外部委託業者の募集

References: IO/25/OT/10033300/CPT

"Service contract for the performance, qualification, and integration of diagnostic components, in particular focused on safety-related systems (PIC-SIC)"

（安全関連システム（PIC-SIC）に特化した計測機器の性能評価と統合に関するサービス契約）

IO 締め切り 2025 年 10 月 14 日(火)

〇はじめに

本事前情報通知（PIN）は、作業契約の入札授与および実行につながる公開入札調達プロセスの最初のステップです。

〇背景

ITER は平和利用の核融合発電の科学的および技術的な実現可能性の実証を目的とした、国際共同研究開発プロジェクトです。ITER 機構の 7 つのメンバーは、;欧州連合（EURATOM が代表）、日本、中華人民共和国、インド、大韓民国、ロシア連邦、および米国です。

ITER の敷地はフランス南東部のブーシュデュローヌ地区にあり、ITER 本社（HQ）もあるフランス CEA サン・ポール・レ・デュランス に近いところに位置しています。詳細については、ITER のウェブサイト http://www.iter.org を参照して下さい。

〇作業範囲

この入札プロセスは、計測機器の性能、品質保証、および統合に関する実証された専門知識を提供する契約を締結することを目的としています。特に、安全関連システム（PIC-SIC）に重点を置きます。

また、本契約は、製品が本技術仕様書で定義された技術要件を満たすことを保証します。

〇調達プロセスと目的

目的は、競争入札プロセスを通じて供給契約を落札することです。

この入札のために選択された調達手続きは公開入札手続きと呼ばれます。

オープン入札手順は、次の 4 つの主要なステップで構成されています。

- ステップ1-事前情報通知（PIN）

  事前通知（Prior Indicative Notice）は、公開入札プロセスの最初の段階です。IOは、国内機関に対して、今後の入札に関する情報を公開するよう正式に招待し、企業、機関、またはその他の団体に入札の機会を事前に知らせます。**入札に興味のある企業は、下記の調達スケジュールに示された期限までに、表明書（付属書Ⅱ）をEメールでご提出くださいますようお願いいたします。**

- ステップ2-入札への招待（IIT）

  PINの発行から14作業日以内に、関心を示した入札者に対して入札への招待（IIT）が送付されます。この段階では、PINを確認した関心のある入札者が入札書類を入手し、入札指示に従って提案書を準備・提出することができます。

- ステップ3-入札評価プロセス
  入札者の提案は、ITER機構の公正で専門的な技術評価委員会によって評価されます。入札者は、技術範囲に従い、入札への招待（IIT）に記載された特定の評価基準に基づいて作業を実施できることを示す技術的な適合性の詳細を提供する必要があります。

- ステップ4–落札
  認定は、入札への招待（IIT）に記載されている、コストに見合った最適な価格または技術的に準拠した最低価格に基づいて行われます。

〇概略日程

概略日程は以下の通りです：

マイルストーン	暫定日程
事前指示書（PIN）の発行	2025 年 9 月 30 日
関心表明フォームの提出	2025 年 10 月 14 日
iPROC での提案依頼書の発行	2025 年 10 月 20 日
明確化のための質問（もしあれば）と回答締め切り	2025 年 11 月 21 日
質問の回答	2025 年 11 月 26 日
iPROC で入札提出	2025 年 12 月 1 日
入札評価及び契約授与	2025 年 12 月 E
契約調印	2026 年 1 月初旬

*新しい契約者が現地の活動や手順に慣れるため、また旧契約者がスムーズに解約作業を行うために、3ヶ月の重複期間が予定されています。

〇契約期間と実行

予想される契約期間は、24か月とします。契約の最終調印日の前の作業はありません。

〇経験

入札者は、付属書 I 詳述される作業範囲に従って、技術的、産業的な経験を実証する必要があります。

ITER での使用言語は英語で、流ちょうなプロレベルが求められます（口頭および文書）。

〇候補

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どのコンソーシアムメンバーも IPROC に登録する必要があります。

【※　詳しくは添付の英語版技術仕様書「**Service contract for the performance, qualification, and integration of diagnostic components, in particular focused on safety-related systems (PIC-SIC).**」をご参照ください。】
ITER 公式ウェブ　http://www.iter.org/org/team/adm/proc/overview からもアクセスが可能です。

「核融合エネルギー研究開発部門」の HP：　http://www.fusion.qst.go.jp/ITER/index.html では ITER 機構からの各募集（IO 職員募集、IO 外部委託、IO エキスパート募集）を逐次更新しています。ぜひご確認ください。

