Technical Specification for Cryogenic Quality Coordinator Contract (HJR5Y9_v1_0)	v1.0	Revision Required	25 Feb 2014	

Table of Contents

1 Purpose

The purpose of this contract is to acquire the services of one Quality Coordinator Engineer for a fixed period to assist in design, manufacturing, installation and test activities of the ITER Cryogenic System.

The document describes the scope of work of the Quality Coordinator for the Cryogenic System.

The fundamental function of the Cryogenic System is to cool-down and maintain the required operating temperatures for the ITER components that operate at cryogenic temperatures. The Cryogenic System shall provide the cooling of the ITER cryogenic components at three main nominal temperature levels, namely: 4 K, 50 K and 80 K. The Cryogenic System is split in four sub-systems (PBS) which are supplied by various DAs and Contractors:

- PBS 34.10 – The LN_2 Plant & Auxiliary Systems (EU-DA);
- PBS 34.20 – The Cryolines and Warm lines (IN-DA).
- PBS 34.30 – The Cryodistribution (IN-DA);
- PBS 34.40 – The LHe Plants (IO);

The Cryogenic System section and its sub-Systems shall implement the IO Quality Procedure and shall develop Quality Plans to control the compliances of the goods throughout the execution of the project.

The Document describes the scope of work of the Cryogenic Quality Coordinator (QC) and the specific competences required throughout the execution of the project.

2 Scope

In the framework of a transverse activity for the Cryogenic System procurements, installation and commissioning and in collaboration with the Section Leader and TROs within the Cryogenic Section, the Quality Coordinator (QC) shall:

- Support coordination of Quality Plan activities;
- Support coordination of Quality Classification;
- Support coordination of Manufacturing Inspection;
- Support coordination of Configuration Management;
- Support coordination of Project Documentation.

The QC is belonging to the Cryogenic Section but work closely with the Quality Responsible Officer (QARO) who is responsible for all Quality aspect.

3 References / Terminology and Acronyms

3.1 References

Ref. #	Reference	Title
	ITER_D_2F68EX	ITER Systems Engineering Management Plan - ITER-SEMP
	ITER_D_4CK4MT	ITER System Design Process (SDP)
	ITER_D_22MFG4	ITER Procurement Quality Requirements
	ITER_D_24VQES	Quality Classification Determination
	ITER_D_34VL6W	Functional Specification for LN_2 Plant and Auxiliary Systems
	ITER_D_3M2K3U	Functional specification for ITER cryolines and warm lines
	ITER_D_43VKDQ	ANNEX B (PA 34.P3.IN.01 Cryodistribution)
	ITER_D_4578HQ	ITER LHe Plants Technical Specification
	ITER_D_2LZJHB	IO Deviations and Non-conformities
	ITER_D_22F53X	Requirements for DA / Supplier / Subcontractors Deviations & Nonconformities
	ITER_D_3E65VE	Procedure for Processing Deviation Requests and Non-conformance Reports submitted by a DA, a Supplier or a Sub-contractor

3.2 Acronyms

Acronyms	Meaning
CSES	Cryogenic System Engineering Section
CMM	Configuration Management Model
DA	Domestic Agency
EU	Europe
IN	India
IO	ITER Organization
PA	Procurement Arrangement
PBS	Plant Breakdown Structure
QARO	Quality Responsible Officer
QC	Quality Coordinator
TRO	Technical Responsible Officer

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

4 Work Description

The Quality Coordinator is expected to provide the support to the Cryogenic System staff members on following work scope.

4.1 Description of the Tasks

Please note that the scope of tasks described in this section could change according to the priority of the project.

4.1.1 Task 1: Cryogenic System and Sub-Systems Quality Plans

For the Cryogenic System and Sub-Systems, the QC shall:

- Establish the list of all quality related document applicable to the Procurement;
- Review the List with the QARO part of IO Quality Department;
- Contribute to the elaboration of Cryogenic System and Sub-Systems Quality Plans;
- Ensure throughout the project that Quality Plans is implemented;
- Write necessary Quality Project procedure required by the project.

For the Contractor or DA Quality Documentation, the QC shall:

- Review the Contractors / DA Quality Documentation with IO QARO.