イーター国際核融合エネルギー機構からの外部委託
に関心ある企業及び研究機関の募集について

＜ITER 機構から参加極へのレター＞

以下に、外部委託の概要と要求事項が示されています。参加極には、提案された業務に要求される能力を有し、入札すべきと考える企業及び研究機関の連絡先の情報を ITER 機構へ伝えることが求められています。このため、本研究・業務に関心を持たれる企業及び研究機関におかれましては、応募書類の提出要領にしたがって連絡先情報をご提出下さい。

china eu india japan korea russia usa
Route de Vinon-sur-Verdon - CS 90 046 - 13067 St Paul Lez Durance Cedex - France

PRIOR INDICATIVE NOTICE (PIN)

OPEN TENDER SUMMARY

IO/25/OT/10033300/CPT

for

Service contract for the performance, qualification, and integration of diagnostic components, in particular focused on safety-related systems (PIC-SIC).

Abstract

The purpose of this summary is to provide prior notification of the IO intention to launch a competitive Open Tender process in the coming weeks. This summary provides some basic information about the ITER Organisation, the technical scope for this tender, and details of the tender process for the award of a Service Contract for providing demonstrated expertise in the performance, qualification, and integration of diagnostic components, with a particular emphasis on safety-related systems (PIC-SIC).

1 Introduction

This Prior Indicative Notice (PIN) is the first step of an Open Tender Procurement Process leading to the award and execution of a Service Contract.
The purpose of this document is to provide a basic summary of the technical content in terms of the scope of work, and the tendering process.
The Domestic Agencies are invited to publish this information in advance of the forth-coming tender giving companies, institutions or other entities that are capable of providing these supplies prior notice of the tender details.

2 Background

The ITER project is an international research and development project jointly funded by its seven Members being, the European Union (represented by EURATOM), Japan, the People's Republic of China, India, the Republic of Korea, the Russian Federation and the USA. ITER is being constructed in Europe at St. Paul–Lez-Durance in southern France, which is also the location of the headquarters (HQ) of the ITER Organization (IO).

For a complete description of the ITER Project, covering both organizational and technical aspects of the Project, visit www.iter.org.

3 Scope of Work

The present tender process aims to set up a Contract to provide demonstrated expertise in the performance, qualification, and integration of diagnostic components, with a particular emphasis on safety-related systems (PIC-SIC).
The contract also ensures that the product meets the technical requirements defined in this Technical Specification.

4 Procurement Process & Objective

The objective is to award a Service Contract through a competitive bidding process.

The Procurement Procedure selected for this tender is called the Open Tender procedure.

The Open Tender procedure is comprised of the following four main steps:

- Step 1- Prior Indicative Notice (PIN) :
  The Prior Indicative Notice is the first stage of the Open Tender process. The IO formally invites the Domestic Agencies to publish information about the forth-coming tender in order to alert companies, institutions or other entities about the tender opportunity in advance. **Interested tenderers are kindly requested to return the expression of interest form (Annex II) by e-mail by the date indicated in the procurement timetable below.**

- Step 2 - Invitation to Tender (ITT) :
  Within 14 days of publishing the Prior Indicative Notice (PIN), the Invitation to Tender (ITT) will be advertised. This stage allows interested bidders who have seen the PIN to obtain the tender documents and prepare and submit their proposals per the tender instructions.

- Step 3 – Tender Evaluation Process :

Tenderers' proposals will be evaluated by an impartial, professionally competent technical evaluation committee of the ITER Organization. Tenderers must provide details demonstrating their technical compliance to perform the work in line with the technical scope and per the criteria listed in the invitation to tender (ITT).

- Step 4 – Contract award :
  A Service contract will be awarded based on the best value for money according to the evaluation criteria and methodology described in the Invitation to Tender (ITT).

5 Procurement Timetable

The tentative timetable is as follows:

Milestone	Date
Publication of the Prior Indicative Notice (PIN)	30 Sep 2025
Deadline for Submission of Expression of interest form	14 Oct 2025
Request for Proposals (RFP)- Invitation to Tender (ITT) advertisement	20 Oct 2025
Clarification Questions (if any) and Answers deadline	21 Nov 2025
Answers to Clarifications	26 Nov 2025
Tender Submission in IPROC	1 Dec 2025
Tender Evaluation & Contract Award	End of Dec 2025
Contract Signature	Early Jan 2026

6 Quality Assurance Requirements

Prior to the commencement of any work under this Contract, the selected Contractor shall produce a "Quality Plan" and submit it to the IO for approval, describing how they will implement the ITER Procurement Quality Requirements.

7 Contract Duration and Execution

The duration shall be for 24 months. No work shall commence before the date of final signature of the Contract.

8 Experience

The tenderer shall demonstrate experience related to the scope of work as detailed in Annex I.
Working language of ITER is English. A fluent professional level is required (spoken and written).

9 Candidature

Participation is open to all legal entities participating either individually or in a grouping/consortium. A legal entity is an individual, company, or organization with legal rights and obligations established within an ITER Member State.

Legal entities cannot participate individually or as a consortium partner in more than one application or tender of the same contract. A consortium may be a permanent, legally-established grouping, or a grouping

constituted informally for a specific tender procedure. All consortium members (i.e. the leader and all other members) are jointly and severally liable to the ITER Organization.

In order for a consortium to be acceptable, the individual legal entities included therein shall have nominated a leader with authority to bind each member of the consortium, and this leader shall be authorised to incur liabilities and receive instructions for and on behalf of each member of the consortium.

It is expected that the designated consortium lead will explain the composition of the consortium members in a covering letter at the tendering stage. Following this, the Candidate's composition must not be modified without notifying the ITER Organization of any changes. Evidence of any such authorisation shall be submitted to the IO in due course in the form of a power of attorney signed by legally authorised signatories of all the consortium members.

10 Sub-contracting Rules

All sub-contractors who will be taken on by the Contractor shall be declared with the tender submission in IPROC. Each sub-contractor will be required to complete and sign forms including technical and administrative information, which shall be submitted to the IO by the tenderer as part of its tender.
The IO reserves the right to approve (or disapprove) any sub-contractor which was not notified in the tender and request a copy of the sub-contracting agreement between the tenderer and its subcontractor(s). Rules on sub-contracting are indicated in the RFP itself.

IDM UID
ETLNMG

VERSION CREATED ON / VERSION / STATUS
12 Sep 2025 / 1.1 / Approved

EXTERNAL REFERENCE / VERSION

Technical Specifications (In-Cash Procurement)

Service contract for the performance, qualification, and integration of diagnostic components, in particular focused on safety-related systems (PIC-SIC).

The purpose of this Technical Specification is for contracting an external service provider with demonstrated expertise in the performance, qualification, and integration of diagnostic components, with a particular emphasis on safety-related systems (PIC-SIC). The objective is to ensure the compliant and reliable integration of these components with diagnostic ports and their associated payloads, in accordance with applicable safety and project-specific requirements

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1 Preamble

This Technical Specification must be read in conjunction with the General Management Specification for Service and Supply (GM3S) – [Ref 1], which forms an integral part of the technical requirements. In the event of a conflict, the present Technical Specification

2 Purpose

The purpose of this Technical Specification is for contracting an external service provider with demonstrated expertise in the performance, qualification, and integration of diagnostic components, with a particular emphasis on safety-related systems (PIC-SIC). The objective is to ensure the compliant and reliable integration of these components with diagnostic ports and their associated payloads, in accordance with applicable safety and project-specific requirements.

The scope of the contracted services shall include:

- Assessment and resolution of maturity gaps between diagnostic payloads and ports, including in-vessel diagnostics and services, with the proposal of technically sound and schedule-aligned corrective actions.
- Provide inputs for verification and incorporation of boronization-related technical upgrades into the relevant documentation.
- Provide technical inputs for identification and preparation for Turn Over Packages (TOP) related to diagnostic ports and their payloads.
- Definition, execution, and technical inputs for the qualification process for safety-related components (PIC/SIC), ensuring full alignment with functional safety and project-specific requirements.
- Review and assessment of engineering analysis reports related to diagnostic components from IO and DAs, to ensure technical consistency, completeness, and compliance with safety and qualification requirements.
- Use of existing qualification evidence from similar components to optimize the qualification effort, with a focus on addressing identified gaps.
- Provide technical inputs for development of full qualification processes in cases where no relevant prior evidence exists.
- Extension of existing qualifications to new configurations, where applicable, through procurement of analytical justification methods such as Finite Element Analysis (FEA).

All work under this Contract is deliverables-based.

3 Acronyms & Definitions

3.1 Acronyms

The following acronyms are the main one relevant to this document.