For the Sub-Contractor Quality Documentation, the QC shall:

- Ensure that IO Quality Requirements are specified by the Contractor to the S/C.

Throughout the execution of the project, the QC shall ensure in collaboration with the IO QARO, that the Quality Plans are satisfactorily implemented.

4.1.2 Task 2: Quality Classification Determination

The QC Shall:

- Review the IO Quality Classification Determination in collaboration with the TRO and IO QARO;
- Ensure that based on the Quality Classification the adequate level of Quality Control is implemented;
- Review Contract documentation related to the design of pressure vessels (ESP category), piping with regards to applicable code and standards required by IO.
- Review Non Destructive Testing (NDT) documentation for manufacturing applicability and acceptance.

4.1.3 Task 3: Manufacturing Inspection

The QC Shall:

- Review and organize the Contractors Manufacturing Inspection Plans (MIPs);

- Manage the IO Cryogenic Manufacturing database;
- Be in frequent contact with the Contractors or DA Quality Representative;
- Ensure that MIPs are duly completed throughout all Contracts phases;
- Participate to the inspection related to MIP as required by the TRO.

4.1.4 Task 4: Configuration Management

The QC shall follow the configuration management in conformance with the Quality Plan (IO Requirements). Hence, throughout the project the QC will manage under the responsibility of the TRO:

- Design Change Request;
- Project Change Request;
- Deviation Request;
- Non-Conformance Report.

4.1.5 Task 5: Documentation Management

The QC shall:

- Maintain the Cryogenic System documentation procedure;
- Ensure that each TRO is properly implementing documentation procedure;
- Contribute to the Elaboration of the VDI: Vendor Document Index. (list of Contractor Deliverable) with respect to regulation requirements;
- Ensure that all deliverables related to the Quality, Regulation, Codes and Standard are timely provided. (MRR prior to Manufacturing, CE Certificate prior to expedition, etc…);
- Ensure that the IO and Contractor Documentation and Documentation Management reflect IO Quality Requirements (Classification, Numbering, Identification, Right Level of Verification and Approval).

4.1.6 Task 6: French Regulation Compliance

The QC shall:

- Ensure compliance of the French regulation during all project phase;
- Compliance with Manufacturing code (EN, CODAP, etc.);
- Work on periodic exemption for cryogenic vessels and equipment;
- Communication with IO Safety.

5 Skills and Competences

The QC providing the services shall meet the following skills and experience:

- Degree at least equivalent to 4 to 5 years of study after the High School Diploma (ex. Engineer or Master of Science Degree), in Material, Mechanical or other relevant discipline;
- At least 5 years' experience in the design, manufacturing and commissioning of components and installations for large plants (Power Generation, Gas and Oil, Nuclear Plant, etc.) or large experimental system in the Cryogenic field;
- Experience as Quality Coordinator specialist:
    - Elaboration of Quality Plan;
    - Elaboration of Inspection Plan;
    - Conduct of Quality Audit (Quality Auditor).
- Good Knowledge of Industrial Systems such as:
    - Pressure Vessels (ESP), Piping;
    - Welding;
    - Non Destructive Tests;
    - Codes (E.g.: EN 13445; EN 13458, EN13480 ; CODAP, CODETI, ASME, …)
    - Qualification (COFREND) would be a plus;
    - Regulation on pressure equipment (PED, French decree 99-1046; French Order 15-03-2000, BSEI, …)
- Excellent knowledge of English (Fluent), to allow easy communication and adequate drafting of technical documentations;
- Knowledge of French (establishing the justification files – request for exemption – submitted to ASN).

6 Responsibilities

6.1 Place of Performance

The place of performance of the QC shall be at ITER Organization Office.

It shall be noted that meetings and travel to Contractors office are foreseen and shall require the participation of the QC. The estimated number of meetings at Contractors office is ten a year.

6.2 Logistics

In order to enable the QC to complete the agreed tasks, IO must provide an office in ITER Organization site and will provide all required access.

IO will also provide the following:

- Computer hardware;
- Software and network;
- Phone: LAN Line.