Abbreviation	Description
CRO	Contract Responsible Officer
DA	Domestic Agency
EWP	Engineering Work Package
FEA	Finite element Analysis
GDC	Glow Discharge Cleaning
GM3S	General Management Specification for Service and Supply
HOP	Hand-Over Package
IO	ITER Organization
MQP	Management and Quality Program
PBS	Plant Breakdown Structure
PCR	Project Change Request
PIC	Protection Important Component
SIC	Safety Important Component
SRD	System Requirements Document
SSRD	Sub System Requirements Document
TOP	Turn Over Package
TRO	Technical Responsible Officer
WP	Work Package

3.2 Definitions

Contractor: shall mean an economic operator who have signed the Contract in which this document is referenced.

Other definitions can be examined in the section 2.1 of the GM3S Ref [1] and may be required to ensure proper understanding of the document.

4 Applicable Documents & Codes and standards

4.1 Applicable Documents

This is the responsibility of the Contractor to identify and request for any documents that would not have been transmitted by IO, including the below list of reference documents.

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This Technical Specification takes precedence over the referenced documents. In case of conflicting information, this is the responsibility of the contractor to seek clarification from IO.

Upon notification of any revision of the applicable document transmitted officially to the contractor, the contractor shall advise within 4 weeks of any impact on the execution of the contract. Without any response after this period, no impact will be considered.

Ref	Title	IDM Doc ID	Version
1	General Management Specification for Service and Supply (GM3S)	82MXQK	1.4
2	ITER Procurement Quality Requirements	22MFG4	5.1
3	Procurement Requirements for Producing a Quality Plan	22MFMW	4.0
4	Software qualification policy	KTU8HH	2.0
5	SRD-55 (Diagnostics) from DOORS	28B39L	5.5
6	ICP4 HOP + PCR Management	https://icp.iter.org/	1.0
7	MQP L3 Procedure for Qualification of Protection Important Components (PIC)	XB5ABP	2.1
8	MQP_L2_Procedure for Analyses and Calculations	22MAL7	6.8
9	Project Requirements (PR)	27ZRW8	7.1
10	Codes and Standards for ITER Mechanical Components	25EW4K	5.0

4.2 Applicable Codes and Standards

Particular codes for Qualification of Protection Important Components (PIC) are indicated in the ref. 7, section 4.

Particular codes for Analyses and Calculations are included in the ref.10.

5 Scope of Work

This section defines the specific scope of work for the service, in addition to the contract execution requirement as defined in Ref [1].

The compliance with the defined requirements included in the SRD (Ref 5) is mandatory.

5.1 Description

The contract includes three batches divided into work packages as described below. An example of activity with a link is provided where applicable. The batch scope of work is organized into distinct work packages, each comprising several tasks. These tasks are classified according to their technical complexity and the level of effort required, ensuring a structured and efficient execution of the contract activities. The amount of individual tasks of each type expected in each

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work package is summarized in the corresponding tables where the total number of man-days requested is calculated.

5.1.1 Batch A: Support for Diagnostic Port Integration and Documentation Alignment

The Contractor shall assess and resolve maturity gaps between diagnostic payloads and ports, including in-vessel diagnostics and services, by proposing technically sound and schedule-aligned corrective actions; provide inputs for the verification and incorporation of boronization-related technical upgrades into the relevant documentation; and support the identification and preparation of technical inputs required for the development of Turn Over Packages (TOP) related to diagnostic ports and their payloads.

5.1.1.1 Work Package WP#A1

Category 1 (Small) - C1

- Task: Pre-gate reviews assessment of readiness of documentation on diagnostics performance and engineering justification, example:

  ITER_D_E4UR63 v1.3 - 55.QH - Input Data Package List - FDR-1

  https://user.iter.org/default.aspx?uid=E4UR63
- Estimated Workload:
  - Effort: < 0.5 man-day
  - Task complexity: Minimal, involving straightforward documentation and reporting tasks.

Category 2 (Medium) - C2

- Task: Analysis of the GDC/ boronization lines design maturity and its impact on diagnostic port integration, reference example:

  https://user.iter.org/default.aspx?uid=EB5E99
- Estimated Workload:
  - Effort: < 1 man-day
  - Tasks complexity: Moderate, requiring coordination and review processes.

Category 3 (Large) - C3

- Task: Analysis of manufacturing schedule of GDC and its impact on port manufacturing for SRO ports, reference example:

  https://user.iter.org/default.aspx?uid=ECRHKC
- Estimated Workload:
  - Effort: < 2 man-days
  - Tasks complexity: High, involving multiple systems and understanding of manufacturing schedule.

5.1.1.2 Work Package WP#A2

Category 1 (Small) - C1

- Task: Analysis of the maturity gaps between diagnostics and port/divertor cassette integration and propose mitigation measures to be implemented to close it up, example: https://user.iter.org/default.aspx?uid=BGV68X

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- Estimated Workload:
  - Effort: < 0.5 man-day
  - Task complexity: Basic task.

Category 2 (Medium) - C2

- Task: Assist in preparation of TOPs for diagnostic systems and ports. The TOP scope must be functionally oriented, representing a (sub-)system that enables commissioning activities and/or operation activities.
- Estimated Workload:
  - Effort: < 1 man-day
  - Tasks complexity: Moderate due to collaboration and review processes.

Category 3 (Large) - C3

- Task: Assess and propose actions for the implementation of harmonisation of technical work which could be shared between different stakeholders in order to avoid parallel work by different teams and to optimise schedule (including the work on TOPs), examples: https://user.iter.org/default.aspx?uid=DY6H24 and https://user.iter.org/?uid=AS4HEK&version=v1.8
- Estimated Workload:
  - Effort: < 2 man-days
  - Tasks complexity: High, involving schedule harmonisation.

5.1.1.3 Work Package WP#A3

Category 1 (Small) - C1

- Task: Review the corresponding risks in the Risk Registry and identify solutions to solve them
- Estimated Workload:
  - Effort: < 0.5 man-day
  - Task complexity: Basic task.

Category 2 (Medium) - C2

- Task: Assess and provide mitigation measures to address late interface issues which may affect manufacturing schedule of diagnostics in ports and on the divertor cassette
- Estimated Workload:
  - Effort: < 1 man-day
  - Tasks complexity: Moderate due to collaboration and review processes.

Category 3 (Large) - C3

- Task: Review and provide recommendations on fulfilling the requirements as per SSRD/ TRA and their propagation into corresponding Technical Specifications for manufacturing in preparation for and follow up of manufacturing of diagnostic ports and systems, examples: https://user.iter.org/default.aspx?uid=E9RHDR or https://user.iter.org/default.aspx?uid=E2PN3N

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- Estimated Workload:
  - Effort: < 2 man-days
  - Tasks complexity: High involving review of technical specifications for manufacturing.

For quotation purposes, the estimated amount of work expected in batch 1 scope is summarized in the following table:

Work Package	Task Category	Estimated Effort	Estimated Quantity
WP#A1	C1	< 0.5 man-day	20 (10 d)
WP#A1	C2	< 1 man-day	10 (10 d)
WP#A1	C3	< 2 man-days	6 (12 d)
WP#A2	C1	< 0.5 man-day	8 (4 d)
WP#A2	C2	< 1 man-day	4 (4 d)
WP#A2	C3	< 2 man-days	6 (12 d)
WP#A3	C1	< 0.5 man-day	20 (10 d)
WP#A3	C2	< 1 man-day	10 (10 d)
WP#A3	C3	< 2 man-days	12 (24 d)

TOTAL days: 96 (~0.37PPY / 1 year)

The following specific expertise is required to execute the work scope of this batch:

- Experience in leading the engineering design and manufacturing of fusion diagnostic systems
- Experience in configuration management and requirements propagation for fusion diagnostics is all design and manufacturing stages
- Experience of international and multinational collaboration in large fusion projects
- Experience in manufacturing contracts follow up with industry for nuclear projects
- Experience in commissioning of diagnostic and auxiliary systems in nuclear and fusion projects.

5.1.2 Batch B: Qualification Strategy for Safety-Related Diagnostic Components (PIC/SIC)

The Contractor shall define, execute, and provide technical inputs for the qualification process of safety-related components (PIC/SIC), ensuring full alignment with applicable safety and project-specific requirements. This includes the use of existing qualification evidence from similar components to optimize the qualification effort by focusing on identified gaps, as well as

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the development of complete qualification processes in cases where no relevant prior evidence exists.

The Contractor shall also perform a comprehensive review and assessment of engineering analysis reports related to diagnostic components provided by the ITER Organization (IO) and Domestic Agencies (DAs), ensuring their technical consistency, completeness, and compliance with applicable safety and qualification requirements. In parallel, the Contractor shall provide technical inputs for the extension of existing qualifications to new configurations, where applicable, through the procurement and application of analytical justification methods such as Finite Element Analysis (FEA) or equivalent.