IO will not provide cell phones, which shall be provided by the QC employer.

7 List of Deliverables and Due Dates

The service QC shall work closely with the Cryogenic System staffs throughout the period and produce a progress report every four weeks based upon the work description (see chapter 4) and clarified with TROs each beginning of the four weeks period.

Further details on the reports shall be established by the Section Leader at the beginning of the relevant work period.

The main deliverables for the tasks 1 to 6 are described in Table 1. Please note that these deliverables and their dates of issue are not final and are subjected to changes according to the progress of the DA or Contractors activities and the availability of input data.

Table 1: Deliverables for tasks 1 to 6 for first year contract

Task	Document	Expected date
1	1) Preliminary report of the Cryogenic Section Quality plans: a. Review or update the Quality Plans of the Cryogenic System and all sub-systems; b. Review of the DA and Contractor Quality Plan; 2) Final report of the Cryogenic Section Quality plans: a. Finalization of the Quality Plans of the Cryogenic System and all sub-systems; b. Final comments on the DA and Contractor Quality Plan;	1) T0+3 months 2) T0+6 months
2	1) Preliminary report of the sub-system components Quality Classification: a. Review and Manage the list of all components Quality Classification; b. Manage the coherencies of the Quality Classification through all sub-systems. 2) Final report of the sub-system components Quality Classification: a. Final list of all components Quality Classification;	1) T0+3 months 2) T0+9 months
3	1) Preliminary implementation of the MIPs a. On the LHe Plants Contract implementation of the MIPs into the IO Manufacturing database; b. Review 1st set of MIPs; c. Validation of the 1st MIP. 2) Management of the IO Cryogenic System Manufacturing database a. Update of the data according to Contract phase. 3) Review of the 1st Manufacturer file before component deliverable.	1) T0+3 months 2) T0+6 months 3) T0+12 months

Task	Document	Expected date
4	1) Update the list of Project Change and Non-Conformance.	1) On each Monthly report
5	1) Preliminary report on the Sub-Systems documentation management. a. Establish a list of corrective action for each sub-system b. Propose update of the Documentation Management Procedure. 2) Final report on the Sub-Systems documentation management. 3) Establish a Management procedure for the EPL (Equipment part List)	1) T0+1 months 2) T0+3 months 3) T0+7 months
6	1) Preliminary report on French Regulation Compliances. a. Documentation reviewed; b. List of exemption file to produce. 2) Report of exemption file submitted to IO–Safety. 3) Report on the exemption files submitted to ASN.	1) T0+2 months 2) T0+4 months 3) T0+10 months

8 Acceptance Criteria during Contract

The progress reports as mentioned in the section 7 shall be reviewed by the IO-TRO for acceptability.

The work shall be accepted once the deliverable document uploaded in IDM is approved by the Section Leader of the Cryogenic System Engineering Section.

IO shall review the deliverables and reply, within 15 following working days, with a commented version of the deliverables.

The Contractor shall perform all the necessary modifications or iterations to the deliverables and submit a revised version within the 15 following working days.

The contract shall be considered completed after IO has accepted the last deliverable.

9 Specific Requirements and Conditions

The official language of the ITER project is English. Therefore all input and output documentation relevant for this Contract shall be in English. The Contractor shall ensure that all the professionals in charge of the Contract have an adequate knowledge of English, to allow easy communication and adequate drafting of technical documentation. This requirement also applies to the Contractor's staff working at the ITER site or participating to meetings with the ITER Organization.

Documentation developed shall be retained by the contractor 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, it should fulfil IO document on calculation code for safety analysis.

The work shall require the presence of the Contractor's personnel at the site of the ITER Organization, Cadarache, 13108 St Paul-lez-Durance, France, for the duration of the contract. For all deliverables submitted in electronic format the Contractor shall ensure that the release of the software used to produce the deliverable shall be the same as that adopted by the ITER Organization.

The engineer provided for on-site duties shall keep the normal daily working hours of the ITER Organization.

10 Work Monitoring / Meeting Schedule

The QC shall report to the ITER Organization TRO and the Cryogenic Section leader. Meetings shall be held as and when deemed necessary by the ITER Cryogenic staff.