5.1.2.1 Work Package WP#B1

Category 4 (Very Large) – C4

- Task: Component's qualification path determination.
    - Case A (Reuse path): Review existing qualification documentation, identify reusable evidence, and perform a gap analysis.
    - Case B (From scratch): Establish the full qualification process tailored to the component.
    - Case C (Extension via analysis): Identify opportunities to extend existing qualifications to new configurations by performing analytical justification (e.g., mechanical or thermal FEA, reliability modeling).
- Estimated Workload:
    - Effort: < 10 man-days
    - Task complexity: High involving coordinated review and assessment of technical reports of several systems.

Category 5 (Long lasting) – C5

- Task: Provide technical inputs for the component's qualification requirements definition.
    - Definition or refining of safety goals and requirements.
    - Mapping of prior evidence and identify new requirements.
- Estimated Workload:
    - Effort: < 40 man-days
    - Task complexity: High involving coordinated review and assessment of technical reports and design documents.

Category 4 (Very large) – C4

- Task: Component's suitability assessment.
    - For components from the scratch to assess component's capabilities, limitations, and constraints.
    - For extensions and/or reuse, evaluate applicability of prior assumptions under new configuration(s).

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- Estimated Workload:
  - Effort: < 10 man-days
  - Task complexity: High involving coordinated review and assessment of technical data.

Category 5 (Long lasting) – C5

- Task: Provide technical inputs for the component's verification and validation strategy.
  - Reuse available test results where applicable.
  - Execute gap-specific tests if required.
  - For extensions: justify coverage of new configurations through analysis results validated against available test data.
- Estimated Workload:
  - Effort: < 40 man-days
  - Task complexity: High involving coordinated review and assessment of technical data.

Category 4 (Very large) – C4

- Task: Provide technical inputs for the component's qualification documentation and evidence compilation.
  - Consolidate evidence from reuse, from-scratch, and extension paths.
  - Update Qualification Plan accordingly.
- Estimated Workload:
  - Effort: < 10 man-days
  - Task complexity: High involving coordinated review and assessment of technical data.

Category 5 (Long lasting) – C5

- Task: Provide technical inputs for the component's final qualification report.
  - Compile all qualification activities (reuse, from scratch, or extension) into a structured report.
  - Clearly distinguish reused evidence, newly generated evidence, and evidence extended via analysis.
  - Provide conclusions on component qualification status and recommendations for approval.
- Estimated Workload:
  - Effort: < 40 man-days
  - Task complexity: High involving coordinated review and assessment of technical data.

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General Examples:

Qualification Records (QSR folder for IO components)

ITER_D_XB5ABP - MQP L3 Procedure for Qualification of Protection Important Components (PIC). Include all the codes, templates and guidelines for IO components

- Guidelines for qualification of mechanical equipment (ADCXXD)
- Guidelines for qualification of electrical and I&C equipment
- Guidelines for qualification of I&C System and Software (AHNMBK)
- Guidelines for Qualification by Analysis (AKFUMQ)
- Procedure for Preserving Equipment Qualification [to be issued]
- Template for Qualification Strategy (AQKXEH)
- Template for Qualification Plan (B9HR4D)
- Template for Equipment Identification file (BK7Y2G)
- Template for Qualification Test Specifications (BXD2SS)
- Template for Qualification Test Report (BXSQE9)
- Template for Qualification Synthesis Report (BXTDJE)
- Template for Qualification Preservation Sheet (BXTLMX)
- Template for Reference File (BXTMAL)
- Template for Qualification Dossier (BXTPJP)
- Template for Qualification follow-up document (BXTNRJ)

5.1.2.2 Work Package WP#B2

Category 5 (Long lasting) – C5

- Task: Engineering analysis and assessment in support of the qualification justification.
  - From reuse and from scratch, perform engineering analysis needed to complete the qualification justification as needed.
  - For extensions: evaluate new mechanical, thermal, or environmental risks using analysis (e.g., FEA for stress/strain, thermal loading, seismic qualification, etc…).
- Estimated Workload.
  - Effort: < 40 man-days
  - Task complexity: High involving execution of engineering analysis and assessment.

Category 3 (Large) – C3

- Task: Review and assessment of engineering analysis reports related to diagnostic components from IO and DAs.
  - To ensure technical consistency, completeness, and compliance with safety and qualification requirements.
  - Technical peer review and soundness verification in the assumptions and methodologies applied.
  - Production of review records as per IO MPQ.
- Estimated Workload:

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- Effort: < 2 man-days
- Task complexity: High involving coordinated review and assessment of technical data.

General Examples:

- ITER_D_AKFUMQ - Guidelines for Qualification by Analysis
- ITER_D_22MAL7 - Procedure for Analyses and Calculations Include codes, templates and guidelines for IO components
  - Instructions for Structural Analyses (35BVV3)
  - Instructions for Seismic Analyses (VT29D6)
  - Guideline for Identification of the Protection Important Activities (PIA) (SBYJXD)

For quotation purposes, the estimated amount of work expected in batch 2 scope is summarized in the following table:

Work Package	Task Category	Estimated Effort	Estimated Quantity
WP#B1	C4	< 10 man-days	7 (70 d)
WP#B1	C4	< 40 man-days	7 (280 d)
WP#B1	C4	< 10 man-days	7 (70 d)
WP#B1	C5	< 40 man-days	7 (280 d)
WP#B1	C4	< 10 man-days	7 (70 d)
WP#B1	C5	< 40 man-days	7 (280 d)
WP#B2	C5	< 40 man-days	10 (400 d)
WP#B2	C3	< 2 man-days	60 (120 d)

TOTAL days: 1570 (~3PPY / 2 years)

The following specific expertise is required to execute the work scope of this batch:

- Experience in systems engineering for defining qualification paths and integrating multiple strategies.
- Experience in design and component engineering across relevant domains (e.g., mechanical, electrical, software).
- Experience in verification and validation engineering, including test planning, execution, and gap analysis.
- Experience in engineering analysis using tools like FEA, thermal modeling, and reliability assessment.
- Experience in safety and compliance engineering with knowledge of applicable standards and regulatory frameworks.

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- Experience in technical documentation and quality assurance, including qualification plans and structured reporting.
- Experience in technical review and peer assessment of engineering analysis reports, ensuring methodological soundness and compliance.

5.1.3 Service Duration

Deliverables are governed by deadlines specified in Section 8.

6 Location for Scope of Work Execution

Work shall be carried off-site. Remote collaboration tools must be used for interactions. Several visits to ITER may be planned.

7 IO Documents

The documents referenced in Section 4.1 are expected as initial inputs from IO. Any additional documents which may be required to execute the work specified in these Technical Specifications, shall be discussed, agreed and requested to be provided from IO CRO.

8 List of deliverables and due dates

The Supplier shall provide IO with the documents and data required in the application of this technical specification, the GM3S Ref [1] and any other requirement derived from the application of the contract.

For batch 1, reports on deliverables shall include:

- Titles/ links to the documents reviewed, created, commented, analysed or updated, as per their applicability to the execution of the different work packages,
- Summary overview, for a given time period, on compliance between TRAs, Annexes B and SSRDs; report on the Risk status for diagnostic ports as per their applicability to the execution of WP#A3,
- Summary overview, for a given time period, on the maturity of GDC system integrated in IO Ports and ports and analysis of manufacturing impact as manufacturing activities ongoing as per their applicability to the execution of WP#A1 and WP#A2,
- Summary overview, for a given time period, on the maturity gaps evolution between SRO diagnostic ports and payload (systems) which are integrated inside them, with assessment of the impact on manufacturing schedule as per their applicability to the execution of WP#A1 and WP#A2,
- Summary overview, for a given time period, on readiness for diagnostic systems gate reviews scheduled as per plan in 2025/26 as per their applicability to the execution of WP#A1 and WP#A2.
- Summary overview, for a given time period, on preparation and readiness of TOPs for diagnostic systems as per their applicability to the execution of WP#A2.

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Payments will be made on acceptance of deliverables listed below in IDM as per their applicability to the execution of WP#A1, WP#A2 and WP#A3.

Contract total number of days to be invoiced is 96 and its overall duration is 12 months.

Deliverable	Description	Due Date
D1	1st Report on the progress on WP#1, WP#2 and WP#3	T0 + 3 months
D2	2nd Report on the progress on WP#1, WP#2 and WP#3	T0 + 6 months
D3	3rd Report on the progress on WP#1, WP#2 and WP#3	T0 + 9 months
D4	4th Report on the progress on WP#1, WP#2 and WP#3	T0 + 12 months

(*) T0 = Commencement Date of the contract; X in months.

For batch 2, reports on deliverables shall include:

- Titles/ links to the documents reviewed, created, commented, analysed or updated, as per their applicability to the execution of the different work packages,
- Qualification Path Decision Report, Gap Analysis Report (if Case A), Analytical Extension Plan (if Case C) for components in the scope of WP#2A;
- Summary report for technical inputs on Safety Requirements Specification (SRS) for components in the scope of WP#2A;
- Suitability assessment report (with mapping to reuse/extension) for components in the scope of WP#2A;
- Verification plan, test reports, analytical validation report for components in the scope of WP#2A;
- Qualification plan, consolidated evidence package, draft safety manual for components in the scope of WP#2A;
- Final qualification report for components in the scope of WP#2A;
- Analysis reports, analytical extension reports for components in the scope of WP#2B;
- Review records of engineering assessments and analyses as specified in the scope of WP#2B;

Payments will be made on acceptance of deliverables listed below in IDM as per their applicability to the execution of WP#B1 and WP#B2.

Contract total number of days to be invoiced is 1570 and its overall duration is 24 months.

Deliverable	Description	Due Date
D1	1st Report on the progress on WP#B1	T0 + 3 months
D2	1st Report on the progress on WP#B2	T0 + 3 months

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D3	2nd Report on the progress on WP#B1	T0 + 6 months
D4	2nd Report on the progress on WP#B2	T0 + 6 months
D5	3rd Report on the progress on WP#B1	T0 + 9 months
D6	3rd Report on the progress on WP#B2	T0 + 9 months
D7	4th Report on the progress on WP#B1	T0 + 12 months
D8	4th Report on the progress on WP#B2	T0 + 12 months
D9	5th Report on the progress on WP#B1	T0 + 15 months
D10	5th Report on the progress on WP#B2	T0 + 15 months
D11	6th Report on the progress on WP#B1	T0 + 18 months
D12	6th Report on the progress on WP#B2	T0 + 18 months
D13	7th Report on the progress on WP#B1	T0 + 21 months
D14	7th Report on the progress on WP#B2	T0 + 21 months
D15	8th Report on the progress on WP#B1	T0 + 24 months
D16	8th Report on the progress on WP#B2	T0 + 24 months

(*) T0 = Commencement Date of the contract; X in months.

Supplier is requested to prepare their document schedule based on the above and using the template available in the GM3S Ref [1] appendix II (click here to download).

9 Quality Assurance requirements

The Quality class under this contract is 2, [Ref 1] GM3S section 7 applies in line with the defined Quality Class. 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 [Ref 2].

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 [Ref 3].

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 Software qualification policy [Ref 4].

10 Safety requirements

The scope under this contract covers for PIC and/or PIA, [Ref 1] GM3S section 5.3 applies.

10.1 Nuclear class Safety

Some components under review are SIC-1 and SIC-2. This makes the task itself as PIA. No PE/NPE components are involved.

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10.2 Seismic class

For diagnostic SIC-1 and SIC-2 components (such as feedthroughs, SIC supports etc), the seismic class is SC-1(S).

11 Specific General Management requirements

Requirement for [Ref 1] GM3S section 6 applies completed/amended with the below specific requirements.

11.1 Contract Gates

The contract gates are defined in [Ref 1] section 6.1.5, this scope of service call for the following technical gates: Preliminary Design Reviews of PBS 55 systems scheduled in 2025 and 2026, Final Design Reviews of PBS 55 systems scheduled in 2025 and 2026, Manufacturing Readiness Reviews of PBS 55 systems scheduled in 2025 and 2026, and Diagnostic-related HOPs/EWPs of PBS 55/58 scheduled in 2025 and 2026. Also deadlines for preparation of diagnostic TOPs has to be considered.

11.2 Work Monitoring

Work is monitored through quarterly reports (see Section 8).

11.3 CAD design requirements

This contract does not imply CAD activities. Contractor may receive CAD data for information purpose only from IO-TRO following rules and guidelines given in [Ref 7].

12 Appendices

N/A

ANNEX I

EXPRESSION OF INTEREST & PIN ACKNOWLEDGEMENT

To be returned by e-mail to: chloe.perret@iter.org copy amankumar.joshi@iter.org

TENDER No.	**IO/25/OT/10033300/CPT**
DESIGNATION of SERVICES:	**Service contract for the performance, qualification, and integration of diagnostic components, in particular focused on safety-related systems (PIC-SIC).**
OFFICER IN CHARGE:	**Chloe Perret EXT – Procurement Division ITER Organization**

☐ WE ACKNOWLEDGE HAVING READ THE PIN NOTICE FOR THE ABOVE-MENTIONED TENDER

☐ WE INTEND TO SUBMIT A TENDER

☐ WE WILL NOT TENDER FOR THE FOLLOWING REASONS:

.....

Company name:.....

COMPANY STAMP

Signature:

Name: .....

Position: .....

Tel: .....

E-mail.....

Date: .